C27 LEASING

Leasing with the Company as lessee

Assets under finance leases, recorded as property, plant and equipment, consist of:

Finance leases	2012	2011
Cost		
Real estate	**1,538**	1,856
Machinery	**3**	3
	1,541	1,859
Accumulated depreciation		
Real estate	**–601**	–725
Machinery	**–3**	–3
	–604	–728
Accumulated impairment losses		
Real estate	**–35**	–42
	–35	–42
Net carrying value	**902**	1,089

As of December 31, 2012, future minimum lease payment obligations for leases were distributed as follows:

Future minimum lease payment obligations for leases	Finance leases	Operating leases
2013	150	2,847
2014	229	1,794
2015	127	1,388
2016	85	1,105
2017	76	777
2018 and later	795	2,472
Total	**1,462**	**10,383**
Future finance charges [1]	–398	n/a
Present value of finance lease liabilities	**1,064**	**10,383**

[1] Average effective interest rate on lease payables is 5.69%.

Expenses in 2012 for leasing of assets were SEK 3,172 (3,362) million, of which variable expenses were SEK 20 (7) million. The leasing contracts vary in length from 1 to 20 years.

The Company's lease agreements normally do not include any contingent rents. In the few cases they occur, they relate to charges for heating linked to the oil price index. Most of the leases of real estate contain terms of renewal, giving the Company the right to prolong the agreement in question for a predefined period of time. All of the finance leases of facilities contain purchase options. Only a very limited number of the Company's lease agreements contain restrictions on stockholders' equity or other means of finance. The major agreement contains a restriction stating that the Parent Company must maintain a stockholders' equity of at least SEK 25 billion.

Leases with the Company as lessor

Leasing income relates to subleasing of real estate as well as equipment provided to customers under leasing arrangements. These leasing contracts vary in length from 1 to 11 years.

At December 31, 2012, future minimum payment receivables were distributed as follows:

Future minimum payment receivables	Finance leases	Operating leases
2013	6	154
2014	6	143
2015	6	96
2016	6	23
2017	6	18
2018 and later	–	52
Total	**30**	**486**
Unearned financial income	n/a	n/a
Uncollectible lease payments	n/a	n/a
Net investments in financial leases	n/a	n/a

Leasing income in 2012 was SEK 236 (76) million.

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C28 INFORMATION REGARDING MEMBERS OF THE BOARD OF DIRECTORS, THE GROUP MANAGEMENT AND EMPLOYEES

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Remuneration to the Board of Directors

Remuneration to members of the Board of Directors

SEK	Board fees	Number of synthetic shares/portion of Board fee	Value at grant date of synthetic shares allocated in 2012	Number of previously allocated synthetic shares outstanding	Net change in value of allocated synthetic shares [1]	Committee fees	Total fees paid in cash [2]	Total remuneration 2012
			A		B		C	(A+B+C)
Board member								
Leif Johansson	3,750,000	0/0%	–	–	–	400,000	4,150,000 [3]	**4,150,000**
Sverker Martin-Löf	875,000	0/0%	–	–	–	250,000	1,125,000	**1,125,000**
Jacob Wallenberg	875,000	6,984/50%	437,499	2,262.00	10,826	175,000	612,500	**1,060,825**
Roxanne S. Austin	875,000	6,984/50%	437,499	29,172.60	31,648	250,000	687,500	**1,156,647**
Sir Peter L. Bonfield	875,000	3,492/25%	218,749	9,722.80	13,411	250,000	906,250	**1,138,410**
Börje Ekholm	875,000	10,476/75%	656,248	29,172.60	40,228	175,000	393,750	**1,090,226**
Alexander Izosimov	875,000	3,492/25%	218,749	–	8,580	–	656,250	**883,579**
Ulf J. Johansson	875,000	0/0%	–	22,384.60	33,495	350,000	1,225,000 [4]	**1,258,495**
Nancy McKinstry	875,000	0/0%	–	22,002.60	18,092	175,000	1,050,000	**1,068,092**
Anders Nyrén	875,000	0/0%	–	–	–	175,000	1,050,000	**1,050,000**
Hans Vestberg	–	–	–	–	–	–	–	**–**
Michelangelo Volpi	875,000	0/0%	–	4,380.00	–2,409	–	875,000	**872,591**
Employee Representatives								
Pehr Claesson	18,000	–	–	–	–	–	18,000	**18,000**
Kristina Davidsson	18,000	–	–	–	–	–	18,000	**18,000**
Jan Hedlund [5]	6,000	–	–	–	–	–	6,000	**6,000**
Karin Åberg	18,000	–	–	–	–	–	18,000	**18,000**
Rickard Fredriksson [6]	10,500	–	–	–	–	–	10,500	**10,500**
Karin Lennartsson	18,000	–	–	–	–	–	18,000	**18,000**
Roger Svensson	18,000	–	–	–	–	–	18,000	**18,000**
Total	**12,606,500**	**31,428**	**1,968,744**	**119,097.20**	**153,871**	**2,200,000**	**12,837,750**	**14,960,365** [7]
Total	12,606,500	31,428	1,968,744	128,002.20 [8]	138,792 [8]	2,200,000	20,706,150 [9]	**22,813,687** [7] [9]

[1] The difference in value as of December 31, 2012, compared to December 31, 2011 (for synthetic shares allocated 2008, 2009, 2010 and 2011), and compared to grant date 2012 (for synthetic shares allocated in 2012). The value of synthetic shares allocated in 2008, 2009, 2010 and 2011 includes respectively SEK 1.85, SEK 2.00, SEK 2.25 and SEK 2.50 per share in compensation for dividends resolved by the Annual General Meetings 2009, 2010, 2011 and 2012.
[2] Committee fee and cash portion of the Board fee.
[3] In addition, an amount corresponding to statutory social charges in respect of the part of the fee that has been invoiced through a company was paid, amounting to SEK 1,303,930.
[4] In addition, an amount corresponding to statutory social charges in respect of the part of the fee that has been invoiced through a company was paid, amounting to SEK 122,520.
[5] Resigned as employee representative as of May 3, 2012.
[6] Appointed deputy employee representative as of May 3, 2012.
[7] Excluding social security charges in the amount of SEK 3,950,998.
[8] Including synthetic shares previously allocated to the former Director Carl-Henric Svanberg.
[9] Including advance payments to the former Directors Michael Treschow and Marcus Wallenberg under the synthetic share programs. Michael Treschow: SEK 7,376,686 for 111,926.80 synthetic shares (in addition, an amount corresponding to statutory social charges in respect of the part of the fee that has been invoiced through a company was paid, amounting to SEK 753,159) and Marcus Wallenberg: SEK 491,714 for 7,460.80 synthetic shares.

Comments to the table

- The Chairman of the Board was entitled to a Board fee of SEK 3,750,000 and a fee of SEK 200,000 for each Board Committee on which he served as Chairman.
- The other Directors elected by the Annual General Meeting were entitled to a fee of SEK 875,000 each. In addition, the Chairman of the Audit Committee was entitled to a fee of SEK 350,000 and the other non-employed members of the Audit Committee were entitled to a fee of SEK 250,000 each. The Chairmen of the Finance and Remuneration Committees were entitled to a fee of SEK 200,000 each and the other non-employed members of the Finance and the Remuneration Committees were entitled to a fee of SEK 175,000 each.
- Members of the Board, who are not employees of the Company, have not received any remuneration other than the fees and synthetic shares as above. None of the Directors have entered into a service contract with the Parent Company or any of its subsidiaries, providing for termination benefits.
- Members and deputy members of the Board who are Ericsson employees received no remuneration or benefits other than their entitlements as employees and a fee to the employee

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representatives and their deputies of SEK 1,500 per attended Board meeting.

- Board members invoicing the amount of the Board and Committee fee through a company may add to the invoice an amount corresponding to social charges. The social charges thus included in the invoiced amount are not higher than the general payroll tax that would otherwise have been paid by the Company. The entire amount, i.e. the cash portion of the Board fee and the Committee fee, including social charges, constitutes the invoiced Board fee.
- The Annual General Meeting 2012 resolved that non-employed Directors may choose to receive the Board fee (i.e. exclusive of committee fee) as follows: i) 25% of the Board fee in cash and 75% in the form of synthetic shares, with a value corresponding to 75% of the Board fee at the time of allocation, ii) 50% in cash and 50% in the form of synthetic shares, or iii) 75% in cash and 25% in the form of synthetic shares. Directors may also choose not to participate in the synthetic share program and receive 100% of the Board fee in cash. Committee fees are always paid in cash.

  The number of synthetic shares is based on a volume-weighed average of the market price of Ericsson Class B shares on the NASDAQ OMX Stockholm exchange during the five trading days immediately following the Annual General Meeting 2012: SEK 62.643. The number of synthetic shares is rounded down to the nearest whole number of shares.

  The synthetic shares are vested during the Directors' term of office and the right to receive payment with regard to the allocated synthetic shares occurs after the publication of the Company's year-end financial statement during the fifth year following the Annual General Meeting which resolved on the synthetic share program, i.e. in 2017.

  The amount payable shall be determined based on the volume-weighed average price for shares of Class B during the five trading days immediately following the publication of the year-end financial statement.

  Synthetic shares were allocated to members of the Board for the first time in 2008, on equal terms and conditions as resolved in 2009, 2010, 2011 and 2012. Payment based on synthetic shares may thus, under the main rule, occur for the first time in 2013 with respect to the synthetic shares allocated in 2008. The value of all outstanding synthetic shares fluctuates in line with the market value of Ericsson's Class B share and may differ from year to year compared to the original value on their respective grant dates. The change in value of the outstanding synthetic shares is established each year and affects the total recognized costs that year. As per December 31, 2012, the total number of synthetic shares under the programs is 159,430.20, and the total accounted debt is SEK 11,113,237 (including synthetic shares previously allocated to the former Director Carl-Henric Svanberg). In accordance with the terms and conditions for the synthetic shares, the time for payment to the former Director Carl-Henric Svanberg has been advanced, to occur after the publication of the year-end financial statement 2013. In February 2012, advance payment was made to the former Directors Michael Treschow and Marcus Wallenberg with respect to their synthetic shares, all in accordance with the terms and conditions for the synthetic shares.

Remuneration to the Group management

The Company's costs for remuneration to the Group management are the costs recognized in the Income Statement during the fiscal year. These costs are disclosed under "Remuneration costs" below.

Costs recognized during a fiscal year in the Income Statement are not fully paid by the Company at the end of the fiscal year. The unpaid amounts that the Company has in relation to the Group management are disclosed under "Outstanding balances".

Remuneration costs

The total remuneration to the President and CEO and to other members of the Group management, consisting of the Executive Leadership Team (ELT) includes fixed salary, short-term and long-term variable remuneration, pension and other benefits. These remuneration elements are based on the guidelines for remuneration and other employment conditions for the ELT as approved by the Annual General Meeting held in 2012, see the approved guidelines in section "Guidelines for remuneration to Group Management 2012".

Remuneration costs for the President and CEO and other members of Executive Leadership Team (ELT)

SEK	The President and CEO 2012	The President and CEO 2011	Other members of ELT 2012	Other members of ELT 2011	Total 2012	Total 2011
Salary	12,573,233	11,739,341	76,973,215	76,031,733	89,546,448	87,771,074
Costs for annual variable remuneration earned 2012 to be paid 2013	3,972,247	2,771,134	21,877,700	18,460,645	25,849,947	21,231,779
Long-term variable remuneration provision	6,439,873	5,636,050	6,472,215	8,916,556	12,912,088	14,552,606
Pension costs	6,491,713	5,960,566	22,865,674	22,154,413	29,357,387	28,114,979
Other benefits	123,612	78,594	4,431,160	4,944,762	4,554,772	5,023,356
Social charges and taxes	9,114,641	7,800,766	22,877,888	23,529,200	31,992,529	31,329,966
Total	38,715,319	33,986,451	155,497,852	154,037,309	194,213,171	188,023,760

Comments to the table

- During 2012 there were three Executive Vice Presidents, who have been appointed by the Board of Directors. None of them has acted as deputy to the President and CEO during the year. The Executive Vice Presidents are included in the group "Other members of ELT".
- The group "Other members of ELT" comprises the following persons: Per Borgklint, Bina Chaurasia, Håkan Eriksson (up to January 31), Ulf Ewaldsson (from February 1), Jan Frykhammar, Douglas L. Gilstrap, Nina Macpherson, Magnus Mandersson, Helena Norrman, Mats H. Olsson, Rima Qureshi, Angel Ruiz, Johan Wibergh and Jan Wäreby.
- The salary stated in the table for the President and CEO and other members of the ELT includes vacation pay paid during 2012 as well as other contracted compensation which were paid during 2012 or provisioned for 2012.
- "Long-term variable remuneration provision" refers to the compensation costs during 2012 for all outstanding share-based plans.
- For a description of compensation cost, including accounting treatment, see Note C1, "Significant accounting policies", section Share-based compensation to employees and the Board of Directors.

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- For the President and CEO and other members of the ELT employed in Sweden before 2011 a supplementary plan is applied in addition to the occupational pension plan for salaried staff on the Swedish labor market (ITP) with pension from 60 years. These pension plans are not conditional upon future employment at Ericsson.

Outstanding balances

The Company has recognized the following liabilities relating to unpaid remunerations in the Balance Sheet:

- Ericsson's commitments for benefit based pensions as of December 31, 2012 under IAS 19 amounted to SEK 5,971,282 for the President and CEO which includes ITP plan and temporary disability and survivor's pension. For other members of ELT the Company's commitments amounted to SEK 27,103,244 of which SEK 21,429,454 refers to the ITP plan and the remaining SEK 5,673,790 to temporary disability and survivor's pensions.
- For previous Presidents and CEOs, the Company has made provisions for defined benefit pension plans in connection with their active service periods within the Company.
- Deferred salary, earned 2012 or earlier, to be paid 12 months after period end or later, amounts to SEK 7,899,000.

Maximum outstanding matching rights

As per December 31, 2012 Number of Class B shares	The President and CEO	Other members of the ELT
Stock Purchase Plans 2009, 2010, 2011 and 2012 and Executive Performance Stock Plans 2009, 2010, 2011 and 2012	503,382	661,456

Comments to the table

- For the definition of matching rights, see the description in section "Long-term variable remuneration".
- The performance maching result of 70,3% is included for 2009 plan.
- Cash conversion target for 2012 was reached, but not reached in 2011.
- During 2012, the President and CEO received 10,108 matching shares and other members of the ELT 54,803 matching shares.

Guidelines for remuneration to Group Management 2012

For Group Management consisting of the Executive Leadership Team, including the President and CEO, total remuneration consists of fixed salary, short and long-term variable remuneration, pension and other benefits. Furthermore, the following guidelines apply for the remuneration to the Executive Leadership Team:

- Variable remuneration is through cash and stock-based programs awarded against specific business targets derived from the long-term business plan approved by the Board of Directors. Targets may include financial targets at either corporate or unit level, operational targets, employee motivation targets and customer satisfaction targets.
- With the current composition of the Executive Leadership Team, the Company's cost during 2012 for variable remuneration to the Executive Leadership Team can, at a constant share price, amount to between 0 and 150% of the aggregate fixed salary cost, all excluding social security costs.
- All benefits, including pension benefits, follow the competitive practice in the home country taking total compensation into account. The retirement age is normally 60 to 65 years of age.
- By way of exception, additional arrangements can be made when deemed required. Such additional arrangement shall be limited in time and shall not exceed a period of 36 months and two times the remuneration that the individual concerned would have received had no additional arrangement been made.
- The mutual notice period may be no more than six months. Upon termination of employment by the Company, severance pay amounting to a maximum of 18 months' fixed salary is paid. Notice of termination given by the employee due to significant structural changes, or other events that in a determining manner affect the content of work or the condition for the position, is equated with notice of termination served by the Company.

Long-Term Variable remuneration

The Stock Purchase Plan

The Stock Purchase Plan is designed to offer an incentive for all employees to participate in the Company where practicable, which is consistent with industry practice and with our ways of working. For the 2012 plan, employees are able to save up to 7.5% of gross fixed salary (President and CEO can save up to 10% of gross fixed salary and short-term variable remuneration) for purchase of Class B contribution shares at market price on the NASDAQ OMX Stockholm or American Depositary Shares (ADSs) at NASDAQ New York (contribution shares) during a twelve-month period (contribution period). If the contribution shares are retained by the employee for three years after the investment and the employment with the Ericsson Group continues during that time, the employee's shares will be matched with a corresponding number of Class B shares or ADSs free of consideration. Employees in 100 countries participate in the plans.

The table below shows the contribution periods and participation details for ongoing plans as of December 31, 2012.

Stock purchase plans

Plan	Contribution period	Number of participants at launch	Take-up rate – percent of eligible employees
Stock Purchase plan 2009	August 2009 – July 2010	18,000	25%
Stock Purchase plan 2010	August 2010 – July 2011	22,000	27%
Stock Purchase plan 2011	August 2011 – July 2012	24,000	30%
Stock Purchase plan 2012	August 2012 – July 2013	27,000	28%

Participants save each month, beginning with August payroll, towards quarterly investments. These investments (in November, February, May and August) are matched on the third anniversary of each such investment, subject to continued employment, and hence the matching spans over two financial years and two tax years.

The Key Contributor Retention Plan

The Key Contributor Retention Plan is part of Ericsson's talent management strategy and is designed to give recognition for performance, critical skills and potential as well as to encourage retention of key employees. Under the program, up to 10% of employees (2012 plan: up to 8,000 employees) are selected through a nomination process that identifies individuals according to performance, critical skills and potential. Participants selected obtain one extra matching share in addition to the ordinary one matching share for each contribution share purchased under the Stock Purchase Plan during a twelve-month program period.

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Executive Performance Stock Plans

	Executive Performance Stock Plan			
	2012 [1]	2011	2010	2009
Base year EPS [2]			1.14	2.90
Target average annual EPS growth range [3]			5% to 15%	5% to 15%
Matching share vesting range [4]	0.67 to 4 1 to 6 1.5 to 9	0.67 to 4 1 to 6 1.5 to 9	0.67 to 4 1 to 6 1.5 to 9	0.67 to 4 1 to 6 1.33 to 8
Maximum opportunity as percentage of fixed salary [5]	30% 45% 162%	30% 45% 162%	30% 45% 162%	30% 45% 72%

[1] Targets for Executive Performance Stock Plan 2012 are described in the next table.
[2] Sum of four quarters up to June 30 of plan year 2009. For 2010 plan the sum of 4 quarters up to December 31, 2010.
[3] EPS range found from three-year average EPS of the twelve quarters to the end of the performance period and corresponding growth targets.
[4] Corresponding to EPS range (no Performance Share Plan matching below this range). Matching shares per contribution share invested in addition to Stock Purchase Plan matching according to program of up to 4, 6 or 9 matching shares.
[5] At full investment, full vesting and constant share price. Excludes Stock Purchase Plan matching.

Executive Performance Stock Plan targets

	Base year value SEK billion	Year 1	Year 2	Year 3
2012				
Growth (Net Sales Growth)	227.8	Compound annual growth rate of 2 –8%		
Margin (Operating Income Growth)	17.9	Compound annual growth of 5–15%		
Cash Flow (Cash Conversion)	–	≥70%	≥70%	≥70%
2011				
Growth (Net Sales Growth)	203.3	Compound annual growth rate of 4–10%		
Margin (Operating Income Growth) [1]	23.7	Compound annual growth of 5–15%		
Cash Flow (Cash Conversion)	–	≥70%	≥70%	≥70%

[1] Consolidated operating margin excluding restructuring for 2010.

The Executive Performance Stock Plan

The Executive Performance Stock Plan is designed to focus management on driving earnings and provide competitive remuneration. Senior executives, including ELT, are selected to obtain up to four or six extra shares (performance matching shares) in addition to the ordinary one matching share for each contribution share purchased under the Stock Purchase Plan. Up to 0.5% of employees (2012 plan: up to 400 executives) are offered to participate in the plan. The President and CEO can save up to 10% of gross fixed salary and short-term variable remuneration, and may obtain up to nine performance matching shares in addition to the Stock Purchase Plan matching share for each contribution share. The performance matching for the 2009 and 2010 plans is subject to the fulfillment of a performance target of average annual Earnings per Share (EPS) growth.

The performance targets changed from Earnings Per Share (EPS) targets to targets linked to the business strategy as from 2011.

The tables above show all Executive Performance Stock Plans as per December 31, 2012.

Shares for all plans

Plan (million shares)		Stock Purchase Plan, Key Contributor Retention Plan and Executive Performance Stock Plans					
		2012	2011	2010	2009	2008	Total
Originally designated [1]	A	26.2	19.4	19.4	22.4	16.5	103.9
Outstanding beginning of 2012	B	–	3.4	10.6	9.1	6.1	29.2
Awarded during 2012	C	4.4	10.8	–	–	–	15.2
Exercised/matched during 2012	D	–	0.3	0.5	2.3	6.0	9.1
Forfeited/expired during 2012	E	–	0.4	0.9	0.8	0.1	2.2
Outstanding end of 2012 [2]	F=B+C–D–E	4.4	13.5	9.2	6.0	–	33.1
Compensation costs charged during 2012 (SEK million)	G	6 [3]	132 [3]	148 [3]	91 [3]	28 [3]	405 [4]

[1] Adjusted for rights offering and reverse split when applicable.
[2] Presuming maximum performance matching under the Executive Performance Stock Plans. The 2008 plan has lapsed. The 2009 plan partially vested to an extent of 70,3%.
[3] Fair value is calculated as the share price on the investment date, reduced by the net present value of the dividend expectations during the three-year vesting period. Net present value calculations are based on data from external party. Fair value is also adjusted for participants failing to keep hold of their contribution shares during the vesting period. For shares under the Executive Performance Stock Plans, the Company presumes maximum performance matching for all ongoing plans when calculating the compensation cost. The 2008 plan has lapsed. The 2009 plan partially vested to an extent of 70,3%. Fair value of the Class B share at each investment date during 2012 was: February 15 SEK 56.26, May 15 SEK 53.93, August 15 SEK 55.85 and November 15 SEK 49.99.
[4] Total compensation costs charged during 2011: SEK 413 million, 2010: SEK 757 million.

Shares for all plans

All plans are funded with treasury stock and are equity settled. Treasury stock for all plans has been issued in directed cash issues of Class C shares at the quotient value and purchased under a public offering at the subscription price plus a premium corresponding to the subscribers' financing costs, and then converted to Class B shares.

For all plans, additional shares have been allocated for financing of social security expenses. Treasury stock is sold on the NASDAQ OMX Stockholm to cover social security payments when arising due to matching of shares. During 2012, 1,038,200 shares were sold at an average price of SEK 63.17. Sale of shares is recognized directly in equity.

If, as of December 31, 2012, all shares allocated for future matching under the Stock Purchase Plan were transferred, and shares designated to cover social security payments were disposed of as a result of the exercise and the matching, approximately 61 million Class B shares would be transferred, corresponding to 1.9% of the total number of shares outstanding, 3,220 million not including treasury stock. As of December 31, 2012, 85 million Class B shares were held as treasury stock.

The table above shows how shares (representing matching rights but excluding shares for social security expenses) are being used for all outstanding plans. From up to down the table includes (A) the number of shares originally approved by the Annual General Meeting, adjusted for reverse split where applicable; (B) the number of originally designated shares that were outstanding at the beginning of 2012; (C) the number of shares awards that were granted during 2012; (D) the number of shares matched during 2012; (E) the number of shares

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forfeited by participants or expired under the plan rules during 2012; and (F) the balance left as outstanding at the end of 2012, having added new awards to the shares outstanding at the beginning of the year and deducted the shares related to awards matched, forfeited and expired. The final column (G) shows the compensation costs charged to the accounts during 2012 for each plan, calculated as fair value in SEK.

For a description of compensation cost, including accounting treatment, see Note C1, "Significant accounting policies", section Share-based compensation to employees and the Board of Directors.

Employee numbers, wages and salaries

Employee numbers

Average number of employees

	2012			2011		
	Women	Men	Total	Women	Men	Total
North America	3,479	12,607	16,086	2,876	12,106	14,982
Latin America	2,137	9,230	11,367	1,913	7,837	9,750
Northern Europe & Central Asia [1) 2)]	5,746	15,351	21,097	5,656	14,927	20,583
Western & Central Europe [2)]	1,790	9,463	11,253	1,663	8,968	10,631
Mediterranean [2)]	2,966	10,064	13,030	2,743	9,077	11,820
Middle East	617	4,603	5,220	634	4,343	4,977
Sub-Saharan Africa	548	1,672	2,220	661	1,290	1,951
India	2,137	11,924	14,061	1,613	9,912	11,525
North East Asia	4,191	9,584	13,775	3,480	8,839	12,319
South East Asia & Oceania	1,175	3,474	4,649	1,155	3,437	4,592
Total	24,786	87,972	112,758	22,394	80,736	103,130
[1)] *Of which Sweden*	*4,232*	*13,337*	*17,569*	*4,188*	*12,881*	*17,069*
[2)] *Of which EU*	*9,911*	*33,581*	*43,492*	*9,575*	*31,667*	*41,242*

Number of employees by region at year-end

	2012	2011
North America	15,501	14,801
Latin America	11,219	11,191
Northern Europe & Central Asia [1) 2)]	21,211	20,987
Western & Central Europe [2)]	11,257	10,806
Mediterranean [2)]	12,205	11,645
Middle East	3,992	4,336
Sub-Saharan Africa	2,014	2,283
India	14,303	11,535
North East Asia	14,157	12,567
South East Asia & Oceania	4,396	4,374
Total	110,255	104,525
[1)] *Of which Sweden*	*17,712*	*17,500*
[2)] *Of which EU*	*42,872*	*41,596*

Employees by gender and age at year-end 2012

	Women	Men	Percent of total
Under 25 years old	2,517	6,018	8%
25–35 years old	8,530	31,054	36%
36–45 years old	7,818	28,954	33%
46–55 years old	3,984	15,692	18%
Over 55 years old	1,233	4,455	5%
Percent of total	**22%**	**78%**	**100%**

Employee movements

	2012	2011
Head count at year-end	110,255	104,525
Employees who have left the Company	12,280	10,571
Employees who have joined the Company	18,010	24,835
Temporary employees	766	901

Employee wages and salaries

Wages and salaries and social security expenses

(SEK million)	2012	2011
Wages and salaries	48,428	43,707
Social security expenses	15,672	15,198
Of which pension costs	*2,762*	*3,888*

Amounts related to the President and CEO and the Executive Leadership Team are included.

Remuneration to Board members and Presidents in subsidiaries

(SEK million)	2012	2011
Salary and other remuneration	243	223
Of which annual variable remuneration	*33*	*22*
Pension costs	27	20

Board members, Presidents and Group management by gender at year end

	2012		2011	
	Women	Men	Women	Men
Parent Company				
Board members and President	27%	73%	20%	80%
Group Management	29%	71%	29%	71%
Subsidiaries				
Board members and Presidents	12%	88%	11%	89%

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C29
RELATED PARTY TRANSACTIONS

During 2012, various related party transactions were executed pursuant to contracts based on terms customary in the industry and negotiated on an arm's length basis. For information regarding equity and Ericsson's share of assets, liabilities and income in joint ventures and associated companies, see Note C12, "Financial assets, non-current". For information regarding transactions with senior management, see Note C28, "Information regarding members of the Board of Directors, the Group management and employees".

ST-Ericsson

ST-Ericsson, the joint venture between Ericsson and STMicroelectronics, was formed on February 2, 2009, by merging Ericsson Mobile Platforms with ST-NXP Wireless. The joint venture is equally owned by Ericsson and STMicroelectronics. For further information, see Note C3, "Segment information".

Major transactions are as follows:

- **Sales:** Ericsson provides ST-Ericsson with services in the areas of R&D, HR, IT and facilities.
- **Purchases:** A major part of Ericsson's purchases from ST-Ericsson consists of chipsets and R&D services.
- **Dividends:** Both owners of ST-Ericsson receive dividends, when so decided by the Board of Directors. Ericsson received no dividends from ST-Ericsson during 2012.

ST-Ericsson

	2012	2011	2010
Related party transactions			
Sales	138	182	403
Purchases	634	781	629
Related party balances			
Receivables	127	51	53
Liabilities	–	24	48

Ericsson does not have any contingent liabilities, assets pledged as collateral or guarantees towards ST-Ericsson.

Ericsson Nikola Tesla d.d.

Ericsson Nikola Tesla d.d. is a company for design, sales and service of telecommunication systems and equipment, and an associated member of the Ericsson Group. Ericsson Nikola Tesla d.d. is located in Zagreb, Croatia. Ericsson holds 49.07% of the shares.

Major transactions are as follows:

- **Sales:** Ericsson sells telecommunication equipment to Ericsson Nikola Tesla d.d.
- **License revenues:** Ericsson receives license revenues for Ericsson Nikola Tesla d.d.'s usage of trademarks.
- **Purchases:** Ericsson purchases development resources from Ericsson Nikola Tesla d.d.
- **Dividends:** Ericsson received dividends from Ericsson Nikola Tesla d.d. during 2012.

Ericsson Nikola Tesla D.D.

	2012	2011	2010
Related party transactions			
Sales	1,161	465	563
License revenues	8	4	2
Purchases	607	595	566
Ericsson's share of dividends	133	154	104
Related party balances			
Receivables	189	59	120
Liabilities	81	76	75

Ericsson does not have any contingent liabilities, assets pledged as collateral or guarantees towards Ericsson Nikola Tesla d.d.

Sony Ericsson Mobile Communications AB

The company has divested its 50% stake in Sony Ericsson Mobile Communications to Sony. The divestment was effective on January 1, 2012.

Sony Ericsson Mobile Communications AB

	2012	2011	2010
Related party transactions			
License revenues	–	855	1,255
Purchases	–	126	61
Related party balances			
Receivables	–	27	258
Liabilities	–	2	8

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C30 FEES TO AUDITORS

Fees to auditors

	PwC	Others	Total
2012			
Audit fees	82	5	87
Audit related fees	15	–	15
Tax services fees	16	3	19
Other fees	10	10	20
Total	123	18	141
2011			
Audit fees	77	9	86
Audit related fees	10	–	10
Tax services fees	20	3	23
Other fees	16	–	16
Total	123	12	135
2010			
Audit fees	79	5	84
Audit related fees	17	1	18
Tax services fees	16	2	18
Other fees	7	2	9
Total	119	10	129

During the period 2010–2012, in addition to audit services, PwC provided certain audit related services, tax and other services to the Company. The audit related services include quarterly reviews, ISO audits, SSAE16 reviews and services in connection with issuing of certificates and opinions. The tax services include general expatriate services and corporate tax compliance work. Other services include consultation on financial accounting, services related to acquisitions, operational effectiveness and assessments of internal control.

Audit fees to other auditors largely consist of local statutory audits for minor companies.

C31 CONTRACTUAL OBLIGATIONS

Contractual obligations 2012

	Payment due by period				
SEK billion	<1 year	1–3 years	3–5 years	>5 years	Total
Long-term debt [1) 2)]	3.3	7.0	7.1	9.0	26.4
Finance lease obligations [3)]	0.2	0.3	0.2	0.8	1.5
Operating leases [3)]	2.8	3.2	1.9	2.5	10.4
Other non-current liabilities	0.1	0.3	0.1	1.9	2.4
Purchase obligations [4)]	5.7	–	–	–	5.7
Trade payables	23.1	–	–	–	23.1
Commitments for customer finance [5)]	5.9	–	–	–	5.9
Total	41.1	10.8	9.3	14.2	75.4

1) Including interest payments.
2) See Note C20, "Financial risk management and financial instruments".
3) See Note C27, "Leasing".
4) The amounts of purchase obligations are gross, before deduction of any related provisions.
5) See also Note C14, "Trade receivables and customer finance".

For information about financial guarantees, see Note C24, "Contingent liabilities".

Except for those transactions described in this report, the Company has not been a party to any material contracts over the past three years other than those entered into during the ordinary course of business.

C32 TRANSFERS OF FINANCIAL ASSETS

Transfers where the Company has not derecognized the assets in their entirety

As per December 31, 2012 there existed certain customer financing assets that the Company had transferred to third parties where the Company did not derecognize the assets in their entirety. The total carrying amount of the original assets transferred was SEK 471 (194) million, the amount of the assets that the Company continues to recognize was SEK 28 (10) million, and the carrying amount of the associated liabilities was SEK 0 (0) million. More information is disclosed about Customer Finance in Note C14 "Trade receivables and customer finance".

Transfers where the Company has continuing involvement

The Company has during 2012 derecognized financial assets where the Company had continuing involvement. A repurchase of these assets would amount to SEK 225 (596) million. No assets or liabilities were recognized in relation to the continuing involvement.

C33 EVENTS AFTER THE REPORTING PERIOD

On January 10, 2013, Ericsson entered into an agreement with Unwired Planet whereby Ericsson will transfer 2,185 issued patents and patent applications to Unwired Planet. Ericsson will also contribute 100 additional patent assets annually to Unwired Planet commencing in 2014 through 2018. Unwired Planet will compensate Ericsson with certain ongoing rights in future revenues generated from the enlarged patent portfolio. Unwired Planet will also grant Ericsson a license to its patent portfolio.

On January 21, 2013, Ericsson announced its intention to acquire Devoteam Telecom & Media operations in France. Devoteam has employees in Europe, Middle East and Africa. The acquisition is in line with Ericsson's services strategy to broaden its IT capabilities.

In early 2013 Standard & Poors changed the credit rating from BBB+ outlook stable to outlook negative and Moody´s changed the credit rating from A3 with outlook stable to outlook negative.

In January, 2013, ST-Ericsson was granted a loan facility by their owners of USD 260 million. Ericsson's share of this credit facility is USD 130 million.

On January 10, 2013, Adaptix Inc. filed two lawsuits against Ericsson, AT&T, AT&T Mobility and MetroPCS Communications in the US District Court for Eastern District of Texas alleging that certain Ericsson products infringe five US patents assigned to Adaptix. Adaptix seeks damages and an injunction.

On January 25, 2013, Adaptix filed a complaint with the US International Trade Commission (ITC) against Ericsson, AT&T, AT&T Mobility and MetroPCS Communications requesting that the commission open a patent infringement investigation of certain Ericsson products and further on January 29, 2013, Adaptix filed a complaint with the Tokyo District Court alleging certain Ericsson products infringe two JP patents assigned to Adaptix. Adaptix seeks damages and an injunction.

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PARENT COMPANY FINANCIAL STATEMENTS AND NOTES TO THE PARENT COMPANY FINANCIAL STATEMENTS

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PARENT COMPANY FINANCIAL STATEMENTS CONTINUED

PARENT COMPANY INCOME STATEMENT

January – December, SEK million	Notes	2012	2011 [1]	2010 [1]
Net sales	P2	–	–	33
Cost of sales		–	–	–29
Gross income		–	–	4
Selling expenses		–241	–609	–1,370
Administrative expenses		–690	–1,512	–1,586
Operating expenses		–931	– 2,121	–2,956
Other operating income and expenses	P3	2,534	3,184	3,118
Operating income		1,603	1,063	166
Financial income	P4	11,932	8,072	7,474
Financial expenses	P4	–18,392	–2,765	–829
Income after financial items		–4,858	6,370	6,811
Transfers to (–)/from untaxed reserves				
Changes in depreciation in excess of plan	P15	388	339	–100
Contributions from subsidiares, net	P15	–2,034	–1,979	1,029
		–6,504	4,730	7,740
Taxes	P5	–289	–103	–388
Net income		–6,793	4,627	7,352

[1] Restated for contributions to/from subsidiaries.

PARENT COMPANY STATEMENT OF COMPREHENSIVE INCOME

January – December, SEK million	Notes	2012	2011	2010
Net income		–6,793	4,627	7,352
Other comprehensive income				
Cash Flow hedges				
Gains/losses arising during the period		–64	203	136
Adjustments for amounts transferred to initial carrying amount of hedged items		–139	–	–136
Tax on items relating to components of Other comprehensive income		–	–	–
Total other comprehensive income		–203	203	–
Total comprehensive income		–6,996	4,830	7,352

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PARENT COMPANY BALANCE SHEET

December 31, SEK million	Notes	2012	2011
Assets			
Fixed assets			
Intangible assets	P6	849	1,088
Tangible assets	P7	535	491
Financial assets			
Investments			
Subsidiaries	P8, P9	80,839	79,511
Joint ventures and associated companies	P8, P9	337	13,066
Other investments	P8	267	279
Receivables from subsidiaries	P8, P12	15,737	8,017
Customer finance, non-current	P8, P11	999	1,337
Deferred tax assets	P5	198	250
Other financial assets, non-current	P8	1,153	1,203
		100,914	105,242
Current assets			
Inventories	P10	55	61
Receivables			
Trade receivables	P11	35	51
Customer finance, current	P11	1,020	883
Receivables from subsidiaries	P12	16,195	16,733
Current income taxes		134	313
Other current receivables	P13	4,310	2,588
Loans to joint ventures and associated companies	P19, P27	–	2,759
Short-term investments	P19	31,491	38,852
Cash and cash equivalents	P19	25,946	17,288
		79,186	79,528
Total assets		180,100	184,770

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PARENT COMPANY FINANCIAL STATEMENTS CONTINUED

PARENT COMPANY BALANCE SHEET (CONTINUED)

December 31, SEK million	Notes	2012	2011
Stockholders' equity, provisions and liabilities			
Stockholders' equity	P14		
Capital stock		16,526	16,367
Revaluation reserve		20	20
Statutory reserve		31,472	31,472
Restricted equity		48,018	47,859
Retained earnings		32,620	35,890
Net income		–6,793	4,627
Other comprehensive income		–203	203
Non-restricted equity		25,624	40,720
		73,642	88,579
Untaxed reserves	P15	288	676
Provisions			
Post-employment benefits	P16	386	376
Other provisions	P17	3,709	275
		4,095	651
Non-current liabilities			
Notes and bond loans	P18	16,519	17,197
Other borrowings, non-current	P18	5,273	4,000
Liabilities to subsidiaries	P12	26,732	26,896
Other non-current liabilities		239	280
		48,763	48,373
Current liabilities			
Borrowings, current	P18	2,671	3,461
Trade payables	P21	555	706
Liabilities to subsidiaries	P12	46,959	38,139
Other current liabilities	P20	3,127	4,185
		53,312	46,491
Total stockholders' equity, provisions and liabilities		180,100	184,770
Assets pledged as collateral	P22	520	452
Contingent liabilities	P23	16,719	18,518

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PARENT COMPANY STATEMENT OF CASH FLOWS

January – December, SEK million	Notes	2012	2011	2010
Operating activities				
Net income		–6,793	4,627	7,352 [1]
Adjustments to reconcile net income to cash	P24	14,436	3,163	530 [1]
		7,643	7,790	7,882
Changes in operating net assets				
Inventories		6	–4	4
Customer finance, current and non-current		201	286	–1,070
Trade receivables		–39	35	283
Trade payables		–261	–133	331
Provisions and post-employment benefits		–91	–309	–109
Other operating assets and liabilities, net		–2,837	2,379	1,954
		–3,021	2,254	1,393
Cash flow from operating activities		4,622	10,044	9,275
Investing activities				
Investments in property, plant and equipment		–224	–148	–160
Sales of property, plant and equipment		–	16	9
Investments in shares and other investments		–1,807	–3,718	–2,178
Divestments of shares and other investments		9,792	7	42
Lending, net		–2,668	–3,074	8,973
Other investing activities		1	–1,730	–1,317
Short-term investments		5,043	16,357	–1,910
Cash flow from investing activities		10,137	7,710	3,459
Cash flow before financing activities		14,759	17,754	12,734
Financing activities				
Changes in current liabilities to subsidiaries		2,795	–9,361	3,503
Proceeds from issuance of borrowings		8,132	–	–
Repayment of borrowings		–7,296	–	–1,055
Stock issue		159	–	–
Sale/repurchase of own shares		–93	92	–
Dividends paid		–8,033	–7,207	–6,391
Settled contributions from/to (–) subsidiaries		–543	409	–209
Other financing activities		–158	288	–310
Cash flow from financing activities		–5,037	–15,779	–4,462
Effect from remeasurement in cash		–1,064	–126	–1,310
Net change in cash		8,658	1,849	6,962
Cash and cash equivalents, beginning of period		17,288	15,439	8,477
Cash and cash equivalents, end of period	P19	25,946	17,288	15,439

[1] Restated for contributions to/from subsidiaries.

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PARENT COMPANY FINANCIAL STATEMENTS CONTINUED

PARENT COMPANY STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY

	Capital stock	Revaluation reserve	Statutory reserve	Total restricted equity	Disposition reserve	Fair value reserves	Other retained earnings	Non-restricted equity	Total
January 1, 2012	16,367	20	31,472	47,859	100	203	40,417	40,720	88,579
Total comprehensive income	–	–	–	–	–	–203	–6,793	–6,996	–6,996
Transactions with owners									
Stock issue	159	–	–	159	–	–	–	–	159
Sale of own shares	–	–	–	–	–	–	66	66	66
Stock Purchase Plans	–	–	–	–	–	–	26	26	26
Repurchase of own shares	–	–	–	–	–	–	–159	–159	–159
Dividends paid	–	–	–	–	–	–	–8,033	–8,033	–8,033
December 31, 2012	**16,526**	**20**	**31,472**	48,018	**100**	**–**	**25,524**	**25,624**	73,642
January 1, 2011	16,367	20	31,472	47,859	100	–	42,874	42,974	90,833
Total comprehensive income	–	–	–	–	–	203	4,627	4,830	4,830
Transactions with owners									
Sale of own shares	–	–	–	–	–	–	92	92	92
Stock Purchase Plans	–	–	–	–	–	–	31	31	31
Dividends paid	–	–	–	–	–	–	–7,207	–7,207	–7,207
December 31, 2011	**16,367**	**20**	**31,472**	47,859	**100**	**203**	**40,417**	**40,720**	88,579

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NOTES TO THE PARENT COMPANY FINANCIAL STATEMENTS

P1 SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Parent Company, Telefonaktiebolaget LM Ericsson, have been prepared in accordance with the Annual Accounts Act and RFR 2 "Reporting in separate financial statements". RFR 2 requires the Parent Company to use the same accounting principles as for the Group, i.e. IFRS, to the extent allowed by RFR 2.

The main deviations between accounting policies adopted for the Group and accounting policies for the Parent Company are:

Subsidiaries, associated companies and joint ventures

The investments are accounted for according to the acquisition cost method. Investments are carried at cost and only dividends are accounted for in the income statement. An impairment test is performed annually and write-downs are made when permanent decline in value is established.

UFR 2 has been withdrawn by the Swedish Financial Reporting Board. Contributions to/from subsidiaries and shareholders' contributions are accounted for according to RFR 2. Contributions from/to Swedish subsidiaries are reported as untaxed reserves, net in the income statement. Comparison years have been restated accordingly.

Shareholders' contributions increase the Parent Company's investments.

Classification and measurement of financial instruments

IAS 39 Financial Instruments: Recognition and Measurement is adopted, except regarding financial guarantees where the exception allowed in RFR 2 is chosen. Financial guarantees are included in Contingent liabilities.

Leasing

The Parent Company has one rental agreement which is accounted for as a finance lease in the consolidated statements and as an operating lease in the Parent Company financial statements.

Deferred taxes

The accounting of untaxed reserves in the balance sheet results in different accounting of deferred taxes as compared to the principles applied in the consolidated statements. Swedish GAAP and tax regulations require a company to report certain differences between the tax basis and book value as an untaxed reserve in the balance sheet of the stand-alone financial statements. Changes to these reserves are reported as an addition to, or withdrawal from, untaxed reserves in the income statement.

Pensions

Pensions are accounted for in accordance with the recommendation FAR SRS RedR 4 "Accounting for pension liability and pension cost" from the Institute for the Accountancy Profession in Sweden. According to RFR 2, IAS 19 shall be adopted regarding supplementary disclosures when applicable.

Segment information

Segment information is reported according to requirements in the Swedish Annual Accounts Act regarding net sales for business segments and geographical areas.

Borrowing costs

All borrowing costs in relation to qualifying assets are expensed as incurred.

Business combinations

Transaction costs attributable to the acquisition are included in the cost of acquisition in the parent company statements compared to Group Statements where these costs are expenses as incurred.

Critical accounting estimates and judgments

See Notes to the consolidated financial statements – Note C2, "Critical accounting estimates and judgments". Major critical accounting estimates and judgments applicable to the Parent Company include "Trade and customer finance receivables" and "Acquired intellectual property rights and other intangible assets, excluding goodwill".

P2 SEGMENT INFORMATION

There were no Parent Company net sales during 2012 and 2011. Parent Company net sales in 2010 amounted to SEK 33 million, related to business segment Networks and region Latin America.

P3 OTHER OPERATING INCOME AND EXPENSES

Other operating income and expenses

	2012	2011	2010
License revenues and other operating revenues			
Subsidiary companies	2,488	2,704	2,305
Other	49	479	815
Net gains/losses (–) on sales of tangible assets	–3	1	–2
Total	2,534	3,184	3,118

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P4
FINANCIAL INCOME AND EXPENSES

Financial income and expenses

	2012	2011	2010
Financial Income			
Result from participations in subsidiary companies			
Dividends	5,031	5,198	6,369
Net gains on sales	61	6	8
Result from participations in joint ventures and associated companies			
Dividends	132	154	104
Net gains on sales	4,768	–	–
Result from other securities and receivables accounted for as fixed assets			
Net gains on sales	62	1	26
Other interest income and similar profit/loss items			
Subsidiary companies	472	280	221
Other	1,406	2,433	746
Total	11,932	8,072	7,474
Financial Expenses			
Losses on sales of participations in subsidiary companies	–36	–1	–
Write-down of investments in subsidiary companies	–	–1,330	–82
Net loss from joint ventures and associated companies	–16,972	–	–
Write-down of participations in other companies	–47	–	–
Interest expenses and similar profit/loss items			
Subsidiary companies	–189	–304	–95
Other	–1,089	–1,109	–612
Other financial expenses	–59	–21	–40
Total	–18,392	–2,765	–829
Financial net	–6,460	5,307	6,645

Interest expenses on pension liabilities are included in the interest expenses shown above.

P5
TAXES

Income taxes recognized in the income statement

The following items are included in Taxes:

Taxes

	2012	2011	2010
Other current income taxes for the year	–125	–125	–288
Current income taxes related to prior years	–112	74	–15
Deferred tax income/expense (–) related to temporary differences	–52	–52	–85
Taxes	–289	–103	–388

A reconciliation between actual tax expense for the year and the theoretical tax expense that would arise when applying the statutory tax rate in Sweden, 26.3% (starting from January 1, 2009), on income before taxes is shown in the the table below.

Reconciliation of actual income tax rate to the actual income tax rate

	2012	2011	2010
Tax rate in Sweden (26.3%)	1,711	–1,244	–2,036
Current income taxes related to prior years	–112	74	–15
Tax effect of non-deductible expenses	–29	–14	–91
Tax effect of non-taxable income	2,655	1,429	1,776
Tax effect related to write-downs of investments in subsidiary companies	–4,476	–348	–22
Tax effect of change in deferred tax rate	–38	–	–
Actual tax cost (–)	–289	–103	–388

Deferred tax balances

On November 21, 2012, the Swedish Parliament decided to cut the company tax rate from 26.3% to 22.0%, applicable from January 1, 2013. Deferred tax assets and liabilities have been calculated with the new tax rate.

Tax effects of temporary differences have resulted in deferred tax assets as follows:

Deferred tax assets

	2012	2011
Deferred tax assets	198	250

Deferred tax assets refer mainly to costs related to customer finance and provisions for restructuring costs.

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P6
INTANGIBLE ASSETS

Patents, licenses, trademarks and similar rights	2012	2011
Accumulated acquisition costs		
Opening balance	4,167	3,888
Acquisitions	–	279
Sales/disposals	–21	–
Closing balance	4,146	4,167
Accumulated amortization		
Opening balance	–2,134	–1,897
Amortization	–218	–237
Sales/disposals	–	–
Closing balance	–2,352	–2,134
Accumulated impairment losses		
Opening balance	–945	–945
Impairment losses	–	–
Closing balance	–945	–945
Net carrying value	849	1,088

The balances relate mainly to Marconi trademark acquired during 2006. The useful life and amortization period for this trademark has been set to 10 years.

P7
PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment	Land and buildings	Other equipment and installations	Construction in process and advance payments	Total
2012				
Accumulated acquisition costs				
Opening balance	–	1,225	80	1,305
Additions	–	37	187	224
Sales/disposals	–	–53	–	–53
Reclassifications	–	58	–58	–
Closing balance	**–**	**1,267**	**209**	1,476
Accumulated depreciation				
Opening balance	–	–814	–	–814
Depreciation	–	–177	–	–177
Sales/disposals	–	50	–	50
Closing balance	**–**	**–941**	**–**	–941
Net carrying value	**–**	**326**	**209**	535
2011				
Accumulated acquisition costs				
Opening balance	13	1,102	126	1,241
Additions	–	32	116	148
Sales/disposals	–13	–71	–	–84
Reclassifications	–	162	–162	–
Closing balance	**–**	**1,225**	**80**	1,305
Accumulated depreciation				
Opening balance	–	–714	–	–714
Depreciation	–	–168	–	–168
Sales/disposals	–	68	–	68
Closing balance	**–**	**–814**	**–**	–814
Net carrying value	**–**	**411**	**80**	491

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P8
FINANCIAL ASSETS

Investments in subsidiary companies, joint ventures and associated companies

	Subsidiary companies		Joint ventures		Associated companies	
	2012	2011	2012	2011	2012	2011
Opening balance	79,511	77,566	12,736	12,736	330	330
Acquisitions and stock issues	1,682	3,344	–	–	–	–
Shareholders' contribution	191	88	–	–	–	–
Reclassifications	–	–	5,029 [1]	–	7	–
Repayment of shareholders' contribution	–	–156	–	–	–	–
Write-downs	–	–1,330	–13,629 [1]	–	–	–
Disposals	–545	–1	–4,136	–	–	–
Closing balance	80,839	79,511	–	12,736	337	330

[1] Reclassification of short-term credit facility and write-down is including original investment and short-term credit facility.

Other financial assets

	Other investments in shares and participations		Receivables from subsidiaries, non-current		Customer finance, non-current		Other financial assets, non-current	
	2012	2011	2012	2011	2012	2011	2012	2011
Accumulated acquisition costs								
Opening balance	288	93	8,017	6,666	1,379	1,073	1,203	302
Additions	45	195	9,725	93	547	830	20	101
Disposals/repayments/deductions	–3	–	–1,301	–	–516	–216	–78	–17
Reclassifications	–7	–	–93	1,253	–328	–311	8	817
Translation difference	–	–	–611	5	–17	3	–	–
Closing balance	323	288	15,737	8,017	1,065	1,379	1,153	1,203
Accumulated write-downs/allowances								
Opening balance	–9	–9	–	–	–42	–46	–	–
Write-downs/allowances	–47	–	–	–	–57	–	–	–
Disposals/repayments/deductions	–	–	–	–	10	4	–	–
Reclassifications	–	–	–	–	20	–	–	–
Translation difference	–	–	–	–	3	–	–	–
Closing balance	–56	–9	–	–	–66	–42	–	–
Net carrying value	267	279	15,737	8,017	999	1,337	1,153	1,203

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P9
INVESTMENTS

The following listing shows certain shareholdings owned directly and indirectly by the Parent Company as of December 31, 2012. A complete listing of shareholdings, prepared in accordance with the Swedish Annual Accounts Act and filed with the Swedish Companies Registration Office (Bolagsverket), may be obtained upon request to: Telefonaktiebolaget LM Ericsson, External Reporting, SE-164 83 Stockholm, Sweden.

Shares owned directly by the Parent Company

Type	Company	Reg. No.	Domicile	Percentage of ownership	Par value in local currency, million	Carrying value, SEK million
Subsidiary companies						
I	Ericsson AB	556056-6258	Sweden	100	50	20,731
I	Ericsson Shared Services AB	556251-3266	Sweden	100	361	2,216
I	Netwise AB	556404-4286	Sweden	100	2	306
II	AB Aulis	556030-9899	Sweden	100	14	6
III	Ericsson Credit AB	556326-0552	Sweden	100	5	5
	Other (Sweden)			–	–	1,742
I	Ericsson Austria GmbH		Austria	100	4	65
I	Ericsson Danmark A/S		Denmark	100	90	216
I	Oy LM Ericsson Ab		Finland	100	13	196
II	Ericsson Participations France SAS		France	100	26	524
I	Ericsson Germany GmbH		Germany	100	–	4,232
I	Ericsson Hungary Ltd.		Hungary	100	1,301	120
II	LM Ericsson Holdings Ltd.		Ireland	100	2	15
I	Ericsson Telecomunicazioni S.p.A.		Italy	100	44	5,857
II	Ericsson Holding International B.V.		The Netherlands	100	222	3,200
I	Ericsson A/S		Norway	100	75	114
II	Ericsson Television AS		Norway	100	161	1,788
I	Ericsson Corporatia AO		Russia	100	5	5
I	Ericsson España		Spain	100	43	170
I	Ericsson AG		Switzerland	100	–	–
II	Ericsson Holding Ltd.		United Kingdom	100	328	4,094
	Other (Europe, excluding Sweden)			–	–	275
II	Ericsson Holding II Inc.		United States	100	2,830	29,006
I	Cía Ericsson S.A.C.I.		Argentina	95 [1]	41	178
I	Ericsson Canada Inc.		Canada	100	–	51
I	Bel-Air Networks		Canada	100	–	170
I	Ericsson Telecom S.A. de C.V.		Mexico	100	n/a	1,050
	Other (United States, Latin America)			–	–	67
II	Teleric Pty Ltd.		Australia	100	20	100
I	Ericsson Ltd.		China	100	2	2
I	Ericsson (China) Company Ltd.		China	100	65	475
I	Ericsson India Private Ltd.		India	100	725	147
I	Ericsson India Global Services PVT. Ltd		India	100	389	64
I	LG-Ericsson Ltd.		Korea	75	150	3,285
I	Ericsson (Malaysia) Sdn. Bhd.		Malaysia	70	2	4
I	Ericsson Telecommunications Pte. Ltd.		Singapore	100	2	1
I	Ericsson South Africa PTY. Ltd		South Africa	100	–	108
I	Ericsson Taiwan Ltd.		Taiwan	80	240	20
I	Ericsson (Thailand) Ltd.		Thailand	49 [2]	90	17
	Other countries (the rest of the world)			–	–	215
	Total					**80,839**
Joint ventures and associated companies						
II	ST-Ericsson SA		Switzerland	50	137	–
III	ST-Ericsson AT SA		Switzerland	51	–	–
I	Rockstar Consortium Group		Canada	21	1	7
I	Ericsson Nikola Tesla d.d.		Croatia	49	65	330
	Total					**337**

Key to type of company

I Manufacturing, distribution and development companies
II Holding companies
III Finance companies

[1] Through subsidiary holdings, total holdings amount to 100% of Cia Ericsson S.A.C.I.
[2] Through subsidiary holdings, total holdings amount to 100% of Ericsson (Thailand) Ltd.

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Shares owned by subsidiary companies

Type	Company	Reg. No.	Domicile	Percentage of ownership
Subsidiary companies				
II	Ericsson Cables Holding AB	556044-9489	Sweden	100
I	Ericsson France SAS		France	100
I	Ericsson Telekommunikation GmbH & Co. KG [1]		Germany	100
I	LM Ericsson Ltd.		Ireland	100
II	Ericsson Nederland B.V.		The Netherlands	100
I	Ericsson Telecommunicatie B.V.		The Netherlands	100
I	Ericsson Telekomunikasyon A.S.		Turkey	100
I	Ericsson Ltd.		United Kingdom	100
I	Ericsson Inc.		United States	100
I	Ericsson IP Infrastructure Inc.		United States	100
I	Drutt Corporation Inc.		United States	100
I	Optimi Corporation		United States	100
I	Redback Networks Inc.		United States	100
I	Telcordia Technologies Inc.		United States	100
I	Ericsson Telecommunicações S.A.		Brazil	100
I	Ericsson Australia Pty. Ltd.		Australia	100
I	Ericsson (China) Communications Co. Ltd.		China	100
I	Nanjing Ericsson Panda Communication Co. Ltd.		China	51
I	Ericsson Japan K.K.		Japan	100
I	Ericsson Communication Solutions Pte Ltd.		Singapore	100

Key to type of company

I Manufacturing, distribution and development companies
II Holding companies

[1] Disclosures Pursuant to Section 264b of the German Commercial Code (Handelsgesetzbuch – HGB)
Applying Section 264b HGB, LHS Holding GmbH & Co. KG, LHS Communication GmbH & Co. KG and LHS Telekommunikation GmbH & Co. KG, all located in Frankfurt am Main/Germany, are exempted from the obligation to prepare, have audited and disclose financial statements and a management report in accordance with the legal requirements being applicable for German corporations.

P10 INVENTORIES

Inventories

	2012	2011
Finished products and goods for resale	55	61
Inventories	55	61

P11 TRADE RECEIVABLES AND CUSTOMER FINANCE

Credit risk management is governed on a Group level.

For further information, see Notes to the consolidated financial statements – Note C14, “Trade receivables and customer finance” and Note C20, “Financial risk management and financial instruments”.

Trade receivables and customer finance

	2012	2011
Trade receivables excluding associated companies and joint ventures	57	71
Allowances for impairment	–23	–23
Trade receivables, net	34	48
Trade receivables related to associated companies and joint ventures	1	3
Trade receivables, total	35	51
Customer finance	2,116	2,285
Allowances for impairment	–97	–65
Customer finance, net	2,019	2,220

Movements in allowances for impairment

	Trade receivables		Customer finance	
	2012	2011	2012	2011
Opening balance	23	24	65	93
Additions	–	1	62	14
Utilization	–	–2	–9	–31
Reversal of excess amounts	–	–	–20	–11
Translation difference	–	–	–1	–
Closing balance	23	23	97	65

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Aging analysis as per December 31

	Trade receivables excluding associated companies and joint ventures	Allowances for impairment of receivables	Trade receivables related to associated companies and joint ventures	Customer finance	Allowances for impairment of customer finance
2012					
Neither impaired nor past due	25	–	1	1,516	–
Impaired, not past due	–	–	–	474	–48
Past due in less than 90 days	5	–	–	21	–
Past due in 90 days or more	2	–	–	14	–
Past due and impaired in less than 90 days	–	–	–	70	–44
Past due and impaired in 90 days or more	25	–23	–	21	–5
Total	**57**	**–23**	**1**	**2,116**	**–97**
2011					
Neither impaired nor past due	44	–	3	1,758	–
Impaired, not past due	–	–	–	238	–27
Past due in less than 90 days	2	–	–	238	–
Past due in 90 days or more	1	–	–	10	–
Past due and impaired in less than 90 days	–	–	–	37	–34
Past due and impaired in 90 days or more	24	–23	–	4	–4
Total	**71**	**–23**	**3**	**2,285**	**–65**

Outstanding customer finance

	2012	2011
On-balance sheet customer finance	**2,116**	2,285
Financial guarantees for third parties	**258**	422
Total customer finance	**2,374**	2,707
Accrued interest	**56**	26
Less third-party risk coverage	**–177**	–469
Parent Company's risk exposure	**2,253**	2,264
On-balance sheet credits, net carrying value	**2,019**	2,220
Of which short term	***1,020***	*883*
Credit commitments for customer finance	**543**	669

During 2012 the Parent Company transferred certain customer finance assets to third parties, and continues to recognize a part of such assets corresponding to the extent of its continuing involvement. The total carrying amount of the original assets transferred was SEK 471 (194) million, the amount of the assets that the Parent Company continues to recognize was SEK 28 (10) million, and the carrying amount of the associated liabilities was SEK 0 (0) million.

P12
RECEIVABLES AND LIABILITIES – SUBSIDIARY COMPANIES

Receivables and liabilities – subsidiary companies

	Payment due by period				
	< 1 year	1–5 years	>5 years	Total 2012	Total 2011
Non-current receivables [1]					
Financial receivables	43	9,694	6,000	**15,737**	8,017
Current receivables					
Trade receivables	896	–	–	**896**	816
Financial receivables	15,299	–	–	**15,299**	15,917
Total	16,195	–	–	**16,195**	16,733
Non-current liabilities [1]					
Financial liabilities	–	–	26,732	**26,732**	26,896
Current liabilities					
Trade payables	277	–	–	**277**	387
Financial liabilities	46,682	–	–	**46,682**	37,752
Total	46,959	–	–	**46,959**	38,139

[1] Including non interest-bearing receivables and liabilities, net, amounting to SEK –20,732 million in 2012 (SEK –19,595 million in 2011).

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P13
OTHER CURRENT RECEIVABLES

Other current receivables

	2012	2011
Prepaid expenses	446	425
Accrued revenues	75	405
Derivatives with a positive value	3,520	1,517
Other	269	241
Total	**4,310**	2,588

P14
EQUITY AND OTHER COMPREHENSIVE INCOME

Capital stock 2012

Capital stock at December 31, 2012, consisted of the following:

Capital stock

	Number of shares	Capital stock
Class A shares [1]	261,755,983	1,309
Class B shares [1]	3,043,295,752	15,217
Total	**3,305,051,735**	**16,526**

[1] Class A shares (quotient value SEK 5.00) and Class B shares (quotient value SEK 5.00).

Equity and other comprehensive income 2012

	Capital stock	Revaluation reserve	Statutory reserve	Total restricted equity	Disposition reserve	Fair value reserves	Other retained earnings	Non-restricted equity	Total
January 1, 2012	16,367	20	31,472	47,859	100	203	40,417	40,720	88,579
Net income	–	–	–	–	–	–	–6,793	–6,793	–6,793
Other comprehensive income									
Cash flow hedges									
Gains/losses arising during the period	–	–	–	–	–	–203	–	–203	–203
Total other comprehensive income	–	–	–	–	–	–203	–	–203	–203
Total comprehensive income	–	–	–	–	–	–203	–6,793	–6,996	–6,996
Transactions with owners									
Stock issue	159	–	–	159	–	–	–	–	159
Sale of own shares	–	–	–	–	–	–	66	66	66
Stock Purchase Plans	–	–	–	–	–	–	26	26	26
Repurchase of own shares	–	–	–	–	–	–	–159	–159	–159
Dividends paid	–	–	–	–	–	–	–8,033	–8,033	–8,033
December 31, 2012	**16,526**	**20**	**31,472**	48,018	**100**	**–**	**25,524**	25,624	73,642

Equity and other comprehensive income 2011

	Capital stock	Revaluation reserve	Statutory reserve	Total restricted equity	Disposition reserve	Fair value reserves	Other retained earnings	Non-restricted equity	Total
January 1, 2011	16,367	20	31,472	47,859	100	–	42,874	42,974	90,833
Net income	–	–	–	–	–	–	4,627	4,627	4,627
Other comprehensive income									
Cash flow hedges									
Gains/losses arising during the period	–	–	–	–	–	203	–	203	203
Total other comprehensive income	–	–	–	–	–	203	–	203	203
Total comprehensive income	–	–	–	–	–	203	4,627	4,830	4,830
Transactions with owners									
Sale of own shares	–	–	–	–	–	–	92	92	92
Stock Purchase Plans	–	–	–	–	–	–	31	31	31
Dividends paid	–	–	–	–	–	–	–7,207	–7,207	–7,207
December 31, 2011	**16,367**	**20**	**31,472**	47,859	**100**	**203**	**40,417**	40,720	88,579

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P15 UNTAXED RESERVES

Untaxed reserves

2012	Jan 1	Additions/ withdrawals (–)	Dec 31
Accumulated depreciation in excess of plan			
Total accumulated depreciation in excess of plan	676	–388	288

Change in depreciation in excess of plan of intangible assets relates mainly to Marconi and Redback trademarks. Deferred tax liability on untaxed reserves, not accounted for in deferred taxes, amounts to SEK 64 million (SEK 178 million in 2011).

Contributions to Swedish subsidiaries amount to SEK 6,570 million (SEK 2,008 in 2011) and contributions from Swedish subsidiaries amount to SEK 4,536 million (SEK 29 million in 2011)

P16 POST-EMPLOYMENT BENEFITS

The Parent Company has two types of pension plans:

- Defined contribution plans: post-employment benefit plans where the Parent Company pays fixed contributions into separate entities and has no legal or constructive obligation to pay further contributions if the entities do not hold sufficient assets to pay all employee benefits relating to employee service. The expenses for defined contribution plans are recognized during the period when the employee provides service.
- Defined benefit plans: post-employment benefit plans where the Parent Company's undertaking is to provide predetermined benefits that the employee will receive on or after retirement. The FPG/PRI plan for the Parent Company is partly funded. FPG is a Swedish credit insurance company for pension obligations and PRI is a pension registration institute. Pension obligations are calculated annually, on the balance sheet date, based on actuarial assumptions.

Defined benefit obligation – amount recognized in the Balance sheet

	2012	2011
Present value of wholly or partially funded pension plans [1]	713	679
Fair value of plan assets	–873	–756
Unfunded/net surplus(–) of funded pension plans	–160	–77
Present value of unfunded pension plans	386	376
Excess from plan assets not accounted for	136	77
Payment to pension trust, reclassified	24	–
Closing balance provision for pensions	386	376

[1] This FPG/PRI obligation is covered by the Swedish law on safeguarding of pension commitments.

The defined benefit obligations are calculated based on the actual salary levels at year-end and based on a discount rate of 3.7%.

Weighted average life expectancy after the age of 65 is 25 years for women and 23 years for men.

In 2005, SEK 524 million was transferred into the Swedish pension trust. From 2009–2012 additional transfers of SEK 152 million have been made.

The Parent Company utilizes no assets held by the pension trust. Return on plan assets was 7.3% (0.9 % in 2011).

Plan assets allocation

	2012	2011
Equities	276	167
Interest-bearing securities	549	461
Other	48	128
Total	873	756

Change in the Defined benefit obligation

	2012	2011
Opening balance	376	389
Payment to pension trust	–58	–36
Payment to pension trust, reclassified	24	–
Pension costs, excluding taxes, related to defined benefit obligations accounted for in the income statement	100	98
Pension payments	–56	–50
Return on plan assets	–59	–25
Return on plan assets not accounted for	59	–
Closing balance provision for pensions	386	376

Estimated pension payments for 2013 are SEK 61 million.

Total pension cost and income recognized in the Income statement

	2012	2011
Defined benefit obligations		
Costs excluding interest and taxes	61	55
Interest cost	39	43
Credit insurance premium	1	–1
Total cost defined benefit plans excluding taxes	101	97
Defined contribution plans		
Pension insurance premium	59	123
Total cost defined contribution plans excluding taxes	59	123
Return on plan assets	–	–25
Total pension cost, net excluding taxes	160	195

Of the total pension cost, SEK 121 million (SEK 177 million in 2011) is included in operating expenses and SEK 39 million (SEK 18 million in 2011) in the financial net.

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P17
OTHER PROVISIONS

Other provisions

	Restructuring	Customer finance	Other	Total other provisions [1]
2012				
Opening balance	160	87	28	275
Additions	16	–	3,548 [2]	3,564
Reversal of excess amounts	–1	–3	–200	–204
Cash out/utilization	–106	–	–22	–128
Reclassifications	2	–	200	202
Closing balance	**71**	**84**	**3,554**	**3,709**
2011				
Opening balance	318	91	162	571
Additions	72	1	–	73
Reversal of excess amounts	–12	–	–134	–146
Cash out/utilization	–218	–2	–	–220
Reclassifications	–	–3	–	–3
Closing balance	**160**	**87**	**28**	**275**

[1] Of which SEK 3,591 million (SEK 113 million in 2011) is expected to be utilized within one year.
[2] Of which SEK 3,335 million is related to ST-Ericsson.

P18
INTEREST-BEARING LIABILITIES

As per December 31, 2012, the Parent Company's outstanding interest-bearing liabilities, excluding liabilities to subsidiaries, were SEK 24.5 billion.

Interest-bearing liabilities

	2012	2011
Borrowings, current		
Current part of non-current borrowings [1]	2,671	3,461
Total current borrowings	2,671	3,461
Borrowings, non-current		
Notes and bond loans	16,519	17,197
Other borrowings, non-current	5,273	4,000
Total non-current interest-bearing liabilities	21,792	21,197
Total interest-bearing liabilities	24,463	24,658

[1] Including notes and bond loans of SEK 2,671 (3,461) million.

Notes and bond loans

Issued–maturing	Nominal amount	Coupon	Currency	Book value (SEK m.)	Maturity date	Unrealized hedge gain/loss (included in book value)
Notes and bond loans						
2007–2014	220	0.484%	EUR	1,891	Jun 27, 2014 [1]	
2007–2017	500	5.375%	EUR	5,117 [2]	Jun 27, 2017	–799
2009–2013	313	5.000%	EUR	2,671 [2]	Jun 24, 2013	–30
2009–2016 [3]	300		USD	1,952	Jun 23, 2016	
2010–2020 [4]	170		USD	1,106	Dec 23, 2020	
2012–2022	1,000	4.125%	USD	6,453	May 15, 2022	
Total notes and bond loans				**19,190**		**–829**
Bilateral loans						
2008–2015 [5]	4,000		SEK	4,000	Jul 15, 2015	
2012–2019 [6]	98		USD	636	Sep 30, 2019	
2012–2021 [7]	98		USD	637	Sep 30, 2021	
Total bilateral loans				**5,273**		

[1] Next contractual repricing date March 27, 2013 (quarterly).
[2] Interest rate swaps are designated as fair value hedges.
[3] Private Placement, Swedish Export Credits Guarantee Board (EKN) / Swedish Export Credit Corporation (SEK).
[4] Private Placement, Swedish Export Credit Corporation (SEK).
[5] European Investment Bank (EIB), R&D project financing.
[6] Nordic Investment Bank (NIB), R&D project financing.
[7] Nordic Investment Bank (NIB), R&D project financing.

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All outstanding notes and bond loans are issued under the Euro medium-term note (EMTN) program or under its U.S. Securities and Exchange (SEC) Registred program. Bonds issued at a fixed interest rate are normally swapped to a floating interest rate using interest rate swaps leaving a maximum of 50% of outstanding loans at fixed interest rates. It resulted in weighted average interest rate of 4.69% (4.21%). These bonds are revalued based on changes in benchmark interest rates according to the fair value hedge methodology stipulated in IAS 39.

In May 2012 Ericsson placed a US dollar denominated 1 billion 10-year bond with a fixed coupon rate of 4,125%. The offer was made pursuant to Ericsson's shelf registration statement filed with the U.S. SEC in April 2012, and a prospectus supplement thereto. This was Ericsson´s debut issue on the US bond market.

In June 2012 Ericsson repurchased notes with a nominal value of EUR 286.79 million from the EUR 600 million 5 percent Notes due 2013 and notes with a nominal value of EUR 154.52 million from the EUR 375 million Floating Rate Notes due 2014 pursuant to a tender offer process.

In July 2012 Ericsson signed a loan of EUR 150 million with the Nordic Investment Bank (NIB). The loan is divided into two equal tranches with respective seven- and nine-year maturity and was disbursed in December 2012. The loan supports Ericsson's R&D activities to develop the next generation radio and IP technology supporting Mobile Broadband build-out globally.

In October 2012 Ericsson signed a loan agreement with the European Investment Bank (EIB). The loan amount is EUR 500 million (or the equivalent in USD), and Ericsson has an option for disbursement until April 2014. This loan facility currently remains undrawn. The loan will mature seven years after disbursement. The loan supports Ericsson's R&D activities to further develop the next generation radio and IP technology that supports mobile broadband build-out globally.

P19 FINANCIAL RISK MANAGEMENT AND FINANCIAL INSTRUMENTS

Financial risk management

Ericsson's financial risk management is governed on a Group level. For further information see Notes to the Consolidated Financial Statements, Note C20, "Financial Risk Management and Financial Instruments".

Outstanding derivatives [1]

	2012		2011	
Fair value	Asset	Liability	Asset	Liability
Currency derivatives				
Maturity within 3 months	1,016	848	779	879
Maturity between 3 and 12 months	611	462	427	391
Maturity 1 to 3 years	4	–	1	–
Total	1,630	1,311	1,207	1,270
Of which internal	32	1,247	*773*	*19*
Of which designated in cash flow hedge relations	–	–	*203*	–

[1] Some of the derivatives hedging non-current liabilities are recognized in the balance sheet as non-current due to hedge accounting.

Outstanding derivatives [1]

	2012		2011	
Fair value	Asset	Liability	Asset	Liability
Interest rate derivatives				
Maturity within 3 months	–	–	–	5
Maturity between 3 and 12 months	487	285	324	367
Maturity 1 to 3 years	565	681	381	617
Maturity 3 to 5 years	1,212	738	416	815
Maturity more than 5 years	38	–	778	161
Total	2,302 [2]	1,705	1,899 [2]	1,966
Of which designated in fair value hedge relations	969	–	*1,002*	–

[1] Some of the derivatives hedging non-current liabilities are recognized in the balance sheet as non-current due to hedge accounting.
[2] Of which SEK 825 million (SEK 816 million in 2011) is reported as non-current assets.

Cash, cash equivalents and short-term investments

	Remaining time to maturity				
SEK billion	< 3 months	< 1 year	1–5 years	> 5 years	2012
Bank deposits	21.8	–	–	–	21.8
Type of issuer/counterpart					
Governments	3.4	4.5	10.6	0.8	19.3
Corporations	3.1	–	–	–	3.1
Mortgage institutes	–	–	13.2	–	13.2
Total	28.3	4.5	23.8	0.8	57.4

The instruments are classified as held for trading and are therefore short-term investments.

During 2012, cash, cash equivalents and short-term investments increased by SEK 1.3 billion to SEK 57.4 billion.

Repayment schedule of non-current borrowings

Nominal amount (SEK billion)	Current maturities of long-term debt	Borrowings (non-current)	Total
2013	2.7	–	2.7
2014	–	1.9	1.9
2015	–	4.0	4.0
2016	–	2.0	2.0
2017	–	4.3	4.3
2018 and later	–	8.8	8.8
Total	2.7	21.0	23.7

Debt financing is mainly carried out through borrowing in the Swedish and international debt capital markets.

Funding programs [1]

	Amount	Utilized	Unutilized
Euro Medium-Term Note program (USD million)	5,000	1,833	3,167
SEC Registred program (USD Million)	– [2]	1,000	–
Long-Term Committed Credit facility (USD million)	2,000	–	2,000
EIB Committed Credit facility (EUR million)	500	–	500

[1] There are no financial covenants related to these programs.
[2] Program amount not determined.

At year-end, the Company's credit ratings remained at A3 (stable) by Moody's and BBB+ (stable) by Standard & Poor's. Both credit ratings are considered to be solid investment grade.

In early 2013 Standard & Poor's changed the credit rating from BBB+ outlook stable to outlook negative and Moody's changed the credit rating from A3 with outlook stable to outlook negative

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Financial instruments carried at other than fair value

In the following tables, carrying amounts and fair values of financial instruments that are carried in the financial statements at other than fair values are presented. Assets valued at fair value through profit and loss had a net gain of SEK 1.5 billion. For further information about valuation principles, see Notes to the consolidated financial statements, Note C1, "Significant accounting policies".

Financial instruments, book value

SEK billion	Trade receivables P11	Short-term investments	Receivables and liabilities subsidiaries P12	Borrowings P18	Trade payables P21	Cash Equivalents	Other current receivables P13	Other current liabilities P20	Other non-current assets	2012	2011
Assets at fair value through profit or loss	–	31.5	–	–	–	12.2	3.5	–2.2	0.8	**45.8**	43.0
Loans and receivables	2.0	–	31.9	–	–	–	–	–	–	**33.9**	28.9
Available for sale assets	–	–	–	–	–	–	–	–	–	**–**	–
Financial liabilities at amortized cost	–	–	–73.7	–24.5	–0.6	–	–	–	–	**–98.8**	–90.4
Total	**2.0**	**31.5**	**–41.8**	**–24.5**	**–0.6**	**12.2**	**3.5**	**–2.2**	**0.8**	**–19.1**	**–18.5**

Financial instruments carried at other than fair value

SEK billion	Book value 2012	Book value 2011	Fair value 2012	Fair value 2011
Current part of non-current borrowings	**2.7**	3.5	**2.7**	3.5
Borrowings non-current	**21.8**	21.2	**22.5**	21.1
Total	**24.5**	24.7	**25.2**	24.6

Financial instruments excluded from the tables, such as trade receivables and payables, are carried at amortized cost which is deemed to be equal to fair value. When a market price is not readily available and there is insignificant interest rate exposure affecting the value, the book value is considered to represent a reasonable estimate of a fair value.

P20 OTHER CURRENT LIABILITIES

Other current liabilities

	2012	2011
Accrued interest	**254**	329
Accrued expenses, of which	**392**	416
Employee related	***302***	*307*
Other	***90***	*109*
Deferred revenues	**7**	10
Derivatives with a negative value	**2,214**	3,216
Other current liabilities	**260**	214
Total	**3,127**	4,185

P21 TRADE PAYABLES

Trade payables

	2012	2011
Trade payables excluding associated companies and joint ventures	**555**	706
Total	**555**	706

All trade payables fall due within 90 days.

P22 ASSETS PLEDGED AS COLLATERAL

Assets pledged as collateral

	2012	2011
Bank deposits	**520**	452
Total	**520**	452

The major item in bank deposits is the internal bank's clearing and settlement commitments of SEK 335 million (SEK 267 million in 2011).

P23 CONTINGENT LIABILITIES

Contingent liabilities

	2012	2011
Total contingent liabilities	**16,719**	18,518

Contingent liabilities include pension commitments of SEK 14,953 million (SEK 14,355 million in 2011).

In accordance with standard industry practice, the Company enters into commercial contract guarantees related to contracts for the supply of telecommunication equipment and services. Total amount for 2012 was SEK 18,473 million (SEK 20,249 million in 2011). Potential payments due under these bonds are related to the Company's performance under applicable contracts.

For information about financial guarantees, see Note P11, "Trade Receivables and Customer Finance".

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P24
STATEMENT OF CASH FLOWS

Interest paid in 2012 was SEK 1,218 million (SEK 1,258 in 2011 and SEK 657 million in 2010) and interest received was SEK 1,536 million (SEK 2,532 in 2011 and SEK 816 million in 2010. Income taxes received were SEK 133 million (income taxes received were SEK 147 million in 2011 and income taxes paid were SEK 269 in 2010).

Adjustments to reconcile net income to cash

	2012	2011	2010
Property, plant and equipment			
Depreciation	177	168	149
Total	177	168	149
Intangible assets			
Amortization	218	237	228
Impairment losses	–	–	945
Total	218	237	1,173
Total depreciation and amortization on tangible and intangible assets	395	405	1,322
Taxes	421	250	119
Write-downs and capital gains (–)/ losses on sale of fixed assets, excluding customer finance, net	12,167	1,326	50
Additions to/withdrawals from (–) untaxed reserves	–388	–339	100
Unsettled group contributions	2,034	1,979	–1,029
Unsettled dividends	–	–70	–
Other non-cash items	–193	–388	–32
Total adjustments to reconcile net income to cash	14,436	3,163	530

P25
LEASING

Leasing with the Parent Company as lessee

At December 31, 2012, future payment obligations for leases were distributed as follows:

Future payment obligations for leases

	Operating leases
2013	824
2014	717
2015	470
2016	337
2017	296
2018 and later	699
Total	**3,343**

Leasing with the Parent Company as lessor

At December 31, 2012, future minimum payment receivables were distributed as follows:

Future minimum payment receivables

	Operating leases
2013	15
2014	2
2015	1
2016	1
2017	1
2018 and later	1
Total	**21**

The operating lease income is mainly income from sublease of real estate. See Notes to the consolidated financial statements, Note C27, “Leasing”.

P26
INFORMATION REGARDING EMPLOYEES

Average number of employees

	2012			2011		
	Men	Women	Total	Men	Women	Total
Northern Europe & Central Asia [1) 2)]	200	169	369	197	162	359
Middle East	238	29	267	202	31	233
Total	438	198	636	399	193	592
[1)] *Of which Sweden*	*200*	*169*	*369*	*197*	*162*	*359*
[2)] *Of which EU*	*200*	*169*	*369*	*197*	*162*	*359*

Remuneration

Wages and salaries and social security expenses

	2012	2011
Wages and salaries	648	580
Social security expenses	355	403
Of which pension costs	*190*	*246*

Wages and salaries per geographical area

	2012	2011
Northern Europe & Central Asia [1) 2)]	416	417
Middle East	232	163
Total	648	580
[1)] *Of which Sweden*	*416*	*417*
[2)] *Of which EU*	*416*	*417*

Remuneration in foreign currency has been translated to SEK at average exchange rates for the year.

Remuneration to the Board of Directors and the President and CEO

See Notes to the consolidated financial statements, Note C28, “Information Regarding members of the Board of Directors, the Group management and employees”.

Long-term variable remuneration

The Stock Purchase Plan

Compensation costs for all employees of the Parent Company amounted to SEK 19.2 million in 2012 (SEK 25.1 million in 2011).

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P27
RELATED PARTY TRANSACTIONS

During 2012, various transactions were executed pursuant to contracts based on terms customary in the industry and negotiated on an arm's length basis.

Ericsson Nikola Tesla d.d.

Ericsson Nikola Tesla d.d. is a company for design, sales and service of telecommunications systems and equipment and an associated member of the Ericsson Group. Ericsson Nikola Tesla d.d. is located in Zagreb, Croatia. The Parent Company holds 49.07% of the shares.

For the Parent Company, the major transactions are license revenues for Ericsson Nikola Tesla d.d.'s usage of trademarks and received dividends.

Ericsson Nikola Tesla d.d.

	2012	2011
Related party transactions		
License revenues	8	4
Dividends	133	154
Related party balances		
Receivables	1	1

The Parent Company does not have any contingent liabilities, assets pledged as collateral or guarantees toward Ericsson Nikola Tesla d.d.

ST-Ericsson

ST-Ericsson, the joint venture between Ericsson and STMicroelectronics, was formed on February 2, 2009, by merging Ericsson Mobile Platforms with ST-NXP Wireless. The joint venture is equally owned by Ericsson and STMicroelectronics.

The Parent Company holds 49.99% of shares in ST-Ericsson SA and 51% in ST-Ericsson AT SA, both in Switzerland.

The Parent Company does not have any contingent liabilities, assets pledged as collateral or guarantees towards ST-Ericsson.

ST-Ericsson

	2012	2011
Related party transactions		
License revenues	–	–
Dividends	–	–
Related party balances		
Receivables	–	1
Loan	–	2,759

Sony Ericsson Mobile Communications AB

Parent company has divested its 50% stake in Sony Ericsson Mobile Communications to Sony. The divestment was effected on January 1, 2012.

Sony Ericsson Mobile Communications

	2012	2011
Related party transactions		
License revenues	–	179
Dividends	–	–
Related party balances		
Receivables	–	1

Other related parties

For information regarding the remuneration of management, see Notes to the consolidated financial statements, Note C28, "Information regarding members of the Board of Directors, the Group management and employees".

P28
FEES TO AUDITORS

Fees to auditors

	PwC
2012	
Audit fees	23
Audit-related fees	11
Tax services fees	1
Other fees	5
Total	40
2011	
Audit fees	18
Audit-related fees	8
Tax services fees	–
Other fees	12
Total	38
2010	
Audit fees	19
Audit-related fees	12
Tax services fees	1
Other fees	3
Total	35

Allocation of fees to auditors is based on the requirements in the Swedish Annual Accounts Act.

During the period 2010–2012, in addition to audit services, PwC provided certain audit-related services, tax and other services to the Parent Company. The audit-related services include quarterly reviews, SSAE 16 reviews and services in connection with the issuing of certificates and opinions. The tax services include general expatriate services and corporate tax compliance work. Other services include consultation on financial accounting, services related to acquisitions, operational effectiveness and assessments of internal control.

P29
EVENTS AFTER THE REPORTING PERIOD

On January 21, 2013, Ericsson announced its intention to acquire Devoteam Telecom & Media operations in France. Devoteam has employees in Europe, Middle East and Africa. The acquisition is in line with Ericsson's services strategy to broaden its IT capabilities.

In early 2013 Standard & Poors changed the credit rating from BBB+ outlook stable to outlook negative and Moody´s changed the credit rating from A3 with outlook stable to outlook negative.

In January, 2013, ST-Ericsson was granted a loan facility by their owners of USD 260 million. Ericsson's share of this credit facility is USD 130 million.

On January 10, 2013, Adaptix Inc. filed two lawsuits against Ericsson, AT&T, AT&T Mobility and MetroPCS Communications in the US District Court for Eastern District of Texas alleging that certain Ericsson products infringe five US patents assigned to Adaptix. Adaptix seeks damages and an injunction.

On January 25, 2013, Adaptix filed a complaint with the US International Trade Commission (ITC) against Ericsson, AT&T, AT&T Mobility and MetroPCS Communications requesting that the commission open a patent infringement investigation of certain Ericsson products and further on January 29, 2013, Adaptix filed a complaint with the Tokyo District Court alleging certain Ericsson products infringe two JP patents assigned to Adaptix. Adaptix seeks damages and an injunction.

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RISK FACTORS

You should carefully consider all the information in this Annual Report and in particular the risks and uncertainties outlined below. Based on the information currently known to us, we believe that the following information identifies the most significant risk factors affecting our business. Any of the factors described below, or any other risk factors discussed elsewhere in this report, could have a material negative effect on our business, operational and after-tax results, financial position, cash flow, liquidity, credit rating, brand and/or our share price. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also materially adversely affect our business. Furthermore, our operational results may have a greater variability than in the past and we may have difficulties in accurately predicting future developments. See also "Forward-Looking Statements".

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MARKET, TECHNOLOGY AND BUSINESS RISKS

Challenging global economic conditions may adversely impact the demand and pricing for our products and services as well as limit our ability to grow.

Challenging global economic conditions could have adverse, wide-ranging effects on demand for our products and for the products of our customers. Adverse global economic conditions could cause operators and other customers to postpone investments or initiate other cost-cutting initiatives to improve their financial position. This could result in significantly reduced expenditures for network infrastructure and services, in which case our operating results would suffer. If demand for our products and services were to fall in the future, we could experience material adverse effects on our revenues, cash flow, capital employed and value of our assets and we could incur operating losses. Furthermore, if demand is significantly weaker or more volatile than expected, our credit rating, borrowing opportunities and costs as well as the trading price of our shares could be adversely impacted. When deemed necessary, we undertake specific restructuring or cost saving initiatives, however, there are no guarantees that such initiatives will be sufficient, successful or executed in time to deliver any improvements in our earnings.

Should global economic conditions fail to improve, or worsen, other business risks we face could intensify and could also negatively impact the business prospects of operators and other customers. Some operators and other customers, in particular in markets with weak currencies, may incur borrowing difficulties and slower traffic development, which may negatively affect their investment plans and cause them to purchase less of our products and services.

The potential adverse effects of an economic downturn include:

- Reduced demand for products and services, resulting in increased price competition or deferrals of purchases, with lower revenues not fully compensated through reduced costs
- Risks of excess and obsolete inventories and excess manufacturing capacity
- Risk of financial difficulties or failures among our suppliers
- Increased demand for customer finance, difficulties in collection of accounts receivable and increased risk of counterparty failures
- Risk of impairment losses related to our intangible assets as a result of lower forecasted sales of certain products
- Increased difficulties in forecasting sales and financial results as well as increased volatility in our reported results
- A decline in the value of the assets in our pension plans and/or increased pension liabilities due to discount rate changes
- End user demand could also be adversely affected by reduced consumer spending on technology, changed operator pricing, security breaches and trust issues.

The telecommunications industry fluctuates and is affected by many factors, including the economic environment, decisions by operators and other customers regarding their deployment of technology and their timing of purchases.

The telecommunications industry has experienced downturns in the past in which operators substantially reduced their capital spending on new equipment. While we expect the network service provider equipment market and telecommunications services market to grow in the coming years, the uncertainty surrounding the global economic recovery may materially harm actual market conditions. Moreover, market conditions are subject to substantial fluctuation, and could vary geographically and across technologies. Even if global conditions improve, conditions in the specific industry segments in which we participate may be weaker than in other segments. In that case, the results of our operations may be adversely affected.

If capital expenditures by operators and other customers is weaker than we anticipate, our revenues and profitability may be adversely affected. The level of demand by operators and other customers who buy our products and services can change quickly and can vary over short periods of time, including from month to month. Due to the uncertainty and variations in the telecommunications industry, accurately forecasting revenues, results, and cash flow remains difficult.

Sales volumes and gross margin levels are affected by the variation and short order time of our products and services.

Our sales to operators and other customers represent a mix of equipment, software and services, which normally generate different gross margins. We sell our own products as well as third party products, which normally have lower margins than our own products. As a consequence, our reported gross margin in a specific period will be affected by the overall mix of products and services as well as the relative content of third party products. Further, network expansions and upgrades have much shorter lead times for delivery than initial network build outs. Orders for such network expansions and upgrades

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RISK FACTORS CONTINUED

are normally placed with short notice by customers, often with less than a month's notice, and consequently variations in demand are difficult to forecast. As a result, changes in our product and service mix and the short order time for certain of our products may affect our ability to accurately forecast sales and margins or detect in advance whether actual results will deviate from market consensus. Short-term variation could have a material adverse effect on our business, operating results and financial condition.

We may not be able to properly respond to market trends in the industries in which we operate, including the ongoing convergence of the telecom, data and media industries, which may harm our market position relative to our competitors.

We are affected by market conditions and trends within the industries in which we operate, including the convergence of the telecom, data and media industries. Convergence is largely driven by technological development related to IP-based communications. This has changed the competitive landscape and affects our objective setting, risk assessment and strategies. Competitors new to our business may enter this new business context and negatively impact our market share in selected areas. If we fail to understand the market development, or fail to acquire the necessary competences to develop and market products, services and solutions that are competitive in this changing market, our business, operating results and financial condition will suffer.

Our business depends upon the continued growth of mobile communications and the acceptance of new services. If growth slows or new services do not succeed, operators' investment in networks may slow or stop, harming our business.

A substantial portion of our business depends on the continued growth of mobile communications in terms of both the number of subscriptions and usage per subscriber, which in turn drives the continued deployment and expansion of network systems by our customers. If operators fail to increase the number of subscribers and/or stimulate increased usage, our business and operational results could be materially adversely affected. Also, if operators fail to monetize new services, fail to introduce new business models or experience a decline in operator revenues or profitability, their willingness to further invest in their network systems may decrease which will reduce their demand for our products and services and have an adverse effect on our business, operational results and financial condition.

Fixed and mobile networks converge and new technologies, such as IP and broadband, enable operators to deliver a range of new types of services in both fixed and mobile networks. We are dependent upon market acceptance of such services and the outcome of regulatory and standardization activities in this field, such as spectrum allocation. If delays in standardization, regulation, or market acceptance occur, this could adversely affect our business, operational results and financial condition.

We face intense competition from our existing competitors as well as new entrants, including IT companies entering the telecommunications market, and this could materially adversely affect our results.

The markets in which we operate are highly competitive in terms of price, functionality, service quality, customization, timing of development, and the introduction of new products and services. We face intense competition from significant competitors many of which are very large, with substantial technological and financial resources and established relationships with operators. Further, certain competitors, Chinese companies in particular, have become relatively stronger in recent years. We may also encounter increased competition from new market entrants, alternative technologies or due to evolving industry standards. In particular, we may face competition from large IT companies entering the telecommunications market who benefit from economies of scale from being active in several industries. We cannot assure that we will be able to compete successfully with these companies. Our competitors may implement new technologies before we do, offer more attractively priced or enhanced products, services or solutions, or they may offer other incentives that we do not provide. Some of our competitors may also have greater resources in certain business segments or geographic markets than we do. Increased competition could result in reduced profit margins, loss of market share, increased research and development costs as well as increased sales and marketing expenses. Traffic development on cellular networks could be affected if more traffic is off-loaded to Wi-Fi networks. Further, alternative services provided over-the-top have profound effects on operator voice/ SMS revenues with possible reduced capital expenses consequences.

Additionally, we operate in markets characterized by rapidly changing technology. This results in continuous price erosion and increased price competition for our products and services. If our counter measures, including enhanced products and business models or cost reductions cannot be achieved or do not occur in a timely manner, there could be adverse impacts on our business, operating results, financial condition and market share.

Vendor consolidation may lead to stronger competitors who are able to benefit from integration, scale and greater resources.

Industry convergence and consolidation among equipment and services suppliers could potentially result in stronger competitors that are competing as end-to-end suppliers as well as competitors more specialized in particular areas. Consolidation may also result in competitors with greater resources than we have or in reduction of our current scale advantages. This could have a materially adverse effect on our business, operating results, financial condition and market share.

A significant portion of our revenue is currently generated from a limited number of key customers, and operator consolidation may increase our dependence on key customers.

We derive most of our business from large, multi-year frame agreements with a limited number of significant customers. Many of these agreements are opened up on a yearly basis to re-negotiate the price for our products and services and do not contain committed purchase volumes. Although no single customer represents more than 7% of our sales in 2012, our ten largest customers accounted for 46% of our sales in 2012. A loss of or a reduced role with a key customer could have a significant adverse impact on sales, profit and market share for an extended period.

In recent years, network operators have undergone significant consolidation, resulting in a fewer number of operators with activities in several countries. This trend is expected to continue, and intra-country

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consolidation is likely to accelerate as a result of competitive pressure. A market with fewer and larger operators will increase our reliance on key customers and may negatively impact our bargaining position and profit margins. Moreover, if the combined companies operate in the same geographic market, networks may be shared and less network equipment and associated services may be required. Network investments could be delayed by the consolidation process, which may include, among others, actions relating to merger or acquisition agreements, securing necessary regulatory approvals, or integration of their businesses. Network operators have started to share parts of their network infrastructure through cooperation agreements rather than legal consolidations, which may adversely affect demand for network equipment. Accordingly, operator consolidation may have a material adverse effect on our business, operating results and financial condition.

Certain long-term frame agreements with customers still include commitments to future price reductions, requiring us to constantly manage and control our cost base.

Long-term frame agreements with our customers are typically awarded on a competitive bidding basis. In some cases, such agreements also include a commitment to future price reductions. In order to maintain our gross margin with such price reductions, we continuously strive to reduce the costs of our products through design improvements, negotiation of better purchase prices from our suppliers, allocation of more production to low-cost countries and increased productivity in our own production. However, there can be no assurance that our actions to reduce costs will be sufficient or quick enough to maintain our gross margin in such contracts, which may have a material adverse effect on our operating results.

Growth of our managed services business is difficult to predict, and requires taking significant contractual risks.

Operators increasingly outsource parts of their operations to reduce cost and focus on new services. To address this opportunity, we offer operators various services in which we manage their networks. The growth rate in the managed services market is difficult to forecast and each new contract carries a risk that transformation and integration of the operations will not be as fast or smooth as planned. Additionally, early contract margins are generally low and the mix of new and old contracts may negatively affect reported results in a given period. Contracts for such services normally cover several years and generate recurring revenues. However, contracts have been, and may in the future be, terminated or reduced in scope, which has negative impacts on sales and earnings. While we believe we have a strong position in the managed services market, competition in this area is increasing, which may have adverse effects on our future growth and profitability.

We depend upon the development of new products and enhancements to our existing products, and the success of our substantial research and development investments is uncertain.

Rapid technological and market changes in our industry require us to make significant investments in technological innovation. We invest significantly in new technology, products and solutions. In order for us to be successful, those technologies, products and solutions must be accepted by relevant standardization bodies and by the industry as a whole. There can be no assurance that our research and development efforts will be technically or commercially successful. If we invest in the development of technologies, products and solutions that do not function as expected, are not adopted by the industry, are not ready in time, or are not successful in the marketplace our sales and earnings may materially suffer. Additionally, it is common for research and development projects to encounter delays due to unforeseen problems. Delays in production may increase the cost of research and development efforts and put us at a disadvantage against our competition.

We engage in acquisitions and divestments which may be disruptive and require us to incur significant expenses.

In addition to in-house innovation efforts, we make strategic acquisitions in order to obtain various benefits such as reduced time-to-market, access to technology and competence, increased scale or to broaden our product portfolio or customer base. Future acquisitions could result in the incurrence of contingent liabilities and an increase in amortization expenses related to goodwill and other intangible assets, which could have a material adverse effect upon our business, financial condition and results of operations. Risks we could face with respect to acquisitions include:

- Difficulties in the integration of the operations, technologies, products and personnel of the acquired company
- Risks of entering markets in which we have no or limited prior experience
- Potential loss of employees
- Diversion of management's attention away from other business concerns
- Expenses of any undisclosed or potential legal liabilities of the acquired company.

From time to time we also divest parts of our business to optimize our product portfolio or operations. Any decision to dispose of or otherwise exit businesses may result in the recording of special charges, such as workforce reduction costs and industry and technology-related write-offs. We cannot assure that we will be successful in consummating future acquisitions or divestments on favourable terms or at all. The risks associated with such acquisitions and divestments could have a material adverse effect upon our business, financial condition and results of operations.

We are a party to joint ventures and partnerships which may not be successful and expose us to future costs.

We are partners in joint ventures and partnerships. Our partnering arrangements may fail to perform as expected for various reasons, including an incorrect assessment of our needs, our inability to take action without the approval of our partners or the capabilities or financial stability of our strategic partners. Our ability to work with these partners or develop new products and solutions may become constrained, which could harm our competitive position in the market.

Additionally, our share of any losses from or commitments to contribute additional capital to such partnerships may adversely affect our results of operations or financial position.

The Board of Directors' report includes further information regarding our joint venture ST Ericsson.

We rely on a limited number of suppliers of components, production capacity and R&D and IT services, which exposes us to supply disruptions and cost increases.

Our ability to deliver according to market demands and contractual commitments depends significantly on obtaining a timely and adequate supply of materials, components, production capacity and other vital services on competitive terms. Although we strive to avoid single-source supplier solutions, this is not always possible. Accordingly, there is a risk that we will be unable to obtain key supplies we need to produce our products and provide our services on commercially reasonable terms, or at all. Failure by any of our suppliers could interrupt our product or services supply or operations and significantly limit sales or increase our costs. To find an alternative supplier or re-design products to replace components may take significant time which could cause significant delays or interruptions in the delivery of our products and services. We have from time to time experienced interruptions of supply and we may experience such interruptions in the future.

Furthermore, our procurement of supplies requires us to predict future customer demands. If we fail to anticipate customer demand properly,

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RISK FACTORS CONTINUED

an over or under supply of components and production capacity could occur. In many cases, some of our competitors utilize the same contract manufacturers and if they have purchased capacity ahead of us we could be blocked from acquiring the needed products. This factor could limit our ability to supply our customers or could increase costs. At the same time, we commit to certain capacity levels or component quantities, which, if unused, will result in charges for unused capacity or scrapping costs. We are also exposed to financial counterpart risks to suppliers where we pay in advance for supplies.

Product or service quality issues could lead to reduced revenue, gross margins and declining sales to existing customers.

Sales contracts normally include warranty undertakings for faulty products and often include provisions regarding penalties and/or termination rights in the event of a failure to deliver ordered products or services on time or with required quality. Although we undertake a number of quality assurance measures to reduce such risks, product quality or service performance issues may negatively affect our reputation, results and financial position. If significant warranty obligations arise due to reliability or quality issues, our operating results and financial position could be negatively impacted by costs associated with fixing software or hardware defects, high service and warranty expenses, high inventory obsolescence expense, delays in collecting accounts receivable or declining sales to existing customers.

Due to having a significant portion of our costs in SEK and revenues in other currencies, our business is exposed to foreign exchange fluctuations that could negatively impact our revenue and results of operation.

We incur a significant portion of our expenses in SEK. As a result of our international operations, we generate, and expect to continue to generate, a significant portion of our revenue in currencies other than SEK. To the extent we are unable to match revenue received in foreign currencies with costs paid in the same currency, exchange rate fluctuations could have a negative impact on our consolidated income statement, balance sheet and cash flows when foreign currencies are exchanged or translated to SEK, which increases volatility in reported results.

As market prices are predominantly established in USD or EUR, we presently have a net revenue exposure in foreign currencies which means that a stronger SEK exchange rate would generally have a negative effect on our reported results. Our attempts to reduce the effects of exchange rate fluctuations through a variety of hedging activities may not be sufficient or successful, resulting in an adverse impact on our results.

Our ability to benefit from intellectual property rights (IPR) which are critical to our business may be limited by changes in regulation limiting patents, inability to prevent infringement, the loss of licenses from third parties and IP infringement claims brought against us by competitors.

Although we have a large number of patents, there can be no assurance that they will not be challenged, invalidated, or circumvented, or that any rights granted in relation to our patents will in fact provide us with competitive advantages.

In 2005, the European Union considered restricting the patentability of software. Although the European Union ultimately rejected this proposal, we cannot guarantee that they will not revisit this issue in the future. We rely on many software patents, and limitations on the patentability of software may materially affect our business.

We utilize a combination of trade secrets, confidentiality policies, nondisclosure and other contractual arrangements in addition to relying on patent, copyright and trademark laws to protect our intellectual property rights. However, these measures may not be adequate to prevent or deter infringement or other misappropriation. Moreover, we may not be able to detect unauthorized use or take appropriate and timely steps to establish and enforce our proprietary rights. In fact, existing laws of some countries in which we conduct business offer only limited protection of intellectual property rights, if at all.

Our solutions may also require us to license technologies from third parties. It may be necessary in the future to seek or renew licenses and there can be no assurance that they would be available on acceptable terms, or at all. Moreover, the inclusion in our products of software or other intellectual property licensed from third parties on a non-exclusive basis could limit our ability to protect proprietary rights in our products.

Many key aspects of telecommunications and data network technology are governed by industry-wide standards usable by all market participants. As the number of market entrants and the complexity of technology increases, the possibility of functional overlap and inadvertent infringement of intellectual property rights also increases. Third parties have asserted, and may assert in the future, claims, directly against us or against our customers, alleging infringement of their intellectual property rights. Defending such claims may be expensive, time-consuming and divert the efforts of our management and/or technical personnel. As a result of litigation, we could be required to pay damages and other compensation directly or to indemnify our customers for such damages and other compensation, develop non-infringing products/technology or enter into royalty or licensing agreements. However, we cannot be certain that such licenses will be available to us on commercially reasonable terms or at all, and such judgments could have a materially adverse effect on our business.

We are involved in lawsuits and investigations which, if determined against us, could require us to pay substantial damages, fines and/or penalties.

In the normal course of our business we are involved in legal proceedings. These lawsuits include such matters as commercial disputes, claims regarding intellectual property, antitrust, tax and labour disputes. Litigation can be expensive, lengthy and disruptive to normal business operations. Moreover, the results of complex legal proceedings are difficult to predict. An unfavourable resolution of a particular lawsuit could have a material adverse effect on our business, reputation, operating results, or financial condition.

As a publicly listed company, Ericsson may be exposed to lawsuits in which plaintiffs allege that the Company or its officers have failed to comply with securities laws, stock market regulations or other laws, regulations or requirements. Whether or not there is merit to such claims, the time and costs incurred to defend the Company and its officers and the potential settlement or compensation to the plaintiffs could have

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significant impact on our reported results and reputation. For additional information regarding certain of the lawsuits in which we are involved, see "Legal proceedings" in the Board of Directors' Report.

Our operations are complex and several critical operations are centralized in a single location. Any disruption of our operations, whether due to natural or man made events, may be highly damaging to the operation of our business.

Our business operations rely on complex operations and communications networks, which are vulnerable to damage or disturbance from a variety of sources. Having outsourced a significant portion of our IT operations, we depend partly on security and reliability measures of external companies. Regardless of protection measures, our systems and communications networks are susceptible to disruption due to failure, vandalism, computer viruses, security breaches, natural disasters, power outages and other events. We also have a concentration of operations on certain sites, including R&D, production, network operation centres, and logistic centres and shared services centres, where business interruptions could cause material damage and costs. The delivery of goods from suppliers, and to customers, could also be hampered for the reasons stated above. We cannot provide any assurance that interruptions to our systems and communications will not have an adverse effect on our operations and financial conditions.

Cyber security incidents affecting our business may have a material adverse effect on our business operations financial condition and brand.

Ericsson's business operations involve areas that are particularly vulnerable to cyber security incidents such as data breaches, intrusions, espionage, knowhow and data privacy infringements, leakage and general malfeasance. Examples of these areas include, amongst others, research and development, managed services, usage of cloud solutions, software development, lawful interception and product engineering. Any cyber security incident including unintended use, involving our operations, product development, services, our third party providers or installed product base, could cause severe harm to Ericsson and could have a material adverse effect on our business operations, financial condition and brand.

Ericsson relies heavily on third parties to whom we have outsourced significant aspects of our IT infrastructure, product development and engineering services. While we have taken precautions relating to the selection, integration and ongoing management of these third parties, any event or attack that is caused as a result of vulnerabilities in their operations or products supplied to us, could have a material adverse effect upon Ericsson, our business operations, financial condition and brand, potentially slowing operations, leaking valuable intellectual property or damaging our products which have been installed in our customers' networks.

We must continue to attract and retain highly qualified employees to remain competitive.

We believe that our future success largely depends on our continued ability to hire, develop, motivate and retain engineers and other qualified personnel needed to develop successful new products, support our existing product range and provide services to our customers.

Competition for skilled personnel and highly qualified managers in the telecommunications industry remains intense. We are continuously developing our corporate culture, remuneration, promotion and benefits policies as well as other measures aimed at empowering our employees and reducing employee turnover. However, there are no guarantees that we will be successful in attracting and retaining employees with appropriate skills in the future, and failure in retention and recruiting could have a material adverse effect on our business.

If our customers' financial conditions decline, we will be exposed to increased credit and commercial risks.

After completing sales to customers, we may encounter difficulty collecting accounts receivables and could be exposed to risks associated with uncollectable accounts receivable. We regularly assess the credit worthiness of our customers and based on that we determine a credit limit for each one of them. Challenging economic conditions have impacted some of our customers' ability to pay their accounts receivables. Although our credit losses have historically been low and we have policies and procedures for managing customer finance credit risk we may be unable to avoid future losses on our trade receivables. We have also experienced demands for customer financing, and in adverse financial markets or more competitive environments, those demands may increase. Upon the financial failure of a customer, we may experience losses on credit extended and loans made to such customer, losses relating to our commercial risk exposure, and the loss of the customer's on-going business. If customers fail to meet their obligations to us, we may experience reduced cash flows and losses in excess of reserves, which could materially adversely impact our results of operations and financial position.

We rely on various capital sources for short-term and long-term capital for the funding of our business. Should such capital become unavailable or available in insufficient amounts or unreasonable terms, our business may materially suffer.

If we do not generate sufficient amounts of capital to support our operations, service our debt and continue our research and development and customer finance programs, or if we cannot raise sufficient amounts of capital at the required times and terms, our business is likely to be adversely affected. Access to funding may decrease or become more expensive as a result of our operational and financial condition, market conditions, including financial conditions in the Euro-zone, or due to deterioration in our credit rating. There can be no assurance that additional sources of funds that we from time to time may need, will be available or available on reasonable terms. If we cannot access capital on commercially viable terms, our business could materially suffer.

Impairment of goodwill may negatively impact financial condition.

An impairment of goodwill or other intangible assets could adversely affect our financial condition or results of operations. We have a significant amount of goodwill and intangible assets, for example patents, customer relations, trademarks and software. Goodwill is the only intangible asset the company has recognized to have indefinite useful life.

Other intangible assets are mainly amortized on a straight-line basis over their estimated useful lives, but no more than ten years, and are reviewed for impairment whenever events such as product discontinuances, product dispositions or other changes in circumstances indicate that the carrying amount may not be wholly recoverable. Those not yet in use are tested for impairment annually.

Historically, we have recognized impairment charges related to intangible assets mainly due to restructuring. Additional impairment charges may be incurred in the future that could be significant due to various reasons, including restructuring actions or adverse market conditions that are either specific to us or the broader telecommunications industry or more general in nature and that could have an adverse effect on our results of operations or financial condition.

Negative deviations in actual cash flows compared to estimated cash flows as well as new estimates that indicate lower future cash flows might result in recognition of impairment charges. Estimates require management judgment as well as the definition of cash generating units for impairment testing purposes. Other judgments might result in significantly different results and financial position in the future.

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RISK FACTORS CONTINUED

REGULATORY, COMPLIANCE AND CORPORATE GOVERNANCE RISKS

Our business may suffer as a result of changes in laws or regulations which could subject us to liability, increase costs, or reduce product demand.

Telecommunications is an industry which is subject to regulations. Changes to these regulations may adversely affect both our customers' and our own operations. For example, regulations imposing more stringent, time-consuming or costly planning and zoning requirements or building approvals for radio base stations and other network infrastructure could adversely affect the timing and costs of network construction or expansion, and ultimately the commercial launch and success of these networks. Similarly, tariff and roaming regulations or rules on network neutrality could also affect operators' ability or willingness to invest in network infrastructure, which in turn could affect the sales of our systems and services. Additionally, delay in radio frequency spectrum allocation, and allocation between different types of usage may affect operator spending adversely or force us to develop new products to be able to compete.

Further, we develop many of our products and services based on existing regulations and technical standards. Changes to existing regulations and technical standards, or the implementation of new regulations and technical standards relating to products and services not previously regulated, could adversely affect our development efforts by increasing compliance costs and causing delay. Demand for those products and services could also decline. Regulatory changes in license fees, environmental, health and safety, privacy and other regulatory areas may increase costs and restrict our operations or the operations of network operators and service providers. Also indirect impacts of such changes and regulatory changes in other fields, such as pricing regulations, could have an adverse impact on our business even though the specific regulations may not apply directly to our products or us.

Ericsson may fail or be unable to comply with laws or regulations and could experience adverse rulings in enforcement or other proceedings, which could have a material adverse impact on our business operations, financial condition and brand.

Our substantial international operations are subject to uncertainties which could affect our operating results.

We conduct business throughout the world and are subject to the effects of general global economic conditions as well as conditions unique to specific countries or regions. We have customers in more than 180 countries, with a significant proportion of our sales to emerging markets in the Asia Pacific region, Latin America, Eastern Europe, the Middle East and Africa.

Our extensive operations are subject to numerous additional risks, including civil disturbances, economic and political instability, the imposition of exchange controls, economies which are subject to significant fluctuations, nationalization of private assets or other governmental actions affecting the flow of goods and currency, and difficulty of enforcing agreements and collecting receivables through local legal systems. Further, in certain markets in which we operate, there is a risk of protectionist governmental measures implemented to assist domestic market participants at the expense of foreign competitors. The implementation of such measures could adversely affect sales or our ability to purchase critical components.

We must always comply with relevant export control regulations and sanctions or other trade embargoes in force, not only at the time of sale but also at the time of delivery. The political situation in parts of the world, particularly in the Middle East, has led to an increase of sanctions imposed by the global community. A universal element of these sanctions is the financial restrictions with respect to individuals and/or legal entities, but sanctions can also restrict certain exports and ultimately lead to a complete trade embargo towards a country. In particular, the sanctions towards Iran have been strengthened significantly during 2012, both by the EU and the U.S. Even though the EU has imposed a ban on deliveries on many items, especially so called dual use items, an exemption for certain standard telecom equipment is still maintained.

There is a risk in many of these countries of unexpected changes in regulatory requirements, tariffs and other trade barriers, price or exchange controls, or other governmental policies which could limit our operations and decrease our profitability. Further export control regulations, sanctions or other forms of trade restrictions imposed on countries in which we are active may result in a reduction of commitment in those countries. The need to terminate activities as a result of further trade restrictions may also expose us to customer claims and other actions. Although we seek to comply with all such regulations, there can be no assurance that we are, or will be in the future, compliant with all relevant regulations and such violations, even unintentional violations, could have material adverse effects on our business, operational results and brand.

There has been a growing concern reported by media and others, that certain countries may use features of their telecommunications systems violating the human rights. This may adversely affect the telecommunications business and may have a negative impact on our brand.

As a result of the credit crisis in Europe, concerns persist regarding the debt burden of certain Eurozone countries and their ability to meet future financial obligations, the overall stability of the euro and the suitability of the euro as a single currency given the diverse economic and political circumstances in individual member states. These and other concerns could in worst case lead to the re-introduction of individual currencies in one or more member states, or, in more extreme circumstances, the possible dissolution of the euro entirely. These potential developments, or market perceptions concerning these and related issues, could adversely affect our operations and have a material adverse effect on our business, operating results and financial condition.

We may fail to comply with our corporate governance standards which could negatively affect our financial condition, business, results of operations and our brand.

We are subject to corporate governance laws and regulations and are also committed to several corporate responsibility and environmental initiatives. In some of the countries where we operate corruption risks are high. In addition, there is higher focus on anticorruption, with changed legislation in many countries. To ensure that our operations are executed in accordance with applicable requirements, our management system

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includes a Code of Business Ethics, a Sustainability Policy, as well as other policies and directives to govern our processes and operations. Our commitment to apply the UN Guiding principles for business and human rights to our operation cannot prevent unintended or unlawful use of our technology by non democratic regimes. While we attempt to monitor and audit internal compliance with the policies and directives as well as our suppliers' adherence to our Code of Conduct and strive for continuous improvements, we cannot provide any assurances that violations will not occur which could have material adverse effects on our operations, business results and brand.

Failure to comply with environmental, health and safety regulations in many jurisdictions may expose us to significant penalties and other sanctions.

We are subject to certain environmental, health and safety laws and regulations that affect our operations, facilities and products in each of the jurisdictions in which we operate. While we believe that we are in compliance with all material laws and regulations related to the environment, health, and safety, we can provide no assurance that we have been, are, or will in the future be compliant with these regulations. If we have failed or fail to comply with these regulations, we could be subject to significant penalties and other sanctions that could have a material adverse effect on our business, operating results and financial condition. Additionally, there is a risk that we may have to incur expenditures to cover environmental and health liabilities to maintain compliance with current or future laws and regulations or to undertake any necessary remediation. It is difficult to reasonably estimate the future impact of environmental matters, such as climate change and weather events, including potential liabilities. This is due to several factors, particularly the length of time often involved in resolving such matters. Adverse future events, regulations, or judgments could have a material effect on our business, operating results and financial condition.

Potential health risks related to electromagnetic fields may subject us to various product liability claims and result in regulatory changes.

The mobile telecommunications industry is subject to claims that mobile handsets and other devices that generate electromagnetic fields expose users to health risks. At present, a substantial number of scientific studies conducted by various independent research bodies have indicated that electromagnetic fields, at levels within the limits prescribed by public health authority safety standards and recommendations, cause no adverse effects to human health. However, any perceived risk or new scientific findings of adverse health effects from mobile communication devices and equipment could adversely affect us through a reduction in sales or through liability claims. Although Ericsson's products are designed to comply with all current safety standards and recommendations regarding applicable electromagnetic fields, we cannot guarantee that we or the jointly owned ST-Ericsson will not become the subject of product liability claims or be held liable for such claims or be required to comply with future regulatory changes that may have an adverse effect on our business, operating results and financial condition.

New regulations related to "conflict minerals" may cause us to incur additional expenses, and may make our supply chain more complex.

On August 22, 2012, the US Securities and Exchange Commission (the "SEC"), adopted a new rule requiring disclosures beginning in 2014 of specified minerals ("conflict minerals") that are necessary to the functionality or production of products manufactured or contracted to be manufactured by companies registered with the SEC, whether or not these products or its components are manufactured by third parties. While we believe that we will be able to fulfill these requirements without materially affecting our costs or access to materials, we can provide no assurance that there will not be material costs associated with complying with the disclosure requirements.

While we work and strive to be able to sufficiently verify the origins of these minerals, our supply chain is complex, and we may not be able to sufficiently verify the origins of the relevant minerals used in our products through the due diligence procedures that we implement, which may harm our reputation. In addition, we may encounter challenges if customers require that all of the components of our products be certified as conflict-free. These new disclosure requirements may negatively affect our brand, financial condition, business and results of operations.

RISKS ASSOCIATED WITH OWNING ERICSSON SHARES

Our share price has been and may continue to be volatile, especially as technology companies, securities and markets as a whole remain volatile.

Our share price has been volatile due to various factors, including our operating performance as well as the high volatility in the securities markets generally and volatility in telecommunications and technology companies' securities in particular. Our share price is also likely to be affected by future developments in our market, our reported financial results and the expectations of financial analysts, as well as statements and market speculation regarding our future prospects or the timing or content of any public communications, including reports of operating results, by us or our competitors.

Factors other than our financial results that may affect our share price include, but are not limited to:

- A weakening of our brand name or other circumstances with adverse effects on our reputation
- Announcements by our customers, competitors or us regarding capital spending plans of our customers
- Financial difficulties for our customers
- Awards of large supply or service contracts
- Speculation in the press or investment community about the business level or growth in the telecommunications market
- Technical problems, in particular those relating to the introduction and viability of new network systems, including lte/4g and new platforms such as the rbs 6000 (multi-standard radio base station) platform
- Actual or expected results of ongoing or potential litigation
- Announcements concerning bankruptcy or investigations into the accounting procedures of ourselves or other telecommunications companies
- Our ability to forecast and communicate our future results in a manner consistent with investor expectations.

Currency fluctuations may adversely affect share value or value of dividends.

Because our shares are quoted in SEK on NASDAQ OMX Stockholm (our primary stock exchange), but in USD on NASDAQ New York (ADSs), fluctuations in exchange rates between SEK and USD may affect the value of our shareholders' investment. In addition, because we pay cash dividends in SEK, fluctuations in exchange rates may affect the value of distributions when converted into other currencies. An increasing part of the trade in our shares is carried out on alternative exchanges or markets, which may lead to less accurate share price information on NASDAQ OMX Stockholm or NASDAQ New York.

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AUDITORS' REPORT

To the Annual General Meeting of the shareholders of Telefonaktiebolaget LM Ericsson (publ), corporate identity number 556016-0680

Report on the annual accounts and consolidated accounts

We have audited the annual accounts and consolidated accounts of Telefonaktiebolaget LM Ericsson (publ) for the year 2012. (The annual accounts and consolidated accounts of the company are included in the printed version of this document on pages 26–127.)

Responsibilities of the Board of Directors and the President and CEO for the annual accounts and consolidated accounts

The Board of Directors and the President and CEO are responsible for the preparation and fair presentation of these annual accounts and consolidated accounts in accordance with International Financial Reporting Standards, as adopted by the EU, and the Annual Accounts Act, and for such internal control as the Board of Directors and the President and CEO determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these annual accounts and consolidated accounts based on our audit. We conducted our audit in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the annual accounts and consolidated accounts are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the annual accounts and consolidated accounts. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the annual accounts and consolidated accounts, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the company's preparation and fair presentation of the annual accounts and consolidated accounts in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Board of Directors and the President and CEO, as well as evaluating the overall presentation of the annual accounts and consolidated accounts.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinions

In our opinion, the annual accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the Parent Company as of 31 December 2012 and of its financial performance and its cash flows for the year then ended in accordance with the Annual Accounts Act. The consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the group as of 31 December 2012 and of their financial performance and cash flows in accordance with International Financial Reporting Standards, as adopted by the EU, and the Annual Accounts Act. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the annual meeting of shareholders adopt the income statement and balance sheet for the parent company and the group.

Report on other legal and regulatory requirements

In addition to our audit of the annual accounts and consolidated accounts, we have also audited the proposed appropriations of the company's profit or loss and the administration of the Board of Directors and the President and CEO of Telefonaktiebolaget LM Ericsson (publ) for the year 2012.

Responsibilities of the Board of Directors and the President and CEO

The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss, and the Board of Directors and the President and CEO are responsible for administration under the Companies Act.

Auditor's responsibility

Our responsibility is to express an opinion with reasonable assurance on the proposed appropriations of the company's profit or loss and on the administration based on our audit. We conducted the audit in accordance with generally accepted auditing standards in Sweden.

As a basis for our opinion on the Board of Directors' proposed appropriations of the company's profit or loss, we examined the Board of Directors' reasoned statement and a selection of supporting evidence in order to be able to assess whether the proposal is in accordance with the Companies Act.

As a basis for our opinion concerning discharge from liability, in addition to our audit of the annual accounts and consolidated accounts, we examined significant decisions, actions taken and circumstances of the company in order to determine whether any member of the Board of Directors or the President and CEO is liable to the company. We also examined whether any member of the Board of Directors or the President and CEO has, in any other way, acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinions

We recommend to the annual meeting of shareholders that the profit be appropriated in accordance with the proposal in the statutory administration report and that the members of the Board of Directors and the President and CEO be discharged from liability for the financial year.

Stockholm, March 5, 2013

Peter Nyllinge
Authorized Public Accountant
PricewaterhouseCoopers AB
Auditor in Charge

Johan Engstam
Authorized Public Accountant
PricewaterhouseCoopers AB

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FORWARD-LOOKING STATEMENTS

This Annual Report includes forward-looking statements, including statements reflecting management's current views relating to the growth of the market, future market conditions, future events and expected operational and financial performance. The words "believe", "expect", "foresee", "anticipate", "assume", "intend", "may", "could", "plan", "estimate", "forecast", "will", "should", "predict", "aim", "ambition", "target", "might" or, in each case, their negative, and similar words are intended to help identify forward-looking statements.

Forward-looking statements may be found throughout this document, but in particular in the chapter "Board of Directors' Report" and include statements regarding:

- Our goals, strategies and operational or financial performance expectations
- Development of corporate governance standards, stock market regulations and related legislation
- The future characteristics of the markets in which we operate
- Projections and other characterizations of future events
- Our liquidity, capital resources, capital expenditures, our credit ratings and the development in the capital markets, affecting our industry or us
- The expected demand for our existing as well as new products and services
- The expected operational or financial performance of our joint ventures and other strategic cooperation activities
- The time until acquired entities will be accretive to income
- Technology and industry trends including regulatory and standardization environment, competition and our customer structure
- Our plans for new products and services including research and development expenditures.

Although we believe that the expectations reflected in these and other forward-looking statements are reasonable, we cannot assure you that these expectations will materialize. Because forward-looking statements are based on assumptions, judgments and estimates, and are subject to risks and uncertainties, actual results could differ materially from those described or implied herein.

Important factors that could affect whether and to what extent any of our forward-looking statements materialize include, but are not limited to:

- Our ability to respond to changes in the telecommunications market and other general market conditions in a cost effective and timely manner
- Developments in the political, economic or regulatory environment affecting the markets in which we operate, including trade embargoes, changes in tax rates, changes in patent protection regulations, allegations of health risks from electromagnetic fields, cost of radio licenses for our customers, allocation of radio frequencies for different purposes and results of standardization activities
- The effectiveness of our strategies and their execution, including partnerships, acquisitions and divestments
- Financial risks, including changes in foreign exchange rates or interest rates, lack of liquidity or access to financing, our credit ratings, changes in tax liabilities, credit risks in relation to counterparties, customer defaults under significant customer finance arrangements and risks of confiscation of assets in foreign countries
- The financial strength of our customer base
- The impact of the consolidation in the industry, and the resulting (i) reduction in the number of customers, and adverse consequences of a loss of, or significant decline in, our business with a major customer; (ii) increased strength of a competitor or the establishment of new competitors
- The impact of changes in product demand, technology adoption, price erosion, competition from existing or new competitors or new technologies or alliances between vendors of different types of technology and the risk that our products and services may not sell at the rates or levels we anticipate
- The product mix and margins of our sales
- The volatility of market demand and difficulties to forecast such demand
- Our ability to develop commercially viable products, systems and services, to acquire licenses of necessary technology, to protect our intellectual property rights through patents and trademarks and to license them to others and defend them against infringement, and the results of patent litigation
- Supply constraints, including component or production capacity shortages, suppliers' abilities to cost effectively deliver quality products on time and in sufficient volumes, and risks related to concentration of proprietary or outsourced production in a single facility or sole source situations with a single vendor
- Our ability to successfully manage operators' networks to their satisfaction with satisfactory margins
- Our ability to maintain a strong brand and good reputation and to be acknowledged for good corporate governance
- Our ability to recruit and retain qualified management and other key employees.

Certain of these risks and uncertainties are described further in "Risk factors". We undertake no obligation to publicly update or revise any forward-looking statements included in this Annual Report, whether as a result of new information, future events or otherwise, except as required by applicable law or stock exchange regulation.

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CORPORATE GOVERNANCE REPORT 2012

Corporate governance describes how rights and responsibilities are distributed among corporate bodies according to applicable laws, rules and processes. Corporate governance also defines the decision-making systems and structure through which owners directly or indirectly control a company.

Good corporate governance forms the basis for building a robust corporate culture throughout a global organization. Efficient and reliable controls and procedures are important, but it is also crucial that ethical business practices are highly valued and followed by all people in the organization – starting at the top.

As Chairman of the Board, it is my responsibility to ensure that the Board's work is efficient and that applicable principles and processes in the Board's work procedure are complied with. The Board of Directors' main tasks include supporting Group management and exercising critical review of their work. To be able to fulfill these tasks successfully, it is also my responsibility as Chairman to enable an open and meaningful dialogue between the Board and Group management. Relevant and timely information from Group management is very important as it forms the best possible basis for the Board's discussions and resolutions. The Board's work is constantly evaluated and improved to allow the Board to fulfill its duties successfully.

I believe that Ericsson's continuous focus on corporate governance matters, ethical business and open and meaningful dialogue within the organization promote sustainable business. I believe that this, in turn, generates value for Ericsson's shareholders.

Leif Johansson
Chairman of the Board of Directors

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This Corporate Governance Report is rendered as a separate report added to the Annual Report in accordance with the Annual Accounts Act ((SFS 1995:1554) Chapter 6, Sections 6 and 8) and the Swedish Corporate Governance Code. The report has been reviewed by Ericsson's auditor in accordance with the Annual Accounts Act. A report from the auditor is appended hereto.

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The Code of Business Ethics can be found on Ericsson's website.

REGULATION AND COMPLIANCE

External rules

As a Swedish public limited liability company with securities quoted on NASDAQ OMX Stockholm as well as on NASDAQ New York, Ericsson is subject to a variety of rules that affect its governance. Major external rules include:

- The Swedish Companies Act
- The Rule Book for issuers of NASDAQ OMX Stockholm
- The Swedish Corporate Governance Code (the "Code")
- NASDAQ Stock Market Rules, including applicable NASDAQ New York corporate governance requirements (subject to certain exemptions principally reflecting mandatory Swedish legal requirements)
- Applicable requirements of the US Securities and Exchange Commission (the "SEC").

Internal rules

In addition, to ensure compliance with legal and regulatory requirements and the high ethical standards that we set for ourselves, Ericsson has adopted internal rules that include:

- A Code of Business Ethics
- Group Steering Documents, including Group policies and directives, instructions and business processes for approval, control and risk management
- A Code of Conduct, to be applied in the product development, production, supply and support of Ericsson products and services worldwide.

The work procedure for the Board of Directors also includes internal corporate governance rules.

Compliance with the Swedish Corporate Governance Code

The Code has been applied by Ericsson since 2005. Ericsson is committed to complying with best-practice corporate governance on a global level wherever possible. This includes continued compliance with the Code. Ericsson has not deviated from any of the rules of the Code. The Code can be found on the website of the Swedish Corporate Governance Board which administrates the Code: www.corporategovernanceboard.se.

Compliance with applicable stock exchange rules

There has been no infringement of applicable stock exchange rules and no breach of good practice on the securities market reported by the stock exchange's disciplinary committee or the Swedish Securities Council.

Code of Business Ethics

Ericsson's Code of Business Ethics sets out how the Group works to achieve and maintain high ethical standards. It summarizes the Group's basic policies and directives and underpins the importance of ethical conduct in all business activities.

The Code of Business Ethics has been translated into 30 languages. This ensures that it is accessible to all employees. During recruitment, employees acknowledge that they are aware of the principles of the Code of Business Ethics. This procedure is repeated at regular intervals throughout the term of employment. Through this process, Ericsson strives to raise awareness and to ensure that the business is run with integrity so that Ericsson can maintain credibility with customers, partners, employees, shareholders and other stakeholders. During 2012, the Code of Business Ethics was reviewed and updated and acknowledged by employees throughout the global organization. In addition, Ericsson's whistleblower procedure was extended to a greater scope.

All employees have an individual responsibility to ensure that business practices adhere to the Code of Business Ethics.

KEY EVENTS IN 2012

- Alexander Izosimov was elected new member of the Board
- Strong focus on Sustainability and Corporate Responsibility
- Code of Business Ethics review, update and acknowledgement project accomplished

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

GOVERNANCE STRUCTURE

Shareholders may exercise their decision-making rights in the Company at General Meetings of shareholders.

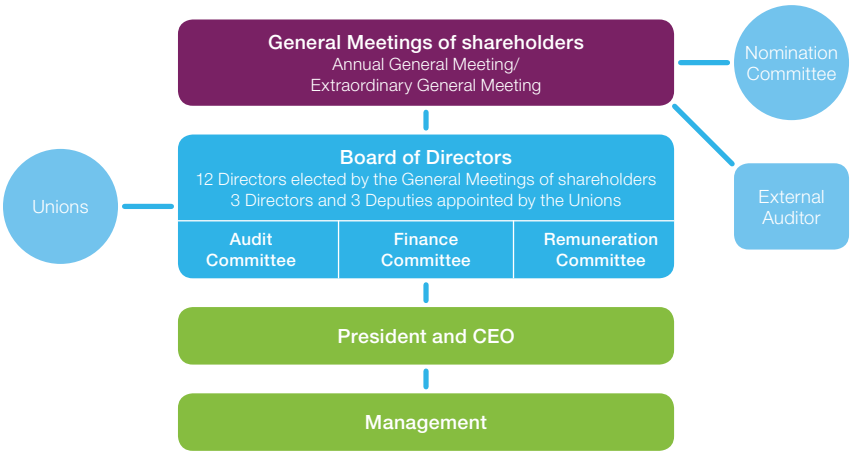
A Nomination Committee is appointed by the major shareholders in accordance with the Instruction for the Nomination Committee adopted by the Annual General Meeting of shareholders. The tasks of the Nomination Committee include the proposal of an external auditor and the proposal of Board members for election by the Annual General Meeting of shareholders.

In addition to the Directors elected by shareholders, the Board of Directors consists of employee representatives appointed by the unions. The Board of Directors is ultimately responsible for the organization of Ericsson and the management of its operations.

The President and CEO, appointed by the Board of Directors, is responsible for handling the day-to-day management of Ericsson in accordance with instructions from the Board. The President and CEO is supported by the Executive Leadership Team (ELT).

The external auditor of Ericsson is elected by the General Meeting of shareholders.

Governance structure



SUSTAINABILITY, CORPORATE RESPONSIBILITY AND CORPORATE GOVERNANCE

Sustainability and Corporate Responsibility (CR) are important parts of Ericsson's corporate governance framework. For Ericsson, sustainability is about long-term social equity, economic prosperity and environmental performance. CR is about maintaining the necessary controls to minimize risks, while creating positive business impacts for Ericsson's stakeholders and brand, by linking products, services and solutions to an overall business goal of sustainable growth, ensuring that Ericsson is a trusted partner to its stakeholders. Ericsson's Sustainability and CR strategy is integrated in the Group's yearly strategy process and implemented in the business units and the regions. The strategy process is further described on pages 148 and 149. CR risks are also included in Ericsson's risk management framework.

During 2012, Ericsson's continued focus on sustainability and CR matters was reflected through a number of corporate governance activities within the organization:

- Effective October 2012, Ericsson's Head of Sustainability and Corporate Responsibility reports directly to the President and CEO. This repositioning of the Sustainability and CR unit within the organization was made to better integrate the sustainability and CR work with the company's business operations, decision-making, culture and ways of working and to help build sustainable value creation for Ericsson.
- Ericsson's Code of Business Ethics was reviewed and updated and now includes a commitment to the new UN Guiding Principles on Business and Human Rights. Also, Ericsson's whistleblower procedure was extended to a wider scope in terms of incidents covered by the procedure and with respect to who can report violations. The updated Code was confirmed by employees throughout the global organization.
- The Sales Compliance Board was further strengthened and formalized to assess and manage human rights and CR risks.

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Shareholders

Ownership percentage (voting rights)

Swedish institutions:	57.95%
Of which:	
– Investor AB:	21.37%
– AB Industrivärden: (together with SHB Pensionsstiftelse and Pensionskassan SHB Försäkringsförening)	19.81%
Foreign investors	28.38%
Swedish retail investors	6.44%
Other	7.23%

CONTACT THE BOARD OF DIRECTORS

Telefonaktiebolaget LM Ericsson
The Board of Directors Secretariat
SE-164 83 Stockholm
Sweden
boardsecretariat@ericsson.com

SHAREHOLDERS

Ownership structure

As of December 31, 2012, Telefonaktiebolaget LM Ericsson (the "Parent Company") had 551,719 shareholders (according to the share register kept by Euroclear Sweden AB). Swedish institutions hold approximately 58% of the votes. The largest shareholders are Investor AB, holding 21.37% of the votes, and AB Industrivärden, holding 19.81% of the votes (together with Svenska Handelsbankens Pensionsstiftelse and Pensionskassan SHB Försäkringsförening).

A significant number of the shares held by foreign investors are nominee-registered, i.e. held off-record by banks, brokers and/or nominees. This means that the actual shareholder is not displayed in the share register or included in the shareholding statistics.

More information on Ericsson's shareholders can be found in the chapter "Share Information" in the Annual Report.

Shares and voting rights

The share capital of the Parent Company consists of two classes of listed shares: A and B shares. Each Class A share carries one vote and each Class B share carries one tenth of one vote. Class A and B shares entitle the holder to the same proportion of assets and earnings and carry equal rights to dividends.

The Parent Company may also issue Class C shares in order to create treasury stock to finance and hedge long-term variable remuneration programs resolved by the General Meeting of shareholders. Class C shares are converted into Class B shares before they are used for long-term variable remuneration programs.

The members of the Board of Directors and the Executive Leadership Team have the same voting rights on shares as other shareholders.

GENERAL MEETINGS OF SHAREHOLDERS

Decision-making at General Meetings

The decision-making rights of Ericsson's shareholders are exercised at General Meetings of shareholders. Most resolutions at General Meetings are passed by a simple majority. However, the Swedish Companies Act requires qualified majorities in certain cases, for example in case of:

- Amendment of the Articles of Association
- Resolution to transfer own shares to employees participating in long-term variable remuneration programs.

The Annual General Meeting of shareholders

The Annual General Meeting of shareholders (AGM) is held in Stockholm. The date and venue for the meeting is announced on the Ericsson website no later than at the time of release of the third-quarter interim financial report.

Shareholders who cannot participate in person may be represented by proxy. Only shareholders registered in the share register have voting rights. Nominee-registered shareholders who wish to vote may request to be entered into the share register by the record date for the AGM.

The AGM is held in Swedish and is simultaneously interpreted into English. All documentation provided by the Company is available in both Swedish and English.

The AGM gives shareholders the opportunity to raise questions relating to the operations of the Group. Ericsson always strives to ensure that the members of the Board of Directors and the Executive Leadership Team are present to answer such questions. Shareholders and other interested parties may also correspond in writing with the Company at any time.

The external auditor is always present at the AGM.

Ericsson's Annual General Meeting 2012

Including shareholders represented by proxy, 3,224 shareholders were represented at the AGM held on May 3, 2012, representing approximately 70% of the votes.

The meeting was also attended by members of the Board of Directors, members of the Executive Leadership Team (ELT) and the external auditor.

Decisions of the AGM 2012 included:

- Payment of a dividend of SEK 2.50 per share
- Re-election of Leif Johansson as Chairman of the Board of Directors
- Re-election of members of the Board of Directors: Roxanne S. Austin, Sir Peter L. Bonfield, Börje Ekholm, Ulf J. Johansson, Sverker Martin-Löf, Nancy McKinstry, Anders Nyrén, Hans Vestberg, Michelangelo Volpi and Jacob Wallenberg
- Election of Alexander Izosimov as a new member of the Board of Directors

ANNUAL GENERAL MEETING 2013

Ericsson's AGM 2013 will take place on April 9, 2013 at Kistamässan in Kista, Stockholm. Shareholders who wish to have a matter addressed at the AGM should submit their written request to the Board in due time before the AGM. Further information is available on Ericsson's website.

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

- Board of Directors' fees:
  - Chairman: SEK 3,750,000 (unchanged)
  - Other non-employed Board members: SEK 875,000 each (previously SEK 825,000)
  - Chairman of the Audit Committee: SEK 350,000 (unchanged)
  - Other non-employed members of the Audit Committee: SEK 250,000 each (unchanged)
  - Chairmen of the Finance and Remuneration Committees: SEK 200,000 each (unchanged)
  - Other non-employed members of the Finance and Remuneration Committees: SEK 175,000 each (unchanged)
- Approval for part of the Directors' fees to be paid in the form of synthetic shares
- Approval of Guidelines for remuneration to Group Management
- Implementation of a Long-Term Variable Remuneration Program 2012, including a share issue of and authorization to the Board to buy back 31,700,000 shares for the program
- Approval of the Instruction for the Nomination Committee, including among other things, a procedure on how to appoint the members of the Nomination Committee, to apply until the General Meeting of shareholders resolves otherwise.

The minutes of the AGM 2012 are available at Ericsson's website.

CONTACT THE NOMINATION COMMITTEE

Telefonaktiebolaget LM Ericsson
The Nomination Committee
c/o General Counsel's Office
SE-164 83 Stockholm
Sweden
nomination.committee@ericsson.com

PROPOSALS TO THE NOMINATION COMMITTEE

Shareholders may submit proposals to the Nomination Committee at any time, but should do so in due time before the AGM to ensure that the proposals can be considered by the Committee. Further information is available on Ericsson's website.

NOMINATION COMMITTEE

A Nomination Committee was elected by the AGM for the first time in 2001. Since then, each AGM has appointed a Nomination Committee, or resolved on the procedure for appointing the Nomination Committee.

The AGM 2012 resolved on an Instruction for the Nomination Committee, including the tasks of the Nomination Committee and the procedure for appointing the members of the Nomination Committee. The Instruction for the Nomination Committee shall apply until the General Meeting of shareholders resolves otherwise. Under the instruction, the Nomination Committee shall consist of:

- Representatives of the four largest shareholders by voting power by the end of the month in which the AGM was held
- The Chairman of the Board of Directors.

As described in the Instruction for the Nomination Committee, the Committee may include additional members following a request by a shareholder. The request must be justified by changes in the shareholder's ownership of shares and be received by the Nomination Committee no later than December 31. No fees are paid to the members of the Nomination Committee.

Members of the Nomination Committee

In addition to the Chairman of the Board of Directors, Leif Johansson, the current Nomination Committee consists of four representatives appointed by the four shareholders with the largest voting power as of May 31, 2012:

- Petra Hedengran (Investor AB), Chairman of the Nomination Committee
- Carl-Olof By (AB Industrivärden, Svenska Handelsbankens Pensionsstiftelse)
- Johan Held (AFA Försäkring)
- Marianne Nilsson (Swedbank Robur Fonder).

The tasks of the Nomination Committee

Over the years, the tasks of the Nomination Committee have evolved to comply with the requirements of the Code. The main task of the Committee remains to propose Board members for election by the AGM. In doing this, the Committee must not only orientate itself on the Company's strategy and future challenges to be able to assess the competence and experience that is required by the Board; it must also consider all applicable rules on

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independence of the Board of Directors and its committees.

In addition, the Committee prepares remuneration proposals, for resolution by the AGM, to non-employed Directors elected by the AGM and to the auditor.

The assignment of the Nomination Committee further includes proposing auditors, whereby candidates are selected in cooperation with the Audit Committee of the Board. The Committee also proposes a candidate for election of the Chairman at the AGM.

Work of the Nomination Committee for the AGM 2013

The Nomination Committee started its work by going through a checklist of all its duties according to the Code and the Instruction for the Nomination Committee, resolved by the AGM. The Committee also set a time plan for its work ahead. A thorough understanding of Ericsson's business is paramount to the role of the members of the Committee. Therefore, the President and CEO was invited to, together with the Chairman of the Board, present their views on the Company's position and strategy.

The Committee was thoroughly informed of the results of the evaluation of the Board's work and procedures, including the performance of the Chairman of the Board. On this basis, the Committee was able to assess the competence and experience required by Board members. When proposing Board members, the Nomination Committee considered a number of things, including necessary experience and competence as well as the value of diversity and renewal and the improvement of gender balance.

The Committee also acquainted itself with the assessments made by the Company and the Audit Committee on the quality and efficiency of external auditor work, and received recommendations on external auditor and audit fees. As of March 5, 2013 the Nomination Committee has held six meetings.

BOARD OF DIRECTORS

The Board of Directors is ultimately responsible for the organization of Ericsson and the management of Ericsson's operations. The Board of Directors develops guidelines and instructions for day-to-day operations, managed by the President and CEO. The President and CEO ensures that the Board is updated regularly on events of importance to the Group. This includes updates on business development, results, financial position and the liquidity of the Group.

According to the Articles of Association, the Board of Directors shall consist of no less than five and no more than 12 directors, with no more than six deputies. In addition, under Swedish law, trade unions have the right to appoint three directors and their deputies to the Board.

Directors serve from the close of one AGM to the close of the next, but can serve any number of consecutive terms.

The President and CEO may be elected director of the Board, but, under the Swedish Companies Act, the President of a public company may not be elected Chairman of the Board.

Conflicts of interest

Ericsson maintains rules and regulations regarding conflicts of interest. Directors are disqualified from participating in any decision regarding agreements between themselves and Ericsson. The same applies to agreements between Ericsson and any third party or legal entity in which the Board member has an interest.

The Audit Committee has implemented a procedure on related-party transactions and a pre-approval process for non-audit services carried out by the external auditor.

Composition of the Board of Directors

The Board of Directors consists of 12 Directors, including the Chairman of the Board, elected by the shareholders at the AGM 2012 for the period until the close of the AGM 2013. It also consists of three employee representatives, each with a deputy, appointed by the trade unions for the same period of time. The President and CEO, Hans Vestberg, is the only Board member who was also a member of Ericsson's management during 2012.

Work procedure

Pursuant to the Swedish Companies Act, the Board of Directors has adopted a work procedure that outlines rules for the distribution of tasks between the Board and its Committees as well as between the Board, its Committees and the President and CEO. This complements the regulations in the Swedish Companies Act and in the Articles of Association of the

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

Company. The work procedure is reviewed, evaluated and adopted by the Board as required and at least once a year.

Independence

The Board of Directors and its Committees are subject to a variety of independence rules under applicable Swedish law, the Code and applicable US securities laws, SEC rules and the NASDAQ Stock Market Rules. However, Ericsson can rely on exemptions from certain US requirements.

The composition of the Board of Directors meets all applicable independence criteria. The Nomination Committee concluded before the AGM 2012 that, for purposes of the Code, at least seven of the nominated Directors were independent of Ericsson, its senior management and its major shareholders. These were Roxanne S. Austin, Sir Peter L. Bonfield, Alexander Izosimov, Leif Johansson, Ulf J. Johansson, Nancy McKinstry and Michelangelo Volpi.

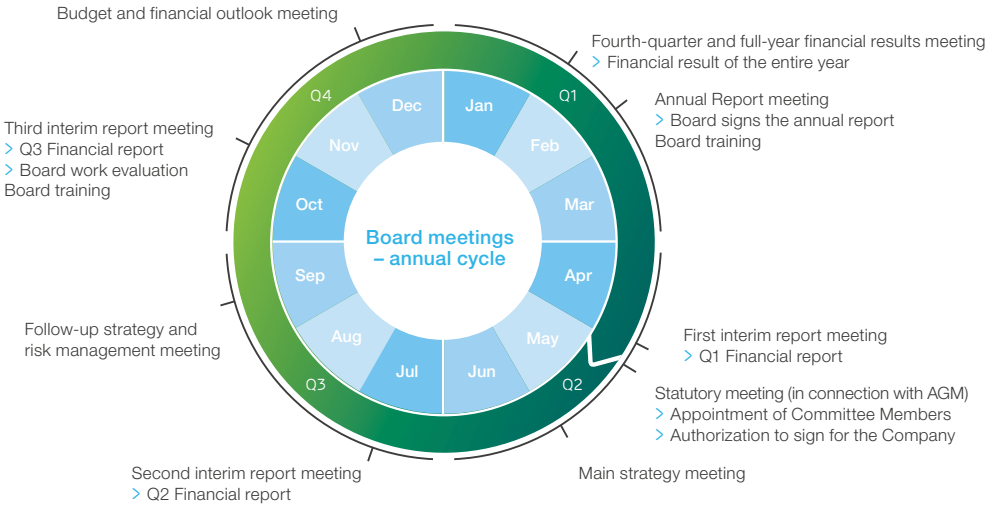
Structure of the work of the Board of Directors

The work of the Board follows a yearly cycle. This enables the Board to appropriately address each of its duties and to keep strategy, risk assessment and value creation high on the agenda.

- **Statutory meeting**
  The yearly cycle starts with the statutory Board meeting which is held in connection with the AGM. At this meeting, members of each of the three Board Committees are appointed and the Board resolves on signatory power.
- **First interim report meeting**
  At the next ordinary meeting (depending on the date of the AGM), the Board handles the interim financial report for the first quarter of the year.
- **Main strategy meeting**
  Various strategic issues are addressed at most of the Board meetings. In accordance with the annual cycle for the strategy process, a main strategy Board meeting is also held, which is in essence dedicated to short- and long-term strategies of the Group. Following the Board's input on and approval of the overall strategy, the strategy is cascaded throughout the entire organization, starting at the Global Leadership Summit with Ericsson's top 250 leaders.
- **Second interim report meeting**
  At the second interim report meeting, the Board handles the interim financial report for the second quarter of the year.
- **Follow-up strategy and risk management meeting**
  Following the summer, a meeting is held to address particular strategy matters in further detail and to finally confirm the Group strategy. The meeting also addresses the overall risk management of the Group.
- **Third interim report meeting**
  A Board meeting is held to handle the interim

The Board's annual work cycle

The annual cycle applied to the Board's work allows the Board to appropriately address its duties during the year. It also facilitates for the organization to align its global processes to allow appropriate Board involvement. This is particularly relevant for the Group's strategy process and risk management.



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financial report for the third quarter of the year. At this meeting, the results of the Board evaluation are presented to and discussed by the Board.

- **Budget and financial outlook meeting**
  A meeting is held for the Board to address the budget and financial outlook as well as further analysis of internal and external risks.
- **Fourth-quarter and full-year financial results meeting**
  Following the end of the calendar year, the Board holds a meeting which focuses on the financial results of the entire year and handles the fourth-quarter financial report.
- **Annual Report meeting**
  The Annual Report meeting closes the yearly cycle of work of the Board of Directors. At this meeting the Board approves the Annual Report.

As the Board is responsible for financial oversight, financial information is presented and evaluated at each Board meeting. Furthermore, each Board meeting generally includes reports on Committee work by the Chairman of each Committee. In addition, minutes from Committee meetings are distributed to all Directors prior to the Board meeting.

At every Board meeting, the President and CEO reports on business and market developments as well as on the financial performance of the Company. Strategic issues and risks are also addressed at most Board meetings. The Board is regularly informed of developments in legal and regulatory matters of importance.

Auditor involvement

The Board meets with Ericsson's external auditor in closed sessions at least once a year to receive and consider the auditor's observations. The auditor reports to management on the accounting and financial reporting practices of the Group.

The Audit Committee also meets with the auditor to receive and consider observations on the interim reports and the Annual Report. The auditor has been instructed to report on whether the accounts, the management of funds and the general financial position of the Group are under control in all material respects.

In addition, the Board reviews and assesses the process for financial reporting, as described later in "Internal control over financial reporting 2012". Combined with internal controls, the Board's and the auditor's review of interim and annual reports are deemed to give reasonable assurance on the quality of financial reporting.

Training of the Board of Directors

All new Directors receive comprehensive training tailored to their individual needs. Introductory training typically includes meetings with the heads of the business units and Group functions, as well as training arranged by NASDAQ OMX Stockholm on listing issues and insider rules. In addition, full-day training sessions are held twice a year for all Directors. These sessions enhance the Directors' knowledge of specific operations and issues as appropriate to ensure that the Board has knowledge and understanding of the forefront of technical development and of the business activities of the Group.

As a rule, the Board receives Sustainability and Corporate Responsibility training at least once a year.

Key focus areas in Board training in 2012 were:

- Technology leadership, including market development, competitor overview, Ericsson Research long-term view and ways of working.
- Ericsson's strategic forecast, including purpose, process, roles and methodology forecast.

Work of the Board of Directors in 2012

In 2012, 12 Board meetings were held. For attendance at Board meetings, see the table on page 141. Among the matters addressed by the Board this year (apart from regular matters in the annual Board work cycle) were:

- A number of acquisitions, including BelAir Networks, Technicolor's broadcast services division, ConceptWave and increased ownership in Ericsson-LG.
- Entry to the US bond market through issuing a ten-year US bond.
- Loan agreements with the European Investment Bank (EIB) and the Nordic Investment Bank (NIB).
- Strong focus on risk management, strategy and the competitive market development, as well as on sustainability and corporate responsibility matters.
- A number of divestments, including the divestment of the Multimedia brokering platform (IPX) and EDA 1500 GPON assets.
- Continued focus on the effects of general financial uncertainty on the market, including the effects of political unrest in the Middle East and Africa and financial uncertainty in Europe.
- Continuous work relating to strategic plans for the joint venture ST-Ericsson.

Board work evaluation

A key objective of the Board evaluation is to ensure that the Board is functioning well. This includes gaining an understanding of the issues that the Board thinks warrant greater focus, as well as determining areas where additional competence is needed within the Board. The evaluation also serves as guidance for the work of the Nomination Committee.

Each year, the Chairman of the Board initiates and leads the evaluation of the Board and Committee work and procedures.

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

Evaluation tools include detailed questionnaires and discussions.

In 2012, all the Directors responded to written questionnaires, covering the Director's individual performance, Board work in general, Committee work and the Chairman's performance. The Chairman was not involved in the development or compilation of the questionnaire which related to his performance, nor was he present when his performance was evaluated. The evaluations were thoroughly discussed and an action plan was developed in order to further improve the work of the Board.

COMMITTEES OF THE BOARD OF DIRECTORS

The Board of Directors has established three Committees: the Audit Committee, the Finance Committee and the Remuneration Committee. Members of each Committee are appointed for one year amongst the Board members.

The task of the Committees is mainly to prepare matters for final resolution by the Board. However, the Board has authorized each Committee to determine certain issues in limited areas. It may also on occasion provide extended authorization for the Committees to determine specific matters.

If deemed appropriate, the Board of Directors and each Committee have the right to engage external expertise, either in general or with respect to specific matters.

Prior to the Board meetings, each Committee submits to the Board minutes from Committee meetings. The Chairman of the Committee also reports on the Committee work at each Board meeting.

Audit Committee

On behalf of the Board, the Audit Committee monitors the following:

- The scope and correctness of the financial statements
- Compliance with legal and regulatory requirements
- Internal control over financial reporting
- Risk management
- The effectiveness and appropriateness of the Group's anti-corruption program.

The Audit Committee also reviews the annual and interim financial reports and oversees the external audit process, including audit fees. This involves:

- Reviewing, with management and the external auditor, the financial statements (including their conformity with generally accepted accounting principles)
- Reviewing, with management, the reasonableness of significant estimates and judgments made in preparing the financial statements, as well as the quality of the disclosures in the financial statements
- Reviewing matters arising from reviews and audits performed.

The Audit Committee itself does not perform audit work. Ericsson has an internal audit function which reports directly to the Audit Committee.

The Committee is also involved in the preparatory work of proposing auditor for election by the AGM. It also monitors Group transactions and the ongoing performance and independence of the auditor with the aim to avoid conflicts of interest.

In order to ensure the auditor's independence, the Audit Committee has established pre-approval policies and

Organization of the Board work

Board of Directors
15 Directors

Audit Committee
(5 Directors)
> Oversight over financial reporting
> Oversight over internal control
> Oversight over auditing

Finance Committee
(4 Directors)
> Financing
> Investing
> Customer credits

Remuneration Committee
(4 Directors)
> Guidelines for remuneration to Group Management
> Long-Term Variable Remuneration
> Executive compensation

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procedures for non-audit related services to be performed by the external auditor. Pre-approval authority may not be delegated to management. The Audit Committee also oversees:

- The process for reviewing transactions with related parties
- The whistleblower procedure for the reporting of alleged violations of the Code of Business Ethics that (i) are conducted by Group or local management, and (ii) relate to corruption, questionable accounting or auditing matters or otherwise seriously affect vital interests of the Group or personal health and safety. The whistleblower procedure was updated and extended during 2012 in connection with the review and update of the Code of Business Ethics.

Violations reported through the whistleblower procedure are investigated by Ericsson's internal audit function together with the relevant Group function. Information regarding any incident is reported to the Audit Committee. Reports include measures taken, details of the responsible Group function and the status of any investigation.

Members of the Audit Committee

The Audit Committee consists of five Board members appointed by the Board. In 2012, the Audit Committee comprised Ulf J. Johansson (Chairman of the Committee), Roxanne S. Austin, Sir Peter L. Bonfield, Kristina Davidsson and Sverker Martin-Löf.

The composition of the Audit Committee meets all applicable independence requirements. The Board of Directors has determined that each of Ulf J. Johansson, Roxanne S. Austin, Sir Peter L. Bonfield and Sverker Martin-Löf is an audit committee financial expert, as defined under the SEC rules. Each of them is independent under applicable US securities laws, SEC rules and NASDAQ Stock Market Rules and each of them is financially literate and familiar with the accounting practices of an international company, such as Ericsson.

Former authorized public accountant Peter Markborn was previously appointed as an external expert advisor to assist and advise the Audit Committee. He left this assignment during 2012.

Work of the Audit Committee in 2012

The Audit Committee held six meetings in 2012. Directors' attendance is reflected in the table on page 141. During the year, the Audit Committee reviewed the scope and results of external financial audits and the independence of the external auditor. It also monitored the external audit fees and approved non-audit services performed by the external auditor in accordance with the Committee's pre-approval policies and procedures.

The Committee approved the annual audit plan for the internal audit function and reviewed its reports. Prior to publishing it, the Committee also reviewed and discussed each interim report with the external auditor.

The Committee monitored the continued compliance with the Sarbanes-Oxley Act as well as the internal control and risk management process. It also reviewed certain related-party transactions in accordance with its established process.

The Committee reviewed and evaluated the effectiveness and appropriateness of the Group's anti-corruption program.

Finance Committee

The Finance Committee is primarily responsible for:

- Handling matters related to acquisitions and divestments
- Handling capital contributions to companies inside and outside the Ericsson Group
- Raising loans, issuing guarantees and similar undertakings, and approving financial support to customers and suppliers
- Continuously monitoring the Group's financial risk exposure.

The Finance Committee is authorized to determine matters such as:

- Direct or indirect financing
- Provision of credits
- Granting of securities and guarantees
- Certain investments, divestments and financial commitments.

Members of the Finance Committee

The Finance Committee consists of four Board members appointed by the Board. In 2012, the Finance Committee comprised: Leif Johansson (Chairman of the Committee), Pehr Claesson, Anders Nyrén and Jacob Wallenberg.

Members of the Committees

Members of the Committees of the Board of Directors 2012

Audit Committee	Finance Committee	Remuneration Committee
> Ulf J Johansson (Chairman)	> Leif Johansson (Chairman)	> Leif Johansson (Chairman)
> Roxanne S. Austin	> Pehr Claesson	> Börje Ekholm
> Sir Peter L. Bonfield	> Anders Nyrén	> Nancy McKinstry
> Kristina Davidsson	> Jacob Wallenberg	> Karin Åberg
> Sverker Martin-Löf		

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

Work of the Finance Committee in 2012

The Finance Committee held seven meetings in 2012. Directors' attendance is reflected in the table on page 141. During the year, the Finance Committee approved numerous customer finance credit arrangements and reviewed a number of potential mergers and acquisitions and real estate investments from a financial perspective. As a result of the uncertainty on the financial markets and the macroeconomic development, the Finance Committee has focused particularly on discussing and securing an adequate capital structure, cash flow and cash-generating ability. It has also continuously monitored Ericsson's financial position and credit exposure.

Remuneration Committee

The Remuneration Committee's main responsibility is to prepare for resolution by the Board of Directors matters regarding salary and other remuneration, including pension benefits of the President and CEO, the Executive Vice Presidents and other officers who report directly to the President and CEO. Responsibilities include:

- Reviewing and preparing for resolution by the Board, proposals on salary and other remuneration, including retirement compensation, for the President and CEO
- Reviewing and preparing for resolution by the Board, proposals to the AGM on guidelines for remuneration to the ELT
- Approving proposals on salary and other remuneration, including retirement compensation, for the Executive Vice Presidents and other CEO direct reports
- Reviewing and preparing for resolution by the Board, proposals to the AGM on LTV and similar equity arrangements.

Consideration is given to trends in remuneration, legislative changes, disclosure rules and the general global environment surrounding executive remuneration. The Committee reviews salary survey data before approving any salary adjustment for CEO direct reports. In addition, the Committee prepares salary adjustments for the President and CEO for resolution by the Board.

Members of the Remuneration Committee

The Remuneration Committee consists of four Board members appointed by the Board. In 2012, the Remuneration Committee comprised: Leif Johansson (Chairman of the Committee), Börje Ekholm, Nancy McKinstry and Karin Åberg.

Piia Pilv has been appointed by the Remuneration Committee as an independent expert advisor to assist the Committee, particularly regarding international trends and developments.

Work of the Remuneration Committee in 2012

The Remuneration Committee held six meetings in 2012. Directors' attendance is reflected in the table on page 141.

The Committee reviewed and prepared a proposal for the LTV 2012 for resolution by the Board. This was approved by the AGM 2012. The Committee further resolved on salaries and Short-Term Variable remuneration (STV) for 2012 for CEO direct reports. It prepared remuneration to the President and CEO, for resolution by the Board. The Committee also prepared guidelines for remuneration to the ELT, which were subsequently referred by the Board to the AGM for approval.

Towards the end of the year, the Committee concluded its analysis of the current LTV structure and executive remuneration. The resulting proposals on LTV and guidelines for remuneration to the ELT will be referred to the AGM 2013 for resolution.

For further information on fixed and variable remuneration, please see Notes to the consolidated financial statements – Note C28 "Information regarding members of the Board of Directors, the Group management and employees" and the "Remuneration Report" included in the Annual Report.

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Directors' attendance and fees 2012

	Fees resolved by the AGM 2012		Number of Board/Committee meetings attended			
Board member	Board fees [1]	Committee fees	Board	Audit Committee	Finance Committee	Remuneration Committee
Leif Johansson	3,750,000	400,000	12		7	6
Sverker Martin-Löf	875,000	250,000	12	6		
Jacob Wallenberg	875,000	175,000	12		5	
Roxanne S. Austin	875,000	250,000	11	6		
Sir Peter L. Bonfield	875,000	250,000	12	6		
Börje Ekholm	875,000	175,000	12			6
Alexander Izosimov [2]	875,000		8			
Ulf J. Johansson	875,000	350,000	12	6		
Nancy McKinstry	875,000	175,000	11			6
Anders Nyrén	875,000	175,000	12		7	
Carl-Henric Svanberg [3]	–		4			
Hans Vestberg	–		12			
Michelangelo Volpi	875,000		10			
Pehr Claesson	18,000 [7]		12		7	
Jan Hedlund [4]	*6,000* [7]		*4*	*3*		
Karin Åberg	18,000 [7]		12			6
Kristina Davidsson [5]	18,000 [7]		12	3		
Rickard Fredriksson [6]	10,500 [7]		7			
Karin Lennartsson	18,000 [7]		12			
Roger Svensson	18,000 [7]		12			
Total number of meetings			**12**	**6**	**7**	**6**

[1] Non-employed Directors can choose to receive part of their Board fee (exclusive of Committee fees) in the form of synthetic shares.
[2] Elected Board member as of May 3, 2012.
[3] Resigned as Board member as of May 3, 2012.
[4] Resigned as employee representative and from the Audit Committee as of May 3, 2012.
[5] Member of the Audit Committee since May 3, 2012.
[6] Appointed deputy employee representative as of May 3, 2012.
[7] Employee representative Board members and their deputies are not entitled to a Board fee but compensation in the amount of SEK 1,500 per attended Board meeting.

REMUNERATION TO BOARD MEMBERS

Remuneration to Board members not employed by the Company is proposed by the Nomination Committee for resolution by the AGM.

The AGM 2012 approved the Nomination Committee's proposal for fees to the non-employed Board members for Board and Committee work. For information on Board of Directors' fees 2012, please refer to Notes to the consolidated financial statements – Note C28 "Information regarding members of the Board of Directors, the Group management and employees" in the Annual Report. The AGM 2012 also approved the Nomination Committee's proposal that Board members may be paid part of their Board fee in the form of synthetic shares.

A synthetic share gives the right to receive a future cash payment of an amount which corresponds to the market value of a Class B share in Ericsson at the time of payment. The director's right to receive payment with regard to allocated synthetic shares occurs, as a main rule, after the publication of the Company's year-end financial statement during the fifth year following the General Meeting which resolved on the allocation of the synthetic shares. The purpose of paying part of the Board of Directors' fee in the form of synthetic shares is to further align the Directors' interest with shareholder interest. For more information on the terms and conditions of the synthetic shares, please refer to the notice convening the AGM 2012 and to the minutes from the AGM 2012, which are available at Ericsson's website.

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MEMBERS OF THE BOARD OF DIRECTORS

Board members elected by the AGM 2012

Leif Johansson (first elected 2011)

Chairman of the Board of Directors, Chairman of the Remuneration Committee and of the Finance Committee

Born 1951. Master of Science in Engineering, Chalmers University of Technology, Gothenburg, Sweden.
Board Chairman: Astra Zeneca PLC, European Round Table of Industrialists and the International Advisory Board of the Nobel Foundation.
Board Member: Svenska Cellulosa Aktiebolaget SCA and Ecolean AB.
Holdings in Ericsson [1]: 17,933 Class B shares.
Principal work experience and other information: President of the Royal Swedish Academy of Engineering Sciences. President and CEO of AB Volvo 1997-2011. Executive Vice President of AB Electrolux 1988-1991, President 1991-1994 and President and CEO of AB Electrolux 1994-1997. Holds honorary Doctorates at Blekinge Institute of Technology, the University of Gothenburg and Chalmers University of Technology. Awarded the Large Gold Medal of the Royal Swedish Academy of Engineering Sciences in 2011.

Sverker Martin-Löf (first elected 1993)

Deputy Chairman of the Board of Directors, Member of the Audit Committee

Born 1943. Doctor of Technology and Master of Engineering, KTH Royal Institute of Technology, Stockholm, Sweden.
Board Chairman: Svenska Cellulosa Aktiebolaget SCA, SSAB and AB Industrivärden.
Board Member: Skanska AB and Svenska Handelsbanken AB.
Holdings in Ericsson [1]: 10,400 Class B shares.
Principal work experience and other information: President and CEO of Svenska Cellulosa Aktiebolaget SCA 1990–2002, where he was employed 1977–1983 and 1986–2002. Previous positions at Sunds Defibrator and Mo och Domsjö AB.

Jacob Wallenberg (first elected 2011)

Deputy Chairman of the Board of Directors, Member of the Finance Committee

Born 1956. Bachelor of Science in Economics and Master of Business Administration, Wharton School, University of Pennsylvania, USA. Officer of the Reserve, Swedish Navy.
Board Chairman: Investor AB.
Deputy Board Chairman: SAS AB and SEB Skandinaviska Enskilda Banken AB (SEB).
Board member: ABB Ltd, The Coca-Cola Company, The Knut and Alice Wallenberg Foundation and Stockholm School of Economics.
Holdings in Ericsson [1]: 2,413 Class B shares.
Principal work experience and other information: Chairman of the Board of Investor AB since 2005. Extensive experience in banking and finance, including experience from the commercial banks JP Morgan, New York and SEB. Appointed President and CEO of SEB in 1997 and appointed Chairman of SEB's Board of Directors in 1998. Executive Vice President and CFO of Investor AB 1990-1993. Honorary Chairman of IBLAC (Mayor of Shanghai's International Business Leaders Advisory Council) and member of The European Round Table of Industrialists.

Roxanne S. Austin (first elected 2008)

Member of the Audit Committee

Born 1961. Bachelor of Business Administration in Accounting, University of Texas, San Antonio, USA.
Board Member: Abbott Laboratories, Teledyne Technologies Inc. and Target Corporation.
Holdings in Ericsson [1]: 3,000 Class B shares.
Principal work experience and other information: President of Austin Investment Advisors since 2004. President and CEO of Move Networks Inc. 2009–2010. President and COO of DirecTV 2001–2003. Corporate Senior Vice President and CFO of Hughes Electronics Corporation 1997–2000, which she joined in 1993. Previously a partner at Deloitte & Touche. Member of the California State Society of Certified Public Accountants and the American Institute of Certified Public Accountants.

[1] The number of shares reflects ownership as of December 31, 2012 and includes holdings by related natural and legal persons, as well as holdings of any ADS, if applicable.

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Sir Peter L. Bonfield
(first elected 2002)
Member of the Audit Committee

Born 1944. Honors degree in Engineering, Loughborough University, Leicestershire, UK.
Board Chairman: NXP Semiconductors N.V.
Board Member: Mentor Graphics Inc., Sony Corporation and Taiwan Semiconductor Manufacturing Company, Ltd.
Holdings in Ericsson [1]: 4,400 Class B shares.
Principal work experience and other information: CEO and Chairman of the Executive Committee of British Telecommunications plc 1996–2002. Chairman and CEO of ICL plc 1985–1996. Positions with STC plc and Texas Instruments Inc. Member of the Advisory Boards of New Venture Partners LLP, the Longreach Group and Apax Partners LLP. Board Mentor of CMi. Senior Advisor, Rothschild, London. Chair of Council and Senior Pro-Chancellor, Loughborough University, UK. Fellow of the Royal Academy of Engineering.

Börje Ekholm
(first elected 2006)
Member of the Remuneration Committee

Born 1963. Master of Science in Electrical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden. Master of Business Administration, INSEAD, France.
Board Chairman: KTH Royal Institute of Technology, Stockholm and Nasdaq OMX Group Inc.
Board Member: Investor AB, AB Chalmersinvest, EQT Partners AB and Husqvarna AB.
Holdings in Ericsson [1]: 30,760 Class B shares.
Principal work experience and other information: President and CEO of Investor AB since 2005. Formerly Head of Investor Growth Capital Inc. and New Investments. Previous positions at Novare Kapital AB and McKinsey & Co Inc.

Alexander Izosimov
(first elected 2012)

Born 1964. Master of Business Administration, INSEAD, France and Master of Science in Production Management Systems and Computer Science, Moscow Aviation Institute, Russian Federation.
Board Member: East Capital AB, Modern Times Group MTG AB, EVRAZ Group S.A., Dynasty Foundation, Transcom WorldWide SA and International Chamber of Commerce (ICC).
Holdings in Ericsson [1]: 1,600 Class B shares.
Principal work experience and other information: CEO and President of VimpelCom 2003-2011. Previous positions with Mars Inc., including Member of the Global Executive Board and Regional President for CIS, Central Europe and Nordics. Earlier positions with McKinsey & Co as consultant in the Stockholm and London offices. Served as GSMA Board member 2005-2008 and Chairman of GSMA 2008-2010.

Ulf J. Johansson
(first elected 2005)
Chairman of the Audit Committee

Born 1945. Doctor of Technology and Master of Science in Electrical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden.
Board Chairman: Acando AB, Eurostep Group AB, Novo A/S, Novo Nordisk Foundation and Trimble Navigation Ltd.
Board Member: European Institute of Innovation and Technology.
Holdings in Ericsson [1]: 6,435 Class B shares.
Principal work experience and other information: Founder of Europolitan Vodafone AB, where he was the Chairman of the Board 1990–2005. Previous positions at Spectra-Physics AB as President and CEO and at Ericsson Radio Systems AB. Member of the Royal Academy of Engineering Sciences.

[1] The number of shares reflects ownership as of December 31, 2012 and includes holdings by related natural and legal persons, as well as holdings of any ADS, if applicable.

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MEMBERS OF THE BOARD OF DIRECTORS CONTINUED

Nancy McKinstry
(first elected 2004)
Member of the Remuneration Committee

Born 1959. Master of Business Administration in Finance and Marketing, Columbia University, USA. Bachelor of Arts in Economics, University of Rhode Island, USA.
Board Chairman: CEO and Chairman of the Executive Board of Wolters Kluwer n.v.
Board Member: Abbott Laboratories and Sanoma Corporation.
Holdings in Ericsson [1]: 4,000 Class B shares.
Principal work experience and other information: CEO and Chairman of the Executive Board of Wolters Kluwer n.v. President and CEO of CCH Legal Information Services 1996–1999. Previous positions at Booz, Allen & Hamilton and New England Telephone Company. Member of the Advisory Board of the University of Rhode Island, the Advisory Council of the Amsterdam Institute of Finance, the Board of Overseers of Columbia Business School and the Advisory Board of the Harrington School of Communication and Media.

Anders Nyrén
(first elected 2006)
Member of the Finance Committee

Born 1954. Graduate of Stockholm School of Economics, Sweden, Master of Business Administration from Anderson School of Management, UCLA, USA.
Board Chairman: Sandvik AB.
Deputy Board Chairman: Svenska Handelsbanken AB.
Board Member: Svenska Cellulosa Aktiebolaget SCA, AB Industrivärden, SSAB, AB Volvo, Ernströmgruppen and Stockholm School of Economics.
Holdings in Ericsson [1]: 6,686 Class B shares.
Principal work experience and other information: President and CEO of Industrivärden since 2001. CFO and Executive Vice President of Skanska AB 1997–2001. Director Capital Markets of Nordbanken 1996–1997. CFO and EVP of Securum AB 1992–1996. Managing Director of OM International AB 1987–1992. Earlier positions at STC Scandinavian Trading Co AB and AB Wilhelm Becker.

Hans Vestberg
(first elected 2010)

Born 1965. Bachelor of Business Administration and Economics, University of Uppsala, Sweden.
Board Chairman: ST-Ericsson and Svenska Handbollförbundet.
Board Member: Thernlunds AB.
Holdings in Ericsson [1]: 149,382 Class B shares.
Principal work experience and other information: President and CEO of Telefonaktiebolaget LM Ericsson since January 1, 2010. Previously, First Executive Vice President, CFO and Head of Group Function Finance and Executive Vice President and Head of Business Unit Global Services. Various positions in the Group since 1988, including Vice President and Head of Market Unit Mexico and Head of Finance and Control in USA, Brazil and Chile. International advisor to the Governor of Guangdong, China and co-chairman of the Russian-Swedish Business Council. Founding member of the Broadband Commission for Digital Development, and heading the Commission's climate change working group. Member of the European Cloud Partnership Steering Board and the Leadership Council of the United Nations Sustainable Development Solutions Network.

Michelangelo Volpi
(first elected 2010)

Born 1966. Bachelor of Science in Mechanical Engineering and Masters in Manufacturing Systems Engineering from Stanford University, USA. MBA from the Stanford Graduate School of Business, USA.
Board Member: EXOR S.p.A.
Holdings in Ericsson [1]: None.
Principal work experience and other information: Partner at Index Ventures since July 2009. Previously CEO of Joost Inc. Various positions in Cisco from 1994-2007, including Senior Vice President and General Manager of the Routing and Service Provider Technology Group and Chief Strategy Officer. Has also worked for Hewlett Packard in the optoelectronics division.

[1] The number of shares reflects ownership as of December 31, 2012 and includes holdings by related natural and legal persons, as well as holdings of any ADS, if applicable.

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Board members and deputies appointed by the unions

Pehr Claesson
(first appointed 2008)
Employee representative, Member of the Finance Committee

Born 1966. Appointed by the union The Swedish Association of Graduate Engineers. Holdings in Ericsson [1]: 999 Class B shares. Employed since 1997. Working with marketing and communication for Consulting and Systems Integration within Business Unit Global Services.

Kristina Davidsson
(first appointed 2006)
Employee representative, Member of the Audit Committee

Born 1955. Appointed by the union IF Metall. Holdings in Ericsson [1]: 1,629 Class B shares. Employed since 1995. Previously working as repairer within Business Unit Networks and currently working full time as union representative.

Karin Åberg
(first appointed 2007)
Employee representative, Member of the Remuneration Committee

Born 1959. Appointed by the union Unionen. Holdings in Ericsson [1]: 2,751 Class B shares. Employed since 1995. Working as a Service Engineer within the IT organization.

Rickard Fredriksson
(first appointed 2012)
Deputy employee representative

Born 1969. Appointed by the union IF Metall. Holdings in Ericsson [1]: 799 Class B shares. Employed since 2000. Previously working as machine operator within Business Unit Networks and currently working full time as union representative.

Karin Lennartsson
(first appointed 2010)
Deputy employee representative

Born 1957. Appointed by the union Unionen. Holdings in Ericsson [1]: 493 Class B shares. Employed since 1976. Working as Process Expert within Group Function Finance – Process Management.

Roger Svensson
(first appointed 2011)
Deputy employee representative

Born 1971. Appointed by the union The Swedish Association of Graduate Engineers. Holdings in Ericsson [1]: 7,710 Class B shares. Employed since 1999. Working as Senior Specialist Test Strategy Power Amplifier within Business Unit Networks.

Hans Vestberg was the only Director who held an operational management position at Ericsson in 2012. No Director has been elected pursuant to an arrangement or understanding with any major shareholder, customer, supplier or other person. At the Annual General Meeting 2012, Alexander Izosimov was elected new member of the Board of Directors, replacing Carl-Henric Svanberg. Jan Hedlund resigned as employee representative of the Board of Directors as of the date of the Annual General Meeting 2012 and Kristina Davidsson (previously deputy employee representative) was appointed employee representative as of the same date. Rickard Fredriksson was appointed new deputy employee representative as of the date of the Annual General Meeting 2012.

[1] The number of shares reflects ownership as of December 31, 2012 and includes holdings by related natural and legal persons, as well as holdings of any ADS, if applicable.

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

MANAGEMENT

The President/CEO and the Executive Leadership Team

The Board of Directors appoints the President and CEO and the Executive Vice Presidents. The President and CEO is responsible for the management of day-to-day operations and is supported by the Executive Leadership Team (the "ELT"). During 2012, the ELT consisted of the President and CEO, the heads of Group functions, the heads of business units and the heads of two of Ericsson's regions.
The role of the ELT is to:

- Establish a strong corporate culture, a long-term vision and Group strategies and policies, all based on objectives stated by the Board
- Determine targets for operational units, allocate resources and monitor unit performance
- Secure operational excellence and realize global synergies through efficient organization of the Group.

Remuneration to the Executive Leadership Team

Guidelines for remuneration to the ELT were approved by the AGM 2012. For further information on fixed and variable remuneration, see the Remuneration report and Notes to the consolidated financial statements – Note C28, "Information regarding members of the Board of Directors, the Group management and employees" in the Annual Report.

The Ericsson Group Management System

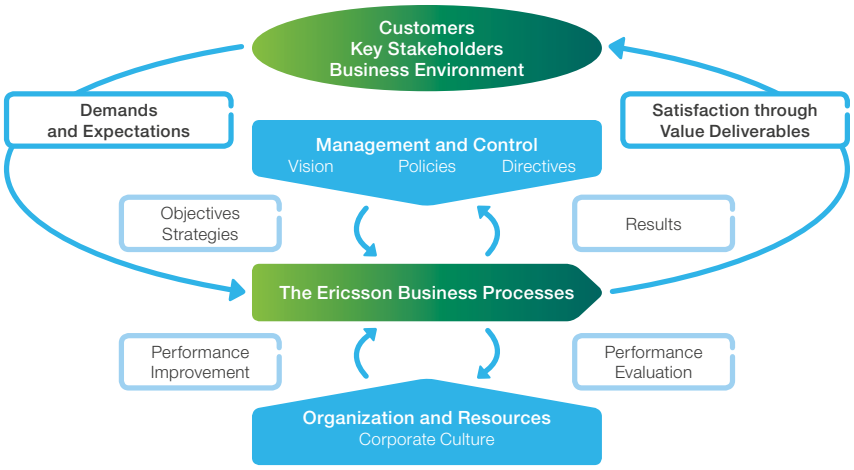
Ericsson has a global management system, the Ericsson Group Management System (EGMS) to drive corporate culture and to ensure that the business is managed:

- To fulfill the objectives of Ericsson's major stakeholders (customers, shareholders, employees)
- Within established risk limits and with reliable internal control
- In compliance with relevant applicable laws, listing requirements, governance codes and corporate social responsibilities.

The EGMS is founded on ISO 9001 (International Standard for Quality management system) but is designed as a dynamic governance system, enabling Ericsson to adapt the system to evolving demands and expectations, including new legislation as well as customers' and other stakeholders' requirements. The management system is an important foundation and is continuously evaluated and improved.

Certificates are evidence from an independent body verifying that the operations fulfill defined requirements. As the EGMS is a global system, group-wide certificates can be

Ericsson Group Management System



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issued by a third party certification body proving that the system is efficient throughout the whole organization. Ericsson is currently globally certified to ISO 9001 (Quality), ISO 14001 (Environment) and OHSAS 18001 (Health & Safety). Selected Ericsson units are also certified to additional standards, for example ISO 27001 (Information Security) and TL 9000 (telecom-specific standard).

The EGMS comprises three elements:

- Management and control
- Ericsson business processes
- Organization and resources.

Management and control

Ericsson's strategy and target setting processes consider the demands and expectations of customers as well as other key stakeholders. The process facilitates the alignment of objectives and their measurement in activities at all levels of the organization.

Ericsson uses balanced scorecards as tools for translating strategic objectives into a set of performance indicators for its operational units. Based on annual strategy work, these scorecards are updated with targets for each unit for the next year and are communicated throughout the organization.

Group-wide policies and directives govern how the organization works and are core elements in managing and controlling Ericsson. The Group Policies and Directives include a Code of Business Ethics, a Code of Conduct and accounting and reporting directives to fulfill external reporting requirements and the Sarbanes-Oxley Act.

The Group Steering Documents Committee works to ensure that the policies and directives cover relevant issues; that they are aligned and consistent with Group strategies, values and structures; and that they are not in conflict with legal and regulatory requirements. In addition, the Group Steering Documents Committee works to ensure that the said strategies, values and structures are implemented by the responsible function.

Ericsson business processes

As a market leader, Ericsson utilizes the competitive advantages that are gained through global scale and has implemented common processes and IT tools across all operational units worldwide. Customer requirements are identified, clarified and formalized in Ericsson Business Processes where requirements transform from theory to reality. Through management and continuous improvement of processes and IT tools, Ericsson attempts to reduce costs with efficient and effective process flows and with standardized internal controls and performance indicators.

Organization and resources

Ericsson is operated in two dimensions: one operational structure and one legal structure.

The operational structure aligns accountability and authority regardless of country borders and supports the process flow with cross-country operations. During 2012 there were four business units and ten regions. Group functions coordinate Ericsson's strategies, operations and resource allocation and define the necessary directives, processes and organization for the effective governance of the Group.

The legal structure is the basis for legal requirements and responsibility as well as for tax and statutory reporting purposes. There are more than 200 legal entities within the Ericsson Group with representation (via legal entities, branch and representative offices) in more than 140 countries.

Risk management

Ericsson's risk management is integrated with the business and its operational processes, and is a part of the EGMS to ensure accountability, effectiveness, efficiency, business continuity and compliance with corporate governance, legal and other requirements. The Board of Directors is also actively engaged in the Company's risk management. Risks related to set long-term objectives are discussed and strategies are formally approved by the Board as part of the annual strategy process. Risks related to annual targets for the Company are also reviewed by the Board and then monitored continuously during the year. Certain transactional risks require specific Board approval, e.g. acquisitions, management remuneration, borrowing or customer finance in excess of pre-defined limits.

Strategic and tactical risks

Strategic risks constitute the highest risk to the Company if not managed properly as they could have a long-term impact. Ericsson therefore reviews its long-term objectives, main strategies and business scope on an annual basis and continuously works on its tactics to reach these objectives and to mitigate any risks identified.

In the annual strategy and target setting process, objectives are set for the next three to five years. Risks and opportunities are assessed and strategies are developed to achieve the objectives. The strategy process in the Company is well established and involves regions, business units and Group functions. The strategy is finally summarized and discussed in a yearly Global Leadership Summit with approximately 250 leaders from all parts of the business. By involving all parts of the business in the process, potential risks are identified early and mitigating actions can be incorporated in the strategy and in the annual target process following the finalization of the strategy.

Technology development, industry and

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

market fundamentals and the development of the economy are key components in the evaluation of risks related to Ericsson's long-term objectives.

The outcome from the strategy process forms the basis for the annual target process, which involves regions, business units and Group functions. Risks and opportunities linked to the targets are identified as part of this process together with actions to mitigate the identified risks. Follow-up of targets, risks and mitigating actions are reported and discussed continuously in business unit and region steering groups and are reviewed by the Board of Directors.

Ericsson continuously strives to improve its risk management and believes that it is important that the entire global organization takes part in the risk management and strategy work. Therefore, risk management was given a stronger focus in 2012. During the year, an enhanced risk management framework was implemented and aligned with the Strategy and Target setting process. Risks were identified and analyzed in four categories: industry & market risks, commercial risks, operational risks and compliance risks. For more information on risks related to Ericsson's business, see the chapter "Risk factors" in the Annual Report.

Operational and financial risks

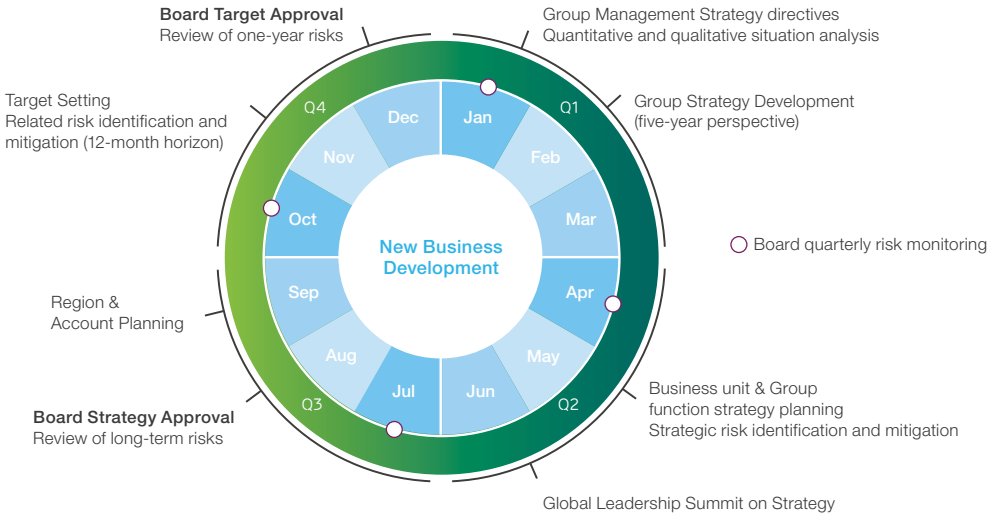
Operational risks are owned and managed by operational units. Risk management is embedded in various process controls, such as decision tollgates and approvals. Certain cross-process risks are centrally coordinated, such as information security, IT security, corporate responsibility and business continuity and insurable risks. Financial risk management is governed by a Group policy and carried out by the Treasury and Customer Finance functions, both supervised by the Finance Committee. The policy governs risk exposures related to foreign exchange, liquidity/financing, interest rates, credit risk and market price risk in equity instruments. For further information on financial risk management, see Notes to the consolidated financial statements – Note C14, "Trade receivables and customer finance", Note C19, "Interest-bearing liabilities" and Note C20, "Financial risk management and financial instruments" in the Annual Report.

Compliance risks

Ericsson has implemented Group policies and directives in order to comply with applicable laws and regulations, including a Code of Business Ethics and a Code of Conduct. Risk management is integrated in the Company's business processes. Policies and controls are implemented to comply with financial reporting standards and stock market regulations, such as the US Sarbanes-Oxley Act.

Strategic, target setting and risk management cycle

The annual strategic, target setting and risk management cycle is part of Ericsson's strategy process, which is well established within the Group and involves regions, business units and Group functions.



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Compliance officer

Ericsson has a Chief Compliance Officer (CCO) whose responsibilities include providing support for compliance with laws, regulations, internal policies and directives, coordinating the different strands of expertise within Ericsson. Attention from senior-management level on compliance matters is crucial, as is ensuring that this is addressed from a cross-functional perspective. Initially, the CCO's primary focus has been to further develop Ericsson's Anti-corruption Compliance Program. This is reviewed and evaluated by the Audit Committee at least annually.

Monitoring and audits

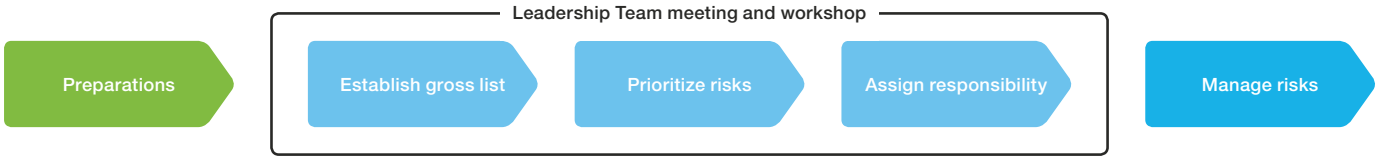
Company management monitors compliance with policies, directives and processes through internal self-assessment within all units. This is complemented by internal and external audits. External financial audits are performed by PricewaterhouseCoopers, and ISO/management system audits by Intertek. Internal audits are performed by the company's internal audit function which reports to the Audit Committee. Audits of suppliers are also conducted in order to secure compliance with Ericsson's Code of Conduct, which is mandatory for suppliers to the Ericsson Group.

Risk mitigation

Significant ongoing activities in order to mitigate risks include:

- Establishing flexibility to cost-effectively accommodate to fluctuations in customer demand
- Conducting regular Supplier Code of Conduct audits
- Continuous assessment and management of CR risks
- Conducting business continuity management in an efficient way
- Conducting corporate governance training as needed
- Continuous monitoring of information systems to guard against data breaches
- Reviewing top risks and mitigating actions at various internal governance meetings.

Process to identify and manage strategic and tactical risks for regions, business units and Group functions



Compile input:
- Business unit plan, region plan, functional strategy including SWOT analysis
- Preparatory meetings/workshop

Consider the four risk categories:
- Industry and market risks
- Commercial risks
- Operational risks
- Compliance risks

Rank the risks based on business impact and probability

Document risk heat map in relation with strategic objectives (up to 5 years) and with short-term targets (1 year)

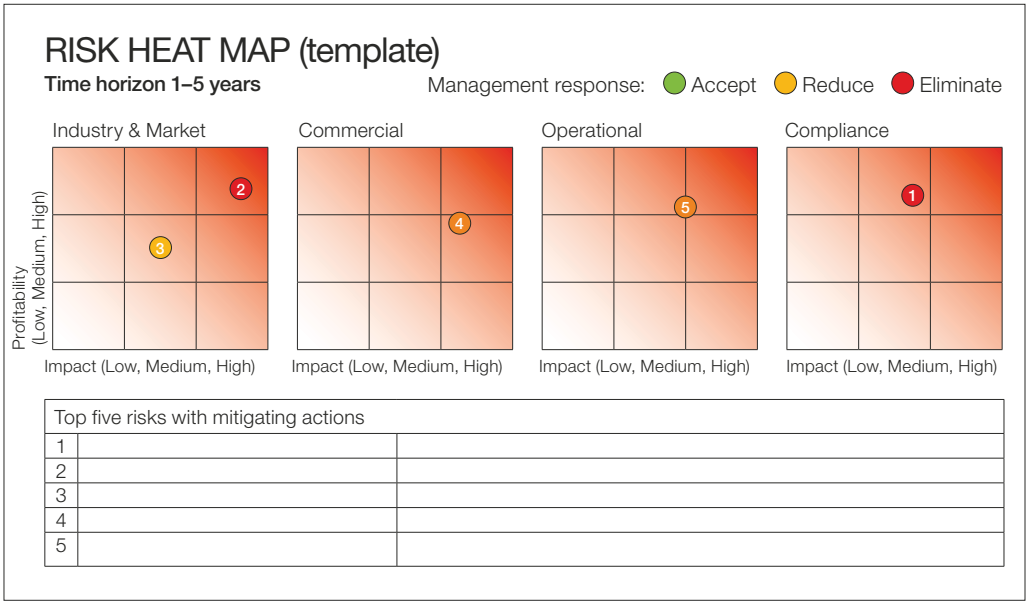
- Define management response, accept, reduce, eliminate
- Assign responsibility for managing each top risk

- Develop mitigation actions
- Secure risk reviews in business reports and governance meetings

Example of risk heat map document

Risk heat maps are generated by business units, regions and Group functions in four risk categories:

- Industry and market
- Commercial
- Operational
- Compliance



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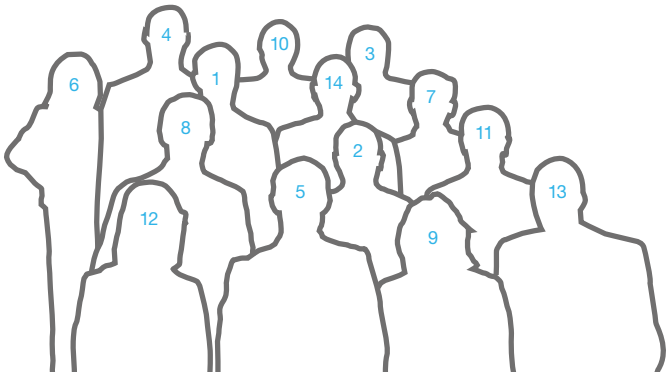
MEMBERS OF THE EXECUTIVE LEADERSHIP TEAM

1. Hans Vestberg
2. Jan Frykhammar
3. Magnus Mandersson
4. Johan Wibergh
5. Per Borgklint
6. Bina Chaurasia
7. Ulf Ewaldsson
8. Douglas L. Gilstrap
9. Nina Macpherson
10. Helena Norrman
11. Mats H. Olsson
12. Rima Qureshi
13. Angel Ruiz
14. Jan Wäreby



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Hans Vestberg

President and CEO (since 2010)
Born 1965.
Bachelor of Business Administration and Economics, University of Uppsala, Sweden.
Board Chairman: ST-Ericsson and Svenska Handbollförbundet.
Board member: Telefonaktiebolaget LM Ericsson and Thernlunds AB.
Holdings in Ericsson [1]: 149,382 Class B shares.
Background: Previously First Executive Vice President, CFO and Head of Group Function Finance and Executive Vice President and Head of Business Unit Global Services. Various positions in the Group since 1988, including Vice President and Head of Market Unit Mexico and Head of Finance and Control in USA, Brazil and Chile. International advisor to the Governor of Guangdong, China and co-chairman of the Russian-Swedish Business Council. Founding member of the Broadband Commission for Digital Development, and heading the Commission's broadband and climate change working group. Member of the European Cloud Partnership Steering Board and the Leadership Council of the United Nations Sustainable Development Solutions Network.

Jan Frykhammar

Executive Vice President and Chief Financial Officer and Head of Group Function Finance (since 2009)
Born 1965.
Bachelor of Business Administration and Economics, University of Uppsala, Sweden.
Board member: ST-Ericsson and the Swedish International Chamber of Commerce.
Holdings in Ericsson [1]: 14,844 Class B shares.
Background: Previously Senior Vice President and Head of Business Unit Global Services. Various positions within Ericsson including Sales and Business Control in Business Unit Global Services, CFO in North America and Vice President, Finance and Commercial within the Global Customer Account Vodafone.

Magnus Mandersson

Executive Vice President (since 2011) and Head of Business Unit Global Services (since 2010)
Born 1959.
Bachelor of Business Administration, University of Lund, Sweden.
Board member: None.
Holdings in Ericsson [1]: 22,602 Class B shares.
Background: Previously Head of Business Unit CDMA, Market Unit Northern Europe, Global Customer Account Deutsche Telekom AG and Product Area Managed Services. Has also been President and CEO of SEC/Tele2 Europe and COO of Millicom International Cellular S.A.

Johan Wibergh

Executive Vice President (since 2010) and Head of Business Unit Networks (since 2008)
Born 1963.
Master of Computer Science, Linköping Institute of Technology, Sweden.
Board member: ST-Ericsson, Confederation of Swedish Enterprise, KTH Royal Institute of Technology and Teknikföretagen.
Holdings in Ericsson [1]: 40,448 Class B shares.
Background: President of Ericsson Brazil, President of Market Unit Nordic and Baltics and Vice President and Head of Sales at Business Unit Global Services.

Per Borgklint

Senior Vice President and Head of Business Unit Support Solutions (since 2011)
Born 1972.
Master of Science in Business Administration, Jönköping International Business School, Sweden.
Board member: None.
Holdings in Ericsson [1]: None.
Background: Previously CEO of Net1 (Ice.net), Canal Plus Nordic and Versatel. Has also held several leading positions at Tele2.

Bina Chaurasia

Senior Vice President, Chief Human Resources Officer and Head of Group Function Human Resources and Organization (since 2010)
Born 1962.
Master of Science in Management and Human Resources, Ohio State University, USA, and Master of Arts in Philosophy, University of Wisconsin, USA.
Holdings in Ericsson [1]: 19,144 Class B shares.
Background: Joined Ericsson from Hewlett Packard, where she was Vice President of Global Talent Management. Has held senior HR leadership roles at Gap, Sun Microsystems and PepsiCo/Yum.

Ulf Ewaldsson

Senior Vice President, Chief Technology Officer and Head of Group Function Technology (since February 1, 2012)
Born 1965.
Master of Science in Engineering and Business Management, Linköping Institute of Technology, Sweden.
Board member: None.
Holdings in Ericsson [1]: 14,985 Class B shares.
Background: Previously Head of Product Area Radio within Business Unit Networks. Has held various managerial positions within Ericsson since 1990.

Douglas L. Gilstrap

Senior Vice President and Head of Group Function Strategy (since 2009)
Born 1963.
Bachelor of Science in Accounting, University of Richmond, USA, and Master of Business Administration, Emory University, Atlanta, USA. Executive program at INSEAD, France.
Board member: Telecom Management Forum (TMF).
Deputy board member: ST-Ericsson.
Holdings in Ericsson [1]: 8,643 Class B shares.
Background: Has held various global managerial positions within the telecommunications sector for more than 15 years.

[1] The number of shares reflects ownership as of December 31, 2012 and includes holdings by related natural and legal persons, as well as holdings of any ADS, if applicable.

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MEMBERS OF THE EXECUTIVE LEADERSHIP TEAM CONTINUED

Nina Macpherson

Senior Vice President, General Counsel, Head of Group Function Legal Affairs and secretary to the Board of Directors (since 2011)
Born 1958.
Master of Laws, LL M, University of Stockholm, Sweden.
Board member: The Association for Swedish Listed Companies.
Holdings in Ericsson [1]: 7,857 Class B shares.
Background: Previously Vice President and Deputy Head of Group Function Legal Affairs at Ericsson. Previous positions also include private practice and in-house attorney. Member of the Swedish Securities Council.

Helena Norrman

Senior Vice President and Head of Group Function Communications (since 2011)
Born 1970.
Master of International Business Administration, Linköping University, Sweden.
Board member: None.
Holdings in Ericsson [1]: 8,312 Class B shares.
Background: Previously Vice President, Communications Operations at Group Function Communications at Ericsson. Has held various positions within Ericsson's global communications organization since 1998. Previous positions as communications consultant.

Mats H. Olsson

Head of Region North East Asia (since 2010)
Born 1954.
Master of Business Administration, Stockholm School of Economics, Sweden.
Board member: None.
Holdings in Ericsson [1]: 61,252 Class B shares.
Background: International economic advisor to a number of Chinese provincial and municipal governments. Previously Head of Market Unit Greater China. Appointed President of Ericsson Greater China in 2004, with overall responsibility for mainland China, Hong Kong, Macao and Taiwan. Also assumed overall responsibility for Japan and South Korea in 2010. Has held various executive positions across Asia-Pacific over the last 25 years.

Rima Qureshi

Senior Vice President and Head of Business Unit CDMA Mobile Systems (since 2010)
Born 1965.
Bachelor of Information Systems and Master of Business Administration, McGill University, Montreal, Canada.
Board member: MasterCard Incorporated.
Holdings in Ericsson [1]: 4,932 Class B shares.
Background: Also serves as Head of Ericsson Response. Previously Vice President of Strategic Improvement Program and Vice President Product Area Customer Support. Has held various positions within Ericsson since 1993.

Angel Ruiz

Head of Region North America (since 2010)
Born 1956.
Bachelor of Electrical Engineering, University of Central Florida, USA, and Master of Management Science and Information Systems, Johns Hopkins University, USA.
Board member: CTIA.
Holdings in Ericsson [1]: 38,546 Class B shares.
Background: Joined Ericsson in 1990 and has held a variety of technical, sales and managerial positions within the Company, including heading up the global account teams for Cingular/SBC/BellSouth (now AT&T). Was appointed President of Ericsson North America in 2001.

Jan Wäreby

Senior Vice President and Head of Sales and Marketing (since 2011)
Born 1956.
Master of Science, Chalmers University, Gothenburg, Sweden.
Board member: ST-Ericsson.
Holdings in Ericsson [1]: 66,495 Class B shares.
Background: Senior Vice President and Head of Business Unit Multimedia and Executive Vice President and Head of Sales and Marketing for Sony Ericsson Mobile Communications.

Up until January 31, 2012, Håkan Eriksson, former Senior Vice President, Chief Technology Officer and Head of Group Function Technology & Portfolio Management, was a member of the Executive Leadership Team.

[1] The number of shares reflects ownership as of December 31, 2012 and includes holdings by related natural and legal persons, as well as holdings of any ADS, if applicable.

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AUDITOR

According to the Articles of Association, the Parent Company shall have no less than one and no more than three registered public accounting firms as external independent auditor. Pursuant to the Swedish Companies Act, the mandate period of an auditor shall be one year, unless the Articles of Association provide for a longer mandate period up to four years. The auditor reports to the shareholders at General Meetings.

The duties of the auditor include the following:

- Updating the Board of Directors regarding the planning, scope and content of the annual audit
- Examining the interim and year-end financial statements to assess accuracy and completeness of the accounts and adherence to accounting standards and policies
- Advising the Board of Directors of non-audit services performed, the consideration paid and other issues that determine the auditor's independence.

For further information on the contacts between the Board and the auditor, please see "Work of the Board of Directors" earlier in this Corporate Governance Report.

All Ericsson's quarterly financial reports are reviewed by the auditor.

Current auditor

PricewaterhouseCoopers AB was elected auditor at the AGM 2012 for a period of one year, i.e. until the close of the AGM 2013.

PricewaterhouseCoopers AB has appointed Peter Nyllinge, Authorized Public Accountant, to serve as auditor in charge.

Fees to the auditor

Ericsson paid the fees (including expenses) for audit-related and other services listed in the table in Notes to the consolidated financial statements – Note C30, "Fees to auditors" in the Annual Report.

INTERNAL CONTROL OVER FINANCIAL REPORTING 2012

This section has been prepared in accordance with the Annual Accounts Act and the Swedish Corporate Governance Code and is limited to internal control over financial reporting.

Since Ericsson is listed in the United States, the requirements outlined in the Sarbanes-Oxley Act (SOX) apply. These regulate the establishment and maintenance of internal controls over financial reporting as well as management's assessment of the effectiveness of the controls.

In order to support high quality reporting and to meet the requirement of SOX, the Company has implemented detailed documented controls and testing and reporting procedures based on the internationally established COSO framework for internal control. The COSO framework is issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Management's internal control report according to SOX will be included in Ericsson's Annual Report on Form 20-F and filed with the SEC in the United States.

During 2012, the Company has included operations of acquired entities as well as continued to improve the design and execution of its financial reporting controls.

Disclosure policies

Ericsson's financial disclosure policies aim to ensure transparent, relevant and consistent communication with equity and debt investors on a fair and equal basis. This will support a fair market value for Ericsson securities. Ericsson wants current and potential investors to have a good understanding of how the Company works, including operational performance, prospects and potential risks.

To achieve these objectives, financial reporting and disclosure must be:

- Transparent – enhancing understanding of the economic drivers and operational performance of the business, building trust and credibility
- Consistent – comparable in scope and level of detail to facilitate comparison between reporting periods
- Simple – to support understanding of business operations and performance and to avoid misinterpretations
- Relevant – with focus on what is relevant to Ericsson's stakeholders or required by regulation or listing agreements, to avoid information overload
- Timely – with regular scheduled disclosures as well as ad-hoc information, such as press releases on important events, performed in a timely manner
- Fair and equal – where all material information is published via press releases to ensure that the whole investor community receives the information at the same time
- Complete, free from material errors and a reflection of best practice – disclosure is compliant with applicable financial reporting standards and listing requirements and in line with industry norms.

Ericsson's website comprises comprehensive information on the Group, including:

- An archive of annual and interim reports
- On-demand access to recent news
- Copies of presentations given by senior management at industry conferences.

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CORPORATE GOVERNANCE REPORT 2012 CONTINUED

Disclosure controls and procedures

Ericsson has controls and procedures in place to allow for timely information disclosure under applicable laws and regulations, including the US Securities Exchange Act of 1934, and under agreements with NASDAQ OMX Stockholm and NASDAQ New York. These procedures also require that such information is provided to management, including the CEO and CFO, so timely decisions can be made regarding required disclosure.

The Disclosure Committee comprises members with various expertise. It assists managers in fulfilling their responsibility regarding disclosures made to the shareholders and the investment community. One of the main tasks of the committee is to monitor the integrity and effectiveness of the disclosure controls and procedures.

Ericsson has investments in certain entities that the Company does not control or manage. With respect to such entities, disclosure controls and procedures are substantially more limited than those maintained with respect to subsidiaries.

During the year, Ericsson's President and CEO and the CFO evaluated the disclosure controls and procedures and concluded that they were effective at a reasonable assurance level as at December 31, 2012.

Internal control over financial reporting

Ericsson has integrated risk management and internal control into its business processes. As defined in the COSO framework, internal control is an aggregation of components such as a control environment, risk assessment, control activities, information and communication and monitoring.

During the period covered by the Annual Report 2012, there were no changes to the internal control over financial reporting that have materially affected, or are likely to materially affect, the internal control over financial reporting.

Control environment

The Company's internal control structure is based on the division of tasks between the Board of Directors and its Committees and the President and CEO. The Company has implemented a management system that is based on:

- Steering documents, such as policies, directives and a Code of Business Ethics
- A strong corporate culture
- The Company's organization and mode of operations, with well-defined roles and responsibilities and delegations of authority
- Several well-defined Group-wide processes for planning, operations and support.

The most essential parts of the control environment relative to financial reporting are included in steering documents and processes for accounting and financial reporting. These steering documents are updated regularly to include, among other things:

- Changes to laws
- Financial reporting standards and listing requirements, such as IFRS and SOX.

The processes include specific controls to be performed to ensure high quality financial reports. The management of each reporting legal entity, region and business unit is supported by a financial controller function with execution of controls related to transactions and reporting. The financial controller functions are organized in a number of Company Control Hubs, each supporting a number of legal entities within a geographical area. A financial controller function is also established on Group level, reporting to the CFO.

Risk assessment

Risks of material misstatements in financial reporting may exist in relation to recognition and measurement of assets, liabilities, revenue and cost or insufficient disclosure. Other risks related to financial reporting include fraud, loss or embezzlement of assets and undue favorable treatment of counterparties at the expense of the Company.

Policies and directives regarding accounting and financial reporting cover areas of particular significance to support correct, complete and timely accounting, reporting and disclosure.

Identified types of risks are mitigated through well-defined business processes with integrated risk management activities, segregation of duties and appropriate delegation of authority. This requires specific approval of material transactions and ensures adequate asset management.

Control activities

The Company's business processes include financial controls regarding the approval and accounting of business transactions. The

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financial closing and reporting process has controls regarding recognition, measurement and disclosure. These include the application of critical accounting policies and estimates, in individual subsidiaries as well as in the consolidated accounts.

Regular analyses of the financial results for each subsidiary, region and business unit cover the significant elements of assets, liabilities, revenues, costs and cash flow. Together with further analysis of the consolidated financial statements performed at Group level, these procedures are designed to produce financial reports without material errors.

For external financial reporting purposes, the Disclosure Committee performs additional control procedures to review whether the disclosure requirements are fulfilled.

The Company has implemented controls to ensure that financial reports are prepared in accordance with its internal accounting and reporting policies and IFRS as well as with relevant listing regulations. It maintains detailed documentation on internal controls related to accounting and financial reporting. It also keeps records on the monitoring of the execution and results of such controls. This allows the President and CEO and the CFO to assess the effectiveness of the controls in a way that is compliant with SOX.

Entity-wide controls, focusing on the control environment and compliance with financial reporting policies and directives, are implemented in all subsidiaries. Detailed process controls and documentation of controls performed are also implemented in almost all subsidiaries, covering the items with significant materiality and risk.

In order to secure compliance, governance and risk management in the areas of legal entity accounting and taxation, as well as securing funding and equity levels, the Company operates through a Company Control hub structure, covering subsidiaries in each respective geographical area.

Based on a common IT platform, a common chart of account and common master data, the hubs and shared services centers perform accounting and financial reporting services for most subsidiaries.

Information and communication

The Company's information and communication channels support complete, correct and timely financial reporting by making all relevant internal process instructions and policies accessible to all the employees concerned. Regular updates and briefing documents regarding changes in accounting policies, reporting and disclosure requirements are also supplied.

Subsidiaries and operating units prepare regular financial and management reports for internal steering groups and Company management. These include analysis and comments on financial performance and risks. The Board of Directors receives financial reports monthly. Ericsson has established a whistleblower procedure for the reporting of alleged violations that (i) are conducted by Group or local management, and (ii) relate to corruption, questionable accounting or auditing matters or otherwise seriously affect vital interests of the Group or personal health and safety.

Monitoring

The Company's process for financial reporting is reviewed annually by the management. This forms a basis for evaluating the internal management system and internal steering documents to ensure that they cover all significant areas related to financial reporting. The shared service center and company control hub management continuously monitors accounting quality through a set of performance indicators. Compliance with policies and directives is monitored through annual self-assessments and representation letters from heads and company controllers in all subsidiaries as well as in business units and regions.

The Company's financial performance is also reviewed at each Board meeting. The Committees of the Board fulfill important monitoring functions regarding remuneration, borrowing, investments, customer finance, cash management, financial reporting and internal control. The Audit Committee and the Board of Directors review all interim and annual financial reports before they are released to the market. The Company's internal audit function reports directly to the Audit Committee. The Audit Committee also receives regular reports from the external auditor. The Audit Committee follows up on any actions taken to improve or modify controls.

BOARD OF DIRECTORS

Stockholm, March 5, 2013
Telefonaktiebolaget LM Ericsson (publ)
Org. no. 556016–0680

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AUDITOR'S REPORT ON THE CORPORATE GOVERNANCE REPORT

To the Annual General Meeting of the shareholders in Telefonaktiebolaget LM Ericsson (publ), corporate identity number 556016-0680.

It is the Board of Directors who is responsible for the corporate governance report for the year 2012 and that it has been prepared in accordance with the Annual Accounts Act.

We have read the corporate governance report and based on that reading and our knowledge of the company and the group we believe that we have a sufficient basis for our opinions. This means that our statutory examination of the corporate governance report is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden.

In our opinion, the corporate governance report has been prepared and its statutory content is consistent with the annual accounts and the consolidated accounts.

Stockholm March 5, 2013

Peter Nyllinge
Authorized Public Accountant
PricewaterhouseCoopers AB
Auditor in Charge

Johan Engstam
Authorized Public Accountant
PricewaterhouseCoopers AB

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MOBILE BROADBAND IS TRANSFORMING VIEWING HABITS

Mobile broadband connectivity is encouraging new habits in video consumption, as people now view on smartphones and tablets, increasingly outside the home.

25%

Approximately 25% of total smartphone traffic*

40%

Approximately 40% of total tablet traffic*

* Numbers from measurements in a selected number of commercial HSPA and LTE broadband networks in Asia, Europe and the Americas.

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REMUNERATION REPORT

INTRODUCTION

This report outlines how the remuneration policy is implemented throughout Ericsson in line with corporate governance best practice, with specific references to Group management. The work of the Remuneration Committee in 2012 and the remuneration policy are explained, at the beginning of the report, followed by descriptions of plans and approaches.

More details of the remuneration of Group management and Board members' fees can be found in the Notes to the Consolidated financial statements – Note C28, "Information regarding members of the Board of Directors, the Group management and employees".

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THE REMUNERATION COMMITTEE

The Remuneration Committee advises the Board of Directors on an ongoing basis on the remuneration to the Executive Leadership Team (ELT). This includes fixed salaries, pensions, other benefits and short-term and long-term variable remuneration, all in the context of pay and employment conditions throughout Ericsson. The Remuneration Committee reviews and prepares for resolution by the Board:

- Proposals on salary and other remuneration, including retirement compensation, for the President and CEO
- Proposals on targets for the short-term variable remuneration for the President and CEO
- Proposals to the Annual General Meeting on guidelines for remuneration to the ELT
- Proposals to the Annual General Meeting on long-term variable remuneration and similar equity arrangements

The responsibility for the Remuneration Committee is also to:

- Approve proposals on salary and other remuneration, including retirement compensation, for the Executive Vice Presidents and other ELT.
- Approve proposals on targets for the short-term variable remuneration for the Executive Vice Presidents and other ELT.
- Approve pay out of the short-term variable renumeration for the ELT, based on achievements and performance.

The Remuneration Committee's work is the foundation for the governance of Ericsson's remuneration processes together with Ericsson's internal systems and audit controls. The Committee is chaired by Leif Johansson and its other members are Börje Ekholm, Nancy McKinstry, and Karin Åberg. All the members are non-executive directors, independent (except for the employee representative) as required by the Swedish Corporate Governance Code and have relevant knowledge and experience of remuneration matters.

The Company's General Counsel acts as secretary to the Committee. The Chief Executive Officer, the Senior Vice President, Head of Human Resources and Organization and the Vice President, Head of Total Rewards attend the Remuneration Committee meetings by invitation and assist the Committee in its considerations, except when issues relating to their own remuneration are being discussed.

The Remuneration Committee has appointed an independent expert advisor, Piia Pilv, to assist and advise the Committee. The independent advisor provided no other services to the Company during 2012. The Remuneration Committee is also provided with national and international pay data collected from external survey providers and can call on other independent expertise, should it so require. The Chairman continues to ensure that contact is maintained, as necessary and appropriate, with principal shareholders regarding remuneration.

The purpose and function of the Remuneration Committee and its responsibilities can be found on the Ericsson website. These responsibilities, together with the Guidelines for remuneration to Group Management (ELT) and the Long-Term Variable remuneration plan, are reviewed and evaluated annually in light of matters such as changes to corporate governance best practice or changes to accounting, legislation, political opinion or business practices among peers. This helps to ensure that the

REMUNERATION POLICY

Remuneration at Ericsson is based on the principles of performance, competitiveness and fairness. The remuneration policy, together with the mix of remuneration elements, is designed to reflect these principles by creating a balanced remuneration package. The Guidelines for remuneration to Group Management 2012 approved by AGM can be found in note C28. The auditor's report regarding whether we have complied with the guidelines for compensation to the ELT during 2012 is posted on the Ericsson website.

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Summaries of 2012 short- and long-term variable remuneration

What we call it	What is it?	What is the objective?	Who participates?	How is it earned?
Short-term: Remuneration delivered over 12 months or less				
Fixed salary	Fixed remuneration paid at set times	Attract and retain employees, delivering part of annual remuneration in a predictable format	All employees	Market appropriate levels set according to position and evaluated according to individual performance
Short-Term Variable remuneration (STV)	A variable plan that is measured and paid over a single year	Align employees with clear and relevant targets, providing an earnings opportunity in return for performance, and flexible cost	Enrolled employees, including Executive Leadership Team. Approx. 73,900 in 2012	Achievements against set targets. Reward can increase to up to twice the target level and decrease to zero, depending on performance
Local and Sales Incentive Plans	Tailored versions of the STV	As for STV, tailored for local or business requirements, such as sales	Employees in sales. Approx. 2,300 in 2012	Similar to STV. All plans have maximum award and vesting limits
Long-term: Remuneration delivered over 3 years or more				
Stock Purchase Plan (SPP)	All-employee stock-based plan	Reinforce a "One Ericsson" mentality and align employees' interests with those of shareholders	All employees are eligible	Buy one share and it will be matched by one share after 3 years if still employed
Key Contributor Retention Plan (KC)	Share-based plan for selected individuals	Recognize, retain and motivate key contributors for performance, critical skills and potential	Up to 10% of employees	If selected, get one more matching share in addition to the SPP one
Executive Performance Stock Plan (EPSP)	Share-based plan for senior executives	Remuneration for long-term commitment and value creation	Senior executives, including Executive Leadership Team	Get up to 4, 6 or, for CEO, 9 further matching shares to the SPP one for long-term performance

policy continues to provide Ericsson with a competitive remuneration strategy.

The Guidelines for remuneration to Group Management are, in accordance with Swedish law, brought to shareholders annually for approval.

The Remuneration Committee met six times during the year 2012.

The winter meetings focused on following up on results from the 2011 variable remuneration programs and preparing proposals to shareholders for the 2012 Annual General Meeting (AGM). During the spring the committee determined remuneration to a new member of the ELT and revised the remuneration to others. In the fall, the committee reviewed the Guidelines for remuneration to Group Management and decided to continue the Long-Term Variable remuneration plans without any material changes and the Short-Term Variable remuneration plans with an increased weighting on capital and margins for 2013. The committee based its considerations on the business needs, analyses and reviews of the global market trends and feedback from shareholders and institutions. Supported by the independent advisor, the Committee also reviewed the competitiveness of the ELT remuneration in the global market. The Remuneration Committee is of the opinion that the Long-Term Variable remuneration plans fulfill the defined objectives to promote "One Ericsson" and to align the interests of employees with those of shareholders. The number of participants as of December 1, 2012 was 27,000 employees, compared to 24,000 employees as of December 1, 2011. The evaluation also confirms that the Key Contributor Retention Plan meets the purpose of retaining our key employees. The voluntary attrition rate among Key Contributors is about two-thirds compared to the attrition rate in the total number of employees.

REMUNERATION 2012

To enhance the understanding of how Ericsson translates remuneration principles and policy into practice, an internal remuneration website was launched in January 2011. The site contains e-learning and training programs targeted at line managers. It supports more informed decisions and better communication to the wider employee population. The next step in this development is the planned implementation of an Integrated HR IT tool. The first phase was launched to all managers in Ericsson in November 2012 and include performance management, talent planning, variable pay and annual salary review.

TOTAL REMUNERATION

When considering the remuneration of an individual, it is the total remuneration that matters. First, the total annual cash compensation is defined, consisting of the target level of short-term variable remuneration plus fixed salary. Thereafter, target long-term variable remuneration may be added to get to the total target remuneration and, finally, pension and other benefits may be added to arrive at the total remuneration.

For the ELT, remuneration consists of fixed salary, short-term and long-term variable remuneration, pension and other benefits. If the size of any one of these elements is increased or decreased when setting the remuneration, at least one other element has to change if the competitive position is to remain unchanged.

The remuneration costs for the CEO and the ELT are reported in Note C28.

Fixed salary

When setting fixed salaries, the Remuneration Committee considers the impact on total remuneration, including pension and associated costs. The absolute levels are determined by the size and complexity of the position and the year-to-year performance of the individual. Together with other elements of remuneration, ELT salaries are subject to an annual review by the

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Remuneration Committee, which considers external pay data to ensure that levels of pay remain competitive and appropriate to the remuneration policy.

Variable remuneration

Ericsson strongly believes that, where possible, variable compensation should be encouraged as an integral part of total remuneration. First and foremost, this aligns employees with clear and relevant targets, but it also enables more flexible payroll costs and emphasizes the link between performance and pay. All variable remuneration plans have maximum award and vesting limits. Short-term variable remuneration is to a greater extent dependent on the specific unit or function, while long-term variable remuneration is dependent on the achievements of the Ericsson Group.

Short-term variable remuneration

Annual variable remuneration is delivered through cash-based programs. Specific business targets are derived from the annual business plan approved by the Board of Directors and, in turn, defined by the Company's long-term strategy. Ericsson strives to grow faster than the market with best-in-class margins and strong cash conversion and therefore the starting point is to have three core targets:

- Net sales growth
- Operating income
- Cash flow.

For the ELT, targets are thus predominantly financial at either Group level (for Heads of Group functions) or at the individual unit level (for Heads of regions or business units) and may also include operational targets like customer satisfaction and employee engagement.

The chart below illustrates how payouts to the ELT have varied with performance over the past five years.

The Board of Directors and the Remuneration Committee decide on all Ericsson Group targets, which are cascaded to unit-related targets throughout the Company, always subject to a two-level management approval process. The Remuneration Committee monitors the appropriateness and fairness of Group target levels throughout the performance year and has the authority to revise them should they cease to be relevant or stretching or to enhance shareholder value.

During 2012, approximately 76,200 employees participated in short-term variable remuneration plans.

Long-term variable remuneration

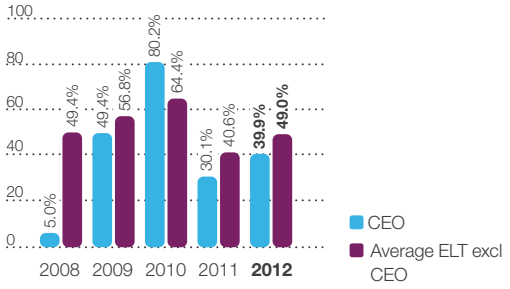
Share-based long-term variable remuneration plans are submitted each year for approval by shareholders at the AGM. All long-term variable remuneration plans are designed to form part of a well-balanced total remuneration package and to span over a minimum of three years. As these are variable plans, outcomes are unknown and rewards depend on long-term personal investment, corporate performance and resulting share price performance. During 2012, share-based remuneration was made up of three different but linked plans: the all-employee Stock Purchase Plan, the Key Contributor Retention Plan and the Executive Performance Stock Plan.

The Stock Purchase Plan

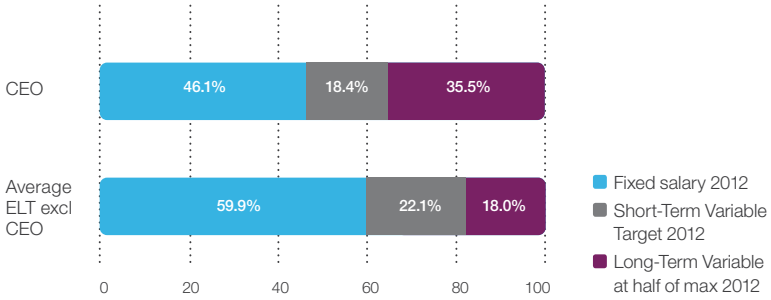
The all-employee Stock Purchase Plan is designed to offer, where practicable, an incentive for all employees to participate. This reinforces "One Ericsson" aligned with shareholder interests. Employees can save up to 7.5% of gross fixed salary (the President and CEO can save up to 10% of gross fixed salary and short-term variable remuneration) for purchase of Class B shares at market price on NASDAQ OMX Stockholm or ADSs on NASDAQ New York (contribution shares) over a twelve-month period. If the contribution shares are retained by the employee for three years after the investment and employment with the Ericsson Group continues during that time, the employee's shares will be matched with a corresponding number of Class B shares or ADSs, as applicable. The plan was introduced in 2002 and employees in 71 countries participated during its first year. In December 2012, the number of participants was over 27,000, or approximately 28% of eligible employees in 100 countries.

Participants save each month, beginning with the August payroll, towards quarterly investments. These investments (in November, February, May and August) are matched on the third

Short-term variable remuneration payouts as percentage of opportunity



Fixed salary, short-term and long-term variable remuneration as percentage of total target remuneration



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Short-term variable remuneration structure

	Short-term variable remuneration as percentage of fixed salary			Percentage of short-term variable remuneration maximal opportunity		
	Target level	Maximum level	Actual paid for 2012	Group financial targets	Unit/functional financial targets	Non-financial targets
CEO 2012	40%	80%	32%	90%	0%	10%
CEO 2013	40%	80%	–	100%	0%	0%
Average ELT 2012 [1]	36%	72%	37%	49%	27%	24%
Average ELT 2013 [1]	38%	76%	–	50%	24%	26%

[1] Excludes CEO – differences in target and maximum levels from year to year are due to changes in the composition of the ELT.

anniversary of each such investment and hence the matching spans over two financial years and two tax years.

The Key Contributor Retention Plan

The Key Contributor Retention Plan is part of Ericsson's talent management strategy. It is designed to recognize individuals for performance, critical skills and potential as well as to encourage retention of key employees.

Under the program, operating units around the world can nominate up to 10% of employees worldwide. Each unit nominates individuals that have been identified according to performance, critical skills and potential. The nominations are calibrated in management teams locally and are reviewed by both local and corporate Human Resources to ensure that there is a minimum of bias and a strong belief in the system.

Participants selected obtain one extra matching share in addition to the one matching share for each contribution share purchased under the Stock Purchase Plan during a twelve-month investment period. The plan was introduced in 2004.

The Executive Performance Stock Plan

The Executive Performance Stock Plan was first introduced in 2004. The plan is designed to focus management on driving long-term financial performance and to provide market competitive remuneration. Senior executives, including the ELT, are selected to obtain up to four or six extra shares (performance matching shares). This is in addition to the one matching share for each contribution share purchased under the all-employee Stock Purchase Plan. Performance matching is subject to the fulfillment of performance targets. Since 2010, the President and CEO may obtain up to nine performance matching shares in addition to the Stock Purchase Plan matching share for each contribution share.

In the 2004 to 2010 plans, the performance targets were Earnings Per Share (EPS) targets.

To support the long-term strategy and value creation of the Company, new targets were defined for the 2011 plan. At the AGM 2012, the following targets for the 2012 Executive Performance Stock Plan were resolved on proposal by the Board:

- Up to one-third of the award shall vest provided the compound annual growth rate (CAGR) of consolidated net sales between year 0 (2011 financial year) and year 3 (2014 financial year) is between 2% and 8%.
- Up to one-third of the award shall vest provided the compound annual growth rate (CAGR) of consolidated operating income between year 0 (2011 financial year) and year 3 (2014 financial year) is between 5% and 15%.
- Up to one-third of the award will be based on the cash conversion during each of the years during the performance period, calculated as cash flow from operating activities divided by net income reconciled to cash. One-ninth of the total award will vest for any year, i.e. financial years 2012, 2013 and 2014, if cash conversion is at or above 70%.

Before the number of performance shares to be matched are finally determined, the Board of Directors shall examine whether the performance matching is reasonable considering the Company's financial results and position, conditions on the stock market and other circumstances, and if not, as determined by the Board of Directors, reduce the number of performance shares to be matched to the lower number of shares deemed appropriate by the Board of Directors. When undertaking its evaluation of performance outcomes the Board of Directors will consider, in particular, the impact of larger acquisitions, divestitures, the creation of joint ventures and any other significant capital event on the three targets on a case by case basis.

Benefits and terms of employment

Pension benefits follow the competitive practice in the employee's home country and may contain various supplementary plans, in addition to any national system for social security. Where possible, pension plans are operated on a defined contribution basis. Under these plans, Ericsson pays contributions into a plan but does not guarantee the ultimate benefit, unless local regulations or legislation prescribe that defined benefit plans that do give such guarantees have to be offered.

For the President and CEO and other members of the ELT employed in Sweden before 2011, a supplementary pension plan is applied in addition to the occupational pension plan for salaried staff on the Swedish labor market (ITP). The pension age for these ELT members is normally 60 years.

The ELT members employed in Sweden from 2011 are normally covered by the defined contribution plan under the ITP1 scheme, with a pensionable age of 65 years.

For members of the ELT who are not employed in Sweden, local market competitive pension arrangements apply.

Other benefits, such as company car and medical insurance, are also set to be competitive in the local market. The ELT members may not receive loans from the Company.

The ELT members locally employed in Sweden have a mutual notice period of up to six months. Upon termination of employment by the Company, severance pay can amount to up to 18 months' fixed salary. For other ELT members, different notice period and severance pay agreements apply; however, no agreement exceeds the notice period of six months or the severance pay period of 18 months.

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SHARE INFORMATION

STOCK EXCHANGE TRADING

The Ericsson Class A and Class B shares are listed on NASDAQ OMX Stockholm. In the United States, the Class B shares are listed on NASDAQ New York in the form of American Depositary Shares (ADS) evidenced by American Depositary Receipts (ADR) under the symbol ERIC. Each ADS represents one Class B share.

In 2012, approximately 2.4 (3.4) billion shares were traded on NASDAQ OMX Stockholm and about 1.1 (1.6) billion shares were traded on NASDAQ New York. A total of 3.5 (5) billion Ericsson shares where thus traded on the exchanges were we are listed. Trading volume in Ericsson shares decreased by approximately 27% on NASDAQ OMX Stockholm and by approximately 30% on NASDAQ New York compared to 2011.

The Ericsson share is also traded on other venues such as BATS Europe, Burgundy, Chi-X Europe.

The Ericsson share

Share listings	
NASDAQ OMX Stockholm	
NASDAQ New York	
Share data	
Total number of shares in issue	3,305,051,735
of which Class A shares, each carrying one vote [1]	261,755,983
of which Class B shares, each carrying one tenth of one vote [1]	3,043,295,752
Ericsson treasury shares, Class B	84,798,095
Quotient value	SEK 5.00
Market capitalization, December 31, 2012	approx. SEK 215 b.
ICB (Industry Classification Benchmark)	9500
Ticker codes	
NASDAQ OMX Stockholm	ERIC A/ERIC B
NASDAQ New York	ERIC
Bloomberg NASDAQ OMX Stockholm	ERICA SS/ERICB SS
Bloomberg NASDAQ	ERIC US
Reuters NASDAQ OMX Stockholm	ERICa.ST/ERICb.ST
Reuters NASDAQ	ERIC.O

[1] Both classes of shares have the same rights of participation in the net assets and earnings.

Changes in number of shares and capital stock 2008–2012

		Number of shares	Share capital
2008	June 2, reverse split 1:5	3,226,451,735	16,132,258,678
2008	July 23, new issue (Class C shares, later converted to Class B)	19,900,000	99,500,000
2008	December 31	3,246,351,735	16,231,758,678
2009	June 8, new issue (Class C shares, later converted to Class B)	27,000,000	135,000,000
2009	December 31	3,273,351,735	16,366,758,678
2010	December 31	3,273,351,735	16,366,758,678
2011	December 31	3,273,351,735	16,366,758,678
2012	June 29, new issue (Class C shares, later converted to Class B) [1]	31,700,000	158,500,000
2012	December 31	3,305,051,735	16,525,258,678

[1] The Annual General Meeting (AGM) 2012 resolved to issue 31.7 million Class C shares for the Long-Term Variable Remuneration Program (LTV). In accordance with an authorization from the AGM, in the second quarter 2012, the Board of Directors resolved to repurchase the new issued shares, which were subsequently converted into Class B shares. The quotient value of the repurchased shares was SEK 5.00, totaling SEK 158.5 million, representing less than one percent of capital stock, and the acquisition cost was approximately SEK 158.7 million.

Share performance indicators

	2012	2011	2010	2009	2008
Earnings per share, diluted (SEK) [1]	1.78	3.77	3.46	1.14	3.52
Earnings per share, diluted non-IFRS (SEK) [2]	2.74	4.72	4.80	2.87	4.24
Operating income per share (SEK) [3] [4]	3.25	5.58	7.42	5.80	7.50
Cash flow from operating activities per share (SEK) [3]	6.85	3.11	8.31	7.67	7.54
Stockholders' equity per share, basic, end of period (SEK) [5]	42.51	44.57	45.34	43.79	44.21
P/E ratio	36	19	22	57	17
Total shareholder return (%)	-3	–7	22	15	–20
Dividend per share (SEK) [6]	2.75	2.50	2.25	2.00	1.85

[1] Calculated on average number of shares outstanding, diluted.
[2] EPS, diluted, excluding amortizations and write-downs of acquired intangible assets, SEK.
[3] Calculated on average number of shares outstanding, basic.
[4] For 2010, 2009 and 2008 excluding restructuring charges.
[5] Calculated on number of shares, end of period.
[6] For 2012 as proposed by the Board of Directors.

For definitions of the financial terms used, see Glossary, Financial Terminology and Exchange Rates.

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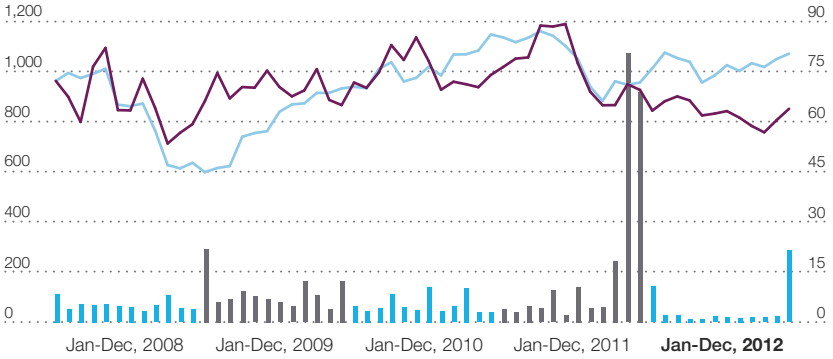
SHARE TREND

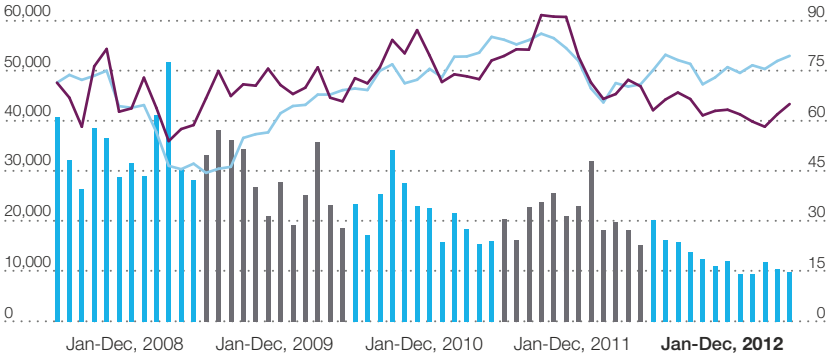
In 2012, Ericsson's total market capitalization decreased by about 7% to SEK 215 billion, compared to a decrease by 10% reaching SEK 230 billion in 2011. The OMX Stockholm Index on NASDAQ OMX Stockholm increased by 12% and the NASDAQ composite index increased by 16%. The S&P 500 Index increased by 13%.

Share turnover and price trend, NASDAQ OMX Stockholm

Class A shares, SEK m



Class B shares, SEK m

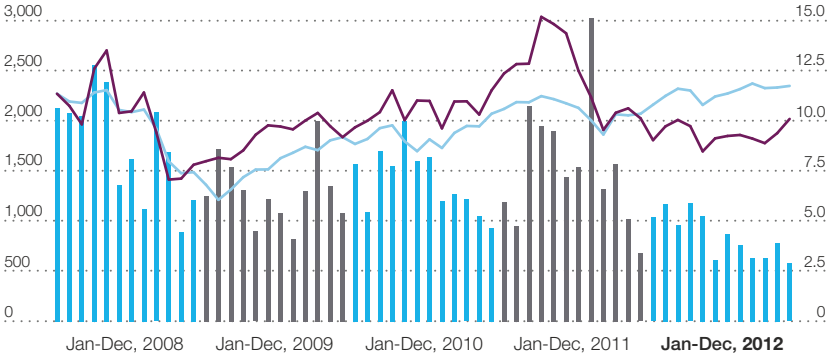


Turnover, SEK million — Price, SEK — OMX Stockholm (indexed to share price)

Volumes reflect trading on NASDAQ OMX Stockholm only. Source: Nasdaq OMX Stockholm

Share turnover and price trend, US market

ADS, USD m

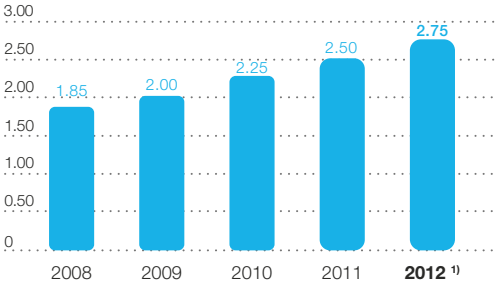


Turnover, USD million — Price, USD — S&P 500 (indexed to share price)

Volumes reflect trading on NASDAQ OMX Stockholm only. Source: Nasdaq New York

Dividend per share

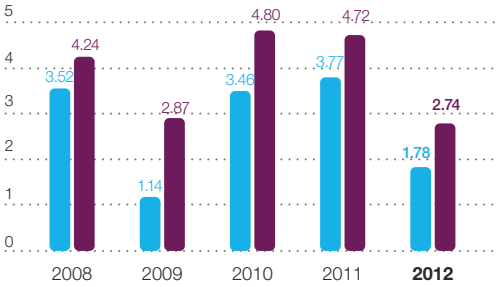
SEK



1) For 2012 as proposed by the Board of Directors.

Earnings per share, diluted

SEK



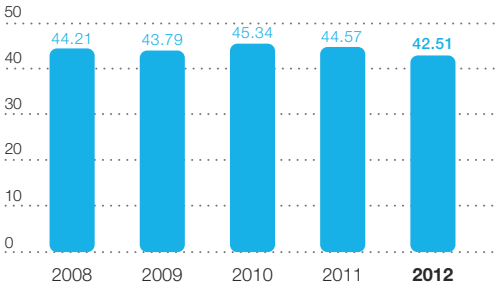
Earnings per share, diluted

Earnings per share, diluted (non-IFRS) 1)

1) EPS, diluted, excl. amortizations and write-downs of acquired intangible assets, SEK.

Stockholders' equity per share, basic

SEK



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SHARE INFORMATION CONTINUED

OFFER AND LISTING DETAILS

Principal trading market – NASDAQ OMX Stockholm – share prices

The table below states the high and low share prices for our Class A and Class B shares as reported by NASDAQ OMX Stockholm for the last five years. Trading on the exchange generally continues until 5:30 p.m. (CET) each business day. In addition to trading on the exchange, there is also trading off the exchange and on alternative venues during trading hours and also after 5:30 p.m. (CET).

NASDAQ OMX Stockholm publishes a daily Official Price List of Shares which includes the volume of recorded transactions in each listed stock, together with the prices of the highest and lowest recorded trades of the day. The Official Price List of Shares reflects price and volume information for trades completed by the members. The equity securities listed on the NASDAQ OMX Stockholm Official Price List of Shares currently comprise the shares of 258 companies.

Host market NASDAQ New York – ADS prices

The table below states the high and low share prices quoted for our ADSs on NASDAQ New York for the last five years. The NASDAQ New York quotations represent prices between dealers, not including retail mark-ups, markdowns or commissions, and do not necessarily represent actual transactions.

Share prices on NASDAQ OMX Stockholm

(SEK)	2012	2011	2010	2009	2008
Class A at last day of trading	63.90	69.55	74.00	65.00	59.30
Class A high (January 3, 2012)	72.00	93.60	88.40	78.80	83.60
Class A low (November 16, 2012)	55.55	59.05	65.20	55.40	40.60
Class B at last day of trading	65.10	70.40	78.15	65.90	58.80
Class B high (January 3, 2012)	71.90	96.65	90.45	79.60	83.70
Class B low (July 18, 2012)	55.90	61.70	65.90	55.50	40.60

Source: Nasdaq OMX Stockholm

Share prices on NASDAQ New York

(USD)	2012	2011	2010	2009	2008
ADS at last day of trading	10.10	10.13	11.53	9.19	7.81
ADS high (April 3, 2012)	10.60	15.44	12.39	10.92	14.00
ADS low (May 17, 2012)	8.23	8.83	9.40	6.60	5.49

Source: Nasdaq New York

Share prices on NASDAQ OMX Stockholm and NASDAQ New York

	NASDAQ OMX Stockholm				NASDAQ New York	
	SEK per Class A share		SEK per Class B share		USD per ADS [1]	
Period	High	Low	High	Low	High	Low
Annual high and low						
2008	83.60	40.60	83.70	40.60	14.00	5.49
2009	78.80	55.40	79.60	55.50	10.92	6.60
2010	88.40	65.20	90.45	65.90	12.39	9.40
2011	93.60	59.05	96.65	61.70	15.44	8.83
2012	72.00	55.55	71.90	55.90	10.60	8.23
Quarterly high and low						
2011 First Quarter	80.05	70.50	83.00	73.25	13.06	10.99
2011 Second Quarter	93.60	73.00	96.65	75.30	15.44	12.06
2011 Third Quarter	91.80	60.50	93.80	63.15	14.82	9.33
2011 Fourth Quarter	71.50	59.05	72.55	61.70	11.25	8.83
2012 First Quarter	72.00	59.25	71.90	58.15	10.53	8.58
2012 Second Quarter	69.70	58.75	69.95	59.60	10.60	8.23
2012 Third Quarter	67.00	55.95	67.80	55.90	10.05	8.23
2012 Fourth Quarter	64.90	55.55	66.85	56.60	10.21	8.31
Monthly high and low						
August 2012	67.00	60.55	67.80	61.50	10.05	9.14
September 2012	62.55	58.35	64.10	59.85	9.79	8.91
October 2012	59.85	56.10	61.00	57.40	9.27	8.57
November 2012	60.50	55.55	62.30	56.60	9.41	8.31
December 2012	64.90	60.00	66.85	62.45	10.21	9.40
January 2013	74.30	62.90	76.95	64.50	11.82	9.78

[1] One ADS = 1 Class B share.

Source: Nasdaq OMX Stockholm and Nasdaq New York

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SHAREHOLDERS

As of December 31, 2012, the Parent Company had 551 719 shareholders registered at Euroclear Sweden AB (the Central Securities Depository – CSD), of which 1 080 holders had a US address. According to information provided by our depositary, Citibank, there were 189,454,944 ADSs outstanding as of December 31, 2012, and 4,500 registered holders of such ADSs. A significant number of Ericsson ADSs are held by banks, brokers and/or nominees for the accounts of their customers. As of January 3, 2013, the total number of bank, broker and/or nominee accounts holding Ericsson ADSs was 169,190.

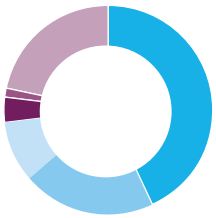
According to information known at year-end 2012, approximately 78% of our Class A and Class B shares were owned by institutions, Swedish and international.

Our major shareholders do not have different voting rights than other shareholders holding the same classes of shares.

As far as we know, the Company is not directly or indirectly owned or controlled by another corporation, by any foreign government or by any other natural or legal person(s) separately or jointly.

Geographical ownership breakdown of share capital including retail shareholders and treasury shares

Percent of capital



	2012	2011
Sweden	43.22%	45..51%
United States	20.59%	21.40%
United Kingdom	9.44%	8.92%
Norway	3.70%	3.42%
Netherlands	1.44%	1.07%
Other countries	21.61%	19.68%

Source: Capital Precision

The table shows the total number of shares in the Parent Company owned by the Executive Leadership Team and Board members (including Deputy employee representatives) as a group as of December 31, 2012.

The Executive Leadership Team and Board members, ownership

	Number of Class A shares	Number of Class B shares	Voting rights, percent
The Executive Leadership Team and Board members as a group (31 persons)	0	559,450	0.01

For individual holdings, see Corporate Governance Report.

The following table shows share information, as of December 31, 2012, with respect to our 15 largest shareholders, ranked by voting rights, as well as percentage of voting rights as of December 31, 2012, 2011 and 2010.

Largest shareholders, December 31, 2012 and percentage of voting rights, December 31, 2012, 2011 and 2010

Identity of person or group [1]	Number of Class A shares	Of total Class A shares, percent	Number of Class B shares	Of total Class B shares, percent	2012 Voting rights, percent	2011 Voting rights, percent	2010 Voting rights, percent
Investor AB	115,018,707	43.94	59,284,545	1.95	21.37	21.48	19.33
AB Industrivärden	84,708,520	32.36	0	0.00	14.96	14.34	13.80
Handelsbankens Pensionsstiftelse	21,057,443	8.04	0	0.00	3.72	4.20	3.52
Swedbank Robur Fonder AB	1,505,751	0.58	138,107,152	4.54	2.71	2.79	2.73
AFA Försäkring AB	11,423,000	4.36	9,151,631	0.30	2.18	2.31	0.45
Blackrock Fund Advisors	0	0.00	77,802,606	2.56	1.37	1.46	1.44
Norges Bank Investment Management	0	0.00	77,226,311	2.54	1.36	1.24	0.89
Skandia Liv	6,263,167	2.39	11,414,818	0.38	1.31	1.36	2.98
AMF Pensionsförsäkring AB	0	0.00	71,108,980	2.34	1.26	1.34	1.34
Aberdeen Asset Managers Ltd.	0	0.00	65,706,158	2.16	1.16	1.05	1.01
Dodge & Cox, Inc.	0	0.00	64,443,081	2.12	1.14	0.96	1.43
Pensionskassan SHB Försäkringsförening	6,381,570	2.44	0	0.00	1.13	1.39	2.07
Orbis Investment Management Ltd.	0	0.00	62,271,048	2.05	1.10	0.35	0.06
OppenheimerFunds, Inc.	0	0.00	62,070,708	2.04	1.10	1.20	1.29
Handelsbanken Fonder AB	261,500	0.10	58,019,980	1.91	1.07	0.96	1.05
Others	15,136,325	5.78	2,286,688,734	75.14	43.07	43.57	46.61
Total	**261,755,983**	**100**	**3,043,295,752**	**100**	**100**	**100**	**100**

[1] Source: Capital Precision

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EMPOWERING BUSINESS

The networked society is changing the whole playing field of business. Digital innovations are created, promoted and distributed from and to anywhere in the connected world. The global market allows niche firms to reach critical mass, while lowering transaction costs. All the while, technologically-enabled workforces can contribute from any location, including on the move. Ericsson is one of the few companies that can offer end-to-end solutions for all major mobile communication standards worldwide. Our networks, telecom services and support solutions make it easier for businesses across the world to operate.

+80

For every 1,000 additional broadband users, approximately 80 new jobs are created*.

* According to a study made by Arthur D. Little, commissioned by Ericsson

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GLOSSARY

2G
The first digital generation of mobile systems. Includes GSM, TDMA, PDC and cdmaOne.

3G
3rd generation mobile system. includes WCDMA/HSPA, CDMA2000 and TD-SCDMA.

4G
See LTE.

All-IP
A single, common IP infrastructure that can handle all network services, including fixed and mobile communications, for voice and data services as well as video services such as TV.

Backhaul
Transmission between radio base stations and the core network.

BSS
Business support systems

CaGR
Compound Annual Growth Rate.

Capex
Capital expenditure.

CDMA
(Code Division Multiple Access)
A radio technology on which the cdmaOne (2G) and CDMA2000 (3G) mobile communication standards are both based.

CLOUD
When data and applications reside in the network.

Edge
A mobile standard, developed as an enhancement of GSM. Enables the transmission of data at speeds up to 250 kbps. (Evolved EDGE up to 1 Mbps)

GDP
(Gross Domestic Product)
The total annual cost of all finished goods and services produced within a country.

GPON
(Gigabit Passive Optical Network) Used for fiber-optic communication to the home (FTTH).

GSM
(Global System for Mobile Communications) A first digital generation mobile system.

HSPA
(High Speed Packet Access)
Enhancement of 3G/WCDMA that enables mobile broadband.

ICT
Information and Communication Technology.

IMS
(IP Multimedia Subsystem)
A standard for offering voice and multimedia services over mobile and fixed networks using internet technology (IP).

IP
(Internet Protocol)
Defines how information travels between network elements across the internet.

IPR
Intellectual Property Rights

IPTV
(IP Television)
A technology that delivers digital television via fixed broadband access.

JV
(Joint Venture)
A business enterprise in which two or more companies enter a partnership.

LTE
(Long-Term Evolution)
The next evolutionary step of mobile technology beyond HSPA, allowing data rates above 100 Mbps.

Managed services
Management of operator networks and/or hosting of their services.

Mobile broadband
Wireless high-speed internet access using the HSPA, LTE and CDMA2000EV-DO technologies.

OSS
Operations support systems

Penetration
The number of subscriptions divided by the population in a geographical area.

PETAbyte
Million gigabytes.

RAN
Radio Access Network.

TD-SCDMA
(Time Division Synchronous Code Division Multiple Access), an alternative to WCDMA used in China.

WCDMA
(Wideband Code Division Multiple Access)
A 3G mobile communication standard. WCDMA builds on the same core network infrastructure as GSM.

xDSL
Digital Subscriber Line technologies for broadband multimedia communications in fixed-line networks. Examples: IP-DSL, ADSL and VDSL.

The terms “Ericsson”, “the Company”, “the Group”, “us”, “we”, and “our” all refer to Telefonaktiebolaget LM Ericsson and its subsidiaries.

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FINANCIAL TERMINOLOGY

Capital employed
Total assets less non-interest-bearing provisions and liabilities. (which includes: provisions, non-current; deferred tax liabilities; other non-current liabilities; provisions, current; trade payables; other current liabilities).

Capital turnover
Net sales divided by average capital employed.

Cash conversion
Cash flow from operating activities divided by the sum of net income and adjustments to reconcile net income to cash, expressed as percent.

Cash dividends per share
Dividends paid divided by average number of shares, basic.

Compound annual growth rate (CAGR)
The year-over-year growth rate over a specified period of time.

Days sales outstanding (DSO)
Trade receivables balance at quarter end divided by net sales in the quarter and multiplied by 90 days. If the amount of trade receivables is larger than last quarter's sales, the excess amount is divided by net sales in the previous quarter and multiplied by 90 days, and total DSO are the 90 days of the most current quarter plus the additional days from the previous quarter.

Earnings per share (EPS)
Basic earnings per share: profit or loss attributable to stockholders of the Parent Company divided by the weighted average number of ordinary shares outstanding during the period. Diluted earnings per share: the weighted average number of shares outstanding are adjusted for the effects of all dilutive potential ordinary shares.

EPS (non-IFRS)
EPS, diluted, excluding amortizations and write-down of acquired intangible assets and including restructuring charges.

EBITA margin
Earnings before interest, taxes, amortization and write-downs of acquired intangibles (intellectual property rights, trademarks and other intangible assets, see Note C10 "Intangible assets") as a percentage of net sales.

Equity ratio
Equity, expressed as a percentage of total assets.

Gross cash
Cash and cash equivalents plus short-term investments.

Inventory turnover days (ITO-days)
365 divided by inventory turnover, calculated as total cost of sales divided by the average inventories for the year (net of advances from customers).

Net cash
Cash and cash equivalents plus short-term investments less interest-bearing liabilities (which include: borrowings, non-current and borrowings, current) and post-employment benefits.

P/E ratio
The P/E ratio is calculated as the price of a Class B share at last day of trading divided by Earnings per share, basic.

Payable days
The average balance of trade payables at the beginning and at the end of the year divided by cost of sales for the year, and multiplied by 365 days.

Payment readiness
Cash and cash equivalents and short-term investments less short-term borrowings plus long-term unused credit commitments. Payment readiness is also shown as a percentage of net sales.

Return on capital employed
The total of Operating income plus Financial income as a percentage of average capital employed (based on the amounts at January 1 and December 31).

Return on equity
Net income attributable to stockholders of the Parent Company as a percentage of average Stockholders' equity (based on the amounts at January 1 and December 31).

Stockholders' equity per share
Stockholders' equity divided by the number of shares outstanding at end of period, basic.

Total shareholder return (TSR)
The increase or decrease in Class B share price during the period, adjusted for dividends paid, expressed as a percentage of the share price at the start of the period.

Trade receivables turnover
Net sales divided by average trade receivables.

Value at risk (VaR)
A statistical method that expresses the maximum potential loss that can arise with a certain degree of probability during a certain period of time.

Working capital
Current assets less current non-interest-bearing provisions and liabilities (which include: provisions, current; trade payables; other current liabilities).

EXCHANGE RATES

Exchange rates used in the consolidation

	January–December 2012	2011
SEK/EUR		
Average rate	**8.70**	9.02
Closing rate	**8.58**	8.92
SEK/USD		
Average rate	**6.73**	6.48
Closing rate	**6.51**	6.90

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Request for Proposal No. 2015-LNPA-VENDOR QUALIFICATION-1

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SHAREHOLDER INFORMATION

FOR PRINTED PUBLICATIONS

A printed copy of the Annual Report is provided on request.

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SE-120 88 Stockholm, Sweden
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IN THE UNITED STATES:

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Citibank Shareholder Services
Registered holders:
+1 877 881 59 69
Interested investors:
+1 781 575 45 55
Email:
citibank@shareholders-online.com
www.citi.com/dr

Ordering a hard copy of the Annual Report:
+1 888 301 2504

Telefonaktiebolaget LM Ericsson's shareholders are invited to participate in the Annual General Meeting to be held on Tuesday, April 9, 2013, at 3 p.m. at Kistamässan, Arne Beurlings Torg 5, Kista, Stockholm, Sweden.

Registration and notice of attendance

Shareholders who wish to attend the Annual General Meeting must:

- Be recorded in the share register kept by Euroclear Sweden AB (the Swedish Securities Registry) on Wednesday, April 3, 2013, and
- Give notice of attendance to the Company at the latest on Wednesday, April 3, 2013. Notice of attendance can be given by telephone: +46 8 402 90 54 on weekdays between 10 a.m. and 4 p.m., or on Ericsson's website: www.ericsson.com.

Notice of attendance may also be given in writing to:
Telefonaktiebolaget LM Ericsson
General Meeting of Shareholders
Box 7835, SE-103 98 Stockholm, Sweden

When giving notice of attendance, please state name, date of birth, address, telephone number and number of assistants, if any.

The meeting will be conducted in Swedish and simultaneously interpreted into English.

Shares registered in the name of a nominee

In addition to giving notice of attendance, shareholders having their shares registered in the name of a nominee, must request the nominee to temporarily enter the shareholder into the share register as per Wednesday, April 3, 2013, in order to be entitled to attend the meeting. The shareholders should inform the nominee to that effect well before that day.

Proxy

Shareholders represented by proxy shall issue and submit to the Company a power of attorney for the representative. A power of attorney issued by a legal entity must be accompanied by a copy of the entity's certificate of registration, or if no such certificate exist, a corresponding document of authority. Such documents must not be older than one year unless the power of attorney explicitly provides that it is valid for a longer period, up to a maximum of five years. In order to facilitate the registration at the Annual General Meeting, the power of attorney in original, certificates of registration and other documents of authority should be sent to the Company in advance to the address above for receipt by Monday, April 8, 2013. Forms of power of attorney in Swedish and English are available on Ericsson's website: www.ericsson.com/investors.

Dividend

The Board of Directors has decided to propose the Annual General Meeting to resolve on a dividend of SEK 2.75 per share for the year 2012 and that Friday, April 12, 2013 will be the record date for dividend.

Financial information from Ericsson

Interim reports 2013:

- Q1, April 24, 2013
- Q2, July 18, 2013
- Q3, October 24, 2013
- Q4, January 30, 2014

Annual Report 2013:
March, 2014
2012 Form 20-F for the US market:
March-April 2013

WHERE YOU CAN FIND OUT MORE

Information about Ericsson and its development is available on our website:
www.ericsson.com
Annual and interim reports and other relevant shareholder information can be found at:
www.ericsson.com/investors

Ericsson headquarters
Torshamnsgatan 23
Kista, Stockholm, Sweden

Registered office
Telefonaktiebolaget LM Ericsson
SE–164 83 Stockholm, Sweden

Investor relations
For questions on the Company, please contact Investor Relations:
Telephone: +46 10 719 00 00
Email: investor.relations@ericsson.com

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Request for Proposal No. 2015-LNPA-VENDOR QUALIFICATION-1

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Request for Proposal No. 2015-LNPA-VENDOR QUALIFICATION

CERTIFICATE OF SUNGARD AVAILABILITY SERVICES LP TO WILTSHIRE & GRANNIS LLP

I, Edward C. McKeever, Vice President & Chief Accounting Officer, of SunGard Availability Services LP ("SunGard" or the "Company"), do hereby certify to Wiltshire & Grannis LLP ("WG") under penalty of perjury that the following is true and correct to the best of my knowledge:

Telcordia has requested that WG render an opinion to the Federal Communications Commission ("FCC"), the North American Portability Management LLC ("NAPM"), the Future of Number Portability Administration Committee ("FoNPAC"), and the North American Numbering Council Local Number Portability Administrator Selection Working Group ("SWG") in connection with the 2015 Local Number Portability Administrator Request for Proposal ("2015 LNPA RFP") to serve as the Local Number Portability Administrator in each of the Regional Bell Operating Company ("RBOC") service areas or regions. I understand and acknowledge that this Certificate will be relied upon by WG in rendering such opinion of counsel.

Capitalized terms used herein and not otherwise defined shall have the same meaning and effect as used and defined in the 2015 LNPA Vendor Qualification Survey (the "VQS").

1. SunGard Availability Services LP ("SunGard" or "Sub-Contractor") has agreed to serve as a sub-contractor to Telcordia, providing data center services. Under the contemplated sub-contractor arrangement, SunGard will perform tasks and functions at Telcordia's direction ("SunGard Services"), but will have no independent discretion to make decisions regarding LNPA services.
2. SunGard is not a Telecommunications Service Provider.
3. SunGard is not owned by, and SunGard does not own, any Telecommunications Service Provider; provided that ownership for this purpose does not include ownership interests (measured by equity interest in stock, partnership interests, whether general or limited, joint venture participation, or member interests in a limited liability company) or voting power (on any one or more matters) of ten percent (10%) or less (of the total ownership or voting power).
4. SunGard's Affiliate, SunGard NetWork Solutions Inc. ("SNS"), is registered in North Carolina, Oregon, and Minnesota to provide certain telecommunications services as required by the public utility regulations in those states. Consequently, in North Carolina, SNS is authorized to provide intrastate interexchange telephone service, intrastate local exchange service, and exchange access telephone service; in Oregon, SNS is authorized to provide intraexchange and interexchange services and is designated as a competitive telecommunications provider for interexchange service statewide; and in Minnesota, SNS is registered to provide local niche services only, which Minnesota defines as "point-to-point connections between end-user locations within a service area and any telecommunications services under the [Minnesota public utility] commission's

jurisdiction that do not fall within the definition of local service or the definition of interexchange service." (Minn. Admin. Rules § 7812.0100 subpart 31.)

5. SNS does not provide – and has no plans to provide – switched services that utilize number portability, and does not provide voice telecommunications services. Rather, SNS contracts with telecommunications providers for dedicated non-switched data circuits to provide to its affiliates' customers solely in connection with their use of SunGard data services (i.e. hosting, managed services, recovery services).

6. As a safeguard, SunGard will notify Telcordia if, at any time, SNS or any other SunGard Affiliate intends to or commences providing switched services that utilize number portability.

7. SunGard's parent company, SunGard Data Systems Inc. ("SDS"), was acquired on August 11, 2005 in a leveraged buy-out by a consortium of private equity investment funds associated with Bain Capital Partners, The Blackstone Group, Goldman Sachs & Co., Kohlberg Kravis Roberts & Co., Providence Equity Partners, Silver Lake and TPG (collectively, the "Sponsors"). Each of the Sponsors has a representative on the Board of SDS. Two of the Sponsors of SDS also have greater than ten percent ownership interests in three entities listed in the FCC Form 499-A database as Telecommunications Service Providers: Avaya, Inc., Intelsat, and IPC Network Services. SDS Sponsors Silver Lake and TPG jointly own Avaya, Inc., which is registered with the FCC as an interconnected VoIP provider. One of the Directors of SDS is also a Director of Avaya, Inc. Silver Lake also has a greater than ten percent ownership interest in IPC Network Services, which is registered with the FCC as a toll reseller, and in Intelsat, which is registered with the FCC as a private service provider.

8. As a safeguard, SunGard confirms that the two Sponsors of SDS that also have ownership interests greater than ten percent in a Telecommunications Service Provider shall recuse themselves from participating in any material discussions or decisions involving the SunGard Services, including any involvement in day-to-day decision making.

9. Neither SunGard, nor any of its Affiliates, has issued a majority of its debt to, or derives a majority of such entity's revenues (not including the NPAC/SMS) from, any Telecommunications Service Provider.

10. SunGard is not subject to undue influence by parties with a vested interest in the outcome of numbering administration and activities; and it is not involved in a contractual or other arrangement that would impair Telcordia's ability to administer the NPAC/SMS fairly and impartially as an LNPA or to implement the schedule set forth in the IASTA® SmartSource SRM® Tool, called the FoNPAC Timeline.

11. SunGard operates subject to a Global Business Conduct and Compliance Program ("GBCCP"), applicable to both employees and directors. The GBCCP includes provisions for addressing actual or perceived conflicts of interest, and imposes an obligation to disclose conflict situations. Under the GBCCP, any conflict of interest that becomes known to SDS or its Chief Compliance Officer must be resolved. That resolution can take the form of the person recusing himself from any decision or activity that involves the other party, divestiture of equity interests in the entity or whatever

resolution is most appropriate to the circumstances. While a conflict situation is under review, the GBCCP prohibits affected directors or employees from acting on behalf of SunGard in connection with the conflict situation.

12. In addition, if Telcordia is selected as an LNPA, all SunGard employees dedicated to providing services to Telcordia shall be bound by the Proposed LNPA Code of Conduct.
13. SunGard does not have any contractual or other arrangement that would impair Telcordia's ability to administer the NPAC/SMS fairly and impartially. SunGard transacts at arms' length with its suppliers and provides in its GBCCP that it "will only purchase goods and services" from suppliers "when the combination of price, quality, and service are competitive with those of other suppliers." (GBCCP at 5.)
14. Attached hereto as Annex A is a copy of the SunGard Global Business Conduct and Compliance Program, dated August 2012.
15. Attached hereto as Annex B is a copy of the authorization for SunGard Network Services to provide local niche services in Minnesota.
16. Attached hereto as Annex C is a copy of the authorization for SunGard Network Services to provide intrastate interexchange telephone service, intrastate local exchange service, and exchange access telephone service in North Carolina.
17. Attached hereto as Annex D is a copy of the authorization for SunGard Network Services to provide intraexchange and interexchange services and designation as a competitive telecommunications provider for interexchange service statewide in Oregon.

I certify under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

SunGard Availability Services LP

By: _____
Edward C. McKeever
Vice President & Chief Accounting Officer

Executed on April 3, 2013.

CERTIFICATE OF SUNGARD

ANNEX A

Telcordia06326

SUNGARD®

GLOBAL BUSINESS CONDUCT AND COMPLIANCE PROGRAM FOR THE UNITED STATES

(This document is available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet).

TO ASK QUESTIONS AND REPORT POSSIBLE VIOLATIONS:

Use any of the following resources at any time to notify SunGard of a possible violation of this Policy, ask questions about this Policy, or discuss any business related concern that you may have.

1. Contact your Supervisor, any leader in your company's management chain, Human Resources or any other Company official including the Chief Compliance Officer, the Chief Legal Officer, the Director of Human Resources or the Chief Financial Officer. You may contact any corporate officer by name or title by calling Company headquarters at (484) 582-2000 or by e-mail.* (See EMPLOYEE RESPONSIBILITY below for more detail).

2. Call SunGard's AlertLine toll-free at (800) 381-8372. You may remain anonymous when calling the AlertLine.

3. Contact SunGard's AlertLine on-line at www.sungard.alertline.com. You may remain anonymous when contacting the AlertLine.

4. Contact SunGard's Chief Compliance Officer at any time directly by calling (484) 582-5576 or by e-mail.*

5. Contact the compliance office through a general e-mail box at compliance@sungard.com.

6. Contact the Chair of the Audit Committee by mailing a confidential letter to the Chair of the Audit Committee at Company headquarters (680 East Swedesford Road, Wayne, PA 19087).

**The names and contact information of the Chief Compliance Officer, other members of the Compliance Program Committee, Chief Legal Officer, Chief Financial Officer and Chair of the Audit Committee are available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet.*

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SUNGARD®

Honesty–Integrity–Professional Excellence

GLOBAL BUSINESS CONDUCT AND COMPLIANCE PROGRAM

We must guard our hard earned reputation. It is our most valued asset. Our commitment to legal compliance must be unwavering and we should accept nothing less than unrelenting honesty, integrity and professional excellence in everything we do. If we diligently protect our good name, SunGard will always be a company we are proud to support.

The Global Business Conduct and Compliance Program (Compliance Program) is not a contract and is subject to change at any time, without notice, at the sole discretion of the Company.

Except for the promise of protection from retaliation, none of the benefits, policies, programs, procedures or statements in the Compliance Program is intended to confer any rights or privileges upon any Employee or other Company representative or entitle any Employee or Company representative to remain an Employee or representative of the Company.

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INTRODUCTION

The Board of Directors of SunGard Data Systems Inc. has adopted this Global Business Conduct and Compliance Program ("Compliance Program") to provide you with clear guidelines for your conduct as a representative of the Company. This Compliance Program incorporates a code of ethics for all employees, officers, directors and other representatives of the Company and applies to each of those individuals without exception. The terms "Company" or "SunGard" used in this document mean SunGard Data Systems Inc. and all of its consolidated subsidiaries. These definitions and others can be found in Appendix D to this document.

There is no conflict or inconsistency between good business and good ethics. Our most valuable asset, both as individuals and as a Company, is our reputation. We best serve our customers, our investors and ourselves by adhering to the highest standards of ethical behavior and by maintaining an environment that is fair, open and honest.

In our complex global business environment, we recognize that Employees will encounter situations that pose ethical, policy, legal and regulatory issues in connection with the Company's business activities. The Company expects and requires that you will resolve these issues by complying with all applicable laws and regulations and by acting ethically and in accordance with the Company's standards of professional excellence. The Compliance Program is a tool to help you meet this SunGard objective.

You are required to adhere to this Compliance Program. You are encouraged to talk to your Supervisor or other Company officials about any question of proper business conduct, even if it does not seem important at the time. You must avoid any activities that could involve the Company in unethical or unlawful conduct. If you fail to adhere to this Compliance Program, then you are acting outside the scope of the authority given to you by the Company, and you will be held personally responsible for the consequences of your unauthorized conduct.

Adherence to this Compliance Program is a condition of employment. Failure to adhere to this Compliance Program could result in very serious consequences to both the individuals involved and the Company. If you violate this Compliance Program, then you will be subject to appropriate disciplinary and remedial sanctions up to and including immediate discharge and possible legal action by the Company.

Except for the promise of protection from retaliation made in the paragraph below, none of the policies, procedures or statements in this Compliance Program is intended to confer any rights or privileges upon any Employee or entitle any Employee to be or remain an Employee of the Company. This Compliance Program is not a contract and is subject to change at any time, without notice, at the sole discretion of the Board of Directors.

Protection from Retaliation

An individual, who reports incidents that he or she believes to be violations of this Policy, or who is involved in an investigation under this Policy, will not be subject to reprisal or retaliation as a result of such reporting or involvement. Retaliation is a serious violation of this Policy and should be reported immediately. The report and investigation of allegations of retaliation will follow the procedures set forth in this Compliance Program. Any person found to have retaliated against an individual for reporting or for participating in an investigation of allegations will be subject to appropriate disciplinary action.

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Reporting Possible or Suspected Violations

Each Employee has an obligation to alert the Company to any situation in which the Compliance Program is being violated or is about to be violated. You should make a report if you are concerned that a Company practice or operation or an Employee action violates a law, rule or regulation, Company policy, or accounting or auditing principle or practice. Report your concerns if the activity in question has not yet occurred, but is being planned or considered. Furthermore, you must make a report if you have been asked by a Supervisor or another Employee to do something that you believe will result in a violation of a law, rule or regulation, Company policy, or accounting or auditing principle or practice. You do not need to be certain that a violation has occurred or is about to occur. Nor do you need proof before you report. You are protected from retaliation for reporting regardless of the outcome of the investigation. You may make a report in any of the following ways:

- Contact your Supervisor, any other Supervisor or any other Company official including the Chief Compliance Officer, any other member of the Compliance Program Committee, the Chief Legal Officer or the Chief Financial Officer. You may contact any corporate officer by name or title by calling Company headquarters at (484) 582-2000 or by e-mail.*

- Contact SunGard's AlertLine on-line at www.sungard.alertline.com. By using this system, you may remain anonymous. (See COMPLIANCE ALERTLINE below.)

- Call SunGard's AlertLine toll-free at 1-800-381-8372 from anywhere in the world. These calls are taken by employees of Global Compliance Services, a company specializing in compliance reporting. By calling the AlertLine, you may remain anonymous if you wish. (See COMPLIANCE ALERTLINE below.)

- Contact the Chief Compliance Officer at 1-484-582-5576 or via email (this should not be used for anonymous reports).*

- Send an e-mail to compliance@sungard.com (you may remain anonymous if you send your e-mail using a personal e-mail service that does not identify you).

- Contact the Chair of the Audit Committee. You may mail a confidential letter to the Chair of the Audit Committee at Company headquarters (680 East Swedesford Road, Wayne, PA 19087).* You may remain anonymous.

* *The names and contact information of the Chief Compliance Officer, other members of the Compliance Program Committee, Chief Legal Officer, Chief Financial Officer and Chair of the Audit Committee are available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet.*

If the situation involves accounting or auditing principles or practices, internal accounting controls, a violation of law, or another serious matter, or you are concerned that your report is not being addressed in an appropriate and timely manner, then you are encouraged to quickly escalate your concern to higher levels of management including contacting the Chair of the Audit Committee directly.

All reports and investigations will be handled confidentially to the extent possible. Everyone involved in an investigation will use their best efforts to remain impartial and objective, and, to the extent possible,

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will observe basic principles of due process. No Employee will be judged to have behaved unethically or illegally before he or she has had a reasonable opportunity to explain the circumstances.

COMPLIANCE ALERTLINE

The purpose of SunGard's Compliance AlertLine ("AlertLine") is to help you get your questions about the Compliance Program answered, to receive your reports of possible or suspected violations of the Compliance Program and to facilitate anonymous communications regarding open reports. The AlertLine is available to all Employees and company representatives, twenty-four (24) hours a day, seven (7) days a week including weekends and holidays. You may contact the AlertLine to ask questions or make reports via telephone or on-line in several languages.

Compliance AlertLine reports are handled by trained specialists employed by Global Compliance Services, a third-party vendor, so you may remain anonymous if you wish. When you contact the AlertLine, you will be assigned a report number for future reference. If you wish to check the status of your report or provide additional information, you may call the AlertLine or access your report on-line at any time using your assigned report number.

EMPLOYEE RESPONSIBILITY

Each Employee is responsible for understanding the Compliance Program, the Company's Policies, and the laws, rules and regulations that apply to his or her work. You can familiarize yourself with applicable laws, rules and regulations by receiving on-the-job training, attending Company and outside courses and presentations, reviewing Company Policies, asking questions of your Supervisors, the Chief Compliance Officer and the Legal Department, and calling the AlertLine. You are responsible for being well informed and up-to-date as to your legal and ethical responsibilities.

If you have a concern regarding compliance or you suspect a violation of the Compliance Program, then in most cases, you should discuss this with your Supervisor. Discussions with Supervisors resolve or clarify most issues. However, if for any reason you are uncomfortable discussing your concern or reporting a suspected violation to your Supervisor, then you can and should use any of the other reporting options described under INTRODUCTION above.

The Company also encourages Employees to report their own violations. The Company cannot promise in advance that a self-reporting Employee will not be disciplined or reported to law enforcement authorities, but cooperation will be taken into consideration. You are encouraged to use the AlertLine to seek guidance as to self-reporting a violation.

You may ask questions, address concerns and report possible and suspected violations of the Compliance Program without fear of retribution. All Supervisors and other Company officials are required to maintain an "open door" policy with respect to compliance matters. Under no circumstances will you be subjected to discipline or retaliation as a result of asking a question, expressing a concern or reporting a violation. Any suggestion to the contrary is itself a violation of the Compliance Program. However, an Employee who participates in a violation or knowingly submits a false or malicious report may be disciplined for that conduct.

Employees violating the Compliance Program or Policies will be subject to disciplinary actions. In some cases, this may include immediate discharge and possible legal action against the individuals involved.

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The Company also may have an obligation to report the matter to appropriate law enforcement or regulatory authorities when the violation of the Compliance Program or Company Policies also is a violation of a law, rule or regulation.

ETHICAL BEHAVIOR

Ethical behavior means more than complying with the law. It means honesty and integrity in every aspect of the Company's activities. Every Employee should be guided by the following general principles:

- Honesty and integrity mean truthfulness and the absence of fraud or deception of any kind. You must act with honesty and integrity in every aspect of your dealings with the Company, other Employees, the public, the business community, investors, customers, suppliers, auditors and governmental and regulatory authorities.

- The Company's books, records, documents, financial statements and public reports and other disclosures must be accurate and complete. A fundamental tenet of this Policy is openness. Every transaction we engage in must be correctly recorded. The Company should have no fear of inspection.

- Employees must accept responsibility for their actions. You have a responsibility to acquire sufficient information to make informed decisions, to deal with others fairly and honestly, and to use the authority given to you by the Company in the best interest of the Company.

- The Company cannot hope to spell out Policies or correct ethical behavior for every situation. Ultimately, we must rely on our own good judgment. When you face difficult decisions, you should seek advice from your Supervisors or any other Company officials including the Chief Compliance Officer, the Chief Legal Officer, the Chief Financial Officer or the Audit Committee Chair.

Integrity, honesty and professional excellence are defining traits of SunGard Employees.

RELATIONSHIPS

Relationships with Employees

SunGard endeavors to deal fairly and equitably with Employees and affirms the principle of equal opportunities within the Company. We will timely inform Employees about Company Policies and plans that may affect them. We encourage feedback from Employees about their work and about the Company.

Our intention is to compensate Employees in relation to their responsibilities and performance and in accordance with the prevailing standards of the communities and markets in which they work.

Relationships with Customers

SunGard prospers only to the degree that we serve our customers honestly and competently. Our competitive appeal must be based upon the quality of our products and services, the prices that we charge for them, the integrity of our sales and marketing efforts, and the reliability of our customer support. The Company will continue to treat all customers, regardless of size, fairly. We will continue to be responsive and courteous to all customers. We will not forget that, without customers, we would not have jobs.

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We regularly receive confidential information as part of meeting our contractual obligations. To breach a confidence or to use confidential information improperly or carelessly would be unthinkable. We protect each of our customer's confidential information and use it solely on behalf of that customer and for no other purpose, including trading of securities.

Relationships with Suppliers

Our choice of suppliers is based only upon the quality, price and service offered, giving due consideration, when applicable, to the need for multiple sources of supply. We will conduct open and frank business dealings with our suppliers and will strive to develop mutually advantageous relationships, but will not do so on the basis of reciprocity. We will only purchase goods and services from our suppliers when the combination of quality, price and service are competitive with that of other suppliers.

Relationships with Investors

Our investors have entrusted us with their invested dollars. Our responsibility to them is to do our best to keep our investors' equity secure and to produce a fair return on that equity. By finding the right balance between short-term profits and long-term goals, we manage our businesses to keep SunGard growing and prospering. In each of our transactions, we will endeavor to promote the interests of our investors.

Relationships with the Public

SunGard recognizes that a corporation has more than an economic existence. SunGard is a part of many communities and must behave as a good citizen. We live in a world that sometimes looks with suspicion upon big business, its motives and its behavior. SunGard will conduct itself so as to reflect well upon the business community as a whole. We also will conduct our business with due concern for our physical environment. We will strive to conserve energy and protect our natural resources.

CONFLICTS OF INTEREST

We all have a duty of loyalty to the Company to further its goals and to work on behalf of its best interests. In establishing and achieving its goals, the Company intends not only to comply with legal requirements, but also to conduct its business affairs with the highest level of integrity. This means that you must use your best care, skill and judgment for the sole benefit of the Company, and that you must not take improper personal advantage of your position with the Company. In dealings with and on behalf of the Company, you should apply strict standards of good faith, loyalty, honesty and fair dealing. In order to honor this standard of behavior, we must do our best to avoid any conflict of interest between our personal interests and those of SunGard. In this context, any interest or involvement of an Employee's immediate family, close friend, or relative is considered an interest or involvement of the Employee.

An actual conflict of interest exists when you have divided loyalty between a personal interest and the interests of the Company. An apparent conflict of interest exists when it reasonably appears to others (who may not know all the facts) that an actual conflict of interest exists, even if you are sure that there is no actual conflict. Whether the conflict of interest is apparent or actual, it can be damaging to our personal and corporate reputation.

It is each Employee's responsibility and obligation to avoid apparent and actual conflicts between personal interests and those of the Company. However, we understand that, even using our best efforts,

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apparent or actual conflicts of interest will inevitably arise from time to time. So it is critical that we remain sensitive to situations that give rise to conflicts and that we act expeditiously to disclose the conflict by reporting it and assisting in eliminating or mitigating the conflict properly.

Examples of Conflicts of Interest

It is impossible to list every circumstance that might give rise to an apparent or actual conflict of interest. Employees are strongly encouraged to contact the Chief Compliance Officer with questions about any activities that may create a conflict of interest. The following examples will serve as a guide to the types of situations which might involve conflicts and, therefore, should be avoided:

- **Gratuities and Entertainment.** Accepting anything more than nominal inexpensive trinkets from suppliers or companies seeking to do business with SunGard creates the appearance of a conflict of interest even if no actual conflict exists. Please see *Accepting Entertainment, Gifts, or Gratuities from Others* in the section on ENTERTAINMENT, GIFTS AND GRATUITIES below.

- **Conflicting Financial Interests.** Employees and members of their immediate families should not have undisclosed financial interests, such as stock ownership, partnership participation, management, employment, consulting agreements or any other contractual arrangements, with other entities where such involvement is or may appear to cause a conflict of interest situation. Examples of such situations include, but are not limited to:

  1. Direct or indirect material financial interests (including employment or consultant agreements) in any outside company that does business with or competes with the Company.

  2. Direct or indirect competition with the Company in the purchase or sale of technology, property rights or other assets.

  3. Representation of the Company in any transaction in which the Employee has a material financial interest.

  4. Disclosure or use of an Employee's knowledge or information about the Company for the personal profit or advantage of the Employee or anyone else.

  5. Taking personal advantage of an opportunity which the Employee learned of in the course of his or her employment with the Company, such as competing or interfering with the Company in the purchase or sale of property by acquiring property or leases in which the Company may be interested.

  6. Direct supervision of or responsibility for the performance evaluations, pay or benefits of a close relative or other person with whom you have a close personal relationship. See *Family and Personal Relationships* below.

  7. Selling anything to the Company or buying anything from the Company (except in connection with any normal disposal of surplus property by the Company or in connection with the exercise of stock options or similar rights) unless prior approval of Company management is obtained.

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8. Any outside activity that is substantial enough to interfere with the Employee's ability to devote appropriate time and attention to his or her job responsibilities with the Company.

- **Family and Personal Relationships.** Questions concerning confidentiality and objectivity arise when family or close personal relationships combine with workplace relationships. To prevent an actual conflict of interest or the appearance of one, SunGard requires that you disclose any family or close personal relationship among Employees or with customers or suppliers. You do not have to disclose every work-related friendship in order to comply with this section, but you are expected to disclose close personal relationships that could reasonably appear to impair or that in fact impair your objectivity. Disclosure in accordance with this Policy will allow for a practical and appropriate adjustment in job requirements to protect the parties, their colleagues and the Company. The roles and duties of at least one of the parties may be changed in order to remedy the actual or apparent conflict. Examples of conflicts of interest arising out of family and personal relationships include, but are not limited to:

  1. Remaining silent about a personal relationship with an applicant, vendor, or candidate for promotion when the Employee has any role in the selection process or is consulted for a recommendation.

  2. Employees involved in an undisclosed family or personal relationship and who are working in the same office, product group, or operating entity.

  3. Employees involved in an undisclosed family or personal relationship and supervise or otherwise have any ability to affect the work assignments, compensation, performance review or promotion of the other person.

- **Consensual Relationships.** Romantic or sexual relationships among Employees may create especially difficult conflicts of interest and raise unique concerns. Other members of the work group often reasonably perceive a conflict of interest regardless of facts. In addition, not all romantic or sexual relationships end well. Employees in a romantic or sexual relationship must follow Company policy as outlined in the section titled SEXUAL AND OTHER DISCRIMINATORY HARASSMENT and specifically in the paragraph called *Reporting Consensual Relationships.*

Disclosing Conflicts of Interest

Any Supervisor, Executive Officer, or Director who becomes involved in an apparent or actual conflict of interest, should promptly and fully disclose all relevant facts to SunGard's Chief Compliance Officer or another member of the Compliance Program Committee. A Director who becomes involved in a conflict of interest should also report the matter to the Chair of the Audit Committee, in addition to any other reporting deemed appropriate under the circumstances. All other individuals who become involved in an apparent or actual conflict of interest should promptly and fully disclose all relevant facts to his or her Supervisor or Human Resources representative.

Review and Resolution of Conflicts of Interest

When an apparent or actual conflict of interest occurs, the affected individual must abstain from acting on behalf of the Company in connection with the conflict situation. The individuals involved in the apparent or actual conflict of interest are disqualified from determining the resolution of the conflict of interest and

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must not attempt to improperly influence the decision. The full cooperation of all those affected by the conflict is required to adequately resolve or mitigate the conflict.

If a conflict of interest involves a Director or Executive Officer, or if it is considered material to the Company by SunGard's Chief Compliance Officer or another member of the Compliance Program Committee, the conflict of interest situation will be reviewed by the Compliance Program Committee at its next regularly scheduled meeting or, when the Chief Compliance Officer deems it necessary or desirable, at a special meeting called for that purpose, and the report forwarded to the Audit Committee. SunGard's Compliance Program Committee, in consultation with the Audit Committee, will determine whether an actual or apparent (or potential) conflict of interest exists or will exist, and, if so, what corrective or preemptive action should be taken to resolve the conflict or potential conflict.

In all other cases, conflict of interest situations will be reviewed and resolved by the individual to whom the conflict was properly disclosed as outlined above. The management organization and the Chief Compliance Officer may be consulted for assistance in resolving any such conflict.

Divided Loyalty and Conflicts of Duty for Management Employees

Supervisors and Executive Officers may not engage in any outside employment, whether as an employee, director, executive officer, partner, consultant, trustee or proprietor, with any company or firm, without first obtaining the approval of the Employee's Supervisor **and** SunGard's Chief Compliance Officer or another member of the Compliance Program Committee. Approval will be given if the outside employment will not interfere with the individual's performance of his or her regular duties for the Company and will not create an actual or apparent conflict of interest situation. This Policy applies only to outside employment with business enterprises and not to associations with charitable, religious, civic, educational purposes or other non-profit organizations.

Prohibition on Extending or Maintaining Credit

The Company is prohibited from extending or maintaining credit or arranging for the extension of credit in the form of a personal loan to or for any Director or Executive Officer of the Company.

GLOBAL OPERATIONS

As a global company, SunGard must comply with the laws of the countries in which it operates or does business. These laws usually differ and sometimes are inconsistent. It is the Company's policy to comply, wherever possible, not only with the laws of the United States, but also with the laws of all countries in which the Company operates. Employees involved in the Company's non-United States operations should be aware of their legal responsibilities in the countries in which they conduct business. Where there appears to be a conflict between the laws of the United States and the local law, you should seek the assistance of the Legal Department.

As a United States company, SunGard is obligated to follow the law of the United States wherever it does business. Even if activities are conducted outside the United States, they may be within the reach of United States criminal law, particularly where the activity could have an impact in the United States. Accordingly, unless specifically advised to the contrary by the Legal Department, Employees involved in operations outside the United States must at all times conduct themselves in a manner that is consistent with United States law.

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A SAFE AND HEALTHY WORKPLACE

SunGard is committed to providing a safe and healthy working environment, and we will maintain and improve our facilities, equipment and methods to that end.

Violent acts or threats of violence against a person, his or her family or property will not be tolerated. Anyone who carries out or threatens violence either directly or indirectly through gestures, innuendo or symbols is in violation of this Policy. The unauthorized possession of weapons or other dangerous devices in Company-controlled or occupied premises or at any customer location is strictly prohibited. Anyone violating this Policy will be subject to disciplinary and remedial sanctions up to and including immediate discharge and possible legal action by the Company.

REGULATED ENTITIES

SunGard has various subsidiaries ("Regulated Entities") that are regulated by governmental agencies and self-regulatory organizations such as the United States Securities and Exchange Commission, the Financial Industry Regulating Authority (FINRA), and the U.K. Financial Services Authority. As a result, these subsidiaries are subject to various regulatory requirements and have their own compliance officers and written policies requiring adherence to applicable regulations. The Regulated Entities' compliance officers have a dotted-line reporting relationship to the Chief Compliance Officer. Employees of Regulated Entities must abide by their compliance policies as well as this Compliance Program. Those policies will be consistent with this Compliance Program to the fullest extent possible. To the extent they are inconsistent or broader than this Compliance Program, Employees should adhere to the policies of the Regulated Entity.

The Supervisors over each Regulated Entity must take steps to promote regulatory compliance and cooperation with the applicable regulating agencies such as:

- Establishing written policies and procedures to govern the conduct of employees.
- Conducting periodic operational audits to assess compliance with policies and procedures.
- Cooperating fully and appropriately with regulators.
- Retaining and supporting a qualified compliance officer and other specialized employees to promote compliance with industry specific compliance requirements.

ACCURATE DISCLOSURES, BOOKS AND RECORDS

The laws of countries where SunGard conducts business, including the law in the United States, require that SunGard maintain books and records that are accurate and fairly stated. It is SunGard's policy that all books and records of the Company comply with SunGard's Financial Policy Manual, which is distributed to all SunGard financial professionals, and with generally accepted accounting principles as applied in the United States. In addition, entities located outside the United States may be required to maintain books and records in accordance with local rules and regulations. Not only is keeping accurate records required by law, it is good business practice. Books and records include invoices, timecards, expense reports, internal or external memoranda, correspondence or other communications, including telephone, e-mail or wire communications.

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Falsifying internal or external documents, or in any other way causing books and records or financial statements or reports to be inaccurate or misleading, is against this Policy and also may be illegal and subject the violator and the Company to significant penalties. No unrecorded funds or assets may be created or maintained for any purpose. In addition, payments on behalf of the Company may be made only after appropriate supporting documentation is provided and after obtaining appropriate authorizations. The purpose of the payment must be stated in the supporting documentation.

Examples of violations of this Policy include the following:

- Recording a payment as though it was made to one person, when it was actually made to another.
- Submitting expense reports that do not reflect the true nature, purpose or amount of the expense.
- Submitting a false timecard or time report.
- Retaining e-mail, letters, and other information beyond the retention period prescribed in the Records Retention Policy except when normal deletion is suspended for legal matters.

Protecting the quality and integrity of Company records means Employees should:

- Spend Company funds only for legitimate and necessary business purposes.
- Keep accurate expense records and submit timely expense reports.
- Know the limits of your authority to obligate the Company and never act outside your delegated authority.
- Protect access to Company and customer computer and communication systems.
- Prepare and sign only accurate and necessary Company records.
- Retain and destroy documents in accordance with the Records Retention Policy.

Specialized Role of Financial Professionals

SunGard's financial and accounting professionals have an important role in ensuring that reports and documents submitted to the United States Securities and Exchange Commission are full, fair, accurate, timely and understandable. Our financial and accounting professionals must understand and adhere to the rules for financial reporting and accounting. Financial and accounting professionals are required to act independently and exercise their professional judgment even if their opinion is in conflict with the desires or instructions of others in the Company. Financial and accounting professionals are required to report any event, act or attempted action that could result in a breach of the strict financial reporting and recording standards demanded by SunGard.

Accountability and Financial Integrity

Quarterly, the senior financial officer and senior operating officer of each business unit, group and division (and appropriate corporate officers) are required to provide certifications of financial and

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operational matters within their areas of responsibility needed in connection with the Company's preparation and filing of reports and documents submitted to the United States Securities and Exchange Commission, including the annual report on Form 10-K, the annual report to investors, the annual proxy statement and the quarterly reports on Form 10-Q.

Each Employee participating in the preparation of such certifications has a duty to carefully compile, analyze and report all relevant information under his or her control necessary to make a timely, accurate and complete statement of the Company's financial and operating condition. Failing to properly disclose relevant information or otherwise jeopardizing the quality and sufficiency of the Company's financial reporting is a violation of Company policy and may subject the individual and the Company to civil and/or criminal liability.

RECORDS RETENTION

The Company has adopted a Records Retention Policy that governs the retention and destruction of all Company documents, communications, correspondence, e-mail and other records. The Records Retention Policy is in effect and should be consulted before any documents are destroyed. The Records Retention Policy may be modified when needed to comply with appropriate laws and regulations.

Special rules governing the Regulated Entities lengthen the amount of time certain types of records such as e-mail must be retained. Employees of Regulated Entities should consult with their compliance officers concerning the relevant requirements.

The Records Retention Policy will be suspended as necessary for legal matters. Therefore, if you become aware of any lawsuit, threat of legal action, government investigation or criminal action, you must immediately suspend destruction of certain documents and contact the Legal Department or the Chief Compliance Officer. Please see the section on LEGAL MATTERS AND INVESTIGATIONS for further instruction.

It is a crime to destroy or alter any record or document with the intent to obstruct any government investigation or legal proceeding. The Records Retention Policy is available internally on KnowHow under Resources, Policies and Guidelines, or on your SunGard business division intranet.

CONFIDENTIAL AND PROPRIETARY INFORMATION

Confidential information is information that the Company considers private and which is not common knowledge among other persons or organizations. Proprietary and trade secret information is information that the Company owns, develops, pays to develop, possesses or to which it has an exclusive right.

During the course of employment, confidential or proprietary information or Company trade secrets may become available to Employees. You must safeguard such information. You also must safeguard all confidential information of our customers that they provide to us for purposes of processing data or otherwise conducting business. Access to customer-provided information is on a business "need-to-know" basis.

Employees also must follow confidentiality restrictions from previous employers. You may not use or share at the Company any confidential information or trade secrets obtained from previous employers.

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Confidential information, proprietary information and trade secrets include, but are not limited to, the following:

- Information that the Company is required by law, agreement, regulation or policy to maintain as confidential (including customer information or information concerning government examinations or audits).

- Employee medical, personnel and payroll records.

- Information that could help others commit fraud, misuse the Company's products and services, or damage the Company's business or the business of our customers.

- The identity of customers and prospects, their specific requirements, and the names, addresses and telephone numbers of individual contacts, prices, renewal dates and other detailed terms of customer and supplier contracts and proposals.

- Information not generally known to the public upon which the goodwill, welfare and competitive ability of the Company depends, including information regarding product plans and designs, marketing and sales plans and strategies, pricing policies, information about costs, profits and sales, methods of delivering software and services, and software and service development strategies, source code, object code, specifications, user manuals, technical manuals and other documentation for software products, screen designs, report designs and other designs, concepts and visual expressions for software products, information, ideas or data developed or obtained by the Company, such as marketing and sales information, marketplace assessments, data on customers or prospects, and other confidential information relating to the business of the Company.

- Information about the Company's business plans, including forecasts, budgets, acquisition models and other non-public financial information, expansion plans, business or development plans, management policies, information about possible or pending acquisitions or divestitures, potential new products, markets or market extensions, and other business and acquisition strategies and policies.

It is a violation of this Policy for an Employee to disclose, use, release or discuss any confidential, proprietary or trade secret information belonging to SunGard or to SunGard's customers both during and after the Employee's association with the Company. Employees may use, disclose, or discuss this information only if required by their job responsibilities, as permitted by this Policy, or as required by appropriate court order following prior notice to the Company. It is also a violation of this Policy for an Employee to use any confidential or proprietary information for the Employee's own use or to use such information in any way inconsistent with the Company's interests.

This Policy applies to Employee conduct toward other companies, as well as to Employee activities within the Company. While you should always obtain as much information as possible about the marketplace, you may do so only in accordance with applicable laws and with this Policy. The Economic Espionage Act makes it a crime to take, use or disclose without authorization the trade secrets of another person or organization (including competitors of the Company). SunGard Employees will not obtain proprietary or confidential information improperly from another company. If an Employee is approached with an offer of confidential information, the Employee must immediately discuss this matter with his or her immediate Supervisor, the Chief Compliance Officer or the Legal Department. The Company

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opposes the unlawful use of our competitors' trade secrets. For more information, see SunGard's *Guidelines for Competitive Intelligence Gathering* available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet.

The files, manuals, reports, notes, lists and other records or data of the Company, in any form, are the exclusive property of the Company and must be returned at the end of employment with the Company. Also, all correspondence files, business card files, customer and prospect lists, price lists, software, manuals, technical data, forecasts, budgets, customer materials, notes and other materials that contain any confidential or proprietary information must be returned; and the departing Employee must not retain any copies, excerpts or summaries of those materials. Further, confidential, proprietary or trade secret information remains confidential after an Employee's employment with the Company and may not be disclosed or used for any purpose after the Employee's employment with the Company ends. The Economic Espionage Act also makes it a crime to use the Company's trade secrets for the benefit of another person or organization.

INTERNET, NETWORK AND COMMUNICATION RESOURCES

Use of the Internet through the SunGard Network is provided for business purposes. This access represents the use of Company resources for telecommunications, networking, software and storage.

Except as stated in USE OF COMPANY PROPERTY AND SERVICES below, the SunGard Network (including the intranet) and Internet are to be used for business-related purposes only. Employees are required to act honestly and appropriately, respecting the copyrights, software licensing rules, property rights, and privacy of others. When using the Internet, Employees should remember that they are entering a global community and that all information is public. Any actions taken by an Employee will be a reflection upon SunGard, and such actions must be both ethical and legal. All existing Company policies including property protection, privacy, misuse of Company resources, sexual harassment, harassment, information and data security and confidentiality apply to Employee conduct on the Internet, subject to and consistent with local law requirements.

The Internet may not be used in any way that may be illegal, excessive, disruptive, offensive to others, or considered harmful to the Company. The display or transmission of sexually explicit images, messages, jokes or cartoons is prohibited. No transmission or use of e-mail may contain racial or sexual slurs or anything that may be construed as harassment or disparagement of others based on their race, creed, pregnancy, ancestry, religion, color, national origin, citizenship status, genetic information, political status, age, marital status, sex, sexual orientation or preference, veteran or disabled veteran status, or the presence of a disability or any other protected characteristic.

Employees may not download or distribute illegally obtained software, distribute any virus, attempt to disable a system or network or attempt to defeat network security. Company communication equipment and Company Internet access will not be used for "spamming," mass mailings, cold-call telemarketing, unsolicited fax broadcast marketing, chain letters, file sharing, outside business ventures, unauthorized distribution of confidential information, or political or religious purposes.

Except where sponsored by SunGard Marketing, Employees are prohibited from creating links between any external web site and a web presence created by or for the Company or any of its businesses or affiliates. Employees may not use SunGard trademarks or any language that implies SunGard

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endorsement on non-SunGard web sites. Employees may participate in social media, so long as they comply with the *SunGard Social Media Guidelines*.

The Company reserves the right to monitor and inspect network or Internet usage and e-mail. Subject to local law requirements, Supervisors may review Internet activity, network use and e-mails to confirm compliance with this Policy and that the highest standards are maintained when Company resources are used.

Should the Company's resources be used to violate laws and regulations, the Company will report the illegal activity to the appropriate law enforcement agency and this activity will be grounds for immediate termination.

For more information on technical systems and resources, refer to SunGard's Acceptable Use of Technology Policy, the Global Information Security Handbook and the *Social Media Guidelines* which are available internally on KnowHow under Resources, Policies and Guidelines, or on your SunGard business division intranet.

E-MAIL

Like Internet and network usage, use of e-mail through the Company is a privilege intended for business purposes, not a right. Any e-mail sent by an Employee will be a reflection on SunGard and, therefore, must conform to the Company's ethics and principles. E-mail has the same legal import as other written communications such as letters and memoranda and is not to be used for non-business purposes (except see USE OF COMPANY PROPERTY AND SERVICES below). All e-mail on SunGard computers or drafted by SunGard Employees as part of their employment is the property of SunGard and may create binding contracts, actionable expectations and other legal consequences. E-mail is fully discoverable in litigation and other proceedings to the same extent as other written communications. Therefore, any e-mail may be subject to monitoring, search or interception at any time, with or without notice to the sender or recipient, in compliance with applicable laws.

Accordingly, when preparing e-mail, you should use the same careful deliberation as when preparing a letter or memorandum. You should never say something in an e-mail that you would not say in a letter. Likewise, imprecise or unprofessional communications are not any more appropriate in e-mails than they would be in letters or memoranda. When evaluating what information to put in e-mail, you should consider who the recipients are, the level of confidentiality necessary, and the possible repercussions if confidentiality is not maintained.

All existing Company Policies including property protection, privacy, misuse of Company resources, sexual harassment, harassment and discrimination, information and data security and confidentiality apply to Employee e-mails, subject to and consistent with all applicable laws and regulations. E-mails may not be used in any way that may be illegal, excessive, disruptive, offensive to others, or considered harmful to the Company. The display or transmission of sexually explicit material including images, messages, jokes or cartoons is strictly prohibited. No transmission or use of e-mail may contain racial or sexual slurs or anything that may be construed as harassment or disparagement of others based on their race, creed, pregnancy, ancestry, religion, color, national origin, citizenship status, genetic information, political status, age, marital status, sex, sexual orientation or preference, veteran status, disabled veteran, the presence of a disability, or any other characteristic protected by law.

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In the same way that a written letter or report is subject to the Records Retention Policy, an e-mail once sent or received is also subject to the Records Retention Policy (available internally on KnowHow under Resources, Policies and Guidelines, or on your SunGard business division intranet). In determining how long to retain e-mail, you must evaluate the content of the message. E-mail retention is determined by its content, not its format. The corporate standard for retention of business-related e-mail is six (6) months after the date it is sent or received (except Regulated Entities which must keep e-mails for longer periods). If you have a business reason to keep the communication longer than six (6) months (based on the content of the e-mail), it should be retained in accordance with the Records Retention Policy in a manner best suited for its retrieval. As an example, if you need to retain an e-mail relating to an on-going contract, you may keep the e-mail in a specially-designated folder, directory or e-mail file and remove it from your general e-mail files. Like other forms of records, and regardless of retention requirements, e-mail pertaining to pending audits or judicial or public disclosure proceedings must not be destroyed until the issue is resolved.

LICENSED SOFTWARE

Most computer software is protected by copyright laws and contractual restrictions that safeguard the software manufacturer's investment in creating the software. As a software manufacturer, the Company has a special appreciation for the importance of respecting other manufacturers' investments in their products.

When the Company or an Employee licenses a copy of a software product, the third-party licensor or copyright owner, and not the licensee of the software, retains the right to control the number of copies made of the software. The licensee's rights to use the software are set out in a license agreement that comes with the software.

The precise terms of software licenses vary among software vendors and products, but certain key restrictions are common to most licenses. The Company intends to honor all third-party software copyrights and license agreements.

To promote compliance with third-party software license agreements (e.g., word processing software), the following procedures will be followed by all Employees:

- All third-party software must be properly licensed. Copies of software may not be made without appropriate licenses being obtained.
- Employees may make and maintain one copy of any third-party software program strictly for backup purposes. The backup copy should be stored on alternate media and kept separate from the computer itself.
- Employees may not make any copies of software manuals. Requests for additional software manuals should be made to the Employee's Supervisor or office manager.
- Employees should use third-party software only in the manner specified in the supplier's manual and license agreement. No trademark or copyright notices on any third-party software should be changed or deleted.

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- Employees should be particularly careful in sharing software, downloading software from the Internet and opening e-mails due to technical concerns such as computer viruses.

It is extremely important for all Employees to follow these procedures. Improper copying or use of computer software can subject the Employee and the Company to civil and criminal penalties, and may cause substantial disruption and embarrassment to our Company. Unauthorized software use can also expose computer hardware and software to harmful computer viruses.

USE OF COMPANY PROPERTY AND SERVICES

All Company property is for the Company's benefit. No Employee may use Company property or services (including Company-owned software) for personal benefit or for the personal benefit of anyone else. Theft and misuse of Company property and services are prohibited. Any Employee having knowledge of a theft or misuse of Company property and services should report the matter to his or her immediate Supervisor. The term **"Company property"** includes every physical item and electronic system in the workplace, including information stored on computers, e-mail, voicemail, interoffice mail, photocopiers, fax machines, vehicles, tools, equipment, office supplies and office furniture. The term "**Company services"** means services rendered by Company Employees or representatives in the regular course of business, including, but not limited to, secretarial and administrative services.

Limited Personal Use

The Company realizes that sometimes the line between personal and Company business is difficult to draw. Certain activities may benefit both the individual and the Company, for example, participating in continuing education programs or writing technical articles. Because it may be difficult to judge when Company business becomes personal business, you should speak to your Supervisor before using Company property or services for matters outside of your job responsibilities.

Company Internet connection, e-mail, telephones and copy and fax equipment are intended for use in conducting SunGard's business and these assets must always be used with the best interests of SunGard in mind. The Company recognizes that the occasional personal use of these assets will accommodate legitimate personal needs such as staying in touch with family, making doctor appointments and arranging childcare, to name a few. Therefore, SunGard permits the occasional and limited use of these specific company assets by SunGard Employees under the following conditions:

- All personal use must comply with applicable law and with Company policies.
- Personal use must not interfere with your own or anyone else's work responsibilities or with service to our customers.
- Personal use must not interfere with the conduct of our business.
- Company assets must not be used to support or conduct a business other than SunGard's business interests.
- Use must never reflect unfavorably on SunGard, its reputation, its credibility or its customers or Employees.

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The Company has the right to access and inspect all electronic systems and physical property belonging to it. Employees should not expect that any items created with, stored on, or stored within Company property will remain private. This includes desk drawers, even if protected with a lock, and computer files and electronic mail, even if protected with a password. Personal use of Company electronic systems and other Company assets will result in SunGard's access to the content of personal e-mail, personal telephone conversations, and personal files.

If an Employee leaves SunGard, all Company property must be returned on or before the departing Employee's last day of work.

For more details on the Company's policy relating to Company property including e-mail, see the sections on E-MAIL and LICENSED SOFTWARE above.

ILLEGAL INSIDER TRADING AND DISCLOSURE

"Insider trading" is a term that most Employees have heard. It is usually associated with illegal conduct. But the term actually includes both legal and illegal conduct. The legal version is when corporate insiders—officers, directors and employees of a company—buy and sell stock or other registered securities in their own companies. Insiders are permitted to trade in their company's securities provided they comply with the strict requirements of United States securities laws.

Illegal insider trading refers generally to buying or selling a security, in breach of a fiduciary duty or other relationship of trust and confidence, while in possession of material, nonpublic information about the security. Insider trading violations may also include "tipping" such information, securities trading by the person "tipped," and securities trading by those who misappropriate such information.

Under the securities laws of most countries including the law of the United States, people who engage in illegal insider trading are subject to civil and criminal penalties. For that reason, SunGard makes this policy applicable to every Employee regardless of location.

The general rule against illegal insider trading can be stated as follows: It is a violation of securities laws for any person to buy or sell securities if he or she is in possession of material inside information. The information is ***material*** if it could affect an investor's decision to buy, sell or hold a security. It is ***inside information*** if it has not been publicly disclosed. These scenarios are examples of illegal insider trading:

- Corporate officers, directors, and employees who trade the corporation's registered bonds after learning of important and confidential corporate developments.
- Friends, business associates, family members and other "tippees" of such officers, directors, and employees, who traded the bonds after receiving the information.
- Employees of law, banking, brokerage and printing firms or other suppliers who are given the information to provide services to the corporation whose securities they traded.
- Other persons who misappropriated, and took advantage of, confidential information from their employers or who received the information from an employee of a customer, supplier or competitor.

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We are often in a position to learn information from our customers or suppliers and even from our competitors. If you are offered material non-public information or you become aware of material non-public information, you are prohibited under this Policy from buying, selling or otherwise trading, applying for or procuring another person to apply for, buy or sell, or tipping anyone concerning any public company securities. Actions that violate this policy may also violate the securities law. The prohibition applies for a period of one full business day after any such material information becomes publicly available. The one-day restriction allows a reasonable period for the market to react to announced information.

Restrictions on Disclosure

Insiders are prohibited from discussing non-public material information with any person outside of the Company or otherwise disclosing non-public material information outside of the Company, unless and only to the extent required in the normal performance of assigned responsibilities.

Special care must be taken to observe this disclosure restriction when responding to inquiries from the media, such as representatives of trade publications. If an Employee receives an inquiry from an actual or potential investor, a financial reporter, an investment analyst, or another member of the financial community, he or she should decline comment and refer the inquiry to SunGard's Chief Compliance Officer, Corporate Secretary, Chief Legal Officer or Chief Financial Officer.

Even within the Company, disclosure of and access to non-public material information must be strictly limited to those who have a need to know the information in order to perform their assigned responsibilities.

This restriction also applies to disclosure of information via the Internet. To avoid the appearance of impropriety, Employees should not disclose non-public information when participating in Internet "chat rooms," "message boards" or similar Internet venues.

The above disclosure restrictions apply whether or not the disclosure would be intended to influence trading in any SunGard registered securities.

All disclosures of material information, other than those contained in normal product announcements and similar marketing materials, will be made by corporate press release under the direction of the Company's Chief Legal Officer and Chief Financial Officer.

ANTITRUST AND COMPETITION LAWS

The Company's policy is to comply fully with both the letter and spirit of the antitrust laws. These laws seek to preserve a free competitive economy, which is essential to the interests of the public, the business community and the Company itself. Violations of the antitrust and local competition laws can result in individual and corporate criminal liability and prosecution. Substantial civil fines and injunctions can also result.

Antitrust and competition laws are extremely complex and the Company must have specialized legal advice to analyze potential issues in this area. The purpose of antitrust and competition laws is to benefit consumers by keeping prices low and the quality of services high. This Policy statement is intended only to highlight some areas that may involve antitrust and competition law issues so that Employees

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recognize problems and seek guidance before problems arise. You should contact the Company's Legal Department whenever you have any antitrust or competition law questions.

Agreements with Competitors

Competitors should not agree together on the prices they will charge for their products or services or on other price-related matters. This is the clearest of all antitrust rules, and a violation of this rule likely will be prosecuted. Care also should be taken during trade association meetings to avoid pricing discussions. Given the serious nature of this type of violation, no Employee should ever discuss or reach an agreement with a competitor (or supplier) on Company prices or the competitor's prices, pricing policies or practices, fees, or terms or conditions of sales.

It also may be illegal for Company representatives to agree with competitors on the territories in which each company will sell its products, or the customers to which each company will offer its products, or the types of products or the amount of any product each company will produce or offer for sale in the marketplace.

A violation of these guidelines is almost always illegal. Any contact with a competitor can inadvertently create the appearance of an antitrust or competition law violation. Employees should avoid any conduct that could be interpreted as an illegal agreement with competitors (or suppliers). These restrictions also apply in the context of an acquisition.

Agreements between Buyers and Sellers

- **Tying Arrangements.** An unlawful tying arrangement exists when one company conditions the sale of a product on the purchase of some other unrelated product. For example, in the software industry, "tying" may occur when a company conditions a contract for one software system on the purchase of a contract for another, unrelated system. "Tie-in **s**ales" arrangements are generally illegal. You should never attempt to force or mislead customers into purchasing software or services. Any questions about tying arrangements should be referred to the Legal Department.

- **Resale Price Maintenance.** Company Employees should not enter into agreements to fix the price or the minimum price that a purchaser will resell Company products. However, it is not illegal to have "suggested" retail prices.

Other Restrictions and Arrangements

- **Selection of Customers and Vendors.** SunGard is generally free to select its own customers and vendors. This right, however, must be exercised by the Company alone and not jointly with other companies. Agreements between two (2) or more companies not to do business with a third company can be a violation of antitrust and competition laws.

- **Restrictions on Dealing with a Competitor.** SunGard will not make the sale of products and services to any customer contingent upon the customer's refusal to do business with competitors. By requesting such a contingency, you could create antitrust and competition law issues. This could also be an unfair method of competition. You cannot condition the sale of Company products on a customer's refusal to deal with competitors.

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- **Reciprocal Dealing Arrangements.** The Company will sell products and services on the basis of their value to our customers, not by using our purchasing power as a real or implied threat. SunGard will not require our suppliers to buy from the Company. SunGard also will not agree to purchase goods or services from our customers under any circumstances that amount to or suggest reciprocal dealing.

Acquisitions of Competitors

When the parties to an acquisition are competitors, antitrust laws continue to apply to their interactions before closing, no matter how sure you are that the deal will close. Therefore, the need to exchange information for valuation and planning purposes must be tempered by the obligation to comply with antitrust laws. To do this, you must avoid exchanging certain types of sensitive competitive information, and you must not engage in certain types of anti-competitive activities. In addition, with all acquisitions, our Policies require that you limit access to information to only those people within SunGard who need to be involved in order to evaluate and negotiate the transaction or to plan post-closing operations. When acquiring a competitor, this becomes even more important. To the fullest extent possible, you should exclude from the need-to-know group all sales, marketing, operations and other personnel who are directly involved in our business units that compete with the target.

The need-to-know concept applies not only to information and documents received in due diligence, but also to all internally produced documents and communications (including e-mail) about any aspect of the transaction.

- **Due Diligence.** You must limit the exchange of information to only what is required to evaluate and negotiate the transaction and to plan post-closing operations. The first list below provides examples of types of information that generally may be exchanged. The second list provides examples of sensitive, competitive information that generally may not be exchanged.

  Examples of information that generally **may** be exchanged:

  - All public information.
  - Historical financial information presented at an aggregate level, including financial statements such as income statements, balance sheets and P&Ls.
  - Historical production information, including production costs, capacity, and utilization rates (if applicable).
  - Historical percentage of revenue derived from key customers.
  - Contracts of top customers.
  - Historical systems and IT information.
  - Possible efficiencies that can be achieved from the merger.
  - Historical aggregate cost and price information (avoid “micro” information about cost or prices to specific customers).

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- Tax, environmental, health and safety data.

- Aggregate historical labor costs and employee information including non-price terms of labor agreements, such as termination provisions. Wage information cannot be exchanged unless that information is public.

Examples of information that generally **may not** be exchanged:

- Current or prospective pricing of the Company's products.

- Bids, fee schedules and pricing policies.

- Current or future costs (other than as indicated above).

- Names of prospective customers or vendors (i.e., targets).

- Long and short-term marketing and strategic plans, including future distribution and circulation plans.

- Plans to expand or reduce output.

- Trade secrets and other proprietary technology and data.

- Current and future wages and wage scales for employees.

- Status of negotiations with existing and potential customers.

To the extent that a limited exchange of sensitive competitive information is necessary to evaluate the transaction, it must be handled carefully and should be coordinated by counsel. For example, before delivery of documents to you, the target's counsel should redact customer names and pricing information from copies of proposals and pending customer contracts. Also, review of sensitive competitive information should be handled by legal or financial personnel rather than business personnel; and you should consider using outside firms to do the detailed reviews, providing to you only the necessary summaries of the information.

- **Planning Post-Closing Operations.** In planning post-closing operations of the target (or the combined business), you must avoid any attempt to influence or control pre-closing operations of the target. You may form transition teams to plan the post-closing integration of information systems, staffing requirements, administrative functions and the like. You may not, however, do any of the following before closing:

  - Reach any agreement on bids, prices, fee schedules, pricing policies or marketing plans that may affect either party's activities before closing.

  - Jointly approach existing or potential customers, unless a customer requests a joint meeting in writing and you first consult with counsel.

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- Allocate customers, prospects or territories in planning post-closing operations.
- Delay or refrain from soliciting new customers that you would have pursued in the absence of the transaction. You must continue to compete as if the transaction were not to close.
- Exchange the names or identities of any potential customers or the details of proposals made to potential customers.
- Reach any agreement or otherwise influence or control the timing of customer contract signings.
- Base individual business decisions on any confidential information received from the other party.

- **Appropriate Contract Terms.** It is generally appropriate for SunGard, when agreeing to acquire a company, to:
  - Require that the to-be-acquired company during the pre-consummation period will continue to operate in the ordinary course of business consistent with past practices.
  - Condition the transaction on a requirement that the to-be-acquired company during the pre-consummation period not engage in conduct that would cause a material adverse change in the business.
  - Require that the to-be-acquired company during the pre-consummation period will not offer or enter into any contract that grants any person enhanced rights or refunds upon the change of control of the to-be-acquired person.
  - Provide that either party may conduct reasonable and customary due diligence prior to closing the transaction (subject to the restrictions on information exchange discussed above).

LEGAL MATTERS AND INVESTIGATIONS

Specialized Role of Legal Professionals

Attorneys and other legal professionals employed by SunGard are required to act independently and to exercise their professional judgment in all matters even when their opinion is in conflict with the desires or instructions of others in the Company. Under this Policy and the SunGard Policy for Attorneys Reporting Legal Violations Including Reporting Under SEC Rule 205, which is distributed to all legal professionals employed by SunGard, legal professionals have a duty to report known or suspected violations of this Policy, local law or other applicable law or regulation arising out of the conduct of Company business.

Legal Representation and Assistance with Legal Matters

The Legal Department will provide SunGard business units assistance not only with litigation, dispute resolution, statutory and regulatory compliance, contract drafting and negotiation and similar legal matters, but also with structuring and negotiating business transactions. Once a need for legal services has crystallized, a request for legal assistance should be made as early as possible and should be accompanied by sufficient information to facilitate efficient handling of the request.

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Relationship with Outside Counsel

The Legal Department is responsible for managing the Company's overall relationships with outside counsel including fee arrangements. To avoid conflicts of interest and to minimize overall legal expenditures, all referrals to outside counsel must be made in accordance with procedures established by the Legal Department or otherwise with the consent and participation of the Legal Department. A list of all expenses incurred for outside counsel should be sent to the Legal Department on a quarterly basis.

Legal Actions

It is the Company's policy to participate fully and appropriately in all legal actions arising out of the conduct of the Company's business. The Legal Department must be kept advised, on a current basis, of all legal matters involving the Company. You must notify the Legal Department immediately whenever (1) any complaint, subpoena, summons or other legal papers are received, (2) any lawsuit or other legal action is started or threatened in writing by any company, individual or other entity, or (3) any contractual dispute or other circumstances arise that have a realistic possibility of leading to litigation or other legal proceedings.

The Company has the right to be represented in legal actions and Employee interviews by its own legal counsel. You should not engage in discussions or proceedings with auditors, private investigators or lawyers representing the commercial interests of third parties or other entities without Company counsel present or involved.

Government Investigations

It is the Company's policy to cooperate fully with governmental investigations. In this section, "government" means any department or agency of the government including the United States government and any governmental regulatory agency or body acting within the scope of its authority. The Legal Department also should be contacted immediately—before any action is taken or promised—if you receive or have knowledge of a work-related subpoena, a civil or criminal action, or a written government request for information such as a Civil Investigative Demand (called a CID) or a first-day request received before a data processing (EDP) audit. If a government investigator or government attorney asks you personally for information about SunGard, the Company would prefer to be notified before the interview and to be present at the interview.

During the course of an investigation, government investigators may contact Employees at home or at their office and request an interview. Remember that the investigator has the right to request to speak to you and you have the right either to speak to the investigator or to decline to speak. If you decide to submit to the interview, you have the right to submit only on the condition that you have legal counsel present. If you are subpoenaed or otherwise legally compelled to provide testimony, you must comply.

Sometimes it is difficult to tell when a routine government audit or inspection graduates into a governmental investigation. You should consult with the Legal Department or the Chief Compliance Officer to better understand the nature and implications of any government activities.

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Preserving Company Documents and Records

Virtually all of the laws regulating the conduct of the Company's business contain criminal and civil penalties. For example, it is a crime to destroy or alter any record or document with the intent to obstruct any government investigation or legal proceedings. If an Employee violates the law or causes the Company to violate the law, then both that Employee individually and the Company may be subject to criminal penalties. SunGard's Record Retention Policy will be suspended for documents and records related to matters that are the subject of a government investigation or request for information and for any civil legal action or subpoena. (See RECORDS RETENTION in this Policy.)

No Employee should ever, under any circumstances:

- Destroy Company documents in anticipation of a request for those documents from a government agency or court.
- Alter a Company document or record after it has been adopted.
- Lie or make misleading statements to governmental investigators during any investigation. It is illegal to make false statements to governmental investigators under any circumstances.
- Encourage or pressure anyone to hide information or to provide false or misleading information.
- Fail to cooperate in any manner with any internal investigation. Employees should be forthcoming with information that pertains to the matter under investigation.
- Retaliate in any manner against any Employee for cooperating in an investigation or court action.

In some government investigations or legal actions, the Company's lawyers can protect the interests of both the Company and its Employees. In some cases, however, there may be a potential conflict of interest between the Company and individual Employees, and individual Employees may need their own legal counsel. Employees should consult with the Company's Legal Department for guidance in these cases.

The Company and its Employees have the right to be represented by legal counsel at all times when questioned by federal or state investigators or by opposing counsel in litigation, whether or not questions are asked during business hours, and whether or not questions are asked at Company premises or off-site (including at an Employee's home) about anything concerning Company business. An Employee should ask for time to consult with an attorney before answering questions about anything concerning Company business.

CHARITABLE DONATIONS

Any proposed donation must be consistent with SunGard's values and business objectives and be approved by the applicable senior finance executive and division president. Only legally recognized charities are eligible recipients. Donations must be made publicly and in accord with the recipient's written policies. Donations must be made by company draft or electronic funds transfer from SunGard to the recipient. No donation may be reimbursed via expense reimbursement request. The donation must be properly recorded in the Company's books and records.

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ENTERTAINMENT, GIFTS AND GRATUITIES

For additional restrictions and information on offering gifts or gratuities to government officials, see CONTRACTING WITH GOVERNMENT ENTITIES AND OFFICIALS AND PROHIBITED PAYMENTS below.

Offering Entertainment, Gifts or Gratuities to Others

The Company markets its products on the basis of price, quality and service. The Company will not use inappropriate gifts, donations, excessive entertainment, or any improper means to influence customers or potential customers. All entertainment, gifts and gratuities must be recorded on the Company's financial records.

SunGard policy prohibits all forms of bribery regardless of the situation or the recipient. The use of Company funds for bribes, kickbacks or for any other unlawful or improper purpose is strictly prohibited. No Employee or anyone acting on behalf of the Company or providing services for or on behalf of the Company may offer, give or promise anything of value to any person for the purpose of, or as a reward for, improperly obtaining business, retaining business or for the purpose of, or reward for, improperly securing a financial or other advantage. No Employee**,** or anyone acting on behalf of the Company or providing services for or on behalf of the Company, may offer or give anything of value to any person, knowing that all or part of the payment will be directly or indirectly offered, given or promised to someone for a corrupt purpose. Employees may not use outside persons or entities in connection with the Company's business for the purpose of circumventing this Policy. There is no exception for bribes of minimal value and even offering or promising a bribe violates SunGard policy. Personal favors and gifts are considered the same as payments under this Policy.

If you receive a request for an improper payment, you should inform your Supervisor **and** the Chief Compliance Officer immediately.

Accepting Entertainment, Gifts or Gratuities from Others

Never ask for a personal benefit from people doing business or seeking to do business with SunGard. In this context, a personal benefit includes, but is not limited to, a payment, gift, favor or travel. When offered, Employees may accept routine promotional items of nominal value, for example, pens, paperweights and tee shirts. Entertainment, including meals, is considered a "gift" and may be accepted only when it has nominal value and is reasonable and customary within ethical business practices. For example, hosted invitations to local regular season sports events or local cultural events are common business practices and may be accepted.

Generally, Employees should not accept other gifts, entertainment or other favors from any outside person or entity that does business with, seeks to do business with, or competes with the Company. Employees may never accept cash or the equivalent of cash, no matter the amount.

Before accepting invitations, travel, gifts or other gratuities, even if the thing offered complies with this policy, seek approval from your supervisor in advance.

Anything promised, offered or given that is intended to improperly influence your business judgment is inappropriate. If you receive a gift that you believe is inappropriate and you cannot return it, take other

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steps to diffuse the potential appearance of impropriety, such as redirecting the gift to a charity or sharing the gift within your office. Let the sender know that future gifts are not appropriate. If you are offered a favor, gratuity, or payment, that you believe was offered to improperly influence your business judgment inform your Supervisor **or** the Chief Compliance Officer immediately.

Common Sense Standards

The following illustrate the Company's policy concerning the proper approach to giving and receiving gifts and other business courtesies:

- Never give or accept, either directly or indirectly, cash gifts or cash equivalents such as gift cards or pre-paid debit cards.
- Never ask for a gift for yourself or for anyone else.
- Business gifts should be modest in value, which means unmistakably inexpensive.
- Consumer electronics like computers and tablets are not inexpensive and are not appropriate gifts.
- Gifts should have a clear business nexus such as SunGard branded items, business books, or desk items.
- Gifts should be exchanged publicly or in such a way that an independent person would perceive the exchange as appropriate.
- Most companies have policies that govern their employees' ability to give and receive gifts. To avoid placing a client in an awkward or compromising position, you should become familiar with each client's gift and entertainment practice before offering gifts or entertainment of any type.
- Any entertainment given or received should be moderate and in good taste and otherwise comply with this policy. The term "entertainment" describes events such as meals and charitable or sporting events, such as golf, parties, plays and concerts. Use good judgment when choosing to give or accept entertainment. The type of entertainment offered or received is a reflection on our integrity as a company, and inappropriate entertainment should never be provided or accepted.

For more information see the *Guide to Combating Bribery and Corruption* available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet.

CONTRACTING WITH GOVERNMENT ENTITIES AND OFFICIALS

There are often special rules and accounting standards that apply to doing business with a government entity (including a state-owned enterprise). Before any Employee seeks to do business with a government entity, he or she must consult with the Legal Department concerning proper bidding, accounting and performance procedures. This requirement applies when a SunGard company seeks to act as prime contractor to a government entity or as a subcontractor under a government contract.

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Most countries make it illegal to give anything of value to a Government Official in return for that person's influence, action, inaction or testimony. It is also illegal to do anything that will benefit a Government Official directly or indirectly, if such action results in, or is a reward for, that person's influence, action, inaction or testimony for the improper benefit of the Company. Violations can result in severe fines and imprisonment.

See the PROHIBITED PAYMENTS section below for the definition of **"Government Official"** and SunGard's policy concerning offering of entertainment, gifts and gratuities to Government Officials. Be aware that the term Government Official is broad and includes people who are not elected or appointed public officials, such as persons acting on behalf of government-owned or controlled companies.

PROHIBITED PAYMENTS

Governments and multi-national organizations around the globe have enacted laws and published conventions condemning and outlawing corrupt payments (bribes). Most countries make it a crime to give, offer or promise anything of value to a Government Official in return for that person's influence, actions, inaction or testimony or as a reward for any such influence, action, inaction or testimony improperly exercised. In fact, doing anything that personally benefits a Government Official directly or indirectly, is illegal if such action results in, or is an improper reward for, that person's influence, action, inaction or testimony. Violations can result in severe fines and imprisonment.

In particular, the United States law known as the Foreign Corrupt Practices Act (FCPA) and the United Kingdom's law known as the UK Bribery Act 2010 (Bribery Act) apply to business inside and outside the respective countries. Both laws make bribery of government officials criminal. The Bribery Act also criminalizes bribery in a commercial or private business context. (See the section on ENTERTAINMENT, GIFTS AND GRATUITIES.) The Bribery Act, which became effective July 2011, also makes failing to prevent bribery a criminal offense for commercial organizations. Under both laws, SunGard can be liable for the actions of its employees and the actions of those who perform services for or on its behalf, such as agents or contractors.

The Compliance Program sections on ENTERTAINMENT, GIFTS AND GRATUITIES, CONTRACTING WITH GOVERNMENT ENTITIES AND OFFICIALS, PROHIBITED PAYMENTS, and ACCURATE DISCLOSURES, BOOKS AND RECORDS and the *Guide to Combating Bribery and Corruption* adopt the standards of the FCPA and Bribery Act as the models for SunGard's policy. All SunGard subsidiaries and Employees in every country are governed by these policy standards.

SunGard policy prohibits all forms of bribery regardless of the situation or the recipient, including bribery of a Government Official. No Employee or anyone acting on behalf of the Company or providing services for or on behalf of the Company may offer, give or promise anything of value to a Government Official for the purpose of, or as a reward for, improperly obtaining business, retaining business or for the purpose of, or reward for, improperly securing a financial or other advantage. No Employee or anyone acting on behalf of the Company or providing services for or on behalf of the Company may offer or give anything of value to anyone knowing that all or part of the payment will be directly or indirectly offered, given or promised to a Government Official for a corrupt purpose. There is no exception for bribes of minimal value and even offering or promising a bribe violates SunGard policy.

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Definition of Government Official

As used in SunGard's policy, the definition of Government Official includes:

- A person elected or appointed to public office or government position of any kind including legislative, administrative or judicial positions.
- A person acting in an official capacity or exercising a public function for a government, including a state administrative agency, legislature, judicial body, provincial government or municipal government.
- An employee or representative of a state-owned or state-controlled business, enterprise or organization.
- A person acting on behalf of a public international organization such as the United Nations, World Bank or International Monetary Fund.
- Any candidate for political office or official of a political party.
- Any family member, close personal friend, business partner, sexual partner or person in any other type of close personal relationship with any of the above persons.

Entertainment, Gifts, Gratuities, Travel for Government Officials

As stated above, SunGard prohibits bribes regardless of the recipient, but doing business with Government Officials must trigger special sensitivity to business hospitality, promotional activities and to the use of agents or third parties in connection with our business.

Entertainment, gifts, travel, favors and all other forms of hospitality or business courtesies can be interpreted as a form of illegal payment and must conform to strict limits when the recipient is a Government Official as defined above. Many countries prohibit Government Officials from accepting business hospitality and business courtesies, and it may be a crime to even offer such to a Government Official. Even where permitted, most government entities, including state-owned entities, have policies that limit or restrict their employees' ability to accept gifts, meals, travel and other business courtesies and hospitality. Be sure you understand the written policy applicable to the Government Official and comply with it. Even when the Government Official is permitted to accept gifts, meals, travel, etc., SunGard policy standards must be followed. SunGard Employees must follow local law and this Policy regardless of local custom.

It may be permissible under SunGard Policy for an Employee to reimburse or cover the reasonable and bona fide travel, meal and modest business entertainment expenses of a Government Official provided the expense is for the direct purpose of the legitimate promotion of the Company's products or services, or in connection with the execution or performance of a contract with the Government Official or his agency or employer.

Before agreeing to pay any travel expenses of a Government Official, you must consult with the Legal Department or Chief Compliance Officer to determine if the payments are permissible under this Policy and local law.

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Any entertainment provided should be moderately priced and in good taste and otherwise comply with this policy. The term "entertainment" describes events such as meals and local golf, parties, plays and concerts. Gifts to Government Officials are not permitted unless they are strictly in accordance with the written policies of the Government Official's employer. Local custom is not a substitute for a written policy. Even where such policies permit gifts, SunGard Policy may be more limiting in what are considered permissible gifts. The most restrictive rule must be followed.

- Never give directly or indirectly cash or cash equivalents such as gift cards or pre-paid debit cards.
- Gifts for Government Officials must be unmistakably inexpensive and infrequent. A one-time gift that costs the equivalent of €20 or US $30 or less is unlikely to raise corruption concerns, but be aware that there is no safe amount.
- Food and flowers are appropriate options provided they are inexpensive and infrequent.
- Other gifts should have a clear business nexus such as SunGard branded items, business books or desk items. Regardless of the cost of the item, consumer electronics and jewelry are not appropriate gifts.
- Gifts should be exchanged publicly, such as in an office setting, or in such a way that an independent person would perceive the exchange as appropriate.

Facilitation Payments

Certain limited "facilitating payments" or "expediting fees" may be permissible, in some places, in order to secure routine governmental action to which the Company is legally entitled. For example, it may be permissible for a nominal payment to be made to secure the timely issuance of a license or expedited processing of a visa. However, the circumstances in which such a payment is legal are very limited. Therefore, before considering or making a facilitating payment, you must contact the Legal Department or the Chief Compliance Officer to determine if the proposed facilitating payment is lawful under all law that applies to the transaction, including local law. In the unlikely event that a facilitation payment is lawful, it must be properly recorded in the Company financial records as a facilitation payment.

Retaining Third Parties to Act for SunGard

Appropriate due diligence must be performed on the third party and specific contract terms must be included in the agreement in order to retain a third party to support or assist our Company. Employees must consult with the Legal Department prior to retaining or hiring any agent, distributor, independent contractor or consultant, or when entering a joint venture or partnership, alliance or other arrangement. The required due diligence and approval process is set out in the Third-Party Retention Procedures for Combating Bribery and Corruption available through the Legal Department, the Compliance Office and available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet.

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Corruption Warning Signs

In addition to the circumstances described above, you should immediately contact your Supervisor, who should consult with the Legal Department or the Chief Compliance Officer, if any of the following warning signs arise in a Company transaction, activity or project:

- The refusal by any third party to agree to abide by Company anti-bribery policies and procedures.
- Unusual or excessive payment requests, requests for over-invoicing or unusual commissions, requests for payments in a third country, requests for payments to a different party (apparently unrelated to the transaction) or requests for payment in cash or otherwise untraceable funds.
- A request for political or charitable contributions in connection with a purchasing decision or contract renewal or involving a Government Official in any context.
- The discovery of a previously undisclosed affiliation between a third party engaged by the Company and a Government Official.
- Allegations (or charges) of a violation of law against the third party.
- Direction by a Government Official to retain a particular third party or consultant.
- Doing business with or recommending a company owned in part or whole by a Government Official or his or her family.
- Any indication that a third party engaged to work with SunGard is unqualified (and lacks the staff, knowledge or facilities) to perform the services.
- Any indication that a third party is not or cannot maintain adequate financial records in connection with SunGard business.

Violators of this Policy are subject to disciplinary action. Violations of this Policy may also be a violation of law resulting in criminal and civil penalties (including imprisonment) for the individuals involved.

For additional information, guidance and advice, download a copy of the *Guide to Combating Bribery and Corruption* available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet, or request a copy from the Legal Department or the Compliance Office.

EXPORT AND TRADE REGULATIONS

Compliance with Trade Regulations

It is SunGard's policy to comply with the laws applicable to the conduct of its business in every jurisdiction where it operates and, in particular, with the requirements of the laws and regulations of the United States and those of other countries regarding export, re-export and import of commodities, technology or software.

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United States Export Regulations

The United States government maintains strict controls on exports of goods, software and technical information from the United States and re-exports of United States goods, software and information from other countries. Most of the software and technical services sold by SunGard originate in or incorporate United States origin items and are therefore subject to United States export regulations. When SunGard ships, transmits or delivers an item outside the United States, the item is an export. "Items" relevant to SunGard include software or technology, technical design plans, retail software packages, performance specifications and other technical information.

Export laws cover more than just physical shipments. For example, internet and intranet technology transfers, travel across country borders with software or technical specifications, and information shared during visits to the United States by foreign nationals may all involve regulated exports. In addition, some destinations and persons (individuals or groups) are subject to comprehensive export controls, including controls on widely-traded consumer products.

The severity of the rules varies greatly, depending on the nature of the exports, their destinations, the persons to whom the exports are directed and their intended use. The rules also change frequently, often depending on changes in the policies of the United States and its allies toward various countries. The sanctions for violating the export rules, even when the violation is inadvertent, can be severe. Both criminal and civil penalties apply. Because the rules are complex and change frequently, the Company makes a guide available which provides an overview for complying with United States export laws. The guide is available to all employees through the Legal Department and Compliance Office, and is also available internally on the Compliance and Business Ethics site on KnowHow or on your SunGard business division intranet.

Employees who are likely to encounter export issues on the job should familiarize themselves with applicable export laws. If you are involved with exports, you should obtain a copy of the export guide from the Legal Department or Compliance Office, or from the Compliance and Business Ethics site on KnowHow or your SunGard business division intranet. You should read the guide and be certain that you understand how the export laws apply to your work. Consulting support is available from the Compliance Office.

Supervisors must:

- Require that appropriate licenses or other authorizations are in place for each import or export undertaken by his or her group; and

- Maintain such records of exports and imports as are appropriate under applicable legal requirements.

United States Boycotts and Trade Embargoes

The United States currently maintains commercial embargoes against a number of countries. As a United States company, SunGard complies with the applicable embargo laws. Because the listed countries and the types of restrictions change frequently, check with the Legal Department or the Chief Compliance Officer if there is any doubt or concern about doing business with a particular country through SunGard in the United States or through a non-United States SunGard subsidiary.

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Prohibited Participation in Unsanctioned Economic Boycotts and Embargoes

The United States prohibits United States citizens, including United States corporations like SunGard, from participating in other nations' economic boycotts or embargoes. The antiboycott laws were adopted to encourage, and in specified cases, require United States firms to refuse to participate in foreign boycotts that the United States does not sanction to prevent United States firms from being used to implement foreign policies of other nations which run counter to United States policy. The Arab League boycott of Israel is the principal foreign economic boycott that United States companies must be concerned with today. The antiboycott laws, however, apply to all boycotts imposed by other countries that are unsanctioned by the United States.

As a United States corporation, SunGard must comply with the antiboycott provisions of the United States. SunGard will not:

- Refuse or agree to refuse to do business with or in Israel or with blacklisted companies.
- Discriminate or agree to discrimination against persons based on race, religion, sex, national origin or nationality.
- Furnish or agree to furnish information about business relationships with or in Israel or with blacklisted companies.
- Furnish or agree to furnish information about the race, religion, sex, or national origin of another person in support of an unsanctioned boycott or embargo.
- Honor, negotiate or implement letters of credit containing prohibited boycott provisions.

Requests to participate or support illegal boycotts may be received in the form of bid invitations, purchase orders, contracts, letters of credit, shipping documents or other forms of communication including oral requests. Receipt of such a request must be reported in a timely manner to the United States government. Report any request to participate in or support an economic boycott not sanctioned by the United States government to the Legal Department or to the Chief Compliance Officer.

For more information on these topics, refer to SunGard's Export Control and Economic Sanctions Compliance Policy which is available internally on KnowHow under Resources, Policies and Guidelines, or on your SunGard business division intranet.

POLITICAL ACTIVITY

Company employees have the right to participate individually in the political process and to make voluntary contributions of their personal resources and non-working time to support federal and state candidates and political parties of their choice. The Company encourages employee involvement in the political process but these activities must not in any way suggest the Company's support or involve the use of the Company's resources.

All Employees and others acting on the Company's behalf must comply with laws that apply to the use of Company resources for political purposes. United States Federal election law and the election law of many U.S. states generally prohibit the use of corporate resources to directly or indirectly support or

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oppose candidates or political committees. The Company will not make a contribution to support or oppose a political candidate or political committee. No one is permitted to make a contribution on behalf of the Company.

Employees are not allowed to include, directly or indirectly, any political contribution on the Employee's expense account, or in any other way to cause the Company to reimburse the Employee for political contributions. As an example, the cost of tickets to a fund raising event for political functions is considered a political contribution and is not a legitimate Company expense.

The Company does not allow political campaign or partisan political activities at the Company's work place or facilities, and does not permit the use of the Company's resources, including computers, telephones, copiers, email, or employee work time for political campaigning, political fundraising, or other partisan political activities. Employees cannot be paid by the Company for time spent in campaign efforts for a political candidate or party. Similarly, if an Employee runs for elective office, the time spent campaigning or performing the duties of that post must be the Employee's own time, such as after hours, weekends, unpaid leave or vacation.

The Company does not permit employees to distribute campaign literature, solicit campaign contributions, or participate in other political activities during paid working hours. Employees are prohibited from making, copying or distributing political materials using the Company's equipment or resources, or engaging in other political activities during paid working time.

No employee may use the influence of his or her position to persuade another employee to work for candidate, political committee or other political issue or to make personal contributions to a candidate or political party. Employees will be neither favored nor penalized for their participation in, or abstention from, legal political activities.

Company employees are expected to understand and abide by this policy. If you have any questions about proper political conduct at the work place, you should contact SunGard's Chief Compliance Officer or a member of the SunGard legal department before agreeing to do anything that would involve the Company in political activity at the national, state or local levels.

EQUAL EMPLOYMENT OPPORTUNITY

All applicants and Employees are entitled to equal employment opportunities within the Company. It is the Company's policy to recruit, hire, train, compensate, terminate and otherwise treat individuals without regard to race, color, religion, sex, national origin, age, marital status, sexual orientation, disability, citizenship status, genetic information, Vietnam-era or other veteran status, or any other characteristic protected by law. The Company will make reasonable accommodations for the known physical or mental disabilities of an otherwise qualified applicant or Employee.

Certain of the Company's significant human resources policies are contained in this Compliance Program. See PRIVACY, DISCRIMINATION, SEXUAL AND OTHER DISCRIMINATORY HARASSMENT, ILLEGAL SUBSTANCES AND ALCOHOL, and IMMIGRATION AND TEMPORARY WORK ASSIGNMENTS below. The Company's human resources policies are available internally on KnowHow under Resources, Policies and Guidelines, or on your SunGard business division intranet.

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All Employees are expected to act in a manner consistent with the anti-discrimination policy, anti-harassment policy and the Company's other human resources policies. All Employees are expected to refrain from expressing views not supportive of any of these Policies when acting as representatives of the Company.

PRIVACY

The Company is committed to complying with all applicable privacy laws in the conduct of its business. Privacy laws in the United States, European Union ("EU"), Asia and other locations may govern the proper processing and protection of certain personal information, the accuracy of the stated uses of the information processed by the Company and the Company's adherence to its statements about the use of the information. Employees should consult the Legal Department before transferring across national borders or to third parties the following information (particularly with respect to the EU):

- **Personally Identifiable Information or Personal Data.** Defined as data which can be related back to a specific identified individual, directly or indirectly.

- **Sensitive Data.** Generally defined as personal information having particular significance for privacy expectations (e.g., racial/ethnic origin, political activities, trade union membership, religious beliefs, health or medical data, sexual preferences or criminal activities).

Privacy law is a growing and complex area of law in the United States and around the world. In certain circumstances, an individual's consent may be required before some types of personal information may be processed, collected or transferred. Please consult with the Legal Department if you have questions about this Policy or if you require guidance regarding the processing of certain information or data.

Employee Information

In the course of its business operations, the Company will collect and maintain personal information about Company Employees and other staff as outlined in the SunGard Staff Privacy Notice.

For a comprehensive statement of the Company's standard for protection of Employee information, see the SunGard Staff Privacy Notice linked at Appendix C.

Customer Information

In the course of our business, the Company processes, stores and transfers personal data entrusted to us by our customers. The data our customers entrust to us may be personal data of individuals doing business with our customers. The data we receive from our customers will be handled in accordance with our agreement with the customer and the legal requirements applicable to SunGard in performance of our customer's agreement. It is contrary to Company policy to use the data our customer entrusts to us for any purpose other than that encompassed by the agreement or expressly permitted by law.

When a specific law or regulation governs the handling of personal data, including financial data, business leaders in the effected operating units will implement and follow procedures to conform their business operations to the applicable legal requirements.

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Any Employee who is uncertain of the legality or ethics surrounding the collection, transfer, processing, disclosure or destruction of personal data pertaining to Company Employees or personal data processed for a customer should contact the Legal Department before taking action.

DISCRIMINATION

SunGard has a long-standing commitment to a work environment that respects the dignity of each individual. Inappropriate workplace behavior and unlawful discrimination or harassment are wholly inconsistent with this commitment. All Employees have the right to work in an environment free from all forms of discrimination and conduct that is harassing, coercive or disruptive, including sexual harassment. The Company prohibits any form of unlawful employee discrimination based on race, color, religion, sex, national origin, age, marital status, sexual orientation, disability, citizenship status, genetic information, Vietnam-era or other veteran status, or any other characteristic protected by law. SunGard will not tolerate improper interference with any Employee's ability to perform his or her expected job duties.

Employees are expected to refrain from making offensive comments, jokes, innuendos or gestures that are based on race, color, religion, sex, national origin, age, marital status, sexual orientation, disability, citizenship status, genetic information, Vietnam-era or other veteran status, or any other characteristic protected by law.

Reporting Discriminatory Conduct

It is the Company's policy to strongly encourage and support the prompt reporting of all incidents of discriminatory conduct. If you believe that you have been subjected to discriminatory conduct, or if you have observed such conduct, SunGard requires you to promptly notify your Supervisor, your Human Resources representative or the Chief Compliance Officer. Any Supervisor who receives a report or otherwise becomes aware of discriminatory conduct must immediately notify Human Resources. If you are uncomfortable for any reason in bringing such a matter to the attention of your Supervisor, or are not satisfied after bringing the matter to his or her attention, you should report the matter directly to your Human Resources representative or the Chief Compliance Officer. Any question about this Policy should also be brought to the attention of your Supervisor, your Human Resources representative or the Chief Compliance Officer.

When a report of discriminatory conduct is made as specified above, the Human Resources Department will promptly undertake an investigation appropriate to the circumstances. The steps to be taken during the investigation cannot be fixed in advance, but will vary depending upon the nature of the allegations. Confidentiality will be maintained throughout the investigative process to the extent practicable and consistent with the Company's need to undertake a full investigation.

Upon completion of the investigation, corrective action will be taken, if appropriate and supported by the facts. Corrective action may include, but is not limited to, oral or written reprimand, referral to formal counseling, financial consequences such as the reduction or elimination of a bonus or the postponement of a raise, disciplinary suspension or probation, or discharge from SunGard.

An individual, who reports incidents that he or she believes in good faith to be violations of this Policy, or who is involved in the investigation of discriminatory conduct, will not be subject to reprisal or retaliation. Retaliation is a serious violation of this Policy and should be reported immediately. The report and investigation of allegations of retaliation will follow the procedures set forth in this

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Compliance Program. Any person found to have retaliated against an individual for reporting discriminatory conduct or for participating in an investigation of allegations of such conduct will be subject to appropriate disciplinary action.

SEXUAL AND OTHER DISCRIMINATORY HARASSMENT

SunGard Employees have the right to work in an environment that is free from sexual harassment. Sexual harassment in the workplace is unlawful. No Employee, either male or female, should be subjected to unsolicited and unwelcome sexual overtures or conduct. SunGard does not intend to regulate the personal morality of employees, but rather promote a work environment that is free from all forms of discriminatory harassment whether that harassment is because of race, color, religion, sex, national origin, age, marital status, sexual orientation, disability, citizenship status, genetic information, Vietnam-era or other veteran status, or any other characteristic protected by law.

Discriminatory Harassment Prohibited

Discriminatory harassment, including sexual harassment, is unacceptable and will not be tolerated. All Employees are expected to avoid any behavior that could be interpreted or perceived as discriminatory harassment. This Policy applies to all discriminatory harassment occurring in the work environment, whether at the Company or in other work-related settings, and applies regardless of the gender, marital status or sexual orientation of the individuals involved. This Policy covers all Employees and applicants for employment. This Policy also covers unlawful discriminatory harassment by a non-employee (e.g., clients, family members, suppliers, volunteers, interns, independent contractors, etc.) to the extent that it affects the work environment or interferes with the performance of work. Anyone who believes that he or she has been subjected to sexual or other discriminatory harassment must report the problem using the procedures set forth in this Policy. SunGard will investigate a reported incident to the extent practicable and will take remedial action where appropriate.

Sexual Harassment Defined

For purposes of this Policy, “sexual harassment” means unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual or gender-based nature in any of the following situations:

- When submission to such conduct is either explicitly or implicitly made a term or condition of an individual’s employment.
- When submission to or rejection of such conduct is used as the basis for employment decisions affecting the individual.
- When such conduct unreasonably interferes with an individual’s work performance or creates an intimidating, hostile or offensive working environment.

Here are some examples of what may constitute sexual harassment: threatening or taking adverse employment action, such as discharge or demotion, if sexual favors are not granted; demanding sexual favors in exchange for favorable or preferential treatment; making unwelcome and repeated flirtations, propositions or advances; making unwelcome physical contact; whistling, leering or making improper gestures; making offensive, derogatory or degrading remarks; making unwelcome comments about

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appearance; telling sexual jokes or using sexually explicit or offensive language; engaging in gender or sex-based pranks; or displaying sexually suggestive objects or pictures in work areas. The above list of examples is not intended to be all inclusive.

Other Discriminatory Harassment Defined

For purposes of this Policy, "other discriminatory harassment" means verbal or physical conduct that denigrates or shows hostility or aversion toward an individual because of his or her race, color, gender, age, religion, national origin, disability, veteran status or any other characteristic protected by law, in any of the following circumstances:

- When the conduct creates an intimidating, hostile, or offensive work environment.
- When the conduct unreasonably interferes with an individual's work performance.

Here are some examples of other discriminatory harassment: using epithets or slurs; mocking, ridiculing or mimicking another's culture, accent, appearance or customs; threatening, intimidating or engaging in hostile or offensive acts based on an individual's race, color, gender, religion, national origin, disability, veteran status or any other characteristic protected by law; or displaying on walls, bulletin boards or elsewhere in the workplace, or circulating in the workplace, written or graphic material that denigrates or shows hostility toward a person or group because of an individual's race, color, gender, age, religion, national origin, disability, veteran status or any other characteristic protected by law. The above list of examples is not intended to be all inclusive.

Reporting Discriminatory Harassment

It is the Company's policy to strongly encourage and support the prompt reporting of all incidents of sexual or other discriminatory harassment. If you believe that you have been subjected to sexual or other discriminatory harassment, or if you have observed such conduct, SunGard requires you to promptly notify your Supervisor, your Human Resources representative or the Chief Compliance Officer. Any Supervisor who receives a report or otherwise becomes aware of discriminatory harassment must immediately notify Human Resources. If you are uncomfortable for any reason in bringing such a matter to the attention of your Supervisor, or are not satisfied after bringing the matter to his or her attention, you should report the matter directly to your Human Resources representative or the Chief Compliance Officer. Any question about this Policy or potential sexual or other discriminatory harassment also should be brought to the attention of your Supervisor, your Human Resources representative or the Chief Compliance Officer.

When a report of sexual or other discriminatory harassment is received, the Human Resources Department will promptly undertake an investigation appropriate to the circumstances. The steps to be taken during the investigation cannot be fixed in advance, but will vary depending upon the nature of the allegations. Confidentiality will be maintained throughout the investigative process to the extent practicable and consistent with the Company's need to undertake a full investigation.

Upon completion of the investigation, corrective action will be taken, if appropriate and supported by the facts. Corrective action may include, but is not limited to, oral or written reprimand, referral to formal counseling, financial consequences such as the reduction or elimination of a discretionary bonus or the postponement of a raise, disciplinary suspension or probation or discharge from SunGard.

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An individual who reports incidents which, in good faith, he or she believes to be violations of this Policy, or who is involved in the investigation of sexual or other discriminatory harassment, will not be subject to reprisal or retaliation. Retaliation is a serious violation of this Policy and should be reported immediately. The report and investigation of allegations of retaliation will follow the procedures set forth in this Policy. Any person found to have retaliated against an individual for reporting sexual or other discriminatory harassment or for participating in an investigation of allegations of such conduct will be subject to appropriate disciplinary action.

Reporting Consensual Relationships

Consensual romantic and/or sexual relationships between Employees may compromise the Company's ability to enforce its policy against sexual harassment or lead to other employment-based claims against the Company. When one party to such a relationship is the Supervisor or Executive Officer or an individual who can otherwise impact the other party's work assignment, compensation, performance review or promotion, the risk to SunGard's ability to enforce its policy against sexual harassment is unacceptably high. The individuals involved in such a consensual relationship must disclose the relationship to a Supervisor **and** the Chief Compliance Officer. All other individuals in consensual relationships must disclose the relationship to Human Resources. Disclosure will allow the Company and the Employees involved to take appropriate steps to protect all parties from unintended work-related consequences. Such action may include a change in the responsibilities of the individuals involved, or transfer of location within the office, in order to eliminate any existing supervisory relationship and diminish workplace contact.

ILLEGAL SUBSTANCES AND ALCOHOL

The ability to perform one's work is compromised by the illegal use of drugs and/or alcohol. The Company's objective is to keep the workplace free from substance and alcohol abuse and its effects, and the Company will not tolerate the presence of illegal drugs and/or alcohol in the workplace. Employees are prohibited from conducting Company business while under the influence of illegal drugs and/or impaired by the use of alcohol. The Company also will not tolerate the abuse of prescribed drugs by any Employee while on Company premises, engaged in Company business or operating Company equipment. These goals are not only the Company's right, but are the Company's responsibility to its customers and Employees.

The Company will try to achieve a workplace that is entirely free of substance abuse by following the steps below:

- Counseling and assisting Employees with substance abuse problems. For more details on the Company's policy relating to drug and alcohol abuse and the assistance available to Employees, see Human Resources.

- Disciplining Employees who engage in unlawful activities involving drugs and alcohol in the workplace.

Consuming alcohol at a SunGard or customer-sponsored event during or after work hours on Company or customer premises is permitted provided the event has manager approval and proper business decorum is maintained. The safety of guests and Employees should be considered when planning the event.

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IMMIGRATION AND TEMPORARY WORK ASSIGNMENTS

SunGard requires that Employees hired for positions or assigned to work outside their home country for any period of time are legally authorized to work in the country in which they are hired or assigned to work. The Company may be subject to civil or criminal penalties if an individual who is not authorized to work in the country is placed on the payroll for a position, performs work or travels on business without a proper visa.

All candidates for positions must present appropriate documentation to verify that they are legally authorized to work under the applicable labor, employment and immigration laws before the Employee's first day of work. In the United States, the Company is required to have Form I-9s for each Employee and will conduct regular internal audits to verify the receipt of such information. Company Supervisors are responsible for assuring that relevant labor, employment and immigration laws are followed. If a potential Employee does not have the correct working papers, consult the Human Resources Department or the Legal Department before an offer of employment is made or the Employee travels on a business assignment. No travel arrangements should be made before appropriate documentation is obtained.

Questions on immigration issues should be referred to the Human Resources Department or to the Legal Department. Questions relating to international assignments should be referred to the International Mobility Team.

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APPENDIX A

GLOBAL BUSINESS CONDUCT AND COMPLIANCE PROGRAM

ANNUAL CERTIFICATION

I certify that I have access to and can obtain a copy of SunGard's Global Business Conduct and Compliance Program (the "Compliance Program"), which provides me with clear guidelines for my conduct as a representative of the Company and incorporates a code of ethics for all employees, officers, directors and other representatives of the Company. I understand that the Compliance Program is available to me via the SunGard intranet or from my Human Resources representative.

I understand that I may report possible or suspected violations of the Compliance Program by accessing the AlertLine on-line or by telephone, leaving a voicemail for the Chief Compliance Officer, sending an e-mail to compliance@sungard.com, or using any of the other reporting methods described in the Compliance Program.

I certify that I have read the Compliance Program and fully understand my obligation to comply with all of its terms. I understand that adherence to the Compliance Program is a condition of my employment or engagement with the Company and that failure to adhere to the Compliance Program could result in very serious consequences to me and the Company. I understand that, if I violate the Compliance Program, then I will be subject to appropriate disciplinary and remedial sanctions, up to and including, immediate discharge or termination of my engagement and possible legal action by the Company.

I certify that I will fully comply with all terms of the Compliance Program, and that, as of today's date, I know of no violations of the Compliance Program or the Policies contained therein other than as reported.

I understand that, except for the promise of protection from retaliation made in the Introduction to the Compliance Program, none of the benefits, policies, programs, procedures or statements in the Compliance Program is intended to confer any rights or privileges upon me or entitle me to be or remain an Employee or other representative of the Company. I am aware that the Compliance Program is not a contract and is subject to change at any time, without notice, at the sole discretion of the Company.

Certified:

_____	_____
Date	Print Name
	_____
	Signature

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APPENDIX B

GLOBAL BUSINESS CONDUCT AND COMPLIANCE PROGRAM

COMPLIANCE PROGRAM IMPLEMENTATION

Chief Compliance Officer

The Chief Compliance Officer is responsible for implementing and maintaining the Compliance Program, subject to the direction of the Compliance Program Committee and oversight of the Audit Committee. The Chief Compliance Officer's duties include (1) implementing programs to educate and train Employees about the Compliance Program and to effectively communicate the Company's Policies to all Employees, (2) implementing procedures to achieve both effective enforcement of the Compliance Program and efficient reporting by Employees, without fear of retribution, of possible and suspected violations, (3) auditing and investigating possible and suspected violations of the Compliance Program, and (4) implementing disciplinary procedures for Employees who violate the Compliance Program or who fail to report known violations by others. The Chief Compliance Officer will consult with the Compliance Program Committee and Audit Committee as necessary to effectively deal with non-routine reports and investigations and to resolve difficult issues and concerns that arise in connection with the Compliance Program. The Chief Compliance Officer will provide periodic reports to the Audit Committee regarding compliance matters. The Chief Compliance Officer will report to the Chief Legal Officer and will have a dotted-line reporting relationship to the Chair of the Audit Committee.

Compliance Program Committee

The Compliance Program Committee is a management committee that is responsible for reviewing the Chief Compliance Officer's implementation and maintenance of the Compliance Program and interpreting and monitoring the Compliance Program, subject to the oversight of the Audit Committee. The Compliance Program Committee will review the Compliance Program periodically, but no less frequently than annually, and recommend proposed changes to the Audit Committee. The Compliance Program Committee will have at least four (4) members: the Chief Compliance Officer, a senior legal executive designated by the Chief Legal Officer, a senior financial executive designated by the Chief Financial Officer and a senior human resources executive designated by the Vice President Human Resources. A minimum of three (3) members of the Compliance Program Committee are required in order for the Committee to carry out its obligations under this Policy.

Audit Committee

The Audit Committee is the final authority for resolving all disagreements that arise in connection with the Compliance Program. The Chief Compliance Officer and the members of the Compliance Program Committee will be appointed by management, subject to review and approval by the Audit Committee.

SunGard Management

Responsibility for enforcing the Company's Compliance Program extends throughout the Company. If you are a Supervisor, then you are responsible for implementing the Compliance Program for all Employees under your direction. These responsibilities include all of the following:

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- Requiring all current and new Employees to participate in ongoing education and training regarding the Compliance Program and the Company's Policies.

- Regularly stressing to all Employees the need for their commitment to the principles of the Compliance Program.

- Requiring that all business activities are conducted in accordance with the highest principles of business ethics and professional excellence.

- Leading by example and maintaining an "open door" policy to handle issues and questions regarding business ethics and legal and regulatory compliance.

- Reinforcing the lines of communication that are available to Employees to make reports and resolve concerns relating to the Compliance Program.

- Reporting matters that you uncover and issues that are reported to you as a Supervisor or Company Official.

- Coordinating and cooperating with the Chief Compliance Officer to determine that all of these responsibilities are effectively and demonstrably accomplished.

Distribution and Acknowledgement of the Compliance Program

Every new Employee will be given access to current copy of the Compliance Program and, as a condition of employment, will be asked to acknowledge receipt and understanding of it within thirty (30) days after hiring. Continuing Employees will be offered an opportunity to review a current copy of the Compliance Program at least annually, and, as a condition of continued employment, will be asked certify to their understanding of the Compliance Program and their agreement to adhere to its terms.

Handling of Reports and Investigations

The Chief Compliance Officer will review all credible, non-routine reports with the Compliance Program Committee. If a credible report involves a Director or Executive Officer of SunGard or involves an allegation of fraud, whether or not material, that involves management or other Employees who have a significant role in SunGard's internal controls, or is otherwise considered material to the Company by the Chief Compliance Officer, Chief Legal Officer, Chief Financial Officer, Vice President Human Resources or majority of the Compliance Program Committee, then the Chief Compliance Officer will promptly communicate the report to the Chair of the Audit Committee.

Any Supervisor or other Company official receiving a credible report of a violation of the Compliance Program must promptly communicate the report to the Chief Compliance Officer. If a Supervisor believes that it is necessary to review or investigate the conduct of one or more Employees, then the Supervisor must seek the advice and approval of the Chief Compliance Officer or the Chief Legal Officer. No one will undertake an internal review or investigation relating to the Compliance Program or the Company's Policies without the approval of the Chief Compliance Officer, the Chief Legal Officer or the Chief Legal Officer or the Chair of the Audit Committee.

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The members of the Compliance Program Committee are authorized on behalf of the Company to conduct internal investigations, seek legal advice and request that inside or outside counsel conduct internal investigations to assist counsel in providing legal advice to the Company. Any such investigation will be conducted on a confidential basis, and the results of any such investigation will be protected from disclosure by the attorney-client privilege as well as any other applicable privilege or protection.

Waivers and Substantive Changes

Any waiver of the provisions of this Program for an Executive Officer or Director must be made by the Board of Directors or a Board Committee. Any substantive changes to this Program will be approved by the Board of Directors. Such waivers and substantive changes will be promptly disclosed as required by law or stock exchange regulation.

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APPENDIX C

GLOBAL BUSINESS CONDUCT AND COMPLIANCE PROGRAM

SUNGARD STAFF PRIVACY NOTICE

The SunGard Staff Privacy Notice provides a comprehensive statement of the Company's standard for protection of Employee information. The Staff Privacy Notice is available internally on KnowHow under Resources, Policies and Guidelines, or on your SunGard business division intranet.

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APPENDIX D

GLOBAL BUSINESS CONDUCT AND COMPLIANCE PROGRAM

GENERAL DEFINITIONS

- **"Audit Committee"** means the Audit Committee of the Board of Directors of SunGard Data Systems Inc.
- **"Board of Directors"** means the Board of Directors of SunGard Data Systems Inc.
- **"Company"** or **"SunGard**" means SunGard Data Systems Inc., a Delaware corporation, and all subsidiaries and affiliated entities that are more than 50% owned or controlled, directly or indirectly, by SunGard Data Systems Inc.
- **"Compliance Program"** means this Global Business Conduct and Compliance Program, as amended from time to time by the Board of Directors.
- **"Compliance Program Committee"** means the management committee responsible for interpreting and monitoring the Compliance Program.
- **"Director"** means any member of the Board of Directors of SunGard Data Systems Inc. who is not an Employee.
- **"Employee"** means any employee, consultant, volunteer or other agent or representative of the Company including all Executive Officers and including all employees who are members of the Company's Board of Directors.
- **"Executive Officer"** means any person who is considered an executive officer of the Company for federal securities law purposes, as designated by the Board of Directors from time-to-time by resolution.
- **"Policies"** means the Company policies contained in this Compliance Program. Each section of this Compliance Program contains one or more Policies.
- **"Supervisor"** means any supervisor or manager of any Employee.

Other definitions are included in specific policies.

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CERTIFICATE OF SUNGARD

ANNEX B

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

LeRoy Koppendrayer	Chair
Ken Nickolai	Commissioner
Marshall Johnson	Commissioner
Phyllis Reha	Commissioner
Thomas Pugh	Commissioner

James Stein
Counsel to SunGard NetWork Solutions, Inc.
511 Eleventh Avenue South, Suite 211
Minneapolis, MN 55415

SERVICE DATE: DEC 12 2005

DOCKET NO. P-6454/NA-05-1119

In the Matter of the Application of SunGard NetWork Solutions. Inc. for an Operational Certificate of Authority to Provide Local Niche Services

The above entitled matter has been considered by the Commission and the following disposition made:

Approved.

This decision is issued by the Commission's consent calendar subcommittee, under a delegation of authority granted under Minn. Stat. § 216A.03, subd. 8 (a). Unless a party, a participant, or a Commissioner files an objection to this decision within ten days of receiving it, it will become the Order of the full Commission under Minn. Stat. § 216A.03, subd. 8 (b).

The Commission agrees with and adopts the recommendations of the Department of Commerce which are attached and hereby incorporated in the Order.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

(S E A L)

This document can be made available in alternative formats (i.e., large print or audio tape) by calling (651) 201-2202 (voice) or 1-800-627-3529 (TTY relay service).

RECEIVED
NOV 28 2005
MN PUBLIC UTILITIES COMMISSION

MINNESOTA DEPARTMENT OF COMMERCE
85 7th Place East, Suite 500
St. Paul, Minnesota 55101-2198
651.296.4026 FAX 651.297.1959 TTY 651.297.3067

November 28, 2005

Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: In the Matter of the Application of SunGard NetWork Solution, Inc. for an Operational Certificate of Authority to Provide Local Niche Services
Docket No. P6454/NA-05-1119

Dear Dr. Haar:

Applications for certificates of authority may be approved without hearing under Minn. Stat. §216A.03, subd. 7. The Public Utilities Commission's (Commission's) Order designating certain applications for certificates of authority as being subject to a standing order was issued on August 25, 2000 in Docket No. P999/CI-00-634. The use of a standing order is to apply to filings submitted on or after September 1, 2000.

As required by the Commission's August 25, 2000 Order, the Department of Commerce (Department) has reviewed and analyzed the current filing. Attached is the Department's checklist for processing applications for certificates of authority. The checklist reflects the Department's analysis of the issues relating to the requirements of Minnesota law and the Commission's rules.

The application for certification was filed on: June 30, 2005

The name of the applicant:

James Stein
Counsel to SunGard NetWork Solutions, Inc.
511 Eleventh Avenue South, Suite 211
Minneapolis, MN 55415

The application requested the following type of certification: Certificate of Authority to provide Local Niche Services.

Recommended Action: Approve

Although the Company originally applied for both Local Niche and Local Resale authority, on November 16, 2005, it modified its request to include only Local Niche Services. It also provided a revised tariff consistent with this change on November 23, 2005.

Conditions to Receive Operational Authority for Local Niche Services: None

The Department's analysis finds that the Application for Certification complies with the Commission's requirements as indicated on the attached checklists. The Department is submitting this memorandum recommending that the Commission approve the Application for Certification either at a Commission hearing or by way of the standing order process approved by the Commission on August 25, 2000.

Sincerely,

JOHN GRINAGER
Rates Analyst

JG/ja
Attachment

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Company: SunGard Network Solutions
Docket No.: P6454/NA-05-1119

CHECKLIST FOR PROCESSING ORIGINAL TARIFFS OR PRICE LISTS

I. TYPE OF TARIFF OR PRICE LIST

____A. Local Exchange Tariff/Price List

____B. Access Services Tariff/Price List

____C. Long Distance Tariff/Price List

_X_D. Local Niche Services Tariff/Price List

II. REGULATORY REQUIREMENTS THAT ONLY APPLY TO THE TARIFFS OR PRICE LISTS OF LOCAL EXCHANGE CARRIERS

The regulatory requirements of Minn. Rules Ch. 7810 and Minn. Rules pt. 7812.0600 are as follows:

____A. The tariffs or price lists of local exchange carriers must offer the following services to all customers pursuant to Minn. Rules pt. 7812.0600 (basic service requirements):

____ single party voice-grade service and touch-tone capability;
____ 911 or enhanced 911 access;
____ 1 + intraLATA and interLATA presubscription and code-specific equal access to interexchange carriers subscribing to its switched access service;
____ access to directory assistance, directory listings, and operator services;
____ toll and information service-blocking capability without recurring monthly charges as provided in the commission's ORDER REGARDING LOCAL DISCONNECTION AND TOLL BLOCKING CHARGES, Docket No. P999/CI-96-38 (June 4, 1996), and its ORDER GRANTING TIME EXTENSIONS AND CLARIFYING ONE PORTION OF PREVIOUS ORDER, Docket No. P999/CI-96-38 (September 16, 1996). These Orders state that no telecommunications provide may disconnect local exchange service for nonpayment of toll service. These Orders also require local exchange carriers to offer toll blocking and bill screening services with no monthly charge.;
____ one white pages directory per year for each local calling area, which may include more than one local calling area, except where an offer is made and explicitly refused by the customer;

Company: SunGard Network Solutions
Docket No.: P6454/NA-05-1119

____ a white pages and directory assistance listing, or, upon customer request, a private listing that allows the customer to have an unlisted or unpublished telephone number;

____ call-tracing capability according to chapter 7813;

____ (i) call Trace provisions in tariff mirror Commission's tariff templates.

____ blocking capability according to the Commission's ORDER ESTABLISHING CONDITIONS FOR THE PROVISION OF CUSTOMER LOCAL AREA SIGNALING SERVICES, Docket No. P999/CI-92-992 (June 17, 1993) and its ORDER AFTER RECONSIDERATION, Docket No. P999/CI-92-992 (December 3, 1993). These Orders require local exchange carriers, who offer class services, to offer CLASS trace services and per call and residential per line blocking of CLASS services with no monthly charge. These Orders also require local exchange carriers, who offer CLASS services, to also educate their customers regarding their options with respect to CLASS services and blocking options. In addition, these Orders require companies offering CLASS services to offer per call business blocking to certain businesses (i.e., businesses which meet special criteria) without a monthly charge and anonymous call rejection without a separate charge. Businesses that meet special criteria include law firms and medical offices. Residential customers must be offered per line and per call blocking. A one-time cost-based installation fee maybe applied to customers who request line blocking after an initial period of at least 90 days; and

____ telecommunications relay service capability or access necessary to comply with state and federal regulations.

____B. A Separate flat rate service offering is required pursuant to Minn. Rules pt. 7812.0600, subpt. 2. At a minimum, each local service provider (LSP) shall offer the services identified in Minn. Rules pt. 7812.0600, subpt. 1 as a separate tariff or price list offering on a flat rate basis. An LSP may also offer basic local service on a measured rate basis or in combination with other services. An LSP may impose separate charges for the services set forth in subpart 1 only to the extent permitted by applicable laws, rules, and commission orders.

____C. Service area obligations under Minn. Rules pt. 7812.0600, subpt. 3: An LSP shall provide its local services on a nondiscriminatory basis, consistent with its certificate under part 7812.0300 or 7812.0350, to all customers who request service and whose premises fall within the carrier's service area boundaries or, for an interim period, to all requesting customers whose premises fall within the operational areas of the local service provider's service area under part 7812.0300, subpart 4, or 7812.0350, subpart 4. The obligation to provide resale services does not extend beyond the service capability of the underlying carrier whose service is being resold. The obligation to provide

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facilities-based services does not require an LSP that is not an eligible telecommunications carrier (ETC) to build out its facilities to customers not abutting its facilities or to serve a customer if the local service provider cannot reasonably obtain access to the point of demarcation on the customer's premises.

_____D. Service disconnection requirements under Minn. Rules pt. 7812.0600, subpt. 7: An LSP may disconnect a customer's basic local service as allowed under parts 7810.1800 to 7810.2000, except that it shall not disconnect basic local service for nonpayment of toll or information service charges or any service other than basic local service.

_____E.. A competitive local exchange carrier shall offer each end user at least one flat rate calling area that matches the flat rate calling area offered that customer by the local exchange carrier under Minn. Rules pt. 7812.0900, subpt. 1, including any applicable extended area service (pursuant to Minn. Rules pt. 7812.0800, subpt. 1).

_____F. Local exchange companies must comply with the requirements of Minn. Stat. § 237.73 before disconnecting local exchange services in cases of fraud. Minn. Stat. § 237.73 generally requires a local exchange carrier to obtain a temporary restraining order or injunction before disconnecting local exchange services in cases of fraud.

_____G. Local exchange carriers who propose to include provisions in their tariffs or price lists allowing for individual case based (ICB) pricing of local exchange services must comply with the Commission's applicable policies and Orders.

_____H. Local exchange carriers that are Eligible Telecommunications Carriers (ETCs) must offer the Link-up Program.

____(i) Link-up provisions in tariff mirror Commission's tariff templates.

____(ii) Carrier is not an ETC and is not required to offer Link-Up.

_____I. All local exchange carriers who introduce promotions must file the appropriate notices with their promotions pursuant to the requirements of Minn. Stat. § 237.626. Minn. Stat. § 237.626 states that "The notice must identify customers to whom the promotion is available and include cost information demonstrating that the revenue from the service covers incremental cost, including cost of the promotion." The notice must include information showing the number of units projected to be sold during the promotion and the projected revenue to be derived during the promotion less the cost of the promotion (including the cost of the charge that is being waived and the administrative cost of carrying out the promotion) to derive the net value of the promotion.

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____J. Local exchange carriers may not withhold number portability from customers whose accounts are in arrears. Docket Nos. P5692, 421/M-99-196; P5669,430/M-99-701.

____K. Local service providers must offer the Telephone Assistance Plan (TAP).
___ (i) *TAP provisions in tariff mirror Commission's tariff templates.*

___ L. Local exchange carriers that file tariffs imposing termination charges on wireless carriers must abide by the Commission's Orders in Docket No. P511/M-03-811.

III. REGULATORY REQUIREMENTS THAT APPLY ONLY TO THE TARIFFS OR PRICE LISTS OF LONG DISTANCE CARRIERS

The regulatory requirements of Minn. Rules Ch. 7810, Minnesota law, and applicable Commission Orders are as follows:

____A. Minn. Stat. § 237.74, subd. 2 prohibits discrimination with respect to long distance services and states as follows: "No telecommunications carrier shall offer telecommunications service within the state upon terms or rates that are unreasonably discriminatory. No telecommunications carrier shall unreasonably limit its service offerings to particular geographic areas unless facilities necessary for the service are not available and cannot be made available at reasonable costs. The rates of a telecommunications carrier must be the same in all geographic locations of the state unless for good cause the commission approves different rates. A company that offers long-distance services shall charge uniform rates and charges on all long-distance routes and in all geographic areas in the state where it offers the services. However, a carrier may offer or provide volume or term discounts or may offer or provide unique pricing to certain customers or to certain geographic locations for special promotions, and may pass through any state, municipal, or local taxes in the specific geographic areas from which the taxes originate."

____B. Federal law prohibits IXCs from deaveraging interstate rates based on differing access charges and preempts inconsistent state law on intrastate rates that might otherwise permit such deaveraging.[1]

____C. With respect to those carriers who bill for uncompleted calls, the Commission's October 16, 1987 Notice to All Long Distance Carriers requires carriers to notify their customers regarding policies relating to billing for uncompleted telephone calls and the policies regarding the availability and procedures for providing refunds of those billed amounts.

[1] Policy and Rules Concerning the Interstate, Interexchange Marketplace, "Report and Order," 1996 WL 444636, 11 F.C.C.R. 9564, 11 FCC Rcd. 9564 (Aug. 07, 1996) (No. CC 96-61, FCC 96-331) at ¶¶38, 46.

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IV. REGULATORY REQUIREMENTS THAT APPLY TO THE TARIFFS OR PRICE LISTS OF ALL TELECOMMUNICATIONS CARRIERS

The regulatory requirements of Minn. Rules Ch. 7810, Minnesota law, and applicable Commission Orders are as follows:

_X_ A. The disconnection requirements in Minn. Rules pt. 7810.1800 through 7810.2200 apply to all telephone companies. Minn. Rules pt. 7810.1800 specifies the permissible reasons to disconnect service with notice. Minn. Rules pt. 7810.1900 specifies permissible reasons to disconnect service without notice. Minn. Rules pt. 7810.2000 specifies nonpermissible reasons to disconnect service. Minn. Rules pt. 7810.2100 requires that service shall not be disconnected on any Friday, Saturday, Sunday, or legal holiday, or any time when the utility's business offices are not open to the public, except where an emergency exists. Minn. Rules pt. 7810.2200 states that a utility shall not charge a reconnect fee for disconnection of service without notice pursuant to Minn. Rules pt. 7810.1900 (B).

_X_ (i) Disconnection provisions in tariff mirror Commission's tariff templates.

_X_ B. Notices sent out pursuant to Minn. Rules Ch. 7810 must comply with the notice requirements of Minn. Rules pt. 7810.2300. The notice requirements under Minn. Rules pt. 7810.2300 require, among other things, that notice must precede the action to be taken, such as disconnection, by at least five days excluding Sundays and legal holidays.

_X_ C. All telephone companies operating in Minnesota must comply with the Commission's deposit and guarantee requirements in Minn. Rules pt. 7810.1500 through 7810.1700. Minn. Rules pt. 7810.1500 states that deposits can only be based on a customer's utility credit rating. Minn. Rules pt. 7810.1600 requires that deposits be refunded after 12 months of prompt payment of bills to a given telephone company. Minnesota Statutes §325E.02 requires interest to be paid on deposits over $20 at the rate set by the Commissioner of the Department of Commerce, and posted on the Department's website at www.commerce.state.mn.us. Minn. Rules pt. 7810.1700 covers guarantee of payment.

_X_ (i) Deposit provisions in tariff mirror Commission's tariff templates.

___ (ii) No deposit required.

_X_ D. All telephone companies who apply a returned check charge must comply with the requirements of Minn. Stat. § 604.113. Minn. Stat. § 604.113 states that "a service charge of up to $30, may be imposed immediately on any dishonored check by the payee or holder of the check, regardless of mailing a notice of dishonor, if notice of the service charge was conspicuously displayed on the premises when the check was issued. Only one service charge may be imposed under this paragraph for each dishonored check. The

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displayed notice must also include a provision notifying the issuer of the check that civil penalties may be imposed for nonpayment." To satisfy this requirement, local service providers must list the returned check charge in their annual notice of customer rights required under Minn. Rules 7812.1000 and in their tariffs. Long distance providers must list the charge in their tariffs.

_X_ E. Telephone companies are not allowed to disconnect service in cases of insolvency or bankruptcy that are unrelated to the payment of services to a given telephone company. Minn. Rules. pt. 7810.1500 states that "no utility shall use any credit reports other than those reflecting the purchase of utility services to determine the adequacy of a customer's credit history without the permission in writing of the customer." Minn. Rules pt. 7810.1800 does not allow for disconnection of services in general cases of bankruptcy and insolvency which are unrelated to the use of the utility's services.

_X_ F. The Commission requires telephone companies who require advance payments from some, but not all, subscribers of a given service to comply with the Commission's deposit rules with respect to these advance payments. This requirement was established pursuant to the Commission's Order of April 1, 1993 for Docket No. P999/CI-92-868.

_X_ G. Telecommunications carriers may not include "forum selection" clauses in their tariffs or contracts which requires customers to litigate in an out-of-state forum. Docket No. P5358, 5381/C-97-1197, Order issued December 29, 1997.

_X_ H. Telecommunications carriers may not include mandatory arbitration provisions in their tariffs. Customers must have the option of filing complaints with the Commission or filing a claim in court in lieu of arbitration. Docket No. P3073/TC-97-1326, Order Issued February 25, 1998.

_X_ I. All telephone companies must comply with the Commission's dial service requirements. Minn. Rules pt. 7810.5300 requires complete dialing of called numbers on at least 97 percent of telephone calls.

_X_ J. All telephone companies operating in Minnesota are required, under the tariff filing requirements of Minn. Stat. § 237.07 and § 237.74, subd. 1 to submit tariff or price list filings for individual promotions. Although telephone companies may include general language in their tariffs or price lists indicating that they offer promotions, the companies should be aware that individual tariff or price list filings must be filed and the filings must describe the individual promotions in detail.

X_ K. All telephone and telecommunications carriers should include, in their tariffs, the Commission's template on "Customer Complaints and/or Billing Disputes." Inclusion of this template in the tariff is an informal requirement

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of the Commission's staff. Failure to include the template in the tariff may result in a processing delay.

____L. Other issues (specify) _____

_____

_____

V. RECOMMENDATION OF THE DEPARTMENT

____A. Approve the proposed tariff/price list as filed by the Company.

_X_B. Approve the proposed tariff/price list as filed by the Company and revised on the following date(s): 11/17/05

____C. Approve the proposed tariff/price list contingent upon the Company filing the following tariff revisions within 30 days of the date of issuance of the Order in this case:

_____

_____

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CHECKLIST FOR PROCESSING APPLICATIONS FOR CERTIFICATES OF AUTHORITY

I. TYPE OF CERTIFICATION REQUESTED BY APPLICANT

____A. Facilities-based local exchange company (Note, Minn. Rules pt. 7812.0200, subpt. 2 states that a certificate to provide facilities-based local exchange service authorizes the provision of all forms of local service, interexchange service, and local niche service in Minnesota)
- ____i. Conditional certificate of authority
- ____ii. Operational certificate of authority (not subject to standing Order)

____B. Resale of local exchange service
- ____i. Conditional certificate of authority
- ____ii. Operational certificate of authority

____C. Long Distance Service
- ____i. Conditional certificate of authority
- ____ii. Operational certificate of authority

__X__D. Local Niche Service
- ____i. Conditional certificate of authority
- __X__ii. Operational certificate of authority

II. GEOGRAPHIC AREA OF CERTIFICATION

____A. Facilities-based local exchange company
- ____a. Exchanges served by Citizens Telecommunications of Minnesota Inc.
  - _____ statewide
  - _____ other (specify exchanges) _____
- ____b. Exchanges served by Qwest Corporation
  - _____ statewide
  - _____ other (specify exchanges) _____
- ____c. Exchanges served by Sprint Minnesota
  - _____ statewide
  - _____ other (specify exchanges) _____
- ____d. Exchanges served by Frontier Communications of Minnesota
  - _____ statewide
  - _____ other (specify exchanges) _____
- ____e. Exchanges served by the following incumbent local exchange companies:
  - _____
  - _____
  - _____ statewide
  - _____ other (specify exchanges) _____

____B. Resale of local exchange service

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____a. Exchanges served by Citizens Telecommunications of Minnesota Inc.
_____ statewide
_____ other (specify exchanges) _____

____b. Exchanges served by Qwest Corporation
_____ statewide
____ other (specify exchanges) _Qwest Metro Exchanges

____c. Exchanges served by Sprint Minnesota
_____ statewide
_____ other (specify exchanges) _____

____d. Exchanges served by Frontier Communications of Minnesota
_____ statewide
_____ other (specify exchanges) _____

____e. Exchanges served by the following incumbent local exchange companies:
_____
_____
_____ statewide
_____ other (specify exchanges) _____

___C. Long Distance Service
____i. Statewide
____ii. Other (specify)

_X___D. Local Niche Service
__X__i. Statewide
____ii. Other (specify)

III. Application Requirements of the Applicant

Minn. Stat. §237.16, subd. 1(b) and §237.74 , subd. 12 mandate that companies obtain a certificate of authority prior to offering regulated telecommunications services in Minnesota. A conditional certificate of authority is permitted under Minn. Rules pts. 7812.0300, subpt. 4 and 7812.0350, subpt. 4 when the submission and Commission approval of tariffs and interconnection agreements is a prerequisite for providing the services identified in the applicable petition for certification. The requirements for certification for providers of facilities-based local exchange service, resellers of local exchange service, long distance service, and local niche services are listed in Minn. Rules pt. 7812.0300, 7812.0350, 7812.0400, and 7812.0500 respectively.

Minn. Rules pt. 7812.0300, subpt. 2 (parts A through N) describe the application requirements and the decision criteria for granting a certificate of authority. Companies applying for certification to provide long distance, local niche, or resale of local service must meet A to L of the filing requirements, except for the information, relevant to facilities-based local exchange service providers, which is identified in Minn. Rules pt. 7812.0300, subpt. 2, items G and K. The application requirements of Minn. Rules pt. 7812.0300, subpt. 2 (A through N) are as follows:

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_X_A. Company has the managerial, technical and financial ability, required under Minnesota law, to provide telecommunications services in Minnesota.

_X_B. All applications must include the applicant's full legal name and address, including the address of the applicant's place of business; if a corporation, the names, addresses, telephone numbers, and business experience of its officers; if a partnership or limited liability partnership, the names, addresses, telephone numbers, and business experience of persons authorized to bind the partnership; or, if a limited liability company, the names, addresses, and telephone numbers of its managers;

_X_C. All applications must include a description of the applicant's organizational structure, including documentation identifying the petitioner's legal status, for example, sole proprietorship, partnership, limited liability partnership, company, limited liability company, corporation, and so forth; a copy of its articles of incorporation; and, a list of shareholders, partners, or members owning ten percent or more of the interest in the business;

_X_D. All applications must include a list of the applicant's affiliates, subsidiaries, and parent organizations, if any;

_X_E. All applications must include a description of the nature of the applicant's business, including a list of the services it provides. Note: Applicants that intend to provide prepaid local service must include a statement indicating that they have reviewed Minnesota Rules part 7810.1800-7810.2300 and that their proposed service complies with these Rules. Specifically, these Rules do not allow a carrier to disconnect an end user until the end user has received a disconnect notice. Disconnect notices may not be issued until after an event listed under Minnesota Rules 7810.1800 (A)-(H) has occurred.

_X_F. All applications must include a description of the applicant's business history, including: (1) the date the business was first organized, the dates of subsequent reorganizations, and the date the applicant started providing telephone or other telecommunications services; and (2) the applicant's experience providing telephone company services or telecommunications services in Minnesota and other jurisdictions, including the types of services provided, the dates and nature of state or federal authorization to provide those services, the length of time it has provided those services, and pending or completed criminal, civil, or administrative action taken against the applicant by a state or federal authority, including any settlements, in connection with the applicant's provision of telephone company services or telecommunications services;

_X_G. All applications must include a financial statement of the applicant, for the most recent fiscal year and the financial statement must consist of a balance sheet, an income statement, notes to the financial statement, and, if available, an annual report;

____ (i) Positive equity (required for facilities-based authority)

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_X__ (ii) Company has the financial capacity necessary for the proposed undertaking

_NA_ H. Applications for facilities-based authority must include a list and description of the types of services the applicant seeks authority to offer: (1) including the classes of customers the applicant intends to serve; (2) indicating the extent to which it intends to provide service through use of its own facilities, the purchase of unbundled network elements, or resale; (3) identifying the types of services it seeks authority to provide by reference to the general nature of the service, for example, voice, custom calling, signaling, information, data, and video; and (4) listing the technology that will be used to deliver the service, for example, fiber-optic cable, digital switches, or radio;

__X_ I. All applications must include a proposed price list or tariff setting forth the rates, terms, and conditions of each service offering, unless the applicant is seeking a conditional certificate under subpart 4 and has not yet developed the information listed in this item;

__X__ (i) Tariff checklist is satisfactory

__X_ J. Applications for authority to provide local exchange service must include a service area map providing the information required under part 7810.0500, subpart 2, and narrative description of the area for which the applicant is seeking certification, except that if the applicant does not have the necessary agreements or tariffs to serve the entire area for which certification is sought, a map providing the information required under part 7810.0500, subpart 2, and a narrative delineating specifically those areas in which the applicant is currently prepared to provide service. A list of each of the exchanges for which the company is seeking certification will be accepted as the service area map where the entire exchange is served and each exchange is individually identified. Note also that applications for authority to provide local niche service must include a narrative description of the area for which the applicant is seeking certification;

_NA__ K. All applications must include the date by which the applicant expects to offer local service to the entire service area for which the applicant is seeking certification, including the applicant's estimated timetable for providing at least some of its services through use of its own network facilities;

_NA__ L. Applications for facilities-based authority must include a description of the applicant's policies, personnel, and equipment or arrangements for customer service and equipment maintenance, including information demonstrating the applicant's ability to respond to customer complaints and inquiries promptly and to perform maintenance necessary to ensure compliance with the quality requirements set forth in the Commission's rules;

__X__ M. All applications must include a copy of the applicant's certificate to conduct business from the Minnesota Secretary of State;

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__NA__N. An application for facilities-based authority must include a description of the applicant's facilities and the location or proposed location of those facilities; and

__X__O. Other information needed to demonstrate that the applicant has the managerial, technical, and financial ability to provide the services it intends to offer consistent with the requirements of this chapter and applicable law including the following:

__X__i. All applicants must have a toll-free number required pursuant to Minn. Rules pt. 7812.0300, subpt. 3(G).

__X___ Toll free number has been called.

__X_ 1. Toll-free number is operational.

___ 2. Toll-free number is not operational. Explain:

_____

_____

_____ Company states that toll free number will appear on customer bills.

__X__ii. All applications must include a description of the extent to which the applicant has had any civil, criminal, or administrative action against it in connection with the applicant's provision of telecommunications services.

__X__iii. All applications for authority to provide local service must be served on the Department, the OAG-RUD, the Department of Administration, persons certified to provide telecommunications service within the petitioner's designated service area, and the city clerk, or other official authorized to receive service or notice on behalf of the municipality, of all municipalities within the petitioner's designated service area in compliance with Minn. Rules pt. 7812.0200, subpt. 6.

__NA___iv.Applicants requesting authority to provide local exchange service must file a 911 plan that complies with the requirements of Minn. Rules pt. 7812.0550.

____ 911 checklist is satisfactory

__NA__v. Applicants requesting authority to provide local exchange service must agree to offer the following services to all customers pursuant to Minn. Rules pt. 7812.0600 (basic service requirements):

____ Single party voice-grade service and touch-tone capability;

____ 911 or enhanced 911 access;

____ 1 + intraLATA and interLATA presubscription and code-specific equal access to interexchange carriers subscribing to its switched access service;

____ Access to directory assistance, directory listings, and operator services;

____ Toll and information service-blocking capability without recurring monthly charges as provided in the Commission's ORDER REGARDING LOCAL DISCONNECTION AND TOLL BLOCKING CHARGES, Docket No. P999/CI-96-38 (June 4, 1996), and its ORDER GRANTING TIME EXTENSIONS AND CLARIFYING ONE PORTION OF PREVIOUS ORDER, Docket No. P999/CI-96-38 (September 16, 1996);

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___ One white pages directory per year for each local calling area, which may include more than one local calling area, except where an offer is made and explicitly refused by the customer;

___ A white pages and directory assistance listing, or, upon customer request, a private listing that allows the customer to have an unlisted or unpublished telephone number;

___ Call-tracing capability according to chapter 7813;

___ Tariff language on blocking capability according to the Commission's ORDER ESTABLISHING CONDITIONS FOR THE PROVISION OF CUSTOMER LOCAL AREA SIGNALING SERVICES, Docket No. P999/CI-92-992 (June 17, 1993) and its ORDER AFTER RECONSIDERATION, Docket No. P999/CI-92-992 (December 3, 1993). Specifically, these Orders require companies offering CLASS services to offer per call business blocking to certain businesses (i.e., businesses which meet special criteria), anonymous call rejection, and per call unblocking of blocked lines without a separate charge. Businesses that meet special criteria include law firms and medical offices. Residential customers must be offered per line and per call blocking. There must be no recurring charges for blocking of caller identification services. A one-time cost-based installation fee maybe applied to customers who request line blocking after an initial period of at least 90 days; and

___ Telecommunications relay service capability or access necessary to comply with state and federal regulations.

___ A Separate flat rate service offering. At a minimum, each local service provider (LSP) shall offer the services identified in Minn. Rules pt. 7812.0600, subpt. 1 as a separate tariff or price list offering on a flat rate basis. An LSP may also offer basic local service on a measured rate basis or in combination with other services. An LSP may impose separate charges for the services set forth in subpart 1 only to the extent permitted by applicable laws, rules, and Commission Orders.

___ Service area obligations: A LSP shall provide its local services on a nondiscriminatory basis, consistent with its certificate under part 7812.0300 or 7812.0350, to all customers who request service and whose premises fall within the carrier's service area boundaries or, for an interim period, to all requesting customers whose premises fall within the operational areas of the local service provider's service area under part 7812.0300, subpart 4, or 7812.0350, subpart 4. The obligation to provide resale services does not extend beyond the service capability of the underlying carrier whose service is being resold. The obligation to provide facilities-based services does not require an LSP that is not an eligible telecommunications carrier (ETC) to build out its facilities to customers not abutting its facilities or to serve a customer if the local service provider cannot reasonably obtain access to the point of demarcation on the customer's premises.

___ Service disconnection. An LSP may disconnect a customer's basic local service as allowed under parts 7810.1800 to 7810.2000, except

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that it shall not disconnect basic local service for nonpayment of toll or information service charges or any service other than basic local service.

___ A competitive local exchange carrier shall offer each end user at least one flat rate calling area that matches the flat rate calling area offered that customer by the local exchange carrier under Minn. Rules pt. 7812.0900, subpt. 1, including any applicable extended area service (pursuant to Minn. Rules pt. 7812.0800, subpt. 1).

___ Minn. Rules pt. 7812.1000 requires that a notice of customer rights be sent to subscribers. At the time service is initiated, at least annually thereafter, and upon customer request, a local service provider (LSP) shall provide customers with a summary, in plain language, of the rights and obligations of customers as provided in items A to D as follows: (A) The notice must describe the complaint procedures available through the LSP and the Commission, and must indicate that the customer can contact the Commission if dissatisfied with the local service provider's resolution of the customer's complaint. The notice must specify the current address and the local and toll-free telephone numbers of the Commission's Consumer Affairs office. (B) The notice must describe the customer's rights regarding the payment of bills, disconnection of service, privacy, deposits, low-income assistance, hearing-impaired programs, and blocking options. (C) The notice must summarize the Commission's service quality standards and the remedies available to customers for failure to meet those standards. (D) The notice must specify the price and service options as required by Minnesota Statutes, section 237.66.

____ Other issues (specify) _____

_____

_____

__NA__P. All applications must be accompanied by a $570 filing fee. (Note, this was filed prior to July 1, 2005, therefore, no filing fee applies.)

IV. RECOMMENDATION OF THE DEPARTMENT

__X__A. Find that applicant possesses the managerial, technical, and financial abilities required under Minnesota law to provide telecommunications services.

___B. Grant a conditional certification of authority to provide the following services:

____i. Facilities-based local exchange company

____a. Exchanges served by Citizens Telecommunications of Minnesota Inc.

_____ statewide

_____ other (specify exchanges) _____

____b. Exchanges served by Qwest Corporation

_____ statewide

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_____ other (specify exchanges) _____

____c. Exchanges served by Sprint Minnesota
_____ statewide
_____ other (specify exchanges) _____

____d. Exchanges served by Frontier Communications of Minnesota
_____ statewide
_____ other (specify exchanges) _____

____e. Exchanges served by the following incumbent local exchange companies:
_____
_____
_____ statewide
_____ other (specify exchanges) _____

____ii. Resale of local exchange service

____a. Exchanges served by Citizens Telecommunications of Minnesota Inc.
_____ statewide
_____ other (specify exchanges) _____

____b. Exchanges served by Qwest Corporation
_____ statewide
_____ other (specify exchanges) Qwest Metro Exchanges

____c. Exchanges served by Sprint Minnesota
_____ statewide
_____ other (specify exchanges) _____

____d. Exchanges served by Frontier Communications of Minnesota
_____ statewide
_____ other (specify exchanges) _____

____e. Exchanges served by the following incumbent local exchange companies:
_____
_____
_____ statewide
_____ other (specify exchanges) _____

____iii. Long Distance Service

____a. Statewide
____b. Other (specify)

____iv. Local Niche Service

____a. Statewide
____b. Other (specify)

__X_C. Grant an operational certificate of authority to provide the following services:

____i. Facilities-based local exchange company (not subject to standing Order)

____a. Exchanges served by Citizens Telecommunications of Minnesota Inc.
_____ statewide

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_____ other (specify exchanges) _____

____b. Exchanges served by Qwest Corporation
_____ statewide
_____ other (specify exchanges) _____

____c. Exchanges served by Sprint Minnesota
_____ statewide
_____ other (specify exchanges) _____

____d. Exchanges served by Frontier Communications of Minnesota
_____ statewide
_____ other (specify exchanges) _____

____e. Exchanges served by the following incumbent local exchange companies:
_____
_____
_____ statewide
_____ other (specify exchanges) _____

___ii. Resale of local exchange service

____a. Exchanges served by Citizens Telecommunications of Minnesota Inc.
_____ statewide
_____ other (specify exchanges) _____

____b. Exchanges served by Qwest Corporation
_____ statewide
_____ other (specify exchanges)

____c. Exchanges served by Sprint Minnesota
_____ statewide
_____ other (specify exchanges) _____

____d. Exchanges served by Frontier Communications of Minnesota
_____ statewide
_____ other (specify exchanges) _____

____e. Exchanges served by the following incumbent local exchange companies:
_____
_____
_____ statewide
_____ other (specify exchanges) _____

___iii. Long Distance Service
____ a. Statewide
____ b. Other (specify)

__X__iv. Local Niche Service
__X__a. Statewide
____b. Other (specify)

____D. Require the applicant to fulfill the following conditions for approval of operational certification:

____1. Filing of tariff

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____2. Filing of interconnection agreement with Qwest Corporation
____3. Filing of 911 plan
____4. Filing of certificate from Minnesota Secretary of State
____5. Filing of service area map
____6. Filing of narrative description of service area
____7. Filing of toll-free number
____8. Filing of the following information: _____
_____

____9. Filing containing the following tariff revisions: _____
_____
_____
_____

CERTIFICATE OF SUNGARD

ANNEX C

Telcordia06398

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. P-979, SUB 3
DOCKET NO. P-1368, SUB 0

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Joint Application for InFlow, Inc. and SunGard NetWork Solutions Inc. for Approval to Transfer Control and Certificates	))))	ORDER APPROVING TRANSFER OF CONTROL AND CERTIFICATES

BY THE COMMISSION: InFlow, Inc. (InFlow) and SunGard NetWork Solutions, Inc. (SNS) jointly filed an Application, pursuant to G.S. 62-110 and 62-111(a), requesting Commission approval of: (a) the transfer of control of InFlow; (b) the transfer of Certificates of Public Convenience and Necessity (Certificates) from InFlow to SNS; and (c) the transfer of control of SNS.

This matter was presented to the Commission for its consideration at the Commission's weekly Staff Conference on September 12, 2005. Based upon the verified Application and the Commission's entire files and records, the Commission now makes the following

FINDINGS OF FACT

1. InFlow is a Delaware corporation with principal offices located in Denver, Colorado. InFlow is authorized to provide intrastate interexchange and local exchange and exchange access service as a competing local provider (CLP) in North Carolina pursuant to Certificates granted by the Commission in Docket Nos. P-979, Sub 0 and Sub 1, on November 16, 2000 and June 28, 2001, respectively.

2. The Applicants request Commission approval of several transactions related to the acquisition of InFlow's parent company, InFlow Group, Inc. (IGI), by a subsidiary of SunGard Data Systems, Inc. (SDS), and a proposed acquisition of SDS by Solar Capital Corp. (Solar).

3. On or about January 4, 2005, SunGard SAS Holdings Inc. (SASH), a subsidiary of SDS, acquired the stock of IGI. As a result of the acquisition, InFlow is currently an indirect subsidiary of SDS, a publicly traded Delaware corporation with annual revenues of approximately $3 billion. The Applicants request Commission approval of this transfer of the ultimate ownership and control of InFlow to SDS.

4. In order to complete a reorganization of the operations of various SDS subsidiaries, the Application also requests that the Commission transfer the Certificates of InFlow to SunGard NetWork Solutions Inc. (SNS). In support of the request to transfer the Certificates, SNS submitted a CLP Certificate application form as part of this proceeding. The CLP Certificate application form submitted by SNS has been reviewed by the Public Staff for compliance with certification requirements. After its review, the Public Staff states that it does not object to the issuance of a CLP Certificate to SNS.

5. If the requested Certificate transfer is approved by the Commission, SNS will provide the same services currently provided by InFlow and the Applicants will provide customers advance written notice of the change in their service provider in accordance with applicable customer notice requirements.

6. Finally, the Application also requests Commission approval of a proposed merger between SDS, which is currently the ultimate parent company of both InFlow and SNS, and Solar Capital Corp. (Solar). Solar is a Delaware corporation which is owned by a number of private equity funds. Under the terms of merger agreement, Solar will merge with and into SDS with SDS being the surviving corporation. Existing public shareholders of SDS will receive cash payment in exchange for their shares. Immediately following the merger, SDS will be directly and indirectly owned and controlled by the private equity funds which currently own Solar, other private equity investors and certain SDS management
co-investors.

7. The Applicants submit that Commission approval of the proposed transactions is in the public interest and will not have any adverse effect on the services currently provided by InFlow or the customers to whom such services are provided.

WHEREUPON, the Commission now reaches the following

CONCLUSIONS

Based upon the foregoing Findings of Fact and the entire record in this proceeding, the Commission concludes that the proposed transactions as described in the Application are justified by the public convenience and necessity and should be approved pursuant to G.S. 62-110 and 62-111(a).

IT IS, THEREFORE, ORDERED as follows:

1. That the request to transfer control of InFlow to SNS is hereby authorized and approved;

2. That the Certificates previously granted to InFlow, Inc. are hereby transferred to SNS as shown in the attached Appendix A (intrastate interexchange) and Appendix B (local exchange);

3. That the request to transfer control of SDS as described in the Application is herby authorized and approved; and

4. That these dockets are closed.

ISSUED BY ORDER OF THE COMMISSION.

This the 12th day of September, 2005.

NORTH CAROLINA UTILITIES COMMISSION

Gail L. Mount

Gail L. Mount, Deputy Clerk

mr091205.03

Telcordia06401

Appendix A

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. P-1368, SUB 0

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
AUTHORIZING THE PROVISION OF INTRASTATE INTEREXCHANGE
TELEPHONE SERVICE

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

Know All Men By These Presents, That

SUNGARD NETWORK SOLUTIONS INC.

401 North Broad Street
Suite 600
Philadelphia, Pennsylvania 19108

is hereby granted this

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

This Certificate is hereby granted to SunGard NetWork Solutions Inc., pursuant to NCGS 62-110(b) authorizing the provision of intrastate interexchange telephone service in North Carolina.

ISSUED BY ORDER OF THE COMMISSION.

This the 12th day of September, 2005.

NORTH CAROLINA UTILITIES COMMISSION

Gail L. Mount

Gail L. Mount, Deputy Clerk

mr091205.03

Tetcordp06402

Appendix B

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. P-1368, SUB 0

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
AUTHORIZING THE PROVISION OF INTRASTATE LOCAL EXCHANGE
AND EXCHANGE ACCESS TELEPHONE SERVICE

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

Know All Men By These Presents, That

SUNGARD NETWORK SOLUTIONS INC.

401 North Broad Street
Suite 600
Philadelphia, Pennsylvania 19108

is hereby granted this

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

This Certificate is hereby granted to SunGard NetWork Solutions Inc., pursuant to N.C.G.S. 62-110 authorizing the provision of intrastate local exchange and exchange access telephone service as a Competing Local Provider in the State of North Carolina. This Certificate is hereby issued subject to all of the terms and conditions adopted by the North Carolina Utilities Commission in Docket No. P-100, Sub 133, Commission Rules and Regulations, and any further amendments and supplements thereto.

ISSUED BY ORDER OF THE COMMISSION.

This the 12th day of September, 2005.

NORTH CAROLINA UTILITIES COMMISSION

Gail L. Mount

Gail L. Mount, Deputy Clerk

mr091205.03

Telcordia06404

CERTIFICATE OF SUNGARD

ANNEX D

Telcordia06405

ORDER NO. 05-929

ENTERED 08/19/05

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

CP 1293
CP 886

In the Matter of	)	
	)	
SUNGARD NETWORK SOLUTIONS INC. and	)	
INFLOW, INC.	)	ORDER
	)	
Application to Transfer a Certificate of Authority to	)	
Provide Telecommunications Service in Oregon as a	)	
Competitive Provider.	)	

DISPOSITION: CP 1293, APPLICATION GRANTED; and DOCKET CP 886, ORDER NO. 01-144, CERTIFICATE OF AUTHORITY TRANSFERRED and CANCELED.

Note: By issuing this certificate, the Commission makes no endorsement or certification regarding the certificate holder's rates or service.

The Application

On July 12, 2005, SunGard NetWork Solutions Inc., (Applicant) and InFlow, Inc., filed a joint application to transfer authority to provide telecommunications service in Oregon as a competitive provider. The application requests to transfer the authority of InFlow, Inc., granted by Order No. 01-144, docket CP 886, to SunGard NetWork Solutions Inc. The application was filed pursuant to OAR 860-032-0005. InFlow, Inc. is the transferor. SunGard NetWork Solutions Inc. is the transferee. Both entities together will be referred to as Joint Applicants.

InFlow, Inc. is currently authorized to provide intraexchange (local exchange) switched service (i.e., local dial tone) and non-switched, private line service (dedicated transmission service) within all exchanges of the telecommunications utilities and cooperative corporations listed in Appendices A and B to this order.

InFlow, Inc. also is authorized to provide interexchange switched service (toll) and private line service (dedicated transmission service) statewide in Oregon. InFlow, Inc. operates as a facilities-based provider and as a reseller of intraexchange and interexchange service.

SunGard NetWork Solutions Inc., the Applicant, will directly provide operator services as defined in OAR 860-032-0001 and will be an 'operator service provider' as defined in ORS 759.690(1)(d).

Telcordia06406

The Commission served notice of the application on July 13, 2005. No protests or requests to be made parties of the proceeding were filed.

Based on the record in this matter, the Commission makes the following:

FINDINGS AND CONCLUSIONS

Applicable Law

Two statutory provisions apply to this application. First, ORS 759.020 governs Applicant's request to provide telecommunications as a competitive provider. Under ORS 759.020(5), the Commission shall classify Applicant as a competitive provider if Applicant demonstrates that its services are subject to competition, or that its customers or those proposed to become customers have reasonably available alternatives. In making this determination, the Commission must consider the extent to which services are available from alternative providers that are functionally equivalent or substitutable at comparable rates, terms and conditions, existing economic or regulatory barriers to entry, and any other factors deemed relevant.

Second, ORS 759.050 governs Applicant's request to provide local exchange (intraexchange) telecommunications service. Under ORS 759.050(2)(a), the Commission may authorize Applicant to provide local exchange service within the local exchange of a telecommunications utility if the Commission determines such authorization would be in the public interest. In making this determination, the Commission must consider the extent to which services are available from alternative providers, the effect on rates for local exchange service customers, the effect on competition and availability of innovative telecommunications service in the requested service area, and any other facts the Commission considers relevant. *See* Order No. 96-021.

Designation as a Competitive Provider

Applicant has met the requirements for classification as a competitive telecommunications service provider. Applicant's customers or those proposed to become customers have reasonably available alternatives. The incumbent telecommunications utilities and cooperative corporations listed in the appendices provide the same or similar local exchange services in the local service area requested by Applicant. AT&T, MCI, Sprint Communications, Qwest Corporation, Verizon Northwest Inc., and others provide interexchange telecommunications service in the service area requested by Applicant. Subscribers to Applicant's services can buy comparable services at comparable rates from other vendors. Economic and regulatory barriers to entry are relatively low.

Public Interest

With regard to the general factual conclusions relevant to this proceeding, the Commission adopts the Commission's findings in Order No. 93-1850 and Order No. 96-021. Based on a review of those findings, as well as information contained in the application, the Commission concludes that it is in the public interest to grant the application of SunGard

NetWork Solutions Inc. to provide local exchange telecommunications service as a competitive telecommunications provider in exchanges of the telecommunications utilities and cooperative corporations listed in the appendices, as described in the application. Further, it is in the public interest to grant statewide interexchange authority as described in the application. This finding will have no bearing on any determination the Commission may be called upon to make under sections 251 or 252 of the Telecommunications Act of 1996 (47 USC § 251, 252) with regard to the telecommunications utilities and cooperative corporations in this docket.

Conditions of the Certificate

In Order No. 96-021, the Commission interpreted ORS 759.050 and established conditions applicable to competitive local exchange carriers. Also, other conditions are listed in administrative rules, including among others OAR 860-032-0007. Applicant, as a competitive provider, shall comply with the conditions adopted in Order No. 96-021, as well as all applicable laws, Commission rules, and orders related to provision of telecommunications service in Oregon.

Per ORS 759.050(2)(c) and Order No. 96-021, Applicant shall comply with the following conditions.

1. Applicant shall terminate all intrastate traffic originating on the networks of other telecommunications providers that have been issued a certificate of authority by the Commission.

2. Applicant shall make quarterly contributions to the Oregon Universal Service fund based on a Commission approved schedule and surcharge percentage assessed on all retail intrastate telecommunications services sold in Oregon, pursuant to ORS 759.425. If Applicant bills the surcharge to its end-users, Applicant shall show the charges as a separate line item on the bill with the words "Oregon Universal Service Surcharge ____%".

3. Applicant shall offer E-911 service. Applicant has primary responsibility to work with the E-911 agencies to ensure that all users of its services have access to the emergency system. Applicant will deliver or arrange to have delivered to the correct 911 Controlling Office its customers' Automatic Number Identification telephone numbers so the lead 911 telecommunications service provider can deliver the 911 call to the correct Public Safety Answering Point. Applicant shall work with each 911 district and lead 911 telecommunications service provider to develop procedures to match Applicant's customer addresses to the 911 district's Master Street Address Guide in order to obtain the correct Emergency Service Number (ESN) for each address. Applicant shall provide the lead 911 telecommunications service provider with daily updates of new customers, moves, and changes with the correct ESN for each.

4. For purposes of distinguishing between local and toll calling, Applicant shall adhere to local exchange boundaries and Extended Area Service (EAS) routes established by the Commission. Applicant shall not establish an EAS route from a given local exchange beyond the EAS area for that exchange.

5. When Applicant is assigned one or more NXX codes, Applicant shall limit each of its NXX codes to a single local exchange or rate center, whichever is larger, and shall establish a toll rate center in each exchange or rate center proximate to that established by the telecommunications utility or cooperative corporation serving the exchange or rate center.

6. Applicant shall pay an annual fee to the Commission pursuant to ORS 756.310 and 756.320 and OAR 860-032-0095. The minimum annual fee is $100. Applicant is required to pay the fee for the preceding calendar year by April 1.

7. Pursuant to Oregon Laws 1987, chapter 290, sections 2-8, and to OAR chapter 860, division 033, Applicant shall ensure that the Residential Service Protection Fund surcharge is remitted to the Commission. This surcharge is assessed against each retail subscriber at a rate that is set annually by the Commission.

8. Applicant, as transferee, shall be liable for all fees incurred and reports due by the transferor as of the effective date of this order.

Competitive Zones

All exchanges of the telecommunications utilities and cooperative corporations listed in the appendices to this order are designated competitive zones pursuant to ORS 759.050(2)(b).

Pricing Flexibility

Dedicated Transmission Service

The telecommunications utilities listed in Appendix A are granted pricing flexibility for dedicated transmission service in their respective exchanges by this order. *See* Order No. 93-1850, docket UM 381.

Local Exchange Service

Cooperative telephone companies are generally not regulated by the Commission for local exchange services, and therefore already have pricing flexibility. Any telecommunications utility exempt under ORS 759.040, listed in Appendix A, has pricing flexibility for local exchange service. By Order No. 96-021, at page 82, pursuant to ORS 759.050(5), the Commission established procedures whereby telecommunications utilities

would be granted pricing flexibility for local exchange switched services. Qwest has complied with those procedural requirements for all of its exchanges. Verizon has complied with those procedural requirements for forty of its forty-four exchanges.

ORDER

IT IS ORDERED that:

1. The joint application of SunGard NetWork Solutions Inc., and InFlow, Inc. to transfer the authority granted by Order No. 01-144, docket CP 886, from InFlow, Inc. to SunGard NetWork Solutions Inc., is granted. Applicant, SunGard NetWork Solutions Inc., is granted authority to provide intraexchange and interexchange service.

2. Applicant is designated as a competitive telecommunications provider for intraexchange service in the local exchanges of the telecommunications utilities and cooperative corporations listed in Appendices A and B. In addition, Applicant is designated as a competitive telecommunications provider for interexchange service statewide in Oregon.

3. The local exchanges of the telecommunications utilities and cooperative corporations listed in Appendices A and B are designated as competitive zones.

4. Any obligation regarding interconnection between Applicant and the telecommunications utilities and cooperative corporations listed in Appendices A and B shall be governed by the provisions of the Telecommunications Act of 1996 (the Act). Commission Order No. 96-021 will govern the interconnection obligations between such

parties for the provision of switched local services, unless otherwise addressed by an interconnection agreement or subsequent Commission order.

5. No finding contained in this order shall have any bearing on any determination the Commission may be called upon to make under sections 251 or 252 of the Act with regard to the telecommunications utilities and cooperative corporations listed in the appendices to this order.

6. The telecommunications utilities listed in Appendix A shall receive pricing flexibility on an exchange-by-exchange basis as set forth in this order.

7. The authority granted to InFlow, Inc. by Order No. 01-144 in docket CP 886 is canceled. InFlow, Inc. no longer has authority to operate in Oregon as a competitive telecommunications provider.

8. This order is effective August 31, 2005.

Made, entered, and effective AUG 1 9 2005.

Lee Sparling
Director
Utility Program

A party may request rehearing or reconsideration of this order pursuant to ORS 756.561. A request for rehearing or reconsideration must be filed with the commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-014-0095. A copy of any such request must also be served on each party to the proceeding as provided by OAR 860-013-0070(2). A party may appeal this order to a court pursuant to applicable law.

APPENDIX A

CP 1293
CP 886

EXCHANGES ENCOMPASSED BY THE APPLICATION:

ALL EXCHANGES OF THE TELECOMMUNICATIONS UTILITIES LISTED BELOW

Telecommunications Utilities Not Exempt Pursuant to ORS 759.040

CenturyTel of Eastern Oregon, Inc.
CenturyTel of Oregon, Inc.
Qwest Corporation
United Telephone Company of the Northwest dba Sprint
Verizon Northwest Inc.

Telecommunications Utilities Exempt Pursuant to ORS 759.040

Asotin Telephone Company
Cascade Utilities, Inc.
Citizens Telecommunications Company of Oregon
Eagle Telephone System, Inc.
Helix Telephone Company
Home Telephone Company
Malheur Home Telephone Company
Midvale Telephone Exchange
Monroe Telephone Company
Mt. Angel Telephone Company
Nehalem Telecommunications, Inc.
North-State Telephone Company
Oregon Telephone Corporation
Oregon-Idaho Utilities, Inc.
People's Telephone Company
Pine Telephone System, Inc.
Roome Telecommunications, Inc.
Trans-Cascades Telephone Company

APPENDIX B

CP 1293
CP 886

EXCHANGES ENCOMPASSED BY THE APPLICATION:

ALL EXCHANGES OF THE COOPERATIVE
CORPORATIONS LISTED BELOW

Beaver Creek Cooperative Telephone Company
Canby Telephone Association
Clear Creek Mutual Telephone
Colton Telephone Company
Gervais Telephone Company
Molalla Telephone Company
Monitor Cooperative Telephone Co.
Pioneer Telephone Cooperative
Scio Mutual Telephone Association
St. Paul Cooperative Telephone Association
Stayton Cooperative Telephone Co.

Vendor Qualification Survey (VQS) Section 3.6.22 – Sub-Contractor List

VQS_Section 3.6.22_Sub-Contractor List

Telcordia, the Respondent, selects SunGard Data Systems, Inc. as its Sub-Contractor.

iconectiv CONFIDENTIAL – RESTRICTED ACCESS
This document and the confidential information it contains shall be used by NAPM LLC solely in consideration of a possible business arrangement with iconectiv and for no other purpose, and shall only be distributed, routed or made available to authorized persons having a need to know in accordance with the NDA executed between the NAPM LLC and Telcordia Technologies, Inc. on October 1, 2012.
Telcordia Technologies, Inc. dba iconectiv.

iconectiv

Joel Zamlong

www.iconectiv.com

Telcordia Technologies, Inc. dba iconectiv
444 Hoes Lane
Piscataway, NJ 08854-4151, USA
T +1 732.699.8695

November 13, 2013

CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT

Sanford S. Williams
FCC
445 12th St SW
Room 5-C217
Washington, DC 20554
Sanford.Williams@fcc.gov

The Future of NPAC Subcommittee
c/o North American Portability Management LLC
c/o Dan A. Sciullo
Attorney at Law
Berenbaum Weinshienk PC
370 17th St, Suite 4800
Denver, CO 80202
dsciullo@bw-legal.com

Re: Neutrality Legal Opinion Follow-up Questions; Oct 23, 2013 email from Tim Decker NAPM LLC co-chair

Dear Sirs:

Telcordia Technologies dba iconectiv hereby provides the attached written responses to the questions posed in the October 23, 2013, email from Tim Decker, NAPM LLC Co-Chair, to iconectiv. Because the questions in that email all address the subject of Wiltshire & Grannis LLP's Neutrality Opinion Letter, Wiltshire & Grannis has prepared the attached response, which supplements that opinion to provide clarifications in response to the FONPAC's questions. The attached response is subject to the same assumptions, qualifications and other matters that apply to the Neutrality Opinion under the Legal Opinion Accord of the Section of Business Law of the American Bar Association (1991), as stated in the Neutrality Opinion. The attached response addresses all the questions posed, and, together with the attached certification, constitutes Telcordia/iconnectiv's response to the questions posed.

Both electronic and hard copies of this response are being provided to Sanford Williams of the FCC, and Dan Sciullo of Berenbaum Weinshienk. Electronic copies of this response are being provided to Tim Decker, Tim Kagele, and Todd Daubert.

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NON-DISCLOSURE AGREEMENT

Please confirm your receipt of this response and the attachments.

Please contact me with any questions.

Regards

Joel Zamlong

Joel Zamlong

Cc: Tim Decker
Tim Kagele
Todd Daubert

WILTSHIRE & GRANNIS LLP

SUBJECT TO REQUEST FOR CONFIDENTIAL TREATMENT NOT FOR PUBLIC INSPECTION

CONFIDENTIAL – NOT FOR DISCLOSURE SUBJECT TO NON-DISCLOSURE AGREEMENT

November 13, 2013

The Future of NPAC Subcommittee
c/o North American Portability Management LLC
c/o Dan A. Sciullo
Berenbaum Weinshienk PC
370 17th Street
Suite 4800
Denver, CO 80202

Sanford C. Williams
Federal Communications Commission
445 12th St SW
Room 5-C217
Washington, DC 20554

Re: Supplement to Legal Opinion in response to LNPA Neutrality Opinion Questions; email from Tim Decker, NAPM LLC co-chair, to Joel Zamlong, Telcordia/iconectiv (Oct. 23, 2013)

Dear Sirs:

Inasmuch as the questions posed to Telcordia Technologies, Inc. dba iconectiv ("Telcordia/iconectiv"[1]) all address the subject of Wiltshire & Grannis LLP's ("Wiltshire & Grannis") legal opinion, Wiltshire & Grannis hereby supplements that opinion to provide clarifications in response to the questions posed. This response is subject to the same assumptions, qualifications, and other matters that apply to the Opinion Letter under the Legal Opinion Accord of the Section of Business Law of the American Bar Association (1991) ("the Accord"), as stated in the Opinion Letter ("Opinion Letter" or "Neutrality Opinion"). These responses address all the questions posed, and, together with the attached certification, constitute Telcordia/iconnectiv's response to the questions posed. Furthermore, capitalized terms have the same definitions as in the Neutrality Opinion.

[1] Throughout this document, "Telcordia/iconectiv" refers to the Respondent. When necessary to refer historically to Telcordia as it existed prior to January 1, 2013, that entity is referred to as "Telcordia."

SUBJECT TO REQUEST FOR CONFIDENTIAL TREATMENT NOT FOR PUBLIC INSPECTION

CONFIDENTIAL – NOT FOR DISCLOSURE SUBJECT TO NON-DISCLOSURE AGREEMENT

TELCORDIA/ICONECTIV

Question 1:[2] The Neutrality Opinion states that the law firm of Wiltshire & Grannis is not counsel to SunGard. Does Wiltshire & Grannis attest that the representations regarding SunGard, including its interests and responsibilities, are accurate and complete?

Wiltshire & Grannis, as author of the Neutrality Opinion, under standard practice with respect to opinion letters, obtained the attestation of SunGard, under penalty of perjury, that SunGard's representations were accurate and complete. Wiltshire & Grannis relied on those representations in preparing its Neutrality Opinion. Wiltshire & Grannis did not possess personal knowledge of any information contradicting SunGard's representations. Thus, Wiltshire & Grannis has no basis upon which to question the accuracy and completeness of SunGard's representations, and has accepted them as accurate and complete in rendering its opinion.

As the question states, Wiltshire & Grannis LLP does not represent SunGard, Telcordia/iconectiv's proposed Sub-Contractor. That fact, however, does not alter the assumptions, qualifications, and other matters that apply to the Neutrality Opinion under the Accord, the governing document selected by the RFP documents.[3] Those assumptions, qualifications, and other matters apply with respect to SunGard for the purposes of the opinions rendered in the Neutrality Opinion as if Wiltshire & Grannis were counsel to SunGard.

As is standard practice when preparing a Legal Opinion, counsel interviewed representatives of Telcordia/iconectiv, Ericsson, and SunGard about the issues discussed in the Neutrality Opinion. Counsel also reviewed publicly available financial reports for Ericsson and reviewed the FCC Form 499 Filer Database on April 2, 2013.[4] Counsel further reviewed documents provided by Telcordia/iconectiv, Ericsson, and SunGard, as described in or attached to the Neutrality Opinion, including company codes of business ethics or business conduct, and state registrations. In addition, counsel based its Neutrality Opinion on duly-sworn statements from Telcordia/iconectiv, Ericsson, and SunGard, and from those facts within the personal knowledge

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[2] Although the questions were not designated by numbers, we have assigned numbers to each question in the order presented for ease of reference.

[3] Public Notice No. DA 13-154, Federal Communications Commission (rel. Feb. 5, 2013); 2015 LNPA RFP § 4.2 ("RFP").

[4] FCC Form 499 Filer Database, *available at* http://apps.fcc.gov/cgb/form499/499a.cfm; Telecommunications Reporting Worksheet, FCC Form 499-Q, Worksheets received by the Universal Service Administrative Company as of February 21, 2013, *available at* http://www.usac.org/about/tools/fcc/filings/2013/Q2/M05%20-%20Telecommunications%20Worksheet%20-%202Q2013.pdf.

of the members of the Primary Lawyer Group. The Legal Accord recognizes that it is appropriate for counsel to rely on information provided by clients and others (e.g., client's agents, advisers, and subcontractors) for information within the information-giver's knowledge or access.[5] As in the case of any Legal Opinion, except with respect to facts within counsel's personal knowledge, counsel must rely on information voluntarily provided. The Legal Accord takes this into account, permitting counsel to rely on information and documents provided by clients and their agents (e.g., sub-contractors), and to assume that all documents submitted to counsel are accurate and complete, and that each party involved has complied with any requirement of good faith, fair dealing, and conscionability.[6] Following the process set out in the Accord, counsel assumed the accuracy of, and relied solely upon, sworn certificates made or given to us by representatives of Telcordia/inconectiv, Ericsson, and SunGard.[7] The assumptions, qualifications, and other matters that the Accord makes applicable to the Neutrality Opinion apply equally to each of the three companies.

Question 2: Which individuals comprise the Primary Lawyer Group?

As noted in the Neutrality Opinion, the phrase "Primary Lawyer Group" means lawyers in the firm of Wiltshire & Grannis LLP who have given substantive legal attention to representation of Telcordia/iconectiv and Ericsson in connection with the Request for Proposal. The Primary Lawyer Group includes only those lawyers who were with the firm at the time of the signing of the Neutrality Opinion Letter. The Primary Lawyer Group consists of John Nakahata, Jonathan Mirsky, Madeleine Findley, and Anne Langer. Ms. Langer was licensed and in good standing to practice law in the State of New York at the time of the signing of the Neutrality Opinion Letter. Mr. Nakahata, Mr. Mirsky, and Ms. Findley, who are each licensed and in good standing to practice law in the District of Columbia (among other jurisdictions), supervised her work. Ms. Langer was admitted to the Bar of the District of Columbia on May 10, 2013. Mr. Nakahata has represented Telcordia/iconectiv during the entire period of Wiltshire & Grannis LLP's (and its predecessor Harris, Wiltshire & Grannis LLP's) engagement.

Question 3: The Opinion states that Telcordia is owned by Ericsson, and that Ericsson is implementing additional structural safeguards to ensure Telcordia's neutrality. What are these safeguards and why are they necessary?

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[5] Legal Opinion Accord of the American Bar Association Section of Business Law §§ 3.1, 3.2 & Commentary (1991).

[6] Legal Opinion Accord of the American Bar Association Section of Business Law § 4 (1991).

[7] Legal Opinion Accord of the American Bar Association Section of Business Law § 4 (1991).

The Neutrality Opinion Letter concluded that both Ericsson and Telcordia/iconectiv meet the neutrality requirements of the Request for Proposal ("RFP"), even without any additional structural safeguards.[8] Telcordia/iconectiv nonetheless believes that it is also important to be perceived as neutral between competing industry participants and thus was willing to adopt additional voluntary safeguards to address any perception of potential bias.[9] As previously stated in the Neutrality Opinion, accordingly, Ericsson is implementing additional, voluntary structural changes that will further ensure Telcordia/iconectiv's neutrality. These additional structural safeguards further insulate Telcordia/iconectiv from any perceived undue influence that might hypothetically be exerted. The following additional safeguards have been implemented:

- Telcordia/iconectiv now has a Non-Executive Management Board,[10] which has independent authority to exercise its fiduciary governance responsibilities and obligations.[11] The Board has a fiduciary duty first and foremost to protect the interests of the company.[12] The Board will be responsible for constituting a neutrality compliance committee and implementing other appropriate safeguards to ensure neutrality, including neutrality audits by third-party auditors, in iconectiv's operations consistent with FCC requirements.[13]
- Telcordia/iconectiv has its own financial and accounting systems, compensation plan, health and welfare benefits, and human resources organization independent of Ericsson.[14]
- Telcordia/iconectiv does not participate in Ericsson's Long Term Variable Stock Plan, in which Ericsson provides stock incentives to valued employees.[15]

As stated in the Neutrality Opinion, in addition to these proposed structural safeguards, Telcordia/iconectiv has also proposed an auditable LNPA Code of Conduct that it would put in place if selected as the LNPA.[16] In its key aspects, this LNPA Code of Conduct provides that the LNPA shall protect the confidentiality of LNP user data or proprietary information and LNPA

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8 Telcordia Neutrality Opinion Letter at 5-7 ("Neutrality Op.").

9 Telcordia Nov. 2013 Cert. ¶ 1.

10 "Non-Executive Management Board" is the name that has been given to the Advisory Board described in the Ericsson Certificate and in the Borgklint Letter attached to the Ericsson Certificate. Telcordia Nov. 2013 Cert. ¶ 2; Ericsson Cert. ¶ 10 & Annex B. This name reflects the board's authority and governance responsibilities. Telcordia Nov. 2013 Cert. ¶ 2.

11 Telcordia Nov. 2013 Cert. ¶ 2; *see also* Ericsson Cert. ¶ 10 & & Annex B.

12 Ericsson Cert. ¶ 10.

13 Ericsson Cert. ¶ 10 & & Annex B.

14 Ericsson Cert. ¶ 10 & & Annex B.

15 Telcordia Cert. ¶ 17; Ericsson Cert.¶ 11.

16 Telcordia Cert. ¶ 18.

services; shall treat all Telecommunications Service Providers equally; shall not permit employees, contractors, officers, or managers to hold any interest that would cause the LNPA to no longer be neutral without obtaining prior approval from the FCC or recusing from all LNPA activities; shall not have interlocking directorates with any Telecommunications Service Provider; and shall retain all decisionmaking authority regarding LNPA services.[17]

Question 4: The opinion states: "Effective January 1, 2013, all iconectiv operations and employees other than Telcordia's former Interconnection Business Unit have been transferred to other Ericsson legal entities." Describe the nature of all of the operations of Telcordia's business prior to the January 1, 2013 divestiture. Why was it necessary or prudent to transfer them from Telcordia? How does their transfer serve Telcordia's neutrality?

As Telcordia/iconectiv has certified, these business-unit transfers do not reflect any concern about Telcordia/iconectiv's neutrality but rather reflect the normal course of transaction approval and corporate integration post-acquisition.[18] These business-unit transfers also had the benefit of providing a structure that supports neutrality as described in the Borgklint letter.[19] Prior to January 1, 2013, Telcordia was comprised of four business units: Interconnection, OSS, BSS, and Government Consulting services. As is customary when acquiring a company, Ericsson developed post-acquisition integration plans regarding personnel, assets, and so forth. To that end, Ericsson integrated the Telcordia OSS and BSS units with similar existing units within Ericsson. Telcordia's Government Consulting services unit was required, because of certain government contracts it held, to be held as a standalone entity. As an additional safeguard to avoid any appearance of bias, Ericsson chose not to integrate the Interconnection Business Unit into Ericsson, but rather to allow it to continue to operate as a wholly owned subsidiary with its own management and board.[20] As of August 2013, a Telcordia/iconectiv Non-Executive Management Board was seated and the Board Members were granted authority and fiduciary responsibility to oversee the operations of Telcordia/iconectiv.

Question 5: What standards will be used to determine whether Telcordia's directors are deemed to be independent?

Telcordia/iconectiv applies the following standards to its Board members:[21] An independent director will not be an executive officer or employee of iconectiv or Ericsson and, in the opinion of the directors, will have no relationship which would interfere with the exercise of independent

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17 *Id.*

18 Telcordia Nov. 2013 Cert. ¶ 3.

19 Ericsson Cert. ¶ 10 & Annex B.

20 Annex B to Ericsson Cert. (Borgklint Letter).

21 Telcordia Nov. 2013 Cert. ¶ 5.

judgment in carrying out the responsibilities of a director. An independent director will not accept compensation from iconectiv other than as a director[22] and will not be an affiliated person of the company or any subsidiary.[23]

In addition, as Telcordia/iconectiv certified in its initial certification accompanying the Neutrality Opinion,[24] Telcordia/iconectiv applies the following safeguards to ensure the neutrality of its directors: Board members will not simultaneously serve as officers or directors of a Telecommunications Service Provider. No board member will have an ownership or voting interest of ten percent or greater in any Telecommunications Service Provider.[25]

Question 6: The Opinion describes an "interim period" before the Board is fully constituted. How long do you expect the interim period to last?

The Telcordia/iconectiv Non-Executive Management Board ("iconectiv Board") was seated and formally announced in August 2013. As a result of the post-acquisition integration described in response to Question 4 above, certain intellectual property, asset transitions, and administrative wind-down operations must occur. While this transition process is ongoing, a Telcordia board remains in place to oversee those activities. The iconectiv Board will be constituted as a Board of Directors once this transition process is complete, but in no event later than the date when the NPAC service goes live.[26]

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[22] Precedent in this area provides that "compensation" does not include the receipt of fixed amounts of compensation under a retirement plan (including deferred compensation) for prior service with the company (provided that such compensation is not contingent in any way on continued service). *See, e.g.*, 17 C.F.R. § 240.10A-3(b)(1)(ii) (defining "independence" for directors serving on an audit committee); *see also* Section 301 of the Sarbanes-Oxley Act of 2002.

[23] As related guidance in this area provides, "affiliate" or "affiliated person" is defined to mean "a person that directly, or indirectly through one of more intermediaries, controls, or is controlled by, or is under common control with, the person specified." "Control" is defined to mean "the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract, or otherwise." An executive officer of an affiliate, a director who is also an employee of an affiliate, a general partner of an affiliate and a managing member of an affiliate are all considered to be "affiliates." In addition, a person who is not (a) an executive officer or (b) a shareholder owning ten percent or more of any class of voting securities of a company is deemed not to control the company. *See, e.g.*, 17 C.F.R. § 240.10A-3(e).

[24] Telcordia Cert. ¶ 16.

[25] *Id.*

[26] Telcordia Nov. 2013 Cert. ¶ 6. The current RFP schedule contemplates this date being June 28, 2015. RFP § 16.1.

Question 7: Identify any companies in which Ericsson has a direct or indirect ownership interest of 10% or more [that are] TSPs or affiliates of TSPs whether in the United States or not. For companies incorporated outside the United States, identify which TSPs or TSP affiliates, if any, have ownership interest in United States TSPs or United States TSP affiliates. [*Bracketed language added for clarity.*]

Ericsson does not have a direct or indirect ownership of ten percent or more in a U.S. Telecommunications Service Provider or in any entity, whether in the U.S. or not, that itself has a ten percent or greater ownership in a U.S. Telecommunications Service Provider, where "ownership" is defined to mean direct or indirect ownership (stock interest, general or limited partnership interests, joint venture participation, or member interests in a limited liability company), direct or indirect voting power, or the ability to direct the entity's management or policies.[27] Ericsson has a small investment in CENX, which is registered with the FCC as an interexchange carrier. Based on Telcordia/iconectiv's understanding from CENX's general counsel, however, CENX decommissioned its network in August 2013 and now provides only software services to carriers.[28]

Question 8: [*It appears that this was intended to be an independent question that did not have a bullet point because of a formatting error. Telcordia/iconectiv has answered it accordingly.*] The Opinion states that Ericsson is not a TSP in the United States. In which countries is Ericsson a TSP and identify any affiliation between such TSPs and United States TSPs or their affiliates.

Telcordia/iconectiv is not a TSP in any country.[29] Ericsson is not a TSP in any country.[30]

Question 9: Provide a description of "managed services" referenced in the Opinion. Provide a list of all TSPs or TSP affiliates to whom Telcordia or Ericsson provides managed services and identify the portion of the relevant company's business that it receives from each TSP or TSP affiliate.

As previously stated in the Neutrality Opinion,[31] in its managed services arrangements, Ericsson takes responsibility for network design, planning, and building, including day-to-day operations, while the carrier retains responsibility for strategy, marketing, and customer care. More than

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27 Telcordia Nov. 2013 Cert. ¶ 7.

28 Telcordia Nov. 2013 Cert. ¶ 8.

29 Telcordia Nov. 2013 Cert. ¶ 9.

30 *Id.*

31 Neutrality Op. at 11-12.

half of the equipment involved in Ericsson's managed services agreements is provided by other infrastructure vendors.[32] Ericsson provides managed services to a range of U.S. telecommunications customers, including Sprint, Clearwire, and AT&T.[33] Regulatory requirements, including financial, securities, and customer privacy regulations and obligations, prevent Ericsson from disclosing additional information regarding managed services or the terms and conditions of those agreements. Were the FCC to serve Telcordia/iconectiv and/or Ericsson with lawful compulsory process for such information, Telcordia/iconectiv and/or Ericsson would supply such information, as required by lawful process, subject to a protective order, when appropriate, and subject to the opportunity for Ericsson's counterparty to object, where notice and such an opportunity is required pursuant to contract.[34]

Question 10: Provide a chart of all United States TSP or United States TSP affiliate vendor financings (including guarantees) for the period 2010-2013, setting forth the name of the borrower, the term of the financing, the amount of the financing, whether the loan is current, and, if not, what steps Ericsson is taking to deal with default.

As noted in the Neutrality Opinion,[35] Ericsson from time to time arranges vendor financing for customers, including Telecommunications Service Providers. Customer finance is arranged for infrastructure projects in different geographic markets and for a large number of customers. To the extent customer loans are not provided directly by banks, Ericsson may provide or guarantee vendor credits. This is a standard practice among hardware firms.[36]

Ericsson has shared the following information about its participation in vendor financing arrangements. As of December 31, 2012, Ericsson had originated or guaranteed a total of 78 customer financing arrangements worldwide. Ericsson's vendor financing arrangements are governed by its finance committee and subject to ongoing monitoring. Any major commitment to finance a customer requires prior approval from the Finance Committee of the Board of Directors. These arrangements are transitory and marginal as compared to the overall financial health and stability of the borrowers. Ericsson treats loan guarantees to customers as contingent liabilities or a form of future interest, and not as a vested interest.

Regulatory requirements, including financial, securities, and customer privacy regulations and obligations, prevent Ericsson from disclosing information regarding the specific terms and conditions governing, and the status of, Ericsson's vendor financing arrangements. Ericsson is

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32 Ericsson Cert. ¶ 12.

33 Telcordia Nov. 2013 Cert. ¶ 10.

34 *Id*.

35 Neutrality Op. at 12; Ericsson Cert. ¶ 13.

36 *Id*.

not authorized to share information about the details of these arrangements on a voluntary request and would require additional protections to prevent this information from being seen by competitors of any borrowers. Were the FCC to serve Telcordia/iconectiv and/or Ericsson with lawful compulsory process for such information, Telcordia/iconectiv and/or Ericsson would supply such information, as required by lawful process, subject to a protective order, when appropriate, and subject to the opportunity for Ericsson's counterparty to object, where notice and such an opportunity is required pursuant to contract.[37]

SunGard Availability Services LP

Question 11: The Opinion states that two owners of SDS (SunGard's parent) have interests in excess of 10% in TSPs (Intelsat, Avaya and IPC Network). The two owners each have a seat on SDS' board. How will these owners be shielded from SunGard's LNPA activities?

As stated in the Neutrality Opinion and accompanying certification by SunGard, out of an abundance of caution, the two Sponsors of SunGard Data Systems Inc. ("SDS") that also have ownership interests greater than ten percent in Avaya (the only entity meeting the definition of a "Telecommunications Service Provider") shall recuse themselves from participating in any material discussions or decisions involving the SunGard Services, including any involvement in day-to-day decision-making.[38] As explained further below, Intelsat and IPC Network Services are not "Telecommunications Service Providers" as defined in the RFP documents.

SunGard's parent company, SDS, has been owned since August 11, 2005, by a consortium of private equity investment funds associated with Bain Capital Partners, The Blackstone Group, Goldman Sachs & Co., Kohlberg Kravis Roberts & Co., Providence Equity Partners, Silver Lake and TPG (collectively, the "Sponsors").[39] Each of the Sponsors has a representative on the Board of SDS. Two of the Sponsors of SDS also have ten percent or greater ownership interests in three entities listed in the FCC Form 499-A database: Avaya, Inc., Intelsat, and IPC Network Services.

For the purposes of the neutrality review, the ownership interests in Intelsat and IPC Network Services are not relevant because those entities are not "Telecommunications Service Providers" as defined in the RFP documents. IPC Network Services is registered with the FCC as a toll reseller, and Intelsat is registered as a private service provider. Neither a toll reseller nor a private service provider provides facilities-based wireline local exchange or CMRS

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37 Telcordia Nov. 2013 Cert. ¶ 11.

38 SunGard Cert. ¶ 8.

39 SunGard Cert. ¶ 7.

telecommunications services to the public in any State or Territory of the United States, or interconnected VoIP services as defined in the RFP documents.

SDS Sponsors Silver Lake and TPG jointly own Avaya, Inc., which is registered with the FCC as an interconnected VoIP provider. One of the Directors of SDS is also a Director of Avaya, Inc. Silver Lake also has a ten percent or greater ownership interest in IPC Network Services, and in Intelsat.

In addition, under the FCC's *Warburg Pincus* order, none of these three entities (Avaya, Intelsat, and IPC Network Services) is an Affiliate of SunGard because they do not have a ten percent or greater ownership or voting interest in SunGard or the ability to direct SunGard's management or policies.[40] SunGard is thus not an Affiliate of a Telecommunications Service Provider.

Nonetheless, out of an abundance of caution, SunGard has represented that the two Sponsors of SDS that also have ownership interests greater than ten percent in Avaya (the only entity meeting the definition of a "Telecommunications Service Provider") shall recuse themselves from participating in any material discussions or decisions involving the SunGard Services, including any involvement in day-to-day decision-making.[41] This will insulate SunGard from any "undue influence" that could otherwise hypothetically stem from the involvement of its directors' ownership interests in a Telecommunications Service Provider.

Question 12: Would SunGard be willing to adopt the same Code of Conduct that Telcordia adopts (if it is awarded some or all of the contract)?

As stated in SunGard's certification attached to the Neutrality Opinion, all SunGard employees dedicated to providing services to Telcordia/iconectiv shall be bound by the Proposed LNPA Code of Conduct if Telcordia/iconectiv is selected as an LNPA.[42] In the company-specific safeguards previously proposed, SunGard has proposed that all SunGard employees dedicated to providing services to Telcordia/iconectiv and their direct managers shall be bound by the LNPA Code of Conduct.

Under the contemplated sub-contractor arrangement, SunGard will perform tasks and functions at Telcordia/iconectiv's direction, but will have no independent discretion to make decisions

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40 *Request of Lockheed Martin Corporation and Warburg, Pincus & Co. For Review of the Transfer of the Lockheed Martin Communications Industry Services Business*, 14 FCC Rcd. 19,792, 19,808 ¶ 26 (1999).

41 SunGard Cert. ¶ 8.

42 SunGard Cert. ¶ 12.

regarding the SunGard Services.[43] Only Telcordia/iconectiv will have authority to access or perform operations in the NPAC/SMS application.[44]

In addition, SunGard employees and directors are subject to SunGard's Global Business Conduct and Compliance Program ("GBCCP").[45] The GBCCP includes provisions for addressing actual or perceived conflicts of interest, and imposes an obligation to disclose conflict situations. Under the GBCCP, any conflict of interest that becomes known to SDS or its Chief Compliance Officer must be resolved. That resolution can take the form of the person recusing himself from any decision or activity that involves the other party, divestiture of equity interests in the entity or whatever resolution is most appropriate to the circumstances. While a conflict situation is under review, the GBCCP prohibits affected directors or employees from acting on behalf of SunGard in connection with the conflict situation.[46]

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43 Telcordia Cert. ¶ 18; SunGard Cert. ¶ 1.

44 Telcordia Cert. ¶ 18.

45 SunGard Cert. ¶ 11 & Annex A.

46 SunGard Cert. ¶ 11 & Annex A at 5.

Question 13: The Opinion states that SunGard's affiliate, SNS, is registered to provide "certain telecommunications services" in three States, and asserts that SNS "does not provide any switched access services anywhere…." What telecommunications services does SNS provide, either directly or indirectly (e.g. through a third party contract)?

As stated in the Neutrality Opinion and accompanying certification by SunGard, SunGard NetWork Solutions Inc. ("SNS"), an Affiliate of SunGard Availability Services LP ("SunGard"), does not provide any switched services anywhere, and thus makes no use of local number portability. Instead, it contracts with telecommunications providers for dedicated non-switched data circuits to provide to its affiliates' customers solely in connection with their use of SunGard data services (i.e. hosting, managed services, recovery services).[47] That is, SNS purchases special access, private line, or point-to-point data connection services from telecommunications providers and SNS affiliates integrate those services with their core services that they sell to enable their customers to connect with SunGard data centers and the SunGard services provided in such data centers.

SunGard Availability Services LP ("SunGard"), which is Telcordia/iconectiv's Subcontractor, is not a Telecommunications Service Provider. It does not own and is not owned by a TSP. SunGard's Affiliate, SNS, is registered in three states (North Carolina, Oregon, and Minnesota) to provide certain telecommunications services. These registrations were made the applicable state public utility regulations were sufficiently broad that SNS registered out of an abundance of caution, even though SNS provided no switched local exchange, CMRS or interconnected VoIP services, whether directly or through a third party contract.[48]

- In North Carolina, SNS is authorized to provide intrastate interexchange telephone service, intrastate local exchange service, and exchange access telephone service;[49]
- In Oregon, SNS is authorized to provide intraexchange and interexchange services and is designated as a competitive telecommunications provider for interexchange service statewide;[50] and
- In Minnesota, SNS is registered to provide local niche services only,[51] which Minnesota defines as "point-to-point connections between end-user locations within a service area and any telecommunications services under the [Minnesota public utility] commission's

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47 SunGard Cert. ¶ 5.

48 *Id*. ¶ 4.

49 *Id*. ¶ 4 & Annex C.

50 SunGard Cert. ¶ 4 & Annex D.

51 SunGard Cert. ¶ 4 & Annex B.

jurisdiction that do not fall within the definition of local service or the definition of interexchange service."[52]

As discussed above, however, SNS does not provide any switched services anywhere, and thus make no use of local number portability. Neither SunGard nor SNS owns any facilities of its own or has independent access to the switched network.

SNS does not have any plans to offer switched services that would utilize number portability, and does not provide voice telecommunications services.[53]

Although SunGard is an Affiliate, by common ownership, of a Telecommunications Service Provider, because that Affiliate does not provide – and has no plans to provide – switched services that utilize number portability,[54] it thus should not be considered a proscribed Telecommunications Service Provider for the purposes of evaluating neutrality, particularly with respect to a Subcontractor.

* * *

Consistent with the Accord, this supplemental response to the Opinion Letter is rendered solely for your benefit in connection with the Request for Proposal and this opinion may not be used or relied upon by any other person or entity for any purpose, except as set forth in Section 20 of the Accord.

The opinions expressed in this letter are based upon the current law and facts. We have no obligation to advise you of changes of law or fact that occur after the date of this supplemental response to the Opinion Letter, even though the change may affect the legal analysis, a legal conclusion, or an informational confirmation in this Opinion Letter.

Sincerely,

WILTSHIRE & GRANNIS LLP

By: _____
John T. Nakahata

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52 Minn. Admin. Rules § 7812.0100 subpart 31.

53 *Id.*

54 *Id.*

CERTIFICATE OF TELCORDIA TECHNOLOGIES, INC.
TO
WILTSHIRE & GRANNIS LLP

I, Richard Jacowleff, President and Chief Executive Officer of Telcordia Technologies, Inc., doing business as iconectiv ("Telcordia" or the "Company"), do hereby certify to Wiltshire & Grannis LLP ("WG") under penalty of perjury that the following is true and correct to the best of my knowledge:

Telcordia has requested that WG render an opinion to the Federal Communications Commission ("FCC"), the North American Portability Management LLC ("NAPM"), the Future of Number Portability Administration Committee ("FoNPAC"), and the North American Numbering Council Local Number Portability Administrator Selection Working Group ("SWG") in connection with the 2015 Local Number Portability Administrator Request for Proposal ("2015 LNPA RFP") to serve as the Local Number Portability Administrator in each of the Regional Bell Operating Company ("RBOC") service areas or regions. I understand and acknowledge that this Certificate will be relied upon by WG in rendering such opinion of counsel.

Capitalized terms used herein and not otherwise defined shall have the same meaning and effect as used and defined in the 2015 LNPA Vendor Qualification Survey (the "VQS").

1. Telcordia/iconectiv believes that it is important to not only be neutral but also to be perceived as neutral between competing industry participants, and thus was willing to adopt additional voluntary safeguards to address any perception of potential bias.
2. Telcordia/iconectiv now has a Non-Executive Management Board, which has independent authority to exercise its fiduciary governance responsibilities and obligations. "Non-Executive Management Board" is the name that has been given to the Advisory Board described in the Ericsson Certificate and in the Borgklint Letter attached to the Ericsson Certificate. This name reflects the board's authority and governance responsibilities. As Ericsson has previously certified in paragraph 10 of its Certificate and in the Borgklint Letter attached as Annex B to its Certificate, the Board has a fiduciary duty first and foremost to protect the interests of the company. The Board will be responsible for constituting a neutrality compliance committee and implementing other appropriate safeguards to ensure neutrality, including neutrality audits by third-party auditors, in iconectiv's operations consistent with FCC requirements.
3. Prior to January 1, 2013, Telcordia was comprised of four business units: Interconnection, OSS, BSS, and Government Consulting services. As is customary when acquiring a company, Ericsson developed post-acquisition integration plans regarding personnel, assets, and so forth. To that end, Ericsson integrated the Telcordia OSS and BSS units with similar existing units within Ericsson. Telcordia's Government Consulting services unit was required, because of certain government contracts it held, to be held as a standalone entity. As an additional safeguard to avoid any appearance of bias, Ericsson chose not to integrate the Interconnection Business Unit into Ericsson, but rather to allow it to continue to operate as a wholly owned subsidiary with its own

management and board. These business-unit transfers do not reflect any concern about Telcordia/iconectiv's neutrality but rather reflect the normal course of transaction approval and corporate integration post-acquisition.

4. As of August 2013, a Telcordia/iconectiv Non-Executive Management Board was seated and the Board Members were granted authority and fiduciary responsibility to oversee the operations of Telcordia/iconectiv.

5. Telcordia/iconectiv applies the following standards to its Board members: An independent director will not be an executive officer or employee of Telcordia/iconectiv or Ericsson and, in the opinion of the directors, will have no relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. An independent director will not accept compensation from Telcordia/iconectiv other than as a director and will not be an affiliated person of the company or any subsidiary.

6. The Telcordia/iconectiv Non-Executive Management Board ("iconectiv Board") was seated and formally announced in August 2013. As a result of the post-acquisition integration described in paragraph 3 above, certain intellectual property, asset transitions, and administrative wind-down operations must occur. While this transition process is ongoing, a Telcordia board remains in place to oversee those activities. The iconectiv Board will be constituted as a Board of Directors once this transition process is complete, but in no event later than the date when the NPAC service goes live.

7. Ericsson has informed Telcordia/iconectiv that it does not have a direct or indirect ownership of 10 percent or more in a U.S. Telecommunications Service Provider or in any entity, whether in the U.S. or not, that itself has a 10 percent or greater ownership in a U.S. Telecommunications Service Provider, where "ownership" is defined to mean direct or indirect ownership (stock interest, general or limited partnership interests, joint venture participation, or member interests in a limited liability company), or direct or indirect voting power, or the ability to direct the entity's management or policies.

8. Ericsson has a small investment in CENX, which is registered with the FCC as an interexchange carrier. Based on Telcordia/iconectiv's understanding from CENX's general counsel, however, CENX decommissioned its network in August 2013 and now provides only software services to carriers.

9. Ericsson has informed Telcorida/iconectiv that Ericsson is not a TSP in any country. Likewise, Telcordia/iconectiv is not a TSP in any country.

10. Ericsson has informed Telcordia/iconectiv that it provides managed services to a range of U.S. telecommunications customers, including Sprint, Clearwire, and AT&T. Regulatory requirements, including financial, securities, and customer privacy regulations and obligations, prevent Ericsson from disclosing additional information regarding managed services or the terms and conditions of those agreements. Were the FCC to serve Telcordia/iconectiv and/or Ericsson with lawful compulsory process for such information, Telcordia/iconectiv and/or Ericsson would supply such information, as required by lawful process, subject to a protective order, when appropriate, and subject to the opportunity for Ericsson's counterparty to object, where notice and such an opportunity is required pursuant to contract.

11. Ericsson has informed Telcordia/iconectiv that regulatory requirements, including financial, securities, and customer privacy regulations and obligations, prevent Ericsson from disclosing information regarding the specific terms and conditions governing, and the status of, Ericsson's vendor financing arrangements. Ericsson is not authorized to share information about the details of these arrangements on a voluntary request and would require additional protections to prevent this information from being seen by competitors of any borrowers. Were the FCC to serve Telcordia/iconectiv and/or Ericsson with lawful compulsory process for such information, Telcordia/iconectiv and/or Ericsson would supply such information, as required by lawful process, subject to a protective order, when appropriate, and subject to the opportunity for Ericsson's counterparty to object, where notice and such an opportunity is required pursuant to contract.

I certify under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Richard Jacowleff

Richard Jacowleff
President & Chief Executive Officer
Telcordia Technologies, Inc. dba iconectiv
444 Hoes Lane
Piscataway, NJ 08854-4151

Executed on November 13, 2013.

CERTIFICATE OF SERVICE

I hereby certify that on November 13, 2013, I caused a true and correct copy of the foregoing to be served on the individuals below, by hand delivery or Federal Express and electronic mail.

Via hand delivery & electronic mail:
Sanford S. Williams
Federal Communications Commission
445 12th St SW
Room 5-C217
Washington, DC 20554
Sanford.Williams@fcc.gov

Via FedEx & electronic mail:
Future of Number Portability Administration Committee
c/o North American Portability Management LLC
c/o Dan A. Sciullo
Berenbaum Weinshienk PC
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By: Madeleine V. Findley

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Counsel for Telcordia Technologies, Inc. dba iconectiv

Welcome, Joel Zamlong with Telcordia Technologies Inc Logout

Home > Current Projects > 431766 - LNPA RFP > Project Package > Survey-2015-LNPA-Technical Requirements Document

Survey-2015-LNPA-Technical Requirements Document
Survey Deadline: 4/22/2013 11:59:59 PM

A survey is a simple way for a project sponsor to gather information about your company to determine the possibility of doing business. These surveys typically include general questions about the company, specifications of goods and services to be provided, expertise, and other questions specific to the sponsor. You have been invited to respond to this survey.

Please note: Your response has been submitted to the sponsor. It is final and may not be edited.

1. TRD OVERVIEW, INTRODUCTION, and FRS Section 1

STATEMENT:

1.1

TRD Introduction and Purpose

Pursuant to the Telecommunications Act of 1996, the Federal Communications Commission (FCC) has adopted a succession of orders implementing Local Number Portability (LNP), which allows consumers to change service providers for telecommunications services at the same location without changing their telephone numbers. Currently, LNP is enabled in the seven United States former Regional Bell Operating Company (RBOC) service areas or regions, including their related Territories (each a "Region" and collectively, the "Regions") through seven databases, one in each Region, collectively referred to as the Number Portability Administration Center/Service Management System (NPAC/SMS). Each Regional database is operated and administered by a Local Number Portability Administrator (LNPA), neutral and independent from Telecommunications Carriers. A separate Master Agreement governs the operation and administration of the NPAC/SMS by the LNPA in each of the seven Regions and specifies the terms and conditions for providing NPAC/SMS services (referred to as the "Services").

All Master Agreements in all Regions are managed by the North American Portability Management LLC (NAPM LLC), and all Master Agreements in all Regions expire on June 30, 2015. The FCC has delegated authority to its advisory committee, the North American Numbering Council (NANC), working in consultation with the NAPM LLC, to implement a vendor selection process, for the next-generation NPAC/SMS in all Regions, to commence at the expiration of the current Master Agreements. This vendor selection process includes issuance of a Request For Information (RFI) and a subsequent Request For Proposal (RFP) and will culminate in the selection of the LNPA in each of the seven Regions. The purpose of the NANC is to advise the Commission and to make recommendations, reached through consensus, that foster efficient and impartial number administration. The NANC, a diverse body with consumer, state government, and industry representatives, has established an LNPA Selection Working Group (SWG) to oversee the selection process of the LNPA. See Order, WC Docket No. 09-109 and CC Docket No. 95-116, DA 11-883, (adopted May 16, 2011) for process information and the respective roles of the FCC, NANC, and NAPM LLC. During this process, options for replacement and/or enhancement of the current NPAC/SMS in all Regions may be considered.

The purpose of the RFP is to provide each prospective RFP vendor (referred to as a Respondent or a Bidder) with an opportunity to demonstrate how its proposal satisfies the requirements of the RFP and will benefit Telecommunications Carriers and other qualified parties who will be Users of the NPAC/SMS and who rely upon the NPAC/SMS for the rating, routing, and billing of calls, law enforcement and other parties who may be granted certain limited and special access to NPAC/SMS data for other permissible purposes, and ultimately consumers. Each Respondent is instructed to answer all questions in as concise and

complete a manner as possible, and in many instances, the Respondent is provided with an opportunity to elaborate on its answers.

The RFP includes this Technical Requirements Document (TRD) survey that identifies both the technical requirements describing the requisite technical capability of any proposal and the required obligations of an LNPA to administer the NPAC/SMS(s). Although great care has been taken to ensure the accuracy of the TRD and other reference documents, it is the Respondent's responsibility to ensure that any response to a specific NPAC/SMS technical requirement contained herein is based on the latest NPAC/SMS Functional Requirements Specification (FRS) and other reference documents as currently published and made available to the industry. FRS Rel 3.4.1 (a) was used in creating the TRD FRS sections. Each technical document (FRS, IIS, GDMO, ASN 1.0) has its own glossary, abbreviations, figures and tables.

The Local Number Portability Administration Working Group (LNPA WG) is a public industry forum that determines what technical capabilities are to be implemented in the NPAC/SMS. Information about this subcommittee of the NANC is found at http://www.npac.com. All respondents to the TRD survey are encouraged to attend the LNPA WG, during and after their submission(s).

The NAPM LLC has authorized one of its Advisory Committees, the Future of NPAC Subcommittee (hereafter referred to as the FoNPAC), to project manage the RFP process, including the solicitation and evaluation of responses to this TRD survey and to utilize the Iasta® SmartSource SRM® Tool to gather, evaluate, and weigh all responses to this TRD survey as part of the LNPA selection process. The LNPA selection process is expected to conclude on or about September 2013.

Thank you in advance for your participation in the RFP process.

1.2

STATEMENT:

Vendor TRD Response Instructions

As part of responding to this TRD survey, Respondents will be **required** to respond to each requirement as indicated, as well as answer a series of questions in more detail. The detailed question section is at the end of this TRD survey called, "TRD Detailed Response."

- If the Respondent would like to explain any answers, please do so in the "TRD Detailed Response" section.
- If the Respondent would like to suggest improvements or additional enhancements, please do so in the "TRD Detailed Response" section.

RFP survey Section 9 on Service Level Requirements supersedes any and all corresponding Service Level Requirements documented in this TRD survey or in the FRS.

QUESTION:

Backwards Compatibility Requirement

In responding to the requirements in this TRD, all Respondents submitting bids **MUST** indicate and highlight any and all areas of functionality in their proposal that **will not** meet the Backwards Compatibility Requirements.

Backward Compatibility Definitions

There are three areas of Backwards Compatibility. These are defined below:

- Pure Backwards Compatibility - means that interface specification has NOT been

1.3*

modified and therefore, no recompile is necessary. Also, no behavior on the NPAC/SMS has been modified to provide any change to the previously existing functionality accessible over the interface.

- Interface and Functional Backwards Compatibility - means that the interface may have been modified, however the changes are such that no action is required for the Service Provider to remain backward compatible. However, any new functionality is optionally implemented, and would require a recompile and possibly functional software changes by the Service Provider to access the newly defined features over the interface. Also, no changes may be made to any existing interface functionality that will require modifications to SOA and/or LSMS platforms.
- Re-Compile Only Backwards Compatibility - means that the interface has been modified, however the changes are such that only a recompile is necessary to remain backward compatible. Any new functionality is optionally implemented by accessing the newly defined features over the interface. Also, no NPAC/SMS software changes may be made to any existing interface functionality that will require source code modifications to SOA and/or LSMS platforms.

The objective is that all implementations resulting from this bidding process remain Interface and Functional Backwards Compatible, to the extent possible.

Has the Respondent agreed to this requirement to indicate <u>any and all areas</u> of their responses that WILL NOT meet the "Backwards Compatibility Requirements "? Please answer "YES" or "NO".

(Note: The FoNPAC will assume that all responses include backwards compatibility unless indicated otherwise.)

Yes

1.4*

QUESTION:

<u>Treatment of Subsequent NANC Change Orders</u>

By submitting a bid to this RFP, Respondent understands and agrees that any NANC Change Orders implemented in the NPAC/SMS subsequent to the submission of their bid, or scheduled for implementation prior to the turn-up of the next-generation NPAC/SMS, **MUST** be incorporated into their proposed NPAC/SMS platform and ready for implementation at turn-up.

Agree

1.5*

QUESTION:

TRD FRS Section 1: Introduction

The FRS defines the functional requirements of the NPAC/SMS enabling LNP.

This introduction gives an overview of NPAC/SMS functionality. It is intended to prepare the Respondent for the detailed TRD FRS sections that follow. Consult the applicable detailed sections in the FRS or the NPAC/SMS Interoperable Interface Specification (IIS), Guidelines for the Definition of Managed Objects (GDMO), and Abstract Syntax Notation One (ASN.1) for more detailed information. www.napmllc.org/pages/NPACRFP/NPACRFP_refdocs.aspx

Has the Respondent read, understood, and incorporated the FRS Section 1 concepts into Respondent's proposal?

Yes

2. TRD FRS Section 2: BUSINESS PROCESS FLOWS

2.1*

QUESTION:

TRD FRS Section 2: Business Process Flows

The process flows in Section 2 of the FRS indicate how the NPAC/SMS is used by the Service Providers in business processes associated with LNP. Specific requirements generated by the process flows are included in the appropriate FRS sections.

The process flows supported by the NPAC/SMS are:
1. Service Provisioning
2. Service Disconnection
3. Service Repair
4. Conflict and Conflict Resolution
5. Disaster Recovery and Backup
6. Service Order Cancellation
7. Audit Requests
8. Report Requests
9. Data Administration Requests

Please note the following are the specific requirements listed in Section 2 of the FRS and are currently outside the scope of the NPAC/SMS:

1. Interactions between Service Providers (CN2-1.1.1)
2. Service Provider network change activities (CN2-1.3.1)
3. Service Provider's network change validation activities (CN2-1.5.1)
4. Service Provider's repair activities (CN2-3.3.1)
5. Service Provider's conflict resolution activities (CN2.4.2.1)

Has the Respondent read, understood, and incorporated these concepts into Respondent's proposal?

Yes

3. TRD FRS Section 3: NPAC DATA ADMINISTRATION

3.1*

QUESTION:

TRD FRS Section 3: NPAC Data Administration

The NPAC/SMS manages the ported TN information associated with Service Provider portability for the LNP service. This section describes the high level requirements associated with managing ported telephone numbers from an operations perspective.

TRD FRS Section 3: Sub Section 3.1:

The required Data Models are described in detail in the FRS document Section 3.1:

3.1.1: Data Type Legend

3.1.2: NPAC Customer Data Model

3.1.3: Subscription Version Data Model

3.1.4: Network Data Model

Does the Respondent's proposal adhere to these exact Data Models and has Respondent read, understood, and incorporated these concepts into Respondent's proposal?

Yes

3.2*

QUESTION:

TRD FRS Section 3: Sub Section 3.2: NPAC Personnel Functionality

The FRS Section 3.2 requirements describe the functionality required by the NPAC/SMS to support the daily operation of the Regional LNP SMS support staff. These requirements define the high level functionality required by the system with the specifics of each requirement defined in more detail in FRS Sections 4 and 5.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R3-3: Create NPA-NXX data for a Service Provider
R3-6.2: Mass Update Filter Usage
R3-7.2: Administer Mass update on one or more selected Subscription Versions
R3-7.3: Mass Update Selection Criteria
R3-7.4: Mass Update Service Provider Id
R3-7.7: Mass Update Error Processing
R3-7.8: Mass Update Exception Report
RR3-254: Validation of LATA ID Errors on Mass Updates
R3-7.9: Mass Update Required Entry of Service Provider ID
R3-13: NPAC/SMS mass change update capability to the Local SMS
RR3-254: Validation of LATA ID Errors on Mass Updates
RR3-550: Mass Update Pending and Active Subscription Versions – DPC-SSN Field-level Data Validation
RR3-551: Mass Update Pending and Active Subscription Versions – Validation of DPC-SSNs for Mass Update
RR3-552: Mass Update Pending and Active Number Pool Blocks – DPC-SSN Field-level Data Validation
RR3-552.5: Mass Update Pending and Active Number Pool Blocks – Validation of DPC-SSNs for Mass Update
RR3-708: Mass Update - Notifications for Pseudo-LRN Updates

Yes

3.2.1*

QUESTION:

TRD FRS Section 3: Sub Section 3.2.1: Block Holder, Mass Update

The FRS Section 3.2.1 requirements describe the functionality required by the NPAC/SMS to support Block Holder Mass Updates.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-210: Block Holder Information Mass Update – Update Fields
RR3-211: Block Holder Information Mass Update – Block Intersection Rejection
RR3-212: Block Holder Information Mass Update – Block Status Validation
RR3-213: Block Holder Information Mass Update – Download to EDR Local SMS
RR3-214: Block Holder Information Mass Update – Download to non-EDR Local SMS
RR3-215: Block Holder Information Mass Update – Download of SVs of Type POOL to non-EDR Local SMS

Yes

STATEMENT:

TRD FRS Section 3: Sub Section 3.2.2: Service Provider ID (SPID) Migration Update

This FRS section defines how the NPAC/SMS supports modification of Service Provider ID

3.2.2	on Local Number Portability information. Two options are available, 1) an on-line self-service feature is available using the LTI that can be used by Service Provider Personnel optionally in lieu of spreadsheets submitted via e-mail to NPAC Personnel, and 2) an interface message enhancement allows NPA-NXX ownership changes to be sent via a CMIP message. NPAC Personnel generate Selection Input Criteria SPID Migration Update Request Files (SIC-SMURF) to all Service Providers (as a primary means of update by those that do not support the interface message to update their databases, and as a backup means of update for those that do support the interface message). Additionally, SIC-SMURFs are used even by Service Providers that support the interface message when the migration involves NPA-NXX-Xs and/or LRNs. SIC-SMURFs are placed in all Service Providers' Secure FTP sites at the beginning of a maintenance window; updates are performed independently off-line during the maintenance window by each Service Provider to its own databases.

3.2.2.1*	QUESTION: **TRD FRS Section 3: Sub Section 3.2.2.1: SPID Migration Updates and Processing** With functionality in NANC 323, SIC-SMURFs are generated by NPAC Personnel and distributed (via Secure FTP) to all Service Providers. SPID Migrations may be performed as defined in sections 3.2.2.2 and 3.2.2.3. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-255: SPID Migration Update - OpGUI Entry RR3-256: SPID Migration Update - Generation of SIC-SMURF Files RR3-257: SPID Migration Update - NPAC/SMS Processing of Requested Data RR3-258: SPID Migration Update - Suppression of Notifications RR3-259: SPID Migration Update - NPAC/SMS Processing of Requested Data Based on Status RR3-260: SPID Migration Update - SIC-SMURF File Names RR3-261: SPID Migration Update - SIC-SMURF File Formats RR3-262: SPID Migration Update - SIC-SMURF NPA-NXX File Processing - Update NPA-NXX Network Data RR3-709: SPID Migration Update - SIC-SMURF NPA-NXX File Processing - Update SV Data for Pseudo-LRN Records RR3-710: SPID Migration Update - SIC-SMURF NPA-NXX File Processing - Update Block Data for Pseudo-LRN Records RR3-264: SPID Migration Update - SIC-SMURF LRN File Processing - Update LRN Data RR3-265: SPID Migration Update - SIC-SMURF LRN File Processing - Update Block Data RR3-266: SPID Migration Update - SIC-SMURF-LRN File Processing - Update SV Data RR3-267: SPID Migration Update - SIC-SMURF NPA-NXX-X File Processing - Update NPA-NXX-X RR3-268: SPID Migration Update - Maximum Level of Granularity RR3-269: SPID Migration Update - Minimum Level of Granularity RR3-274: SPID Migration Update - Exclusion of Data During Recovery RR3-275: SPID Migration Update - Rejection for 'pending-like' Number Pool Blocks or Subscription Versions RR3-276: Update SPID on Messages Queued for Recovery RR3-277: SPID Migration Update - Consistency Check Across Network Data and LRN
Yes	

QUESTION:

TRD FRS Section 3: Sub Section 3.2.2.2 Requirements

The FRS Section 3.2.2.2 requirements address how online GUI functionality allows a Service Provider to perform self-service on entry of SPID Migrations.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-553: Regional SPID Migration Online Functionality Indicator - Tunable Parameter
RR3-554: Regional SPID Migration Online Functionality Indicator - Tunable Parameter Default
RR3-555: Regional SPID Migration Online Functionality Indicator - Tunable Parameter Modification
RR3-556: SPID Migration Blackout Dates - GUI Entry By NPAC Personnel
RR3-557: SPID Migration Blackout Dates - Displaying in the GUI
RR3-558: SPID Migration Last Scheduling Date - Tunable Parameter
RR3-559: SPID Migration Last Scheduling Date - Tunable Parameter Default
RR3-560: SPID Migration Last Scheduling Date - Tunable Parameter Modification
RR3-561: SPID Migration Entry Restriction - Last Scheduling Date - Service Provider Personnel
RR3-562: SPID Migration Update - Migration Summary Information
RR3-563: SPID Migration Update - GUI Availability/Selection function for Service Provider and NPAC Personnel
RR3-564: SPID Migration Update - Available Migration Window Minimum - Tunable Parameter
RR3-565: SPID Migration Update - Available Migration Window Minimum - Reject
RR3-566: SPID Migration Update - NPAC Personnel Scheduling SPID Migrations to Any Migration Date in the Future
RR3-567: SPID Migration Update - Available Migration Window Minimum - Tunable Parameter Default
RR3-568: SPID Migration Update - Available Migration Window Minimum - Tunable Parameter Modification
RR3-569: SPID Migration Update - GUI Entry by Service Provider and NPAC Personnel
RR3-570: SPID Migration Update - GUI Entry by Service Provider and NPAC Personnel - Required Fields
RR3-571: SPID Migration Update - Generation of SPID Migration Name
RR3-572: SPID Migration Update - GUI Modification by Service Provider Prior to Other Service Provider Concurrence or NPAC Personnel Confirmation
RR3-573: SPID Migration Update - GUI Cancellation by Service Provider Prior to NPAC Personnel Confirmation
RR3-574: SPID Migration Update - GUI Error for Double Booking
RR3-575: SPID Migration Update - GUI Concurrence by Service Provider and NPAC Personnel
RR3-576: SPID Migration Creation by "migrating-from" and "migrating-to" SPIDs
RR3-577: SPID Migration Update - GUI Entry Service Provider - Confirmation by NPAC Personnel
RR3-578: SPID Migration Update - Confirmation by NPAC Personnel Required
RR3-579: SPID Migration Update - Reject by NPAC Personnel
RR3-580: SPID Migration Update - Service Providers Viewing Migrations
RR3-581: SPID Migration Update - Service Providers Viewing Their Own Migrations
RR3-583: SPID Migration Creation - Disallowing Scheduling of Two SPID Migrations with the same "Migrating-From" and "Migrating-To" SPID to the same Maintenance Day
RR3-584: SPID Migration Email List - Tunable Parameter

3.2.2.2*	RR3-585: SPID Migration Email List - Tunable Parameter Default RR3-586: SPID Migration Email List - Tunable Parameter Modification RR3-587: SPID Migration E-mail due to NPAC Personnel Operations RR3-588: SPID Migration E-mail to "migrating-from" and "migrating-to" Service Providers RR3-589: SPID Migration Update - GUI Cancellation by NPAC Personnel on behalf of Service Provider RR3-590: SPID Migration Update - GUI Modification by NPAC Personnel of Scheduled SPID Migration RR3-591: SPID Migration Update - GUI Execution by NPAC Personnel of Scheduled SPID Migration RR3-592: SPID Migration Update - GUI Execution by NPAC Personnel - Notification to Local SMS and SOA RR3-593: SPID Migration Update - Pending-Like SVs and NPBs Cleaned Up RR3-594: Completed SPID Migration Retention - Tunable Parameter RR3-595: Completed SPID Migration Retention - Tunable Parameter Default RR3-596: Completed SPID Migration Retention - Tunable Parameter Modification RR3-597: Completed SPID Migration Retention - Housekeeping Purge RR3-598: Cancelled SPID Migration Retention - Tunable Parameter RR3-599: Cancelled SPID Migration Retention - Tunable Parameter Default RR3-600: Cancelled SPID Migration Retention - Tunable Parameter Modification RR3-601: Cancelled SPID Migration Retention - Housekeeping Purge RR3-602: SPID Migration Update - Quota Management RR3-603: SPID Migration Update - Quota Management - Quota Exceeded Rejection for Service Provider Personnel RR3-604: SPID Migration Update - Quota Management - Quota Exceeded Warning for NPAC Personnel RR3-605: SPID Migration Update - Quota Management - Quota Exceeded Warning Content RR3-606: SPID Migration Update - Migration Quota Tunable Parameter RR3-607: SPID Migration Update - Migration Quota Tunable Parameter Default RR3-608: SPID Migration Update - Migration Quota Tunable Parameter Modification RR3-609: SPID Migration Update - All Regions Migration Quota Tunable Parameter RR3-610: SPID Migration Update - All Regions Migration Quota Tunable Parameter Default RR3-611: SPID Migration Update - All Regions Migration Quota Tunable Parameter Modification RR3-612: SPID Migration Update - SV Quota Tunable Parameter RR3-613: SPID Migration Update - SV Quota Tunable Parameter Default RR3-614: SPID Migration Update - SV Quota Tunable Parameter Modification RR3-615: Maintenance Window Day of the Week - Tunable Parameter RR3-616: Maintenance Window Day of the Week - Tunable Parameter Default RR3-617: Maintenance Window Day of the Week - Tunable Parameter Modification RR3-618: Maintenance Window Start Time Hour - Tunable Parameter RR3-619: Maintenance Window Start Time Hour - Tunable Parameter Default RR3-620: Maintenance Window Start Time Hour - Tunable Parameter Modification RR3-621: Preliminary SPID Migration SMURF Files Lead Time - Tunable Parameter RR3-622: Preliminary SPID Migration SMURF Files Lead Time - Tunable Parameter Default RR3-623: Preliminary SPID Migration SMURF Files Lead Time - Tunable Parameter Modification RR3-624: Generation of Preliminary SMURF files RR3-625: Generation of Final SMURF files RR3-626: Offline-Only SPID Migration Flag RR3-627: SPID Migration Suspended Status RR3-628: Suspended SPID Migrations - No Automatic Online Migration RR3-629: Suspended SPID Migrations - No Manual Online Migration

RR3-630: SPID Migration Suspension/Un-suspension - No Quota Change
RR3-631: Automatic suspension when pre-migration validations fail
RR3-632: SPID Migration - Secure FTP Site Directory Structure
RR3-632.5: SPID Migration - Secure FTP Site Subdirectory - Service Provider Tunable
RR3-633: SPID Migration - Secure FTP Site Date Subdirectory - Service Provider Indicator Default
RR3-634: SPID Migration - Secure FTP Site Date Subdirectory - Service Provider Indicator Modification
RR3-711: SPID Migration -Service Provider GUI Login Restriction
RR3-712: SPID Migration - Pseudo-LRN Indicator
RR3-762: SPID Migration Update - Online-to-Offline Restriction Window - Tunable Parameter
RR3-763: SPID Migration Update - Online-to-Offline Restriction Window - Tunable Parameter Default
RR3-764: SPID Migration Update - Online-to-Offline Restriction Window - Tunable Parameter Modification
RR3-765: SPID Migration Update - SPID Migration Date Restriction Window - Tunable Parameter
RR3-766: SPID Migration Update - SPID Migration Date Restriction Window - Tunable Parameter Default
RR3-767: SPID Migration Update - SPID Migration Date Restriction Window - Tunable Parameter Modification

Yes

3.2.2.3*

QUESTION:

TRD FRS Section 3: Sub Section 3.2.2.3: SPID Migration Interface Messages

The FRS Section 3.2.2.3 requirements address interface messages for code-only migrations that are sent to Service Providers that support the feature.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-635: Service Provider SOA Automated SPID Migration Indicator
RR3-636: Service Provider SOA Automated SPID Migration Indicator Default
RR3-637: Service Provider SOA Automated SPID Migration Indicator Modification
RR3-638: Service Provider SOA Automated SPID Migration Indicator Usage
RR3-639: Service Provider LSMS Automated SPID Migration Indicator
RR3-640: Service Provider LSMS Automated SPID Migration Indicator Default
RR3-641: Service Provider LSMS Automated SPID Migration Indicator Modification
RR3-642: Service Provider LSMS Automated SPID Migration Indicator Usage
RR3-643: Service Provider Secure FTP SMURF File in lieu of missed SPID Migration Transactions
RR3-644: Online SPID Migration Lead Time - Tunable Parameter
RR3-645: Online SPID Migration Lead Time - Tunable Parameter Default
RR3-646: Online SPID Migration Lead Time - Tunable Parameter Modification
RR3-647: Online SPID Migration - Database Updates

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.2.2.4: SPID Migration Reports

Does the Respondent's proposal fully comply with the requirement below

3.2.2.4*	**in time to meet the published implementation date?** RR3-648: SPID Migration Reports – Post-Migration SV and NPB Count Report
Yes	

3.3*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.3: System Functionality** The FRS Section 3.3 requirements address system functionality related to offline batch downloads, online network downloads, notifications, LATA ID association and validation, and NPAC SMS record ID inventory. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** R3-8: Off-line batch updates for Local SMS Disaster Recovery R3-9: NPAC/SMS download of network data to the Local SMS and SOA RR3-66: Number Pool NPA-NXX-X Holder Information - NPAC/SMS download of network data to the SOA or Local SMS RR3-67.1: Number Pool NPA-NXX-X Holder Information - NPAC/SMS download via SOA and/or Local SMS Interface of NPA-NXX-X allocation to the Service Providers R3-10: NPAC/SMS notification of NPA-NXX availability to the Service Providers R3-11: NPAC/SMS notification of LRNs and Service Provider data by Service Provider RR3-67.2: Number Pool NPA-NXX-X Holder Information - NPAC/SMS download via Web Bulletin Board of NPA-NXX-X allocation to the Service Providers RR3-278: LATA ID Information Source RR3-279: Association of LATA ID with NPA-NXXs RR3-280: Association of LATA ID with LRNs RR3-439: Validation of LATA ID for NPA-NXX Creates RR3-440: Validation of LATA ID for LRN Creates RR3-649: NPAC/SMS Record ID Inventory - Maximum Value Rollover RR3-650: NPAC/SMS Record ID Inventory - Mechanism RR3-651: NPAC/SMS Record ID Inventory - Adding Available ID Values RR3-652: NPAC/SMS Record ID Inventory - Skipping Un-Available ID Values RR3-653: NPAC/SMS Record ID Inventory - Issuing new ID Values RR3-654: NPAC/SMS Record ID Inventory - Skipping ID Value of Zero
Yes	

	QUESTION: **TRD FRS Section 3: Sub Section 3.4: Additional Requirements** The FRS Section 3.4 requirements address additional requirements related to addition, validation, deletion and downloading of NPA NXX data and LRNs. FTP site info, clock synchronization, database extract file creation, input restrictions, first usage effective dates, and timestamps are also covered in section 3.4. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RX3-1.1.1: Service Provider NPA-NXX Data Addition RX3-1.1.2: Service Provider NPA-NXX Data Effective Date Validation RX3-1.2: Service Provider LRN Data Addition RX3-3.1: Service Provider NPA-NXX Data Deletion RX3-3.2: Service Provider LRN Data Deletion RR3-1: Service Provider Download Indicator

3.4*

RR3-2: Service Provider Download Indicator
R3-14: Bulk Database Extracts
R3-15: Secure FTP Site for Database Extracts
R3-16: Database Extract File Creation
R3-17: Scope of Database Extract File Creation
RR3-3: NPAC/SMS Input Restrictions
RR3-4: Create LRN data for a Service Provider
RR3-15: NPAC Clock Synchronization
RR3-474: NPA-NXX Availability - First Usage Effective Date Window - Tunable Parameter
RR3-475: NPA-NXX Availability - First Usage Effective Date Window - Tunable Parameter Default
RR3-476: NPA-NXX Availability - First Usage Effective Date Window - Tunable Parameter Modification
RR3-477: NPA-NXX- Live TimeStamp
RR3-478: Region Supports First Usage Effective Date Indicator
RR3-479: Region Supports First Usage Effective Date Modification
RR3-480: Region Supports First Usage Effective Date Indicator - Default Value

Yes

3.4.1*

QUESTION:

TRD FRS Section 3: Sub Section 3.4.1: Valid NPA-NXXs in a Region Data Validations

The FRS Section 3.4.1 requirements address data validations for NPAs and NPA NXXs for each NPAC region.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-441: Valid NPAs for each NPAC Region
RR3-442: Maintaining List of Valid NPAs for Each NPAC Region
RR3-443: Updating List of Valid NPAs for Each NPAC Region
RR3-444: Rejection of NPA-NXXs that Do Not Belong to a Valid NPA for the NPAC Region
RR3-445: Regional NPAC NPA Edit Flag Indicator
RR3-446: Regional NPAC NPA Edit Flag Indicator Modification
RR3-447: Regional NPAC NPA Edit Flag Indicator - Default Value
RR3-448: Valid NPA-NXXs for 859 KY Exception
RR3-449: Maintaining List of Valid NPA-NXXs for 859 KY Exception
RR3-450: Updating List of Valid NPAs for 859 KY Exception
RR3-451: Rejection of NPA-NXXs that Do Not Belong to a Valid NPA for the 859 KY Exception

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.4.2: NPA-NXX Modification

The following requirements address modification of NPA NXX data.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-655: Regional NPA-NXX Modification Flag Indicator - Tunable Parameter
RR3-656: Regional NPA-NXX Modification Flag Indicator - Tunable Parameter Default
RR3-657: Regional NPA-NXX Modification Flag Indicator - Tunable Parameter Modification

3.4.2*

RR3-658: Modify NPA-NXX data for a Service Provider
RR3-659: NPAC/SMS download of network data to the Local SMS and SOA - Modification
RR3-660: Service Provider NPA-NXX Data Modification
RR3-661: Modification of NPA-NXX - Effective Date Modification from OpGUI
RR3-662: Modification of NPA-NXX - Effective Date versus Current Date
RR3-663: Modification of NPA-NXX - New Effective Date versus No Pending SVs or Scheduled NPA-NXX-Xs/Number Pool Blocks
RR3-664: Modification of NPA-NXX - Validation Error
RR3-665: Service Provider SOA NPA-NXX Modification Flag Indicator
RR3-666: Service Provider SOA NPA-NXX Modification Flag Indicator Default
RR3-667: Service Provider SOA NPA-NXX Modification Flag Indicator Modification
RR3-668: Service Provider LSMS NPA-NXX Modification Flag Indicator
RR3-669: Service Provider LSMS NPA-NXX Modification Flag Indicator Default
RR3-670: Service Provider LSMS NPA-NXX Modification Flag Indicator Modification
RR3-671: Modification of NPA-NXX - Service Provider SOA NPA-NXX Modification Flag Indicator set to FALSE
RR3-672: Modification of NPA-NXX - Service Provider SOA NPA-NXX Modification Flag Indicator set to TRUE
RR3-673: Modification of NPA-NXX - Service Provider LSMS NPA-NXX Modification Flag Indicator set to FALSE
RR3-674: Modification of NPA-NXX - Service Provider LSMS NPA-NXX Modification Flag Indicator set to TRUE
RR3-675: Service Provider SOA NPA-NXX Modify BDD File Indicator
RR3-676: Service Provider SOA NPA-NXX Modify BDD File Indicator Default
RR3-677: Service Provider SOA NPA-NXX Modify BDD File Indicator Modification
RR3-678: Service Provider LSMS NPA-NXX Modify BDD File Indicator
RR3-679: Service Provider LSMS NPA-NXX Modify BDD File Indicator Default
RR3-680: Service Provider LSMS NPA-NXX Modify BDD File Indicator Modification

Yes

3.4.3*

QUESTION:

TRD FRS Section 3: Sub Section 3.4.3: Valid NPA-NXXs for each Service Provider

The following requirements allow for maintaining valid OCN and NPA NXX lists for each SPID.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-681: Valid NPA-NXXs for each SPID
RR3-682: Maintaining List of Valid NPA-NXXs for each SPID
RR3-683: Updating List of Valid NPA-NXXs for each SPID
RR3-684: Valid OCNs for each SPID
RR3-685: Maintaining List of Valid OCNs for each SPID
RR3-686: Updating List of Valid OCNs for each SPID
RR3-687: Rejection of NPA-NXXs that Do Not Belong to the OCN/SPID
RR3-688: Regional NPAC NPA-NXX Ownership Edit Flag Indicator
RR3-689: Regional NPAC NPA-NXX Ownership Edit Flag Indicator Modification
RR3-690: Regional NPAC NPA-NXX Ownership Edit Flag Indicator - Default Value
RR3-691: Rejection of NPA Split for an NPA-NXX that Does Not Belong to the OCN/SPID

Yes

QUESTION:

3.4.4*

TRD FRS Section 3: Sub Section 3.4.4: Pseudo-LRN in a Region Data Validations

The following requirements provide for the proper use of Pseudo-LRNs in the NPAC/SMS.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-713: LRN Record – Pseudo-LRN value in the NPAC/SMS
RR3-714: LRN Record – Pseudo-LRN restriction in the NPAC/SMS
RR3-715: LRN Record – Pseudo-LRN query in the NPAC/SMS
RR3-716: Region Supports Pseudo-LRN Indicator
RR3-717: Region Supports Pseudo-LRN Modification
RR3-718: Region Supports Pseudo-LRN Indicator – Default Value

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.5: NPA Splits Requirements

Section 3.5 defines NPA Split functionality within the NPAC/SMS. The primary means of processing NPA Split information within the NPAC/SMS is through automated and regular processing of NPA Split Load Flat Files from industry source data. In the event of an 'emergency' there is a manual process by which authorized NPAC personnel may enter required NPA Split information in order to initiate appropriate processing. This manual process is reserved for only 'back-up or emergency' situations as deemed by industry and NPAC representatives.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RN3-1: NPA Split Permissive Dialing
RN3-2: NPA Split
RN3-3: NPA Split Permissive Dialing Cleanup
RR3-281: NPA Split - Load File from Industry Source Data
RR3-282: NPA Split - Load File from Industry Source Data During Housekeeping Process
RR3-283: NPA Split - Load File from Industry Source Data Processing Results
RR3-284: NPA Split - Load File from Industry Source Data, Reject existing new NPA-NXX
RR3-285: NPA Split - Load File from Industry Source Data, Generate new NPA-NXX
RR3-286: NPA Split - Load File from Industry Source Data, Delete new NPA-NXX
RR3-287: NPA Split - NPA Split Load Flat File Exception Report with An Existing New NPA-NXX
RR3-288: NPA Split - Load File from Industry Source Data, Verifying Old and New NPA-NXX
RR3-289: NPA Split - Load File from Industry Source Data, Pushing Out PDP Start Date
RR3-290: NPA Split - Load File from Industry Source Data, Pulling In PDP Start Date
RR3-291: NPA Split - Load File from Industry Source Data, Error Modifying PDP Start Date with Existing Subscription Versions
RR3-292: NPA Split - Load File from Industry Source Data, Complete Processing of File
RR3-293: NPA Split - Load File from Industry Source Data, Re-Processing of File
RR3-294: NPA Split - Load File from Industry Source Data, Error Modifying PDP Start Date for NPA Split Already in Progress
RR3-295: NPA Split - Load File from Industry Source Data, Adding an NXX to an Existing Split
RR3-296: NPA Split - Load File from Industry Source Data Information on the Web
AN3-4.1: NPA Split Information Source
AN3-4.2: NPAC Personnel Manual NPA Split Request
RN3-4.1: NPA Split - NPA-NXX existence prior to the NPA Split

3.5*

FRS Section 3: Sub Section 3.5: Requirement RN3-4.2: NPA Split - New NPA-NXX existence prior to the NPA Split - Error
RR3-436: NPA Split -Old NPA-NXX non-existence prior to the NPA Split - Error
RR3-437: NPA Split - New NPA-NXX Creation
RN3-4.6: NPA Split - NPA-NXX involved in one NPA Split Validation
RR3-297: NPA Split - NPA Split Load Flat File Exception Report with New NPA-NXX Already Involved in NPA Split
RN3-4.7: NPA Split - No Active Subscription Versions in the new NPA-NXX
RN3-4.8: NPA Split - No Active Subscription Versions in the new NPA-NXX - Error
RN3-4.9: NPA Split - Prevention of NPA-NXX Deletion
RN3-4.11: NPA Split - No modification of LRN data
RN3-4.12: NPA Split - Exception Processing for Subscription Versions that exist in the New and Old NPA-NXX
RN3-4.13: NPA Split - No Modification of Filter Data
RN3-4.14: NPA Split - Audit Processing
RN3-4.15: NPA Split - Entering of Split Data
RN3-4.16: NPA Split - Modification of End Date of Permissive Dialing Date
RR3-438: NPA Split - Modification of Start Date of Permissive Dialing Date
RN3-4.17: NPA Split - Removal of NPA-NXX during Permissive Dialing
RN3-4.18: NPA Split - Removal of NPA-NXX during Permissive Dialing - Subscription Version Processing
RN3-4.20: NPA Split - Removal of NPA Split Information prior to NPA Split
RN3-4.21: NPA Split - Removal of NPA Split Information after Permissive Dialing Period End Date
RN3-4.22: NPA Split - No Broadcast of Subscription Version Modification
RN3-4.23: NPA Split - Retention of Subscription Version Id
RN3-4.24: NPA Split - Update of Subscription Versions at the Beginning of Permissive Dialing
RN3-4.25: NPA Split - Old NPA-NXX involved in one NPA Split Validation
RN3-4.26: NPA Split - Old NPA-NXX involved in one NPA Split Validation - Error
RR3-298: NPA Split - NPA Split Load Flat File Exception Report with Old NPA-NXX Already Involved in NPA Split
RN3-4.27: NPA Split - Validation of the Permissive Dialing Period
RN3-4.28: NPA Split - Old NPA-NXX and New NPA-NXX Ownership Validation
RR3-299: NPA Split - NPA Split Load Flat File Exception Report with Mismatched SPIDs for Old and New NPA-NXX
RN3-4.30: NPA Split - Creation of a Subscription Version during the Permissive Dialing Period
RN3-4.31: NPA Split - Current and Pending NPA Split Report
RN3-4.32: NPA Split - NPA Split History Report
RR3-219: NPA Splits - Deletion of Old NPA-NXX at the end of permissive dialing

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.5.1: NPA-NXX-X, NPA Splits

The following requirements address Number Pools and NPA-NXX-X information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-31: NPA Splits and the Number Pool NPA-NXX-X Information - New NPA Split Automatic Create of New NPA-NXX-X
RR3-32: NPA Splits and the Number Pool NPA-NXX-X Information - New NPA Split Error Message if New NPA-NXX-X Already Exists
RR3-300: NPA Split - NPA Split Load Flat File Exception Report with Already Existing

3.5.1*	New NPA-NXX-X RR3-33: NPA Splits and the Number Pool NPA-NXX-X Information - New NPA Split Field Values for Automatic Add of New NPA-NXX-X RR3-34: NPA Splits and the Number Pool NPA-NXX-X Information - New NPA Split, Skip Block and Subscription Version Create RR3-35: NPA Splits and the Number Pool NPA-NXX-X Information - NXX Removal from NPA Split prior to the end of PDP RR3-36.1: NPA Splits and the Number Pool NPA-NXX-X Information - Addition of an NPA-NXX-X scheduled for an NPA Split RR3-36.2: NPA Splits and the Number Pool NPA-NXX-X Information - New Addition of an NPA-NXX-X scheduled for an NPA Split With an Error Message RR3-36.3: NPA Splits and the Number Pool NPA-NXX-X Information - Addition of an NPA-NXX-X currently in Permissive Dialing in an NPA Split RR3-37.1: NPA Splits and the Number Pool NPA-NXX-X Information - Modification of an NPA-NXX-X scheduled for an NPA Split RR3-37.2: NPA Splits and the Number Pool NPA-NXX-X Information - New Modification of an NPA-NXX-X scheduled for an NPA Split With an Error Message RR3-37.3: NPA Splits and the Number Pool NPA-NXX-X Information - Modification of an NPA-NXX-X involved in an NPA Split RR3-38.1: NPA Splits and the Number Pool NPA-NXX-X Information - Deletion of an NPA-NXX-X involved in an NPA Split RR3-38.2: NPA Splits and the Number Pool NPA-NXX-X Information - New Deletion of an NPA-NXX-X scheduled for an NPA Split With an Error Message RR3-38.3: NPA Splits and the Number Pool NPA-NXX-X Information - Deletion of an NPA-NXX-X involved in an NPA Split RR3-39: NPA Splits and the Number Pool NPA-NXX-X Information - Broadcast of Addition or Deletion of NPA-NXX-X Split Data RR3-40: NPA Splits and the Number Pool NPA-NXX-X Information - Deletion of Old NPA-NXX-X at the end of permissive dialing
Yes	

3.5.2*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.5.2: Block Holder, NPA Splits** The following requirements address NPA Splits and Block Holder information. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-41: NPA Splits and the Number Pooling Block Holder Information – Recognition of Both Old NPA and New NPA RR3-42: NPA Splits and the Number Pooling Block Holder Information – NXX Removal from Split RR3-43: NPA Splits and the Number Pool Block Holder Information – Addition of a Block involved in an NPA Split RR3-44: NPA Splits and the Number Pool Block Holder Information – Addition of a Block for an NPA-NXX involved in an NPA Split RR3-45: NPA Splits and the Number Pool Block Holder Information – Broadcast of a Block Create for an NPA-NXX involved in an NPA Split RR3-46: NPA Splits and the Number Pool Block Holder Information – Modification of a Block for an NPA-NXX involved in an NPA Split RR3-47: NPA Splits and the Number Pool Block Holder Information – Broadcast of a Block Modify Active for an NPA-NXX involved in an NPA Split RR3-48: NPA Splits and the Number Pool Block Holder Information – De-pooling of the Block during PDP RR3-49: NPA Splits and the Number Pool Block Holder Information – Mass Update that includes one or more Blocks for an NPA-NXX involved in an NPA Split

RR3-50: NPA Splits and the Number Pool Block Holder Information – Broadcast of a Mass Update that includes one or more Blocks for an NPA-NXX involved in an NPA Split
RR3-218: NPA Splits and the Number Pool Block Holder Information – Broadcast of Subscription Versions for an NPA-NXX involved in an NPA Split

Yes

3.6

STATEMENT:

TRD FRS Section 3: Sub Section 3.6: NPA-NXX Filter Management Requirements

The FRS Section 3.6 requirements address NPAC/SMS Filter Management that allows for NPAC personnel and/or Service Providers to add, delete and query NPA and NPA NXX filters to manage information that is broadcast to a given Local SMS.

3.6.1*

QUESTION:

TRD FRS Section 3: Sub Section 3.6.1: NPA-NXX Level Filters

The following requirements address creation, deletion and querying of NPA-NXX level filters.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-5: Create Filtered NPA-NXX for a Local SMS
RR3-6: Delete Filtered NPA-NXX for a Local SMS
RR3-7: Query Filtered NPA-NXXs for a Local SMS
RR3-8: Query Filtered NPA-NXXs - NPA-NXX Not Provided
RR3-9: Query Filtered NPA-NXXs - NPA-NXX Provided
RR3-768: Delete Filtered NPA-NXX - Deletion of NPA-NXX

Yes

3.6.2*

QUESTION:

TRD FRS Section 3: Sub Section 3.6.2: NPA Level Filters

The following requirements address the creation, deletion and querying of NPA level filters.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-692: Create Filtered NPA for a Local SMS - Existing NPA-NXX not Required
RR3-692.5: Create Filtered NPA for a Local SMS and SOA - Delete Subordinate NPA-NXXs
RR3-693: Filtered NPA Behavior for a Local SMS
RR3-694: Delete Filtered NPA for a Local SMS
RR3-695: Filtered NPA Behavior - Overlap Allowed
RR3-696: Create Filtered NPA-NXX for a Local SMS - NPAC Personnel - Existing NPA-NXX Not Required

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.7: Business Hour and Days Requirements

3.7*

The FRS Section 3.7 requirements are related to definition and processing of long, medium and short business hours and days for operations involving business time calculation including holidays.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-10: Business Hours and Days
RR3-229: Short Business Days Tunable Parameter
RR3-230: Short Business Days Tunable Parameter - Default Value
RR3-231: Short Business Days Tunable Parameter - Valid Values
RR3-232: Short Business Days Tunable Parameter - Modification
RR3-498: Medium Business Days Tunable Parameter
RR3-499: Medium Business Days Tunable Parameter - Default Value
RR3-500: Medium Business Days Tunable Parameter - Valid Values
RR3-501: Medium Business Days Tunable Parameter - Modification
RR3-233: Long Business Days Tunable Parameter
RR3-234: Long Business Days Tunable Parameter - Default Value
RR3-235: Long Business Days Tunable Parameter - Valid Values
RR3-236: Long Business Days Tunable Parameter - Modification
RR3-12.1: Business Day Duration - Tunable Parameter
RR3-12.2: Business Day Duration - Tunable Parameter Modification
RR3-12.3: Short Business Day Duration - Tunable Parameter Default
RR3-502: Medium Business Day Duration - Tunable Parameter Default
RR3-12.4: Long Business Day Duration - Tunable Parameter Default
RR3-13.1: Business Day Start Time - Tunable Parameter
RR3-13.2: Business Day Start Time - Tunable Parameter Modification
RR3-13.3: Short Business Day Start Time - Tunable Parameter Default
RR3-503: Medium Business Day Start Time - Tunable Parameter Default
RR3-13.4: Long Business Day Start Time - Tunable Parameter Default
RR3-14: Business Holidays

Yes

3.8

STATEMENT:

TRD FRS Section 3: Sub Section 3.8: Notifications

The FRS Section 3.8 requirements are related to TN range notification indicators, SP Concurrence notification indicators, SOA notifications, Attribute value change notifications, and Attribute flag indicators.

3.8.1*

QUESTION:

TRD FRS Section 3: Sub Section 3.8.1: TN Range Notification Indicator

The following requirements address notification indicators for TN ranges.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-237: NPAC Customer TN Range Notification Indicator
RR3-238: NPAC Customer TN Range Notification Indicator - Default
RR3-239: NPAC Customer TN Range Notification Indicator - Modification

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.8.2: Customer No New Concurrence

3.8.2*

Notification Indicator

The following requirements address notification indicators when new provider concurrence is not provided.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-240: NPAC Customer No New SP Concurrence Notification Indicator
RR3-241: NPAC Customer No New SP Concurrence Notification Indicator - Default
RR3-242: NPAC Customer No New SP Concurrence Notification Indicator - Modification
RR3-243: Subscription Version Information - Suppress Notification when Service Provider No New SP Concurrence Notification Indicator is False
RR3-244: Subscription Version Information - Send Notification when Service Provider No New SP Concurrence Notification Indicator is True

Yes

3.8.3*

QUESTION:

TRD FRS Section 3: Sub Section 3.8.3: SOA Notification Priority

The following requirements address SOA notification priority elements.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-245: SOA Notification Priority Tunable Parameter
RR3-246: SOA Notification Priority Based on Attributes
RR3-247: SOA Notification Priority Tunable Parameter based on Old or New Service Provider Status
RR3-248: SOA Notification Priority Tunable Parameter - Valid Values
RR3-249: SOA Notification Priority Tunable Parameter - Default Value
RR3-250: Modifying the SOA Notification Priority Tunable Parameter Value
RR3-251: SOA Notification Priority Processing
RR3-252: SOA Notification Priority Tunable Parameter -Value Equal to NONE
RR3-253: Processing of SOA Notification Queues

Yes

3.8.4*

QUESTION:

TRD FRS Section 3: Sub Section 3.8.4: TN and Number Pool Block In Notifications

The following requirements address notifications related to TN and Number Pool Blocks.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-452: Subscription Version Status Attribute Value Change - Send TN
RR3-453: Subscription Version Attribute Value Change - Send TN
RR3-454: Number Pool Block Status Attribute Value Change - Send NPA-NXX-X
RR3-455: Number Pool Block Attribute Value Change - Send NPA-NXX-X
RR3-456: Subscription Version TN Attribute Flag Indicator
RR3-457: Modification of Subscription Version TN Attribute Flag Indicator
RR3-458: Subscription Version TN Attribute Flag Indicator Default Value
FRS Section 3: Sub Section 3.8.4: Requirement RR3-459: Number Pool Block NPA-NXX-X Attribute Flag Indicator
RR3-460: Modification of Number Pool Block NPA-NXX-X Attribute Flag Indicator

RR3-461: Number Pool Block NPA-NXX-X Attribute Flag Indicator Default Value

Yes

3.9

STATEMENT:

TRD FRS Section 3: Sub Section 3.9: Service Provider Support Indicators

The FRS Section 3.9 requirements define service provider tunable features that indicate if a service provider system supports optional data functionality defined as part of NANC 399.

3.9.1*

QUESTION:

TRD FRS Section 3: Sub Section 3.9.1: SV Type and Alternative SPID Indicators

The following requirements address indicators for SV Type and Alternative SPID.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-484: Service Provider SOA SV Type Edit Flag Indicator
RR3-485: Service Provider SOA SV Type Edit Flag Indicator Default
RR3-486: Service Provider SOA SV Type Edit Flag Indicator Modification
RR3-487: Service Provider LSMS SV Type Edit Flag Indicator
RR3-488: Service Provider LSMS SV Type Edit Flag Indicator Default
RR3-489: Service Provider LSMS SV Type Edit Flag Indicator Modification
RR3-490: Service Provider SOA Alternative SPID Edit Flag Indicator
RR3-491: Service Provider SOA Alternative SPID Edit Flag Indicator Default
RR3-492: Service Provider SOA Alternative SPID Edit Flag Indicator Modification
RR3-493: Service Provider LSMS Alternative SPID Edit Flag Indicator
RR3-494: Service Provider LSMS Alternative SPID Edit Flag Indicator Default
RR3-495: Service Provider LSMS Alternative SPID Edit Flag Indicator Modification
RR3-504: Service Provider SOA Last Alternative SPID Edit Flag Indicator
RR3-505: Service Provider SOA Last Alternative SPID Edit Flag Indicator Default
RR3-506: Service Provider SOA Last Alternative SPID Edit Flag Indicator Modification
RR3-507: Service Provider LSMS Last Alternative SPID Edit Flag Indicator
RR3-508: Service Provider LSMS Last Alternative SPID Edit Flag Indicator Default
RR3-509: Service Provider LSMS Last Alternative SPID Edit Flag Indicator Modification

Yes

3.9.2*

QUESTION:

TRD FRS Section 3: Sub Section 3.9.2: Alternative-End User Location and Alternative Billing ID Indicators

The following requirements define service provider tunable features that indicate if a service provider system supports optional data functionality defined as part of NANC 436.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-510: Service Provider SOA Alt-End User Location Value Edit Flag Indicator
RR3-511: Service Provider SOA Alt-End User Location Value Edit Flag Indicator Default
RR3-512: Service Provider SOA Alt-End User Location Value Edit Flag Indicator Modification
RR3-513: Service Provider SOA Alt-End User Location Type Edit Flag Indicator
RR3-514: Service Provider SOA Alt-End User Location Type Edit Flag Indicator Default

RR3-515: Service Provider SOA Alt-End User Location Type Edit Flag Indicator Modification
RR3-516: Service Provider SOA Alt-Billing ID Edit Flag Indicator
RR3-517: Service Provider SOA Alt-Billing ID Edit Flag Indicator Default
RR3-518: Service Provider SOA Alt-Billing ID Edit Flag Indicator Modification

Yes

3.9.3*

QUESTION:

TRD FRS Section 3: Sub Section 3.9.3: URI Indicators

The following requirements define service provider tunable features that indicate if a service provider system supports optional data functionality defined for URIs.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-519: Service Provider SOA Voice URI Edit Flag Indicator
RR3-520: Service Provider SOA Voice URI Edit Flag Indicator Default
RR3-521: Service Provider SOA Voice URI Edit Flag Indicator Modification
RR3-522: Service Provider LSMS Voice URI Edit Flag Indicator
RR3-523: Service Provider LSMS Voice URI Edit Flag Indicator Default
RR3-524: Service Provider LSMS Voice URI Edit Flag Indicator Modification
RR3-525: Service Provider SOA MMS URI Edit Flag Indicator
RR3-526: Service Provider SOA MMS URI Edit Flag Indicator Default
RR3-527: Service Provider SOA MMS URI Edit Flag Indicator Modification
RR3-528: Service Provider LSMS MMS URI Edit Flag Indicator
RR3-529: Service Provider LSMS MMS URI Edit Flag Indicator Default
RR3-530: Service Provider LSMS MMS URI Edit Flag Indicator Modification
RR3-531: Service Provider SOA SMS URI Edit Flag Indicator
RR3-532: Service Provider SOA SMS URI Edit Flag Indicator Default
RR3-533: Service Provider SOA SMS URI Edit Flag Indicator Modification
RR3-534: Service Provider LSMS SMS URI Edit Flag Indicator
RR3-535: Service Provider LSMS SMS URI Edit Flag Indicator Default
RR3-536: Service Provider LSMS SMS URI Edit Flag Indicator Modification

Yes

3.9.4*

QUESTION:

TRD FRS Section 3: Sub Section 3.9.4: Medium Timers Support Indicators

The following requirements define service provider tunable features that indicate if a service provider system supports simple port medium timer functionality defined as part of NANC 440 and 441.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-537: Medium Timers Support Indicator
RR3-538: Medium Timers Support Indicator Default
RR3-539: Medium Timers Support Indicator Modification

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.9.5: Pseudo-LRN Support Indicators

The following requirements define service provider tunable features that indicate if a

3.9.5*

service provider system supports Pseudo-LRN functionality.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-719: Service Provider SOA Pseudo-LRN
RR3-720: Service Provider SOA Pseudo-LRN Indicator Default
RR3-721: Service Provider SOA Pseudo-LRN Indicator Modification
RR3-722: Service Provider LSMS Pseudo-LRN Indicator
RR3-723: Service Provider LSMS Pseudo-LRN Indicator Default
RR3-724: Service Provider LSMS Pseudo-LRN Indicator Modification
RR3-725: Service Provider SOA Pseudo-LRN Notification Indicator
RR3-726: Service Provider SOA Pseudo-LRN Notification Indicator Default
RR3-727: Service Provider SOA Pseudo-LRN Notification Indicator Modification
RR3-728: Service Provider Low-Tech Interface Pseudo-LRN Support Flag Indicator
RR3-729: Provider Low-Tech Interface Pseudo-LRN Support Flag Indicator Default
RR3-730: Service Provider Low-Tech Interface Pseudo-LRN Support Flag Indicator Modification
RR3-731: Service Provider SOA Force Pseudo-LRN BDD Indicator
RR3-732: Service Provider SOA Force Pseudo-LRN BDD Indicator Default
RR3-733: Service Provider SOA Force Pseudo-LRN BDD Indicator Modification
RR3-734: Service Provider LSMS Force Pseudo-LRN BDD Indicator
RR3-735: Service Provider LSMS Force Pseudo-LRN BDD Indicator Default
RR3-736: Service Provider LSMS Force Pseudo-LRN BDD Indicator Modification

Yes

3.10*

QUESTION:

TRD FRS Section 3: Sub Section 3.10: Multiple Service Provider IDs per SOA Association Requirements

The FRS Section 3.10 requirements define the management of primary and associated Service Provider IDs per SOA association.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-16: Addition of NPAC Customer Associated Service Provider Information
RR3-17: Deletion of NPAC Customer Associated Service Provider Information
RR3-18: NPAC Customer Associated Service Provider Information - SPID validation
RR3-19: NPAC Customer Associated Service Provider Information - Associated SPID
A3-5: Associated Service Provider Multiple Service Provider Ids
RR3-20: NPAC Customer Associated Service Provider Information - Validation Error
RR3-21: NPAC Deletion of Service Provider Validation
RR3-22: Association Rejection for Associated Service Provider Id
RR3-23: Associated Service Provider Id Use over a Primary Service Provider Id Association
RR3-24: Validation of Old and New/Current for Associated Service Provider Id
RR3-25: Use of Primary Service Provider Key List
RR3-26: Notifications for Associated Service Providers
C3-1: Associated Service Provider Notification Aggregation
RR3-27: Filters for Associated Service Providers
RR3-28: Associated Service Provider and Primary Service Provider messages
RR3-29: Recovery for an Associated Service Provider

Yes

STATEMENT:

Telcordia08020

3.11	**TRD FRS Section 3: Sub Section 3.11: Bulk Data Download Functionality** The FRS Section 3.11 requirements describe Bulk Data Download functionality supported by the NPAC/SMS. The NPAC can generate files for Network Data (including SPID, LRN, NPA-NXX and NPA-NXX-X), and Subscription Versions (including Number Pool Blocks). The NPAC/SMS also has the ability to process Bulk Data Download Response files from Service Providers. Separate SOA and LSMS Indicators for a Service Provider are available.

3.11.1*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.11.1: Bulk Data Download Functionality - General** The following requirements address general Bulk Data Download functionality. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-220: Bulk Data Download File Creation RR3-221: Bulk Data Download - File Naming Convention RR3-222: Bulk Data Download - File Format RR3-223: Bulk Data Download - Selection Criteria for File Creation RR3-697: Bulk Data Download - Separate SOA and LSMS Indicators
Yes	

3.11.2*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.11.2: Network Data, Bulk Data Download** The following requirements address network data information related to bulk data downloads. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-224: Bulk Data Download - Required Selection Criteria for Network Data File Generation RR3-301: Network Data Information Bulk Download File Creation - Selection Criteria RR3-302: Network Data Information Bulk Download File Creation - All Network Data or Latest View of Network Data Activity Choice RR3-303: Network Data Information Bulk Download File Creation - Data in All Network Data Choice RR3-304: Network Data Information Bulk Download File Creation - Data in Latest View of Network Data Activity Choice RR3-305: Network Data Information Bulk Download File Creation - Time Range Fields RR3-306: Network Data Information Bulk Download File Creation - Time Range Fields and Network Data Data Model RR3-307: Network Data Information Bulk Download File Creation - Selection Criteria Combinations RR3-308: Network Data Information Bulk Data Download - Network Data Results RR3-309: Network Data Information Bulk Data Download - Network Data Results Sort Order RR3-310: Network Data Information Bulk Data Download - Filters for Network Data RR3-311: Network Data Information Bulk Data Download - Secure FTP Sub-Directory RR3-481: Service Provider Data Information Bulk Data Download - Support for Service Provider Type Data
Yes	

3.11.3*

QUESTION:

TRD FRS Section 3: Sub Section 3.11.3: Subscription Version, Bulk Data Download

The following requirements address subscription version information related to bulk data downloads.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-225: Bulk Data Download -Required Selection Criteria for Subscription Data File Generation
RR3-312: Subscription Version Information Bulk Download File Creation - Selection Criteria
RR3-313: Subscription Version Information Bulk Download File Creation - Active/Disconnect Pending/Partial Failure Subscription Versions Only or Latest View of Subscription Version Activity Choice
RR3-314: Subscription Version Information Bulk Download File Creation - Data in Active/Disconnect Pending/Partial Failure Subscription Versions Only Choice
RR3-315: Subscription Version Information Bulk Download File Creation - Data in Latest View of Subscription Version Activity Choice
RR3-316: Subscription Version Information Bulk Download File Creation - Time Range Fields
RR3-317: Subscription Version Information Bulk Download File Creation - Time Range Fields and SV Data Model
RR3-318: Subscription Version Information Bulk Download File Creation - TN Range Fields
RR3-319: Subscription Version Information Bulk Download File Creation - Selection Criteria Combinations
RR3-320: Subscription Version Information Bulk Data Download - Subscription Version Results
RR3-321: Subscription Version Information Bulk Data Download - Subscription Version Results Sort Order
RR3-322: Subscription Version Information Bulk Data Download - Filters for Subscription Versions
RR3-323: Subscription Version Information Bulk Data Download - EDR LSMSs
RR3-227: Bulk Data Download - Secure FTP Sub-Directory
RR3-324: Bulk Download File Creation - Pooled Subscription Versions Filtered for EDR Local SMS
RR3-737: Subscription Version Bulk Download File Creation for SOA - Pseudo-LRN Inclusion
RR3-738: Subscription Version Bulk Download File Creation for LSMS - Pseudo-LRN Inclusion

Yes

3.11.4*

QUESTION:

TRD FRS Section 3: Sub Section 3.11.4: NPA-NXX-X Holder, Bulk Data Download

The following requirements address NPA-NXX-X holder information related to bulk data downloads.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-116: Number Pool NPA-NXX-X Holder Information Bulk Download File - Separate File containing all NPA-NXX-X Data

RR3-117: Number Pool NPA-NXX-X Holder Information Bulk Download File - Filters for NPA-NXX-X Data
RR3-118: Number Pool NPA-NXX-X Holder Information Bulk Download File - Secure FTP Sub-Directory
RR3-739: Number Pool NPA-NXX-X Holder Information Bulk Download File Creation for SOA - Pseudo-LRN Inclusion
RR3-740: Number Pool NPA-NXX-X Holder Information Bulk Download File Creation for LSMS - Pseudo-LRN Inclusion

Yes

3.11.5*

QUESTION:

TRD FRS Section 3: Sub Section 3.11.5: Block Holder, Bulk Data Downloads

The following requirements address Number Pool Block holder information related to bulk data downloads.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-198: Number Pool Block Holder Information Bulk Download File Creation - Blocks
RR3-199: Number Pool Block Holder Information Bulk Download File Creation - Selection Criteria
RR3-200.1: Number Pool Block Holder Information Bulk Download File Creation - Active and Partial Failure Blocks Only or Latest View of Block Activity Choice
RR3-200.2: Number Pool Block Holder Information Bulk Download File Creation - Data in Active Blocks Only Choice
RR3-200.3: Number Pool Block Holder Information Bulk Download File Creation - Data in Latest View of Block Activity Choice
RR3-201.1: Number Pool Block Holder Information Bulk Download File Creation - Time Range Fields
RR3-201.2: Number Pool Block Holder Information Bulk Download File Creation - Time Range Fields and Block Data Model
RR3-202: Number Pool Block Holder Information Bulk Download File Creation - Block Range Fields
RR3-203: Number Pool Block Holder Information Bulk Download File Creation - Selection Criteria Combinations
RR3-204: Number Pool Block Holder Information Bulk Data Download - Block Results
RR3-205: Number Pool Block Holder Information Bulk Data Download - Block Results Sort Order
RR3-206: Number Pool Block Holder Information Bulk Data Download - Filters for Blocks
RR3-207: Number Pool Block Holder Information Bulk Data Download - Secure FTP Sub-Directory
RR3-741: Number Pool Block Holder Information Bulk Download File Creation for SOA - Pseudo-LRN Inclusion
RR3-742: Number Pool Block Holder Information Bulk Download File Creation for LSMS - Pseudo-LRN Inclusion

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.11.6: Notifications, Bulk Data Download

The following requirements address notifications related to bulk data downloads.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

3.11.6*	RR3-462: Notification BDD Selection Criteria Fields RR3-463: Notification BDD Required Selection Criteria RR3-464: Notification BDD File Name RR3-465: Notification BDD Time Range RR3-466: Notification BDD Results RR3-467: Notification BDD Sort Order RR3-468: Notification BDD Filters RR3-469: Notification BDD Secure FTP Sub-Directory RR3-540: Notification BDD Service Provider Timer Type Business Hours Attributes Indicator RR3-541: Notification BDD Service Provider Timer Type Business Hours Attributes Indicator Default RR3-542: Notification BDD Service Provider Timer Type Business Hours Attributes Indicator Modification
Yes	

3.11.7*	QUESTION: **TRD FRS Section 3: Sub Section 3.11.7: Bulk Data Download Response Files** The following requirements address bulk data download response files. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-325: File Name Format for Service Provider BDD Response File RR3-326: File Contents for Service Provider BDD Response File RR3-327: Complete File Processing for Service Provider BDD Response File RR3-328: Processing of the Service Provider BDD Response File for Subscription Versions RR3-329: Removing a Service Provider from a Subscription Version Failed SP List RR3-330: Processing of the Service Provider BDD Response File for Number Pooling Blocks RR3-331: Removing a Service Provider from a Number Pooling Block Failed SP List RR3-332: Service Provider Not Found on the Failed SP List RR3-333: Validation of SPID in the Service Provider BDD Response File Against SPID of the Secure FTP Directory
Yes	

3.12	STATEMENT: **TRD FRS Section 3: Sub Section 3.12: NPA-NXX-X Information** The FRS Section 3.12 requirements define how the NPAC/SMS provides a mechanism to indicate whether a Service Provider supports receiving the NPA-NXX-X data, by downloading this data to their SOA via the SOA to NPAC/SMS Interface, using the Number Pooling NPA-NXX-X and LSMS EDR indicators.

	QUESTION: **TRD FRS Section 3: Sub Section 3.12.1: NPA-NXX-X Download Indicator Management** The following requirements address management of NPA-NXX-X download indicators. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?**

3.12.1*

RR3-52: NPAC Customer SOA NPA-NXX-X Indicator
RR3-53: NPAC Customer SOA NPA-NXX-X Indicator - Default
RR3-54: NPAC Customer SOA NPA-NXX-X Indicator - Modification
RR3-55: NPAC Customer LSMS NPA-NXX-X Indicator
RR3-56: NPAC Customer LSMS NPA-NXX-X Indicator - Default
RR3-57: NPAC Customer LSMS NPA-NXX-X Indicator - Modification
RR3-58: NPAC Customer LSMS EDR Indicator
RR3-59: NPAC Customer LSMS EDR Indicator - Default
RR3-60: NPAC Customer LSMS EDR Indicator - Modification

Yes

3.12.2*

QUESTION:

TRD FRS Section 3: Sub Section 3.12.2: NPA-NXX-X Holder Information

The following requirements address Number Pool Block NPA-NXX-X Holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-61: Number Pool NPA-NXX-X Holder Information - NPAC Personnel OpGUI
RR3-62: Number Pool NPA-NXX-X Holder Information - Service Provider Request
RR3-63: Number Pool NPA-NXX-X Holder Information - NPA-NXX Validation
RR3-65: Number Pool NPA-NXX-X Holder Information - Duplicate NPA-NXX-X Validation
RR3-68: Number Pool NPA-NXX-X Holder Information - Service Provider Local SMS NPA-NXX-X Indicator Download of NPA-NXX-X Object
RR3-69: Number Pool NPA-NXX-X Holder Information - Service Provider Local SMS NPA-NXX-X Indicator Suppression of Download of NPA-NXX-X Object
RR3-743: Number Pool NPA-NXX-X Holder Information - Service Provider Local SMS Pseudo-LRN Indicator Download of NPA-NXX-X Object
RR3-70: Number Pool NPA-NXX-X Holder Information - Filters for NPA-NXX-X Download to the Local SMS
RR3-71: Number Pool NPA-NXX-X Holder Information - Service Provider SOA NPA-NXX-X Indicator Download of NPA-NXX-X Object
RR3-72: Number Pool NPA-NXX-X Holder Information - Service Provider SOA NPA-NXX-X Indicator Suppression of Download of NPA-NXX-X Object
RR3-744: Number Pool NPA-NXX-X Holder Information - Service Provider SOA Pseudo-LRN Indicator Download of NPA-NXX-X Object
RR3-73: Number Pool NPA-NXX-X Holder Information - Filters for NPA-NXX-X Download to the SOA
RR3-74: Number Pool NPA-NXX-X Holder Information - Validation Error

Yes

QUESTION:

TRD FRS Section 3: Sub Section 3.12.3: NPA-NXX-X Holder, NPAC Scheduling/Re-Scheduling of Block Creation

The following requirements address NPA-NXX-X block holder scheduling and re-scheduling of block creations.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-75.1: Number Pool NPA-NXX-X Holder Information -OpGUI Entry Field for NPAC or SOA Origination

3.12.3*	RR3-75.2: Number Pool NPA-NXX-X Holder Information -OpGUI Entry Mechanism for Immediate or Scheduled Block Creation RR3-75.3: Number Pool NPA-NXX-X Holder Information -OpGUI Entry Field for Scheduled Date/Time RR3-76.1: Number Pool NPA-NXX-X Holder Information -Default for Scheduled Date/Time Entry Field RR3-76.2: Number Pool NPA-NXX-X Holder Information -Scheduled Date/Time Entry Field Validation RR3-77: Number Pool NPA-NXX-X Holder Information -Use of Scheduled Date/Time and NPAC Origination Entry Fields RR3-78: Number Pool NPA-NXX-X Holder Information - Routing Data for NPAC Origination RR3-79.1: Number Pool NPA-NXX-X Holder Information - Routing Data Field Level Validation RR3-79.2: Number Pool NPA-NXX-X Holder Information - Routing Data LRN Validation RR3-80.1: Number Pool NPA-NXX-X Holder Information - Modification of Block Create Event RR3-80.2: Number Pool NPA-NXX-X Holder Information - Modification of Scheduled Date/Time for Block Create Event RR3-80.3: Number Pool NPA-NXX-X Holder Information - Modification of Routing Data for Block Create Event RR3-81.1: Number Pool NPA-NXX-X Holder Information - Re-schedule of NPAC Initiated Block Create RR3-81.2: Number Pool NPA-NXX-X Holder Information - Re-schedule of Block Create Scheduling Options RR3-81.3: Number Pool NPA-NXX-X Holder Information - Re-schedule of Block Create Immediate Execution Edit Check RR3-82.1: Number Pool NPA-NXX-X Holder Information - Reject Re-schedule Based on Status RR3-82.2: Number Pool NPA-NXX-X Holder Information - Reject Re-schedule Based on Existing Block Create Event RR3-82.3: Number Pool NPA-NXX-X Holder Information - Validation Error for Schedule/Re-Schedule of Block Create Event RR3-83.1: Number Pool NPA-NXX-X Holder Information - Error Message for Pending-Like No-Active SVs during Block Create RR3-83.2: Number Pool NPA-NXX-X Holder Information - Pending-Like No-Active SVs Report Output Destinations RR3-83.3: Number Pool NPA-NXX-X Holder Information - Pending-Like No-Active SVs Report Output Destinations for Multiple Destinations RR3-83.4: Number Pool NPA-NXX-X Holder Information - Output Destination for Pending-Like No-Active SVs
Yes	

	QUESTION: **TRD FRS Section 3: Sub Section 3.12.4: NPA-NXX-X Holder, Addition** The following requirements address addition of Number Pooling NPA-NXX-X holder information. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-84: Addition of Number Pooling NPA-NXX-X Holder Information - Required Fields RR3-85: Addition of Number Pooling NPA-NXX-X Holder Information - SPID Validation RR3-86: Addition of Number Pooling NPA-NXX-X Holder Information - Check for

3.12.4*	Pending-Like No-Active SVs RR3-87: Addition of Number Pooling NPA-NXX-X Holder Information - Check for Pending-Like Port-To-Original SVs RR3-88.1: Addition of Number Pooling NPA-NXX-X Holder Information - Error Message for Pending-Like No-Active SVs and Pending-Like Port-To-Original SVs RR3-88.2: Addition of Number Pooling NPA-NXX-X Holder Information -Pending-Like No-Active SVs and Pending-Like Port-To-Original SVs Report Selection of Output Destinations RR3-88.3: Addition of Number Pooling NPA-NXX-X Holder Information -Pending-Like No-Active SVs and Pending-Like Port-To-Original SVs Report Output Destinations for Multiple Destinations RR3-89: Addition of Number Pooling NPA-NXX-X Holder Information - Output Destination for Pending-Like No-Active SVs and Pending-Like Port-To-Original SVs RR3-482: Number Pooling NPA-NXX-X Holder Information Effective Date - Validation upon Addition RR3-745: Addition of Number Pooling NPA-NXX-X Holder Information - Active-LRN Number Pool Block Check for Pseudo-LRN SVs RR3-93: Addition of Number Pooling NPA-NXX-X Holder Information Effective Date - OpGUI Default RR3-94: Addition of Number Pooling NPA-NXX-X Holder Information - Successful Validation
Yes	

3.12.5*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.12.5: NPA-NXX-X Holder, Modification** The following requirements address modification of Number Pooling NPA-NXX-X holder information. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-95: Modification of Number Pool NPA-NXX-X Holder Information - Effective Date Modification from OpGUI RR3-96: Modification of Number Pool NPA-NXX-X Holder Information - Effective Date versus Current Date RR3-97: Modification of Number Pool NPA-NXX-X Holder Information - Effective Date Update to Scheduled Block Create RR3-483: Modification of Number Pool NPA-NXX-X Holder Information Effective Date - Validation RR3-746: Number Pool NPA-NXX-X Holder Information - Pseudo-LRN Indicator RR3-101: Modification of Number Pooling NPA-NXX-X Holder Information - Successful Validation
Yes	

	QUESTION: **TRD FRS Section 3: Sub Section 3.12.6: NPA-NXX-X Holder, Deletion** The following requirements address deletion of Number Pooling NPA-NXX-X holder information. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-102: Deletion of Number Pool NPA-NXX-X Holder Information - NPA-NXX-X Data RR3-103: Deletion of Number Pool NPA-NXX-X Holder Information - Single NPA-NXX-

3.12.6*	X at a time from OpGUI RR3-104: Deletion of Number Pooling NPA-NXX-X Holder Information - Check for Pending-Like With Active POOL SVs RR3-105: Deletion of Number Pooling NPA-NXX-X Holder Information - Check for Port-to-Original SVs RR3-106: Deletion of Number Pooling NPA-NXX-X Holder Information - Check for non-Active Block RR3-107: Deletion of Number Pooling NPA-NXX-X Holder Information - Check for Sending SVs RR3-108.1: Deletion of Number Pooling NPA-NXX-X Holder Information - Error Message for Pending-Like With Active POOL SVs and Pending-Like Port-To-Original SVs RR3-108.2: Deletion of Number Pooling NPA-NXX-X Holder Information -Pending-Like With Active POOL SVs and Pending-Like Port-To-Original SVs Report Selection of Output Destinations RR3-108.3: Deletion of Number Pooling NPA-NXX-X Holder Information -Pending-Like With Active POOL SVs and Pending-Like Port-To-Original SVs Report Output Destinations for Multiple Destinations RR3-109: Deletion of Number Pooling NPA-NXX-X Holder Information - Output Destination for Pending-Like and Active POOL SVs and Pending-Like Port-To-Original SVs RR3-110: Deletion of Number Pool NPA-NXX-X Holder Information - Block and Subscription Version Data Dependency RR3-111: Deletion of Number Pool NPA-NXX-X Holder Information - NPA-NXX-X Dependency RR3-112: Deletion of Number Pool NPA-NXX-X Holder Information - NPA-NXX-X With an Associated Block Create Scheduled Event
Yes	

3.12.7*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.12.7: NPA-NXX-X Holder, First Port Notification** The following requirements address First Port Notification of Number Pooling NPA-NXX-X holder information. **Does the Respondent's proposal fully comply with the requirement below in time to meet the published implementation date?** RR3-228: Number Pool NPA-NXX-X Holder information Notification of First Port
Yes	

3.12.8*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.12.8: NPA-NXX-X Holder, Query** The following requirements address querying of Number Pooling NPA-NXX-X holder information. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-113: Query of Number Pool NPA-NXX-X Holder Information - NPAC Personnel and Service Provider Personnel RR3-114: Query of Number Pool NPA-NXX-X Holder Information - Return of Queried Data

RR3-115: Query of Number Pool NPA-NXX-X Holder Information - Return of Queried Data to NPAC Personnel Only
RR3-747: Query of NPA-NXX-X Holder Information for Pseudo-LRN - Service Provider Personnel - SOA Interface
RR3-748: Query of NPA-NXX-X Holder Information for Pseudo-LRN - Service Provider Personnel - LSMS Interface
RR3-749: Query NPA-NXX-X Holder Information for Pseudo-LRN - Service Provider Personnel - LTI

Yes

3.13

STATEMENT:

TRD FRS Section 3: Sub Section 3.13: Block Information

The FRS Section 3.13 requirements define how the NPAC/SMS provides a mechanism to create, activate, modify, delete, query and validate pooled block records.

3.13.1

STATEMENT:

TRD FRS Section 3: Sub Section 3.13.1: Version Status

This section includes a Number Pool Block Version Status Interaction diagram and descriptions that are described in further detail in the FRS document Section 3.13.1.

QUESTION:

TRD FRS Section 3: Sub Section 3.13.2: Block Holder, General

The following requirements address general Number Pool Block holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-119: Number Pool Block Holder Information - NPAC Personnel OpGUI
RR3-120: Number Pool Block Holder Information - NPAC Customer EDR Indicator Download of Block Object
RR3-121: Number Pool Block Holder Information - NPAC Customer EDR Indicator Download of SVs
RR3-122: Number Pool Block Holder Information - NPAC Customer EDR Indicator For Requests But Not Retries
RR3-123: Number Pool Block Holder Information - Data Integrity for Block and Pooled Subscription Versions
RR3-124: Number Pool Block Holder Information - Service Provider Validation
RR3-125: Number Pool Block Holder Information - SPID Validation
RR3-126: Number Pool Block Holder Information - NPA-NXX-X Data Validation
RR3-127: Number Pool Block Holder Information - NPA-NXX-X Effective Date
RR3-128: Number Pool Block Holder Information - LRN Validation
RR3-334: Validation of LATA ID for Number Pool Block Creates
RR3-335: Validation of LATA ID for Number Pool Block Modifies
RR3-129: Number Pool Block Holder Information - Duplicate Block Validation
RR3-130: Number Pool Block Holder Information - SOA Origination Values
RR3-750: Number Pool Block Holder Information - Service Provider Tunable Value of TRUE for Pseudo-LRN Request
RR3-751: Number Pool Block Holder Information - Service Provider Validation for Pseudo-LRN Request of NPA-NXX Ownership

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3.13.2*	RR3-752: Number Pool Block Holder Information - Type Validation for Pseudo-LRN and Active-LRN Request RR3-753: Number Pooling Block Holder Information - Broadcast of Block Data to EDR Local SMS for Pseudo-LRN RR3-754; Number Pooling Block Holder Information - Broadcast of Subscription Version Data to non-EDR Local SMS for Pseudo-LRN RR3-131: Number Pool Block Holder Information - Validation Error RR3-132: Number Pooling Block Holder Information -Update Notification RR3-133: Number Pooling Block Holder Information -Update Notification Suppression RR3-134: Number Pooling Block Holder Information - Failed SP List Update for Block for EDR Local SMS RR3-135: Number Pooling Block Holder Information - Failed SP List Update for Subscription Versions for non-EDR Local SMS RR3-136: Number Pooling Block Holder Information - Failed SP List Sent to Block Holder RR3-137.1: Number Pooling Block Holder Information - Synchronization of Block Status and Subscription Version Status RR3-137.2: Number Pooling Block Holder Information - Synchronization of Block Status and Subscription Version Status for Block Creation RR3-137.3: Number Pooling Block Holder Information - Synchronization of Block Status and Subscription Version Status for Block Modification RR3-137.4: Number Pooling Block Holder Information - Synchronization of Block Status and Subscription Version Status for Block Deletion RR3-138.1: Number Pooling Block Holder Information - Synchronization of Block Failed SP List and Subscription Version Failed SP List RR3-138.2: Number Pooling Block Holder Information - Synchronization of Block Failed SP List and Subscription Version Failed SP List for Block Creation, Modification, or Deletion RR3-139: Number Pooling Block Holder Information - Synchronization of Block Failed SP List and Subscription Version Failed SP List for the last failed Subscription Version in the 1K Block RR3-140: Number Pooling Block Holder Information - Synchronization of Block Failed SP List and Subscription Version Failed SP List for the Block RR3-141.1: Number Pooling Block Holder Information - Unique Error Message for Partial Failure or Failed Status Update to a Block for Block Activation Requests Initiated by NPAC Personnel RR3-141.3: Number Pooling Block Holder Information - Unique Error Message for Active Status With a Failed SP List Update to a Block RR3-141.4: Number Pooling Block Holder Information - Unique Error Message for Old Status With a Failed SP List Update to a Block RR3-142.1: Number Pooling Block Holder Information - Block Broadcast Monitoring Mechanism RR3-142.2: Number Pooling Block Holder Information - Block Broadcast Monitoring Mechanism Completion RR3-143: Number Pool Block Holder Information - Filters for Blocks
Yes	

QUESTION:

TRD FRS Section 3: Sub Section 3.13.3: Block Holder, Addition

The following requirements address addition of Number Pool Block holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-144: Addition of Number Pooling Block Holder Information

3.13.3*	RR3-145: Addition of Number Pool Block Holder Information - Rejected from LSMS RR3-146: Addition of Number Pooling Block Holder Information - Required Data RR3-147: Addition of Number Pooling Block Holder Information - Check for pending-like SVs for NPAC Personnel RR3-148: Addition of Number Pooling Block Holder Information - Error Message to SOA for pending-like SVs RR3-149: Addition of Number Pooling Block Holder Information - Field-level Data Validation RR3-698: Addition of Number Pooling Block Holder Information -DPC-SSN Field-level Data Validation RR3-699: Addition of Number Pooling Block Holder Information - Validation of DPC-SSNs for Number Pool Block Creates RR3-150: Addition of Number Pooling Block Holder Information - Broadcast of Block Data RR3-151: Addition of Number Pooling Block Holder Information - Activation Broadcast Complete Timestamp Update RR3-152: Addition of Number Pooling Block Holder Information - Status Update RR3-153: Addition of Number Pooling Block Holder Information - Failed SP List Update RR3-496: Activate Number Pool Block - Send Number Pool Block SV Type Data to Local SMSs RR3-497: Activate Number Pool Block - Send Alternative SPID to Local SMSs RR3-543: Activate Number Pool Block - Send Last Alternative SPID to Local SMSs RR3-544: Activate Number Pool Block - Send Alt-End User Location Value to Local SMSs RR3-545: Activate Number Pool Block - Send Alt-End User Location Type to Local SMSs RR3-546: Activate Number Pool Block - Send Alt-Billing ID to Local SMSs RR3-547: Activate Number Pool Block - Send Voice URI to Local SMSs RR3-548: Activate Number Pool Block - Send MMS URI to Local SMSs RR3-549: Activate Number Pool Block - Send SMS URI to Local SMSs RR3-755: Activate Number Pool Block - Send Notification of Activation of Pseudo-LRN Record
Yes	

3.13.4*	**QUESTION:** **TRD FRS Section 3: Sub Section 3.13.4: Block Holder, Modification** The following requirements address modification of Number Pool Block holder information. **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR3-154: Block's SOA Origination Indicator - NPAC Personnel OpGUI RR3-155: Block's SOA Origination Indicator - Suppress Broadcast RR3-156: Block's SOA Origination Indicator - Suppress Creation When False RR3-157: Modification of Number Pooling Block Holder Information - Routing Data RR3-158: Modification of Number Pool Block Holder Information - Rejected from LSMS RR3-159: Modification of Number Pooling Block Holder Information - SPID Validation RR3-160: Modification of Number Pooling Block Holder Information - Selection Criteria RR3-161: Modification of Number Pooling Block Holder Information - Current status and Failed SP List RR3-700: Modify Number Pool Block - DPC-SSN Field-level Data Validation RR3-701: Modify Number Pool Block - Validation of DPC-SSNs for Number Pool Block

Modifies
RR3-756: Number Pool Block Holder Information - Service Provider Tunable Value of TRUE for Pseudo-LRN Request
RR3-162: Modification of Number Pooling Block Holder Information - Sending Status Update
RR3-163: Modification of Number Pooling Block Holder Information - Broadcast of Block Data
RR3-164: Modification of Number Pooling Block Holder Information - Modify Broadcast Complete Timestamp Update
RR3-165: Modification of Number Pooling Block Holder Information -Status Update
RR3-166: Modification of Number Pooling Block Holder Information - Failed SP List Update
RR3-757: Modify Number Pool Block - Send Notification of Modification of Pseudo-LRN Record

Yes

3.13.5*

QUESTION:

TRD FRS Section 3: Sub Section 3.13.5: Block Holder, Deletion

The following requirements address deletion of Number Pool Block holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-169: Deletion of Number Pool Block Holder Information - NPAC
RR3-170: Deletion of Number Pool Block Holder Information - SOA
RR3-171: Deletion of Number Pool Block Holder Information - Rejected from LSMS
RR3-172: Deletion of Number Pool Block Holder Information - LTI
RR3-173: Deletion of Number Pooling NPA-NXX-X Holder Information - Sending Status Update to Block
RR3-174: Deletion of Number Pool NPA-NXX-X Holder Information - Broadcast of Block Data
RR3-175: Deletion of Number Pooling Block Holder Information - Disconnect Complete Timestamp Update
RR3-176: Deletion of Number Pooling NPA-NXX-X Holder Information - Status Update to Block
RR3-177: Deletion of Number Pooling NPA-NXX-X Holder Information - Failed SP List Update
RR3-758: Deletion of Number Pool Block Holder Information - Send Notification of Disconnect of Pseudo-LRN Record

Yes

3.13.6*

QUESTION:

TRD FRS Section 3: Sub Section 3.13.6: Block Holder, Query

The following requirements address querying of Number Pool Block holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-180: Query of Number Pool Block Holder Information - NPAC Personnel
RR3-181: Query of Number Pool Block Holder Information - Service Provider Personnel
RR3-182: Query of Number Pool Filtered Block Holder Information - Query Block

RR3-759: Query of Number Pool Block Holder Information for Pseudo-LRN - Service Provider Personnel - SOA Interface
RR3-760: Query of Number Pool Block Holder Information for Pseudo-LRN - Service Provider Personnel - LSMS Interface
RR3-761: Query of Number Pool Block Holder Information for Pseudo-LRN - Service Provider Personnel - LTI

Yes

3.13.7*

QUESTION:

TRD FRS Section 3: Sub Section 3.13.7: Block Holder, Default Routing Restoration

The following requirements address default routing restoration information in the Number Pool Block holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-183: Number Pool Block Holder Information Use of Number Pool Default Routing Information – Existing Block
RR3-184: Number Pool Block Holder Information Use of Number Pool Notification of TN Re-assignment – During De-Pooling

Yes

3.13.8*

QUESTION:

TRD FRS Section 3: Sub Section 3.13.8: Block Holder, Re-Send

The following requirements address re-sending of Number Pool Block holder information.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-185: Re-Send of Number Pool Block Holder Information - Filters for Blocks
RR3-186.1: Re-Send of Number Pooling Block Holder Information - NPAC Personnel OpGUI Single Block
RR3-186.2: Re-Send of Number Pooling Block Holder Information - NPAC Personnel OpGUI One or All Service Providers
RR3-187: Re-Send of Number Pooling Block Holder Information - Use of EDR Indicator for Re-Send data
RR3-188: Re-Send of Number Pooling Block Holder Information - Re-Send to EDR Local SMS
RR3-189: Re-Send of Number Pooling Block Holder Information - Re-Send to non-EDR Local SMS
RR3-190: Re-Send of Number Pooling Block Holder Information - Failed Block Status Set to Sending
RR3-191: Re-Send of Number Pooling Block Holder Information - Partial Failure Block Status Set to Sending
RR3-192: Re-Send of Number Pooling Block Holder Information - Sending Status Update to Active Block
RR3-193: Re-Send of Number Pooling Block Holder Information - Sending Status Update to Old Block
RR3-194: Re-Send of Number Pool Block Holder Information - Broadcast of Block Data
RR3-195: Re-Send of Number Pooling Block Holder Information - Update to Failed SP List

RR3-196: Re-Send of Number Pooling Block Holder Information -Status Update to Block after Re-Send
RR3-197: Re-Send of Number Pooling Block Holder Information - Failed SP List Update
RR3-472: Number Pool Block Failed SP List - Exclusion of a Service Provider from Resend
RR3-473: Number Pool Block Failed SP List - Logging of an Excluded Service Provider

Yes

3.14*

QUESTION:

TRD FRS Section 3: Sub Section 3.14: Linked Action Replies

The FRS Section 3.14 requirements define tunable parameters that enable Linked Action Replies to be sent to Service Provider systems that support this functionality, during recovery. The actual Linked Reply functionality is discussed specifically within the Recovery section.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-336: NPAC Customer SOA Linked Replies Indicator
RR3-337: NPAC Customer SOA Linked Replies Indicator - Default
RR3-338: NPAC Customer SOA Linked Replies Indicator - Modification
RR3-339: NPAC Customer Local SMS Linked Replies Indicator
RR3-340: NPAC Customer Local SMS Linked Replies Indicator - Default
RR3-341: NPAC Customer Local SMS Linked Replies Indicator - Modification
RR3-342: Service Provider and Network Data Linked Replies Blocking Factor - Tunable Parameter
RR3-343: Service Provider and Network Data Linked Replies Blocking Factor - Tunable Parameter Default
RR3-344: Service Provider and Network Data Linked Replies Blocking Factor - Tunable Parameter Modification
RR3-345: Subscription Data Linked Replies Blocking Factor - Tunable Parameter
RR3-346: Subscription Data Linked Replies Blocking Factor - Tunable Parameter Default
RR3-347: Subscription Data Linked Replies Blocking Factor - Tunable Parameter Modification
RR3-348: Notification Data Linked Replies Blocking Factor - Tunable Parameter
RR3-349: Notification Data Linked Replies Blocking Factor - Tunable Parameter Default
RR3-350: Notification Data Linked Replies Blocking Factor - Tunable Parameter Modification
RR3-430: Number Pool Block Data Linked Replies Blocking Factor - Tunable Parameter
RR3-431: Number Pool Block Data Linked Replies Blocking Factor - Tunable Parameter Default
RR3-432: Number Pool Block Data Linked Replies Blocking Factor - Tunable Parameter Modification
RR3-351: Service Provider and Network Data Maximum Linked Recovered Objects - Tunable Parameter
RR3-352: Service Provider and Network Data Maximum Linked Recovered Objects - Tunable Parameter Default
RR3-353: Service Provider and Network Data Maximum Linked Recovered Objects - Tunable Parameter Modification
RR3-354: Subscription Data Maximum Linked Recovered Objects - Tunable Parameter
RR3-355: Subscription Data Maximum Linked Recovered Objects - Tunable Parameter Default
RR3-356: Subscription Data Maximum Linked Recovered Objects - Tunable Parameter Modification
RR3-357: Notification Data Maximum Linked Recovered Notifications - Tunable

Parameter
RR3-358: Notification Data Maximum Linked Recovered Notifications - Tunable Parameter Default
RR3-359: Notification Data Maximum Linked Recovered Notifications - Tunable Parameter Modification
RR3-433: Number Pool Block Data Maximum Linked Recovered Objects - Tunable Parameter
RR3-434: Number Pool Block Data Maximum Linked Recovered Objects - Tunable Parameter Default
RR3-435: Number Pool Block Data Maximum Linked Recovered Objects - Tunable Parameter Modification

Yes

3.15

STATEMENT:

TRD FRS Section 3: Sub Section 3.15: GTT Validation Processing by the NPAC/SMS

The FRS Section 3.15 requirements describe how the NPAC/SMS performs a variety of GTT validation for Subscription Versions and Number Pool Blocks in an effort to support SS7 signaling guidelines for Local Number Portability. Some GTT validation occurs based on regional tunables that reflect inter-Service Provider service level agreements, while other validations occur globally regardless of any tunable setting.

3.15.1*

QUESTION:

TRD FRS Section 3: Sub Section 3.15.1: Sub System Number (SSN) Edit Flag Indicator

The following requirements address Sub System Number Edit flag indicators related to DPC/SSN edits.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-360: DPC/SSN Edits - CLASS SSN Edit Flag Indicator
RR3-361: DPC/SSN Edits - LIDB SSN Edit Flag Indicator
RR3-362: DPC/SSN Edits - CNAM SSN Edit Flag Indicator
RR3-363: DPC/SSN Edits - ISVM SSN Edit Flag Indicator
RR3-364: DPC/SSN Edits - WSMSC SSN Edit Flag Indicator
RR3-365: DPC/SSN Edits - CLASS SSN Edit Flag Indicator - OpGUI Modification
RR3-366: DPC/SSN Edits - LIDB SSN Edit Flag Indicator - OpGUI Modification
RR3-367: DPC/SSN Edits - CNAM SSN Edit Flag Indicator - OpGUI Modification
RR3-368: DPC/SSN Edits - ISVM SSN Edit Flag Indicator - OpGUI Modification
RR3-369: DPC/SSN Edits - WSMSC SSN Edit Flag Indicator - OpGUI Modification
RR3-370: DPC/SSN Edits - CLASS SSN Edit Flag Indicator Default
RR3-371: DPC/SSN Edits - LIDB SSN Edit Flag Indicator Default
RR3-372: DPC/SSN Edits - CNAM SSN Edit Flag Indicator Default
RR3-373: DPC/SSN Edits - ISVM SSN Edit Flag Indicator Default
RR3-374: DPC/SSN Edits - WSMSC SSN Edit Flag Indicator Default
RR3-375: DPC/SSN Edits - CLASS SSN Rejection for Non-Zero Value
RR3-376: DPC/SSN Edits - LIDB SSN Rejection for Non-Zero Value
RR3-377: DPC/SSN Edits - CNAM SSN Rejection for Non-Zero Value
RR3-378: DPC/SSN Edits - ISVM SSN Rejection for Non-Zero Value
RR3-379: DPC/SSN Edits - WSMSC SSN Rejection for Non-Zero Value

Yes

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3.15.2*

QUESTION:

TRD FRS Section 3: Sub Section 3.15.2: Global GTT Validations

The following requirements address global GTT validations.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-380: Subscription Version - Verify CLASS SSN when CLASS DPC is populated
RR3-381: Subscription Version - Verify LIDB SSN when LIDB DPC is populated
RR3-382: Subscription Version - Verify CNAM SSN when CNAM DPC is populated
RR3-383: Subscription Version - Verify ISVM SSN when ISVM DPC is populated
RR3-384: Subscription Version - Verify WSMSC SSN when WSMSC DPC is populated
RR3-385: Subscription Version - Verify CLASS DPC when CLASS SSN is populated
RR3-386: Subscription Version - Verify LIDB DPC when LIDB SSN is populated
RR3-387: Subscription Version - Verify CNAM DPC when CNAM SSN is populated
RR3-388: Subscription Version - Verify ISVM DPC when ISVM SSN is populated
RR3-389: Subscription Version - Verify WSMSC DPC when WSMSC SSN is populated
RR3-390: Number Pool Block - Verify CLASS SSN when CLASS DPC is populated
RR3-391: Number Pool Block - Verify LIDB SSN when LIDB DPC is populated
RR3-392: Number Pool Block - Verify CNAM SSN when CNAM DPC is populated
RR3-393: Number Pool Block - Verify ISVM SSN when ISVM DPC is populated
RR3-394: Number Pool Block - Verify WSMSC SSN when WSMSC DPC is populated
RR3-395: Number Pool Block - Verify CLASS DPC when CLASS SSN is populated
RR3-396: Number Pool Block - Verify LIDB DPC when LIDB SSN is populated
RR3-397: Number Pool Block - Verify CNAM DPC when CNAM SSN is populated
RR3-398: Number Pool Block - Verify ISVM DPC when ISVM SSN is populated
RR3-399: Number Pool Block - Verify WSMSC DPC when WSMSC SSN is populated
RR3-400: DPC/SSN Edits - CLASS validation failure
RR3-401: DPC/SSN Edits - LIDB validation failure
RR3-402: DPC/SSN Edits - CNAM validation failure
RR3-403: DPC/SSN Edits - ISVM validation failure
RR3-404: DPC/SSN Edits - WSMSC validation failure
RR3-405: DPC/SSN Edits - CLASS DPC and SSN Required Data for Modification
RR3-406: DPC/SSN Edits - LIDB DPC and SSN Required Data for Modification
RR3-407: DPC/SSN Edits - CNAM DPC and SSN Required Data for Modification
RR3-408: DPC/SSN Edits - ISVM DPC and SSN Required Data for Modification
RR3-409: DPC/SSN Edits - WSMSC DPC and SSN Required Data for Modification
RR3-410: DPC/SSN Edits - CLASS DPC and SSN Required Data for Mass Update
RR3-411: DPC/SSN Edits - LIDB DPC and SSN Required Data for Mass Update
RR3-412: DPC/SSN Edits - CNAM DPC and SSN Required Data for Mass Update
RR3-413: DPC/SSN Edits - ISVM DPC and SSN Required Data for Mass Update
RR3-414: DPC/SSN Edits - WSMSC DPC and SSN Required Data for Mass Update
RR3-415: Subscription Version - Verify All Routing Data When Modifying Non-GTT Data
RR3-416: Subscription Version - Verify All Routing Data When Modifying CLASS Data
RR3-417: Subscription Version - Verify All Routing Data When Modifying LIDB Data
RR3-418: Subscription Version - Verify All Routing Data When Modifying CNAM Data
RR3-419: Subscription Version - Verify All Routing Data When Modifying ISVM Data
RR3-420: Subscription Version - Verify All Routing Data When Modifying WSMSC Data
RR3-421: Number Pool Block - Verify All Routing Data When Modifying Non-GTT Data
RR3-422: Number Pool Block - Verify All Routing Data When Modifying CLASS Data
RR3-423: Number Pool Block - Verify All Routing Data When Modifying LIDB Data
RR3-424: Number Pool Block - Verify All Routing Data When Modifying CNAM Data
RR3-425: Number Pool Block - Verify All Routing Data When Modifying ISVM Data
RR3-426: Number Pool Block - Verify All Routing Data When Modifying WSMSC Data

RR3-427: Subscription Version - Verify All Routing Data When Activating a Subscription Version
RR3-428: Number Pool Block - Verify All Routing Data When Activating a Number Pool Block
RR3-429: DPC/SSN Edits - Errors on DPC and SSN Required Data for Mass Update

Yes

3.16*

QUESTION:

TRD FRS Section 3: Sub Section 3.16: Low-Tech Interface DPC-SSN Validation Processing by the NPAC/SMS

These FRS Section 3.16 requirements describe how the NPAC/SMS performs DPC-SSN validation for Subscription Versions and Number Pool Blocks that are submitted via the Low-Tech Interface or NPAC Administrative Interface. This validation occurs based on regional tunables. These edits ensure that values specified are valid according to the Service Provider DPC source data.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR3-702: Regional LTI DPC-SSN Validation Indicator - Tunable Parameter
RR3-703: Regional LTI DPC-SSN Validation Indicator - Tunable Parameter Default
RR3-704: Regional LTI DPC-SSN Validation Indicator - Tunable Parameter Modification
RR3-705: DPC-SSN Entries Information Source for LTI or NPAC Personnel entries
RR3-706: DPC-SSN Entries Information Maintenance
RR3-707: DPC-SSN Entries Information - Multiple Entries

Yes

4. TRD FRS Section 4: SERVICE PROVIDER DATA ADMINISTRATION

4.1*

QUESTION:

TRD FRS Section 4: Sub Section 4.1: Service Provider Data Administration and Management

Service Provider Data Administration functions allow NPAC personnel to receive and record data needed to identify authorized LNP Service Providers. The Service Provider data indicates the LNP Service Providers and includes location, contact name, security, routing, and network interface information.

Service Provider Administration supports functionality to manage Service Provider data. There can be only one instance of Service Provider data for a specific LNP Service Provider.

Does the Respondent's proposal fully comply with the requirement below in time to meet the published implementation date?

AR1-1: Service Provider ID

Yes

QUESTION:

TRD FRS Section 4: Sub Section 4.1.1: User Functionality

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

4.1.1*

R4-1: Create Service Providers
R4-2: Modify Service Providers
R4-3: Delete Service Providers
R4-4: View of Service Provider Data
R4-5.1: View List of Service Provider Subscriptions
R4-5.2: Authorized Service Providers View Their Own Data
RX4-2: Authorized Service Providers Modify Their Own Data
RR4-4.1: Broadcast NPAC Customer Names

Yes

4.1.2

STATEMENT:

TRD FRS Section 4: Sub Section 4.1.2: System Functionality

This section describes NPAC/SMS functionality required to support the NPAC personnel requests described in the above section. The following specifies user requests and lists the NPAC/SMS functionality needed to support those requests.

4.1.2.1*

QUESTION:

TRD FRS Section 4: Sub Section 4.1.2.1: Service Provider Data Creation

NPAC personnel can request that Service Provider data be created in the NPAC/SMS. The functionality described below enables a new instance of Service Provider data for a Service Provider to be created, provided that no other Service Provider data exists for the Service Provider.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R4-6: New Service Provider ID
R4-7.1: Examine for Duplicate Service Provider ID
R4-7.2: Error notification of Duplicate Service Provider
R4-8: Service Provider Data Elements
R4-9: Service Provider data validation
R4-10: Notification of successful add for new Service Provider
R4-11: Failure notification of Service Provider creation
RR4-9: Service Provider Type SOA Indicator
RR4-10: Service Provider Type SOA Indicator Default
RR4-11: Service Provider Type SOA Indicator Modification
RR4-12: Service Provider Type LSMS Indicator
RR4-13: Service Provider Type LSMS Indicator Default
RR4-14: Service Provider Type LSMS Indicator Modification
RR4-15: Service Provider Type Attribute Modification Restriction

Yes

4.1.2.2*

QUESTION:

TRD FRS Section 4: Sub Section 4.1.2.2: Service Provider Data Modification

NPAC personnel and the SOA to NPAC/SMS interface and the NPAC/SMS to Local SMS interface can request that Service Provider data be modified in the NPAC/SMS. The functionality described below enables the user to modify data for the Service Provider.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R4-13: Service Provider Key selection for modifying Service Provider data
R4-14: Error notification of invalid Service Provider ID or Name during Modify
R4-15.1: Modify restrictions on Service Provider data - Service Providers
R4-15.2: Modify restrictions on Service Provider data - NPAC Operations Personnel
R4-16: Re-validation of Service Provider data after Modify
R4-17: Modify Validation Error Message

Yes

4.1.2.3*

QUESTION:

TRD FRS Section 4: Sub Section 4.1.2.3: Delete Service Provider Data

NPAC personnel can request that the Service Provider data be deleted. Deleted Service Provider data will be written to a history file. The functionality described below enables a user to delete data for the Service Provider.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R4-20: Service Provider key for delete
R4-21: Error Message for Delete key search
R4-22.1: No Subscription Versions during Service Provider Delete
R4-22.2: Subscription during Service Provider Delete
R4-22.3: Service Provider subscription restrictions during Network Data Delete.

Yes

4.1.3

STATEMENT:

TRD FRS Section 4: Sub Section 4.1.3: Service Provider Queries

The query functionality discussed in this section will give users the ability to view Service Provider and Subscription data. A user may not be able to modify a particular data item because they do not have the proper security permissions, therefore the data is made available via NPAC/SMS for read only purposes.

4.1.3.1*

QUESTION:

TRD FRS Section 4: Sub Section 4.1.3.1: User Functionality

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R4-24.1: Display of Service Provider ID and related subscription data
R4-24.2: Display of LRN and related subscription data
R4-24.3: Display of NPA-NXX and related subscription data

Yes

4.1.3.2*

QUESTION:

TRD FRS Section 4: Sub Section 4.1.3.2: System Functionality

The following specifies NPAC/SMS functionality needed to support the user requests described above in TRD FRS Section 4: Sub Section 4.1.3.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R4-25: Service Provider as Key for queries
R4-26.1: Error message for unknown Service Provider during a query

R4-26.2: Results returned to Service Provider during a query
R4-27: Service Provider Query Types
R4-28: Service Provider Information Message during query
RR4-16: Service Provider Data Information Service Provider Query - Support for Service Provider Type Data

Yes

4.1.4*

QUESTION:

TRD FRS Section 4: Sub Section 4.1.4: Service Provider Accepted SPID List

Pseudo-LRN functionality allows a Service Provider to specify the list of SPID (including their own) that they wish to receive pseudo-LRN records in a download from the NPAC/SMS.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR4-17: Add SPID to Pseudo-LRN Accepted SPID List by NPAC Personnel on behalf of a Service Provider
RR4-18: Delete SPID from Pseudo-LRN Accepted SPID List by NPAC Personnel on behalf of a Service Provider
RR4-19: Query SPID from Pseudo-LRN Accepted SPID List by NPAC Personnel on behalf of a Service Provider

Yes

4.2*

QUESTION:

TRD FRS Section 4: Sub Section 4.2: Additional Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RN4-1: Service Provider Network Data Addition/Deletion
RR4-1: Removal of Service Provider with Respect to LRNs
RR4-2: Removal of Service Provider with Respect to NPA-NXXs
RR4-3.1: Removal of NPA-NXX - Subscription Version Check
RR4-3.2: Removal of NPA-NXX - NPA-NXX-X Check
RR4-4.2.1: Removal of LRN - Subscription Version Check
RR4-4.2.2: Removal of LRN - Block Check
RR4-5: Duplicate NPA-NXX Validation
RR4-6: Duplicate NPA-NXX Validation - Error Processing
RR4-7: Duplicate LRN Validation
RR4-8: Duplicate LRN Validation - Error Processing

Yes

5. TRD FRS Section 5 SUBSCRIPTION MANAGEMENT

QUESTION:

TRD FRS Section 5: Sub Section 5.1: Subscription Version Management

Subscription Management functions allow NPAC personnel and SOA to NPAC/SMS interface users to specify data needed for ported numbers. The subscription data indicates how local number portability should operate to meet subscribers' needs. These functions will be accessible to authorized service providers via an interface (i.e., the SOA to NPAC SMS interface) from their operations systems to the NPAC/SMS and will also be accessible

to (and performed by) NPAC personnel.

Subscription Management supports functionality to manage multiple versions of subscription data. See Section 5.1.1, Subscription Version Management, for more details on the different states of a version.

5.1*

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RN5-1: Subscription Version Status - Only One Per Subscription
RN5-2: Subscription Version Status - Only One Active Version
RN5-3: Subscription Version Status - Multiple Old/Canceled
RR5-113: TN Range Notification Information - Service Provider TN Range Notification Indicator Sending of TN Range Notifications
RR5-114: TN Range Notification Information - Service Provider TN Range Notification Indicator Suppression of TN Range Notifications
AR5-3: Changing of TN Range Notification Indicator while Notifications are Queued
RR5-115: TN Range Notification Information - Single TN Range Notifications
RR5-116: TN Range Notification Information - Breakup of TN Range Notifications
RR5-173: TN Range Notification Information - Breakup of TN Range Notifications

Yes

5.1.1

STATEMENT:

TRD FRS Section 5: Sub Section 5.1.1: Subscription Version Management

Subscription Version management provides functionality to manage multiple time sensitive views of subscription data. This section addresses version management for LNP and the user and system functionality needed for subscription administration. In this context a version may be defined as time sensitive subscription data.

At any given time, a Subscription Version in the SMS can have one of several statuses (e.g., active, old) and may change status depending on results of different SMS processes (e.g., modification, activation). This section describes the different statuses that a version can have and the SMS processes that can change the status. This section also discusses functionality and data that is needed for Subscription Management.

5.1.1.1*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.1.1: Version Status

This section references Subscription Version Status Interaction Descriptions and Diagrams. (Figure 5-1 and Table 5-1)

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

R5 1.1: Subscription Version Statuses
R5-2.1: Old Subscription Retention - Tunable Parameter
R5-2.2: Old Subscription Retention - Tunable Parameter Modification
R5-2.3: Old Subscription Retention - Tunable Parameter Default
R5-3.1: Cancel-Pending Subscription Retention - Tunable Parameter
R5-3.2: Cancel-Pending Subscription Retention - Tunable Parameter Modification
R5-3.3: Cancel-Pending Subscription Retention - Tunable Parameter Default
R5-3.4: Cancel-Conflict Subscription Retention - Tunable Parameter
R5-3.5: Cancel-Conflict Subscription Retention - Tunable Parameter Modification
R5-3.6: Cancel-Conflict Subscription Retention - Tunable Parameter Default

RR5-1.1: Pending Subscription Retention - Tunable Parameter
RR5-1.2: Pending Subscription Retention - Tunable Parameter Modification
RR5-1.3: Pending Subscription Retention - Tunable Parameter Default
RR5-1.4: Pending Subscription Retention - Tunable Parameter Expiration
R5 5: Subscription Versions Creation for TN Ranges
R5-6: Subscription Administration Transaction Logging
RR5-182: Create/Modify Subscription Version - Medium Timers - Timer Type
RR5-183: Create/Modify Subscription Version - Medium Timers - Business Type

Yes

5.1.2

STATEMENT:

TRD FRS Section 5: Sub Section 5.1.2: Subscription Administration Requirements

5.1.2.1*

QUESTION:

TRD FRS Section 5: Sub Section: 5.1.2.1: User Functionality

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

R5-7: Creating a Subscription Version
RR5-55: Create Pending Provider Port - NPAC Personnel or Service Provider After Block Activation
R5 8.1: Modifying a Subscription Version
R5-9: Activating a Subscription version
R5-10.1: Setting a Subscription Version to Conflict
R5-10.2: Subscription Version Conflict Status Rule
R5-11: Disconnecting a Subscription Version
R5-12: Canceling a Subscription Version
R5-13: Querying a Subscription Version
RR5-197: Create Subscription Version - Validation of DPC-SSNs for Subscription Version Creates

Yes

5.1.2.2

STATEMENT:

TRD FRS Section 5: Sub Section 5.1.2.2: System Functionality

This section describes NPAC/SMS functionality required to support NPAC personnel and SOA to NPAC/SMS interface user requests defined in the above section.

5.1.2.2.1*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.1: Subscription Version Creation

This section provides the requirements for the Subscription Version Create functionality, which is executed upon the user requesting to create a Subscription Version.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-3: Create Subscription Version - Notify NPA-NXX First Usage
RR5-53: Create Subscription Version - Notify NPA-NXX First Usage of a New

NPA-NXX involved in an NPA Split
RR5-120: Validation of LATA ID for Subscription Version Creates
RR5-130: Create "Porting to Original" Subscription Version - New Service Provider ID and Code Holder Match
RR5-162: Addition of Subscription Version Due Date - Validation

Yes

5.1.2.2.1.1*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.1.1: Subscription Version Creation - Inter-Service Provider Ports

This section provides the Subscription Version Creation requirements for performing an Inter-Service Provider port of a TN. There are two types of Inter-Service Provider ports: A port of a TN to a new Service Provider from the Old, or a "porting to original" port. A "porting to original" port implies that all porting data will be removed from the Local SMSs and the TN will revert to the default routing, which ultimately results in the TN returning to the original "donor" Service Provider.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

R5-14: Create Subscription Version - Old Service Provider Input Data
R5-15.1: Create "Inter-Service Provider Port" Subscription Version - New Service Provider Input Data
R5-15.2: Create "Inter-Service Provider porting to original" Subscription Version - New Service Provider Input Data
R5-16: Create Inter-Service Provider (non-PTO) Subscription Version - New Service Provider Optional input data
RR5-179: Create Inter-Service Provider PTO Subscription Version - New Service Provider Data Attributes - Rejected
R5-18.1: Create Subscription Version - Field-level Data Validation
R5-18.2: Create Subscription Version - Due Date Consistency Validation
R5-18.4: Create Subscription Version - Ported TN NPA-NXX Validation
RR5-119: Subscription Version - Due Date Validation for Second/Concurrence Create Message for a Subscription Version Inter-Service Provider Port
R5-18.5: Create Subscription Version - Service Provider ID Validation
R5-18.6: Create Subscription Version - LRN Validation
R5-18.7: Create Subscription Version - Originating Service Provider Validation
R5-18.8: Create Subscription Version - Duplicate Authorization Validation
R5-18.9: Create Subscription Version - Service Provider ID Validation
R5-18.10: Create Subscription Version - Status Change Cause Code Validation
R5 19.1: Create Subscription Version - Old Service Provider ID Validation
R5-19.2: Create Subscription Version - Old Service Provider ID Validation - No Active Subscription Version
R5-19.3: Create Subscription Version - Timer Type Selection
R5-19.4: Create Subscription Version - Timer Type Selection - Mismatch
R5-19.5: Create Subscription Version - Business Hours and Days Selection
R5-19.6: Create Subscription Version - Business Hours and Days Selection - Mismatch
R5-20.1: Create Subscription Version - Validation Failure Notification
R5-20.2: Create Subscription Version - Validation Failure - No Update
R5-20.3: Create Subscription Version - Validation Failure - No Create

R5-20.4: Create Subscription Version - Validation Success - Update Existing
R5-20.5: Create Subscription Version - Validation Success - Create New
R5-21.1: Initial Concurrence Window - Tunable Parameter
R5-21.2: Initial Concurrence Window - Tunable Parameter Modification
R5-21.3: Long Initial Concurrence Window - Tunable Parameter Default
R5-21.4: Short Initial Concurrence Window - Tunable Parameter Default
R5-21.6: Create Subscription Version - Set to Pending
R5-21.7: Create Subscription Version - Notify User Success
RR5-2.1: Create Subscription Version - Set to Conflict
RR5-2.2: Create Subscription Version - Set Conflict Timestamp
RR5-2.3: Create Subscription Version - Conflict Notification
RR5-2.4: Cause Code in Conflict Notification - Creation
R5-22: Create Subscription Version - Initial Concurrence Window Tunable Parameter Expiration
R5-23.1: Final Concurrence Window - Tunable Parameter
R5-23.2: Final Concurrence Window Tunable - Tunable Parameter Modification
R5-23.3: Long Final Concurrence Window Tunable - Tunable Parameter Default
RR5-52: Short Final Concurrence Window Tunable - Tunable Parameter Default
RR5-117: New Service Provider Final Create Window Expiration Notification
RR5-118: New Service Provider Final Create Window Expiration Notification - Sending of Cause Code
RR5-56: Create Inter-Service Provider Regular Port and Port-to-Original Port - NPAC and SOA After NPA-NXX-X Creation
RR5-57: Create Intra- or Inter-Service Provider Port-to-Original Subscription Version - After Block Activation
RR5-198: Create "Inter-Service Provider Port" Subscription Version - DPC-SSN Field-level Data Validation
R5 23.5: Activation without Old Service Provider Authorization
R5-23.6: Activation without Old Service Provider Authorization - Time restriction
RR5-23.3: Old Service Provider Final Concurrence Timer Expiration Notification - Old SP
RR5-184: Old Service Provider Final Concurrence Timer Expiration Notification - New SP

Yes

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.1.2: Subscription Version Creation - Intra-Service Provider Ports

This section provides the Subscription Version Creation requirements for performing an Intra-Service Provider port of a TN. An Intra-Service Provider port of a TN is when a TN is ported to a new location within the current Service Provider network (i.e., the routing data is modified, but the Service Provider remains the same). A "port to original" for an Intra-Service Provider port should be handled by submission of an Intra-Service Provider "port to original" subscription version request to the NPAC/SMS.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-4: Create "Intra-Service Provider Port" Subscription Version - Current Service Provider Input Data
RR5-122: Create "Intra-Service Provider porting to original Port"

5.1.2.2.1.2*	Subscription Version - New Service Provider Input Data RR5-5: Create "Intra-Service Provider Port" (non-PTO) Subscription Version - Current Service Provider Optional Input Data RR5-180: Create "Intra-Service Provider Port" (PTO) Subscription Version - Current Service Provider Data Attributes Rejected RR5-6.1: Create "Intra-Service Provider Port" Subscription Version - Field-level Data Validation RR5-6.2: Create "Intra-Service Provider Port" Subscription Version - New and Old Service Provider ID Match RR5-6.4: Create "Intra-Service Provider Port" Subscription Version - Ported TN NPA-NXX Validation RR5-6.5: Create "Intra-Service Provider Port" Subscription Version - LRN Validation RR5-6.6: Create "Intra-Service Provider Port" Subscription Version - Duplicate Authorization Validation RR5-6.7: Create "Intra-Service Provider Port" Subscription Version - Old Service Provider ID Validation RR5-6.8: Create "Intra-Service Provider Port" Subscription Version - No Active Version RR5-6.9: Create "Intra-Service Provider Port" Subscription Version - Old Service Provider ID Validation - No Active Subscription Version RR5-7.1: Create "Intra-Service Provider Port" Subscription Version - Validation Failure Notification RR5-7.2: Create "Intra-Service Provider Port" Subscription version - Validation Failure - No Create RR5-8: Create "Intra-Service Provider Port" Subscription version - Set to Pending RR5-9: Create "Intra-Service Provider Port" Subscription version - Notify User of Creation RR5-58: Create Intra-Service Provider Port - NPAC Personnel After NPA-NXX-X Creation RR5-59: Create Intra-Service Provider Port - SOA After NPA-NXX-X Creation RR5-121: Create Intra-Service Provider Port-to-Original Port - NPAC and SOA After NPA-NXX-X Creation RR5-218: No Create for Non-Active TN - NPAC Personnel or Service Provider while Block contains a Failed SP List RR5-185: Create Intra-Service Provider Port - Medium Timers RR5-199: Create "Intra-Service Provider Port" Subscription Version - DPC-SSN Field-level Data Validation RR5-203: Create "Intra-Service Provider Port" Subscription Version - Service Provider Tunable Value of TRUE for Pseudo-LRN Request RR5-204: Create "Intra-Service Provider Port" Subscription Version - Rejection of Pseudo-LRN Request for Active Inter- or Intra-Subscription Version with Active LRN RR5-205: Create "Intra-Service Provider Port" Subscription Version - Rejection of Pseudo-LRN Request for NPA-NXX-X RR5-206: Create "Intra-Service Provider Port" Subscription Version - Notify User of Creation of Pseudo-LRN Record
Yes	

	QUESTION: **TRD FRS Section 5: Sub Section 5.1.2.2.2: Subscription Version Modification** This section provides the requirements for the Subscription Version Modification functionality, which is executed upon the user requesting modification of

5.1.2.2.2*	the Subscription Version. **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** RR5-123: Validation of LATA ID for Subscription Version Modifies R5-25: Modify Subscription Version - Invalid Version Status Notification RR5-200: Modify "Inter-Service Provider Port" Subscription Version - DPC-SSN Field-level Data Validation RR5-201: Modify "Intra-Service Provider Port" Subscription Version - DPC-SSN Field-level Data Validation RR5-202: Modify Subscription Version - Validation of DPC-SSNs for Subscription Version Creates RR5-207: Modify "Intra-Service Provider Port" Subscription Version - Service Provider Tunable Value of TRUE for Pseudo-LRN Request
Yes	

5.1.2.2.2.1*	**QUESTION:** **TRD FRS Section 5: Sub Section 5.1.2.2.2.1: Modification of a Pending or Conflict Subscription Version** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** R5-26: Modify Subscription Version - Version Identification RR5-186: Modify Subscription Version - New Service Provider - Medium Timers R5-27.1: Modify Subscription Version - New Service Provider Data Values R5-27.2: Modify "porting to original" Subscription Version - New Service Provider Data Values RR5-187: Modify Subscription Version - Old Service Provider - Medium Timers R5-27.3: Modify Subscription Version - Old Service Provider Data Values R5-27.4: Old Service Provider authorization Flag Modification to False R5-28: Modify (non-PTO) Subscription Version - New Service Provider Optional input data RR5-181: Modify (PTO) Subscription Version - New Service Provider Optional input data R5-29.1: Modify Subscription Version - Field-level Data Validation RR5-163: Modification of Subscription Version Due Date - Validation R5-29.3: Modify Subscription Version - LRN Validation R5-29.4: Modify Subscription Version - Originating Service Provider Validation R5-29.5: Modify Subscription Version - Status Change Cause Code Validation RR5-188: Modify Subscription Version - Medium Timers - Timer Type Change RR5-189: Modify Subscription Version - Medium Timers - Restart T1 Timer R5 30.1: Modify Subscription Version - Validation Failure Notification R5-30.2: Modify Subscription Version - Validation Error Processing R5-31.3: Modify Subscription Version - Successful Modification Notification RR5-208: Modify "Intra-Service Provider Port" Subscription Version - Send Notification of Modification of Active Pseudo-LRN Record RR5-10.1: Modify Subscription Version - Set Conflict Timestamp RR5-10.2: Modify Subscription Version - Conflict Notification RR5-10.3: Modify Subscription Version - Cause Code in Notification
	Telcordia08046

Yes

5.1.2.2.2.2*	**QUESTION:** **TRD FRS Section 5: Sub Section 5.1.2.2.2.2: Modification of an Active / Disconnect Pending Subscription Version** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** RR5-136: Modify Active Subscription Version with a Failed-SP List - Invalid Request Notification RR5-11: Modify Active/Disconnect-Pending Subscription Version - Service Provider Owned R5-35: Modify Active Subscription Version - Version Identification R5-36: Modify Active Subscription Version - Input Data R5-37: Active Subscription Version - New Service Provider Optional input data. R5-38.1: Modify Active Subscription Version - Field-level Data Validation R5-38.2: Modify Active Subscription Version - LRN Validation RR5-124: Modify Disconnect Pending Subscription Version - Input Data RR5-125: Modify Disconnect Pending Subscription Version - Field-level Data Validation RR5-126: Modify Disconnect Pending Subscription Version - Valid Dates for CDD and ERD RR5-127: Modify Disconnect Pending Subscription Version - Version Identification RR5-128: Modify Disconnect Pending Subscription Version - Rejection for Empty CDD R5-39.1: Modify Active/Disconnect Pending Subscription Version - Validation Failure Notification R5-39.2: Modify Active/Disconnect Pending Subscription Version - Validation Error Processing R5 40.1: Modify Active Subscription Version - Broadcast Date/Time Stamp R5-40.3: Modify Active Subscription Version - Modification Success User Notification R5-40.4: Modify Active Subscription Version - Broadcast complete Time Stamp R5 41: Activation Of A Modified Subscription Version RR5-129: Activation Of A Modified Disconnect Pending Subscription Version when ERD is Modified to Current Date RR5-41.1: Broadcast Modified Active Subscription - Local SMS Identification RR5-41.2: Broadcast Modified Active Subscription - Send to Local SMSs RR5-41.3: Broadcast Modified Active Subscription - Set to Sending RR5-41.4: Modify Active Subscription Version - Return Status RR5 41.5: Modify Active Subscription Activation Retry Attempts - Tunable Parameter RR5-41.6: Modify Active Subscription Activation Retry Interval - Tunable Parameter RR5-41.7: Modify Active Subscription Version Failure Retry RR5-41.8: Modify Active Subscription Version Failure - Status Sending RR5-41.9: Modify Active Subscription Version Failure - Local SMS Identification RR5-41.10: Subscription Version Activation - Resend to Failed Local SMSs RR5-41.11: Modify Active Subscription Version - Failed Local SMS Notification Current Service Provider

Yes

5.1.2.2.3	STATEMENT: **TRD FRS Section 5: Sub Section 5.1.2.2.3: Subscription Version Conflict** This section provides the requirements for the functionality to place a Subscription Version in to conflict and remove it from conflict

5.1.2.2.3.1*	QUESTION: **TRD FRS Section 5: Sub Section 5.1.2.2.3.1: Placing Subscription Version in Conflict** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** R5-42: Conflict Subscription Version - Version Identification R5-43.1: Conflict Subscription Version - Invalid Status Notification R5-43.2: Conflict Subscription Version - No Cause Code Notification RR5-42.1: Conflict Subscription Version - Old Service Provider Number Restriction RR5-42.2: Conflict Subscription Version - Conflict Restriction Window RR5-50: Conflict Subscription Version - Conflict Restriction Window- Old Service Provider RR5-51: Conflict Subscription Version - Conflict Restriction Rules for Old Service Provider AR5-2: Conflict Restriction Window Tunable due date value RR5-42.3: Conflict Subscription Version - Conflict Restriction Window Tunable RR5-42.4: Conflict Subscription Version - Conflict Restriction Window Tunable Default RR5-42.5: Conflict Subscription Version - Short Timer Usage R5-44.1: Conflict Subscription Version - Set Status to Conflict R5-44.2: Conflict Subscription Version - Set Conflict Date and Time R5-44.3: Conflict Subscription Version - Successful Completion Message R5-45.1: Conflict Expiration Window - Tunable Parameter R5-45.2: Conflict Expiration Window - Tunable Parameter Default R5-45.3: Conflict Expiration Window - Tunable Parameter Modification R5-45.4: Conflict Subscription Version - Set to Cancel R5-45.5: Conflict Subscription Version - Set Cancellation Date Timestamp R5-45.6: Conflict Subscription Version - Inform Service Providers of Cancel Status
Yes	

	QUESTION: **TRD FRS Section 5: Sub Section 5.1.2.2.3.2: Removing a Subscription Version from Conflict** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** R5-46: Conflict Resolution Subscription Version - Version Identification R5-47: Conflict Resolution Subscription Version - Invalid Status Notification R5-50.1: Conflict Resolution Subscription Version - Set Status R5-50.2: Conflict Resolution Subscription Version - Status Message RR5-12.1: Conflict Resolution Subscription Version - Inform Both Service Providers of Pending Status RR5-12.3: Conflict Resolution New Service Provider Restriction Tunable

5.1.2.2.3.2*	Parameter RR5-12.4: Long Conflict Resolution New Service Provider Restriction - Tunable Parameter Default RR5-12.5: Conflict Resolution New Service Provider Restriction Tunable Parameter Modification RR5-12.6: Short Conflict Resolution New Service Provider Restriction - Tunable Parameter Default RR5-14: Conflict Resolution Acknowledgment - Update Conflict Resolution Date and Time Stamp RR5-137: Conflict Resolution Subscription Version - Restriction for Cause Code Values RR5-138: Conflict Resolution Subscription Version -Conflict Resolution New Service Provider Restriction Tunable Application RR5-139: Conflict Resolution Subscription Version - Restricted Cause Code Notification RR5-168: Regional Prevent Conflict Resolution 50/51 Tunable RR5-169: Regional Prevent Conflict Resolution 50/51 Tunable Default RR5-170: Regional Prevent Conflict Resolution 50/51 Tunable Modification
Yes	

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.4: Subscription Version Activation

This section provides the requirements for the Subscription Version Activation functionality, which is executed upon the NPAC personnel or SOA to NPAC/SMS interface user requesting to activate a Subscription Version.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

R5-51.1: Activate Subscription Version - Version Identification
R5-51.2: Activate Subscription Version - Broadcast Complete Date and Time Stamp
RR5-21: Activate "porting to original" Subscription Version
RR5-22: Activate Subscription Version - Set Activation Received Timestamp
R5-52: Activate Subscription Version - Invalid Status Notification
R5-53.1: Activate Subscription Version - Validation
R5-53.2: Activate Subscription Version Validation Error Message
R5-53.3: Activate Subscription Version - Validate Due Date
RR5-209: Activate "Intra-Service Provider Port" Subscription Version - Service Provider Tunable Value of TRUE for Pseudo-LRN Request
R5-55: Activate Subscription Version - Local SMS Identification
R5-57.1: Activate Subscription Version - Send to Local SMSs
RR5-210: Activate Subscription Version - Local SMS Identification - Pseudo-LRN
R5-57.2: Activate Subscription Version - Set to Sending
R5-57.3: Activate Subscription Version - Date and Time Stamp
R5-58.1: Local SMS Activation message logging
R5-58.2: Local SMS Activation Log Retention Period - Tunable Parameter
R5-58.3: Local SMS Activation Log Retention Period - Tunable Parameter Modification
R5-58.4: Local SMS Activation Log Retention Period - Tunable Parameter Default
R5-58.5: Local SMS Activation Message Log - Viewing
R5-59.1: Activate Subscription Version - Set Status of Current to Active
R5-59.2: Activate Subscription Version - Set Status of Previous to Old
R5-60.1: Subscription Activation Retry Attempts - Tunable Parameter

5.1.2.2.4*	R5-60.2: Subscription Activation Retry Interval - Tunable Parameter R5-60.3: Subscription Activation Retry Attempts - Tunable Parameter Modification R5-60.4: Subscription Activation Retry Interval - Tunable Parameter Modification R5-60.5: Subscription Activation Retry Attempts - Tunable Parameter Default R5-60.6: Subscription Activation Retry Interval - Tunable Parameter Default R5-60.7: Subscription Version Activation Failure Retry R5-60.8: Subscription Version Activation Failure - After Retries R5-60.9: Subscription Version Activation Failure - Status Sending R5-60.10: Subscription Version Activation Failure - Local SMS Identification R5-60.11: Subscription Version Activation Failure - Set Status to Partial Failure R5-60.12: Subscription Version Partial Activation Failure - Set Status of Previous to Old R5 61.1: Subscription Version Activation - Set Status to Failure R5-61.2: Subscription Version Activation Subscription Version - Failure Notification R5-61.3: Subscription Version Activation - Resend to Failed Local SMSs RR5-22.1: Subscription Version Activation - Failed Local SMS Notification - Both Service Providers RR5-22.2: Subscription Version Activation - Failed Local SMS Notification - Current Service Provider RR5-60: Activate Intra-Service Provider Port - After NPA-NXX-X Creation and Prior to the Existence of the Block RR5 219: Activate Subscription Version - Pending SV with no underlying Pooled or Ported SV RR5-211: Activate "Intra-Service Provider Port" Subscription Version - Send Notification of Activation of Pseudo-LRN Record RR5-61: Activate Port-to-Original Subscription Version - Broadcast of Subscription Data Creation RR5-62: Activate Port-to-Original Subscription Version - Broadcast of Subscription Data Deletion RR5-171: Activate Subscription Version - Send SV Type Data to Local SMSs RR5-172: Activate Subscription Version - Send Alternative SPID to Local SMSs RR5-190: Activate Subscription Version - Send Last Alternative SPID to Local SMSs RR5-191: Activate Subscription Version - Send Alt-End User Location Value to Local SMSs RR5-192: Activate Subscription Version - Send Alt-End User Location Type to Local SMSs RR5-193: Activate Subscription Version - Send Alt-Billing ID to Local SMSs RR5-194: Activate Subscription Version - Send Voice URI to Local SMSs RR5-195: Activate Subscription Version - Send MMS URI to Local SMSs RR5-196: Activate Subscription Version - Send SMS URI to Local SMSs
Yes	

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.5: Subscription Version Disconnect

This section provides the requirements for the Subscription Version Disconnect functionality, which is executed upon the NPAC personnel or SOA to NPAC/SMS interface user requesting to have a Subscription Version disconnected.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

R5-62: Disconnect Subscription Version - Version Identification

	5.1.2.2.5*	RR5-23.1: Disconnect Subscription Version - Required Input Data RR5-23.2: Disconnect Subscription Version - Optional Input Data RN5-10: Disconnect Subscription Version - Invocation by Current Service Provider R5 63: Disconnect Subscription Version Invalid Status Notification R5-64.1: Disconnect Subscription Version - Cancel Other Version Notification RR5-212: Disconnect "Intra-Service Provider Port" Subscription Version - Service Provider Tunable Value of TRUE for Pseudo-LRN Request RR5-24: Disconnect Subscription Version -Set to Disconnect Pending RR5-25.1: Disconnect Subscription Version - Disconnect Pending Status Notification RR5-25.2: Disconnect Subscription Version - Customer Disconnect Date Notification R5 65.1: Disconnect Subscription Version -Immediate Broadcast R5-65.2: Disconnect Subscription Version - Deferred Broadcast R5-65.4: Disconnect Subscription Version - Broadcast Interface Message to Local SMSs RR5-213: Disconnect Subscription Version - Local SMS Identification - Pseudo-LRN R5-65.5: Disconnect Subscription Version - Disconnect Broadcast Date and Time Stamp R5-65.6: Disconnect Subscription Version - Set to Sending R5-66.2: Disconnect Subscription Version Complete - Set Disconnect Complete Date R5-66.3: Disconnect Subscription Version Complete - Set Disconnect to Old R5-66.4: Disconnect Subscription Version Complete - Status Update of SV RR5-214: Disconnect "Intra-Service Provider Port" Subscription Version - Send Notification of Disconnect of Pseudo-LRN Record R5-67.1: Disconnect Subscription Version - Set Status to Active R5-67.2: Disconnect Pending Subscription Version - Failure Notification R5-67.3: Disconnect Subscription Version - Resend Disconnect Requests to All Local SMSs R5-68.1: Disconnect Subscription Version - Subscription Disconnect Retry Attempts - Tunable Parameter R5-68.2: Disconnect Pending Subscription Version - Subscription Disconnect Retry Attempts - Tunable Parameter Default R5-68.3: Disconnect Subscription Version - Subscription Disconnect Retry Interval - Tunable Parameter R5-68.4: Disconnect Subscription Version - Subscription Disconnect Retry Interval - Tunable Parameter Default R5-68.5: Disconnect Subscription Version - Retry Processing R5-68.6: Disconnect Subscription Version - Sending Status during Retries R5-68.7: Disconnect Subscription Version - Retry Failed R5-68.8: Disconnect Subscription Version - Failure Notification after Retries Complete R5-68.9: Disconnect Subscription Version - Set to Old R5-68.10: Disconnect Subscription Version - Resend Disconnect Requests to Failed Local SMSs RR5-63: Disconnect Subscription Version or Port-To-Original - Pooled Number Block Default Routing Restoration RR5-64: Disconnect Subscription Version - Customer Disconnect Date Notification for Pooled Number RR5-65: Disconnect Subscription Version - Broadcast of Subscription Data Creation RR5-66: Disconnect Subscription Version - Broadcast of Subscription Data Deletion RR5-67.1: Disconnect Subscription Version - Updates to the Status for

Disconnect
RR5-67.2: Disconnect Subscription Version - Setting of the Status for Disconnected SV
RR5-67.3: Disconnect Subscription Version - Setting of the Status for Newly Created SV
RR5-68.1: Disconnect Subscription Version - Updates to the Status for Port-to-Original
RR5-68.2: Disconnect Subscription Version - Setting of the Status for Port-to-Original SV
RR5-68.3: Disconnect Subscription Version - Setting of the Status for Port-to-Original SV that was active prior to the PTO activation request
RR5-68.4: Disconnect Subscription Version - Setting of the Status for Port-to-Original for Newly Created SV
RR5-69: Disconnect Subscription Version - Updates to the Failed SP List for Disconnect
RR5-70: Disconnect Subscription Version - Updates to the Failed SP List for Port-To-Original

Yes

5.1.2.2.6*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.6: Subscription Version Cancellation

This section provides the requirements for the Subscription Version Cancellation functionality (including "un-do" of a 'cancel-pending' Subscription Version), which is executed upon the NPAC personnel or SOA to NPAC/SMS interface user requesting to cancel a Subscription Version.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-26.1: Cancel Subscription Version - Inform Both Service Providers of Cancel Pending Status
R5-69: Cancel Subscription Version - Version Identification
R5-70: Cancel Subscription Version - Invalid Status Notification
RR5-27: Cancel Subscription Version - Validate Service Provider
R5 71.2: Cancel Subscription Version - Set Cancellation Date and Time Stamp
R5-71.3: Cancel Subscription Version- Set to Cancel Old Service Provider only
R5-71.4: Cancel Subscription Version- Set to Cancel New Service Provider only
R5-71.5: Cancel Subscription version- Error on Cancellation
R5-71.6: Cancel Subscription Version- Set Pending subscription version to Cancel Pending Status Inter-Service Provider port
R5-71.8: Cancel Subscription Version- Set Conflict Subscription to Cancel New Service Provider only
R5-71.9: Cancel Subscription Version - Rejection of Old Service Provider Conflict Cancellation
R5-71.10: Cancel Subscription Version- Set Disconnect Pending subscription version to Active
R5-71.11: Cancel Subscription Version- Set to Cancel Status - Intra-Service Provider port
RR5-28.1: Cancel Subscription Version - Set to Cancel After Service Provider Acknowledge
RR5-29.1: Cancel Subscription Version - Inform Both Service Providers of Cancel Status
RR5-29.2: Cancel Subscription Version - Inform Current Service Provider of Cancel Status
RR5-30: Cancel Subscription Version Acknowledgment - Update Old Service

Provider Date and Time Stamp
RR5-31: Cancel Subscription Version Acknowledgment - Update New Service Provider Date and Time Stamp
RR5-32.1: Cancellation-Initial Concurrence Window - Tunable Parameter
RR5 32.2: Cancellation Initial Concurrence Window Tunable Parameter Modification
RR5-32.3: Long Cancellation-Initial Concurrence Window - Tunable Parameter Default
RR5-32.4: Short Cancellation-Initial Concurrence Window - Tunable Parameter Default
RR5-33.1: Cancellation-Final Concurrence Window - Tunable Parameter
RR5-33.2: Cancellation-Final Concurrence Window Tunable Parameter Modification
RR5-33.3: Long Cancellation-Final Concurrence Window - Tunable Parameter Default
RR5-33.4: Short Cancellation-Final Concurrence Window - Tunable Parameter Default
RR5-34: Cancellation-Initial Concurrence Window - Tunable Parameter Expiration
RR5-35.1: Cancellation-Final Concurrence Window - Tunable Parameter Expiration New Service Provider
RR5-35.2: Cancellation-Final Concurrence Window - Tunable Parameter Expiration Old Service Provider
RR5-36.1: Cancel Subscription Version - Cause Code for New SP Timer Expiration
RR5-36.2: Cancel Subscription Version - Inform Service Providers of Conflict Status
RR5-165: Regional Automatic Conflict Cause Code Tunable
RR5-166: Regional Automatic Conflict Cause Code Tunable Default
RR5-167: Regional Automatic Conflict Cause Code Tunable Modification

Yes

5.1.2.2.6.1*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.6.1: Un-Do a "Cancel Pending" Subscription

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-143: Un-Do a Cancel-Pending Subscription Version - Notification
RR5-144: Un-Do a Cancel-Pending Subscription Version - Request Data
RR5-164: Un-Do a Cancel-Pending Subscription Version - New Status Specified Error
RR5-145: Un-Do a Cancel-Pending Subscription Version - Version Status Error
RR5-147: Un-Do a Cancel-Pending Subscription Version - Timestamp
RR5-149: Un-Do a Cancel-Pending Subscription Version - Missing Cancel Error
RR5-150: Un-Do a Cancel-Pending Subscription Version - Status Change

Yes

QUESTION:

TRD FRS Section 5: Sub Section 5.1.2.2.7: Subscription Version Resend

This section provides the requirements for the Subscription Version resend

5.1.2.2.7*	functionality, which is executed upon the NPAC personnel requesting to resend a Subscription Version. **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** RR5-38.1.1: Resend Subscription Version - Identify Subscription Version RR5-38.1.2: Resend Subscription Version - Identify Multiple Subscription Versions RR5-38.2: Resend Subscription Version - Input Data RR5-38.3: Resend Subscription Version - Error Message RR5-38.4: Resend Subscription Version - Activation Request RR5-38.5: Resend Subscription Version - Disconnect Request RR5-38.6: Resend Subscription Version - Failed or Partial Failure RR5-38.7: Resend Subscription Version - Standard Activation Processing RR5-38.8: Resend Subscription Version - Standard Disconnect Processing RR5-38.9: Resend Subscription Version - Modify Active Request RR5-38.10: Resend Subscription Version - Standard Modify Active Processing RR5-71: Re-Send of Number Pooling Subscription Version Information - NPAC Personnel OpGUI RR5-72: Re-Send of Number Pooling Subscription Version Information - Subscription Versions sent to discrepant non-EDR Local SMS RR5-73: Re-Send of Number Pooling Subscription Version Information - Sending Status Update to Failed Subscription Versions for Block Activation RR5-74: Re-Send of Number Pooling Subscription Version Information - Sending Status Update to Partial failure Subscription Versions for Block Activation RR5-75: Re-Send of Number Pooling Subscription Version Information - Sending Status Update to Active Subscription Version for Block Modification or Deletion RR5-76: Re-Send of Number Pooling Subscription Version Information - Sending Status Update to Old Subscription Version for Block Deletion RR5-77: Re-Send of Number Pooling Subscription Version Information - Update to Failed SP List RR5-78: Re-Send of Number Pooling Subscription Version Information -Status Update to Subscription Version after Re-Send RR5-79: Re-Send of Number Pooling Subscription Version Information -Failed SP List Update to Subscription Version after Re-Send RR5-80: Re-Send of Subscription Version Information - Disconnect or Port-To-Original of a TN within a Pooled 1K Block RR5-81.1: Re-Send of Subscription Version Information - Disconnect TN within a Pooled 1K Block to EDR Local SMS RR5-81.2: Re-Send of Subscription Version Information - Disconnect TN within a Pooled 1K Block to non-EDR Local SMS RR5-82.1: Re-Send of Subscription Version Information -Port-To-Original TN within a Pooled 1K Block to EDR Local SMS RR5-82.2: Re-Send of Subscription Version Information -Port-To-Original TN within a Pooled 1K Block to non-EDR Local SMS RR5-151: Subscription Version Failed SP List - Exclusion of a Service Provider from Resend RR5-152: Subscription Version Failed SP List - Logging of an Excluded Service Provider
Yes	

5.1.3	**STATEMENT:** **TRD FRS Section 5: Sub Section 5.1.3: Subscription Queries** This section provides the requirements for the Subscription Version Query functionality, which is executed upon the user requesting a query of a Subscription Version (R5-13).

5.1.3.1*	QUESTION: **TRD FRS Section 5: Sub Section 5.1.3.1: User Functionality** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** R5-72: Query Subscription Version - Request RR5-215: Query of Subscription Versions for Pseudo-LRN - Service Provider Personnel - SOA Interface RR5-216: Query of Subscription Versions for Pseudo-LRN - Service Provider Personnel - LSMS Interface RR5-217: Query of Subscription Versions for Pseudo-LRN - Service Provider Personnel - LTI
Yes	

5.1.3.2*	QUESTION: **TRD FRS Section 5: Sub Section 5.1.3.2: System Functionality** The following requirements specify the NPAC/SMS query functionality defined above. **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** R5-73: Query Subscription Version - Version Identification R5-74.1: Query Subscription Version - Status Supplied R5-74.2: Query Subscription Version - Return All Subscription Versions for Ported TN R5-74.3: Query Subscription Version - Output Data - SOA R5-74.4: Query Subscription Version - Output Data - LSMS RR5-153: Subscription Version Query - Sort Order R5-75: Query Subscription Version -No Data Found RN5-4: Query Subscription Version - Retrieve Data, Modification Not Allowed RN5-5: Query Subscription Version - Retrieve Data Based on Single Ported TN Only RN5-6: Query Subscription Version - View for Any Ported TN RR5-39: Query Subscription Version - View Old, Partial Failure, Disconnect Pending, Canceled or Active Only RR5-174: NPAC/SMS shall return all Subscription Versions RR5-175: Service Provider subscription query RR5-40: Query Subscription Version - Online Records Only RR5-83: Query Subscription Version - LNP Type of POOL RR5-154: Subscription Version Query - Maximum Subscription Version Query by the SOA RR5-155: Subscription Version Query - Maximum Subscription Version Query by the LSMS RR5-176: Count of subscription information during a query RR5-177: Service Provider subscription query options RR5-178: Error Message for Service Provider subscription query RR5-156: Service Provider SOA SV Query Indicator RR5-157: Service Provider SOA SV Query Indicator Default RR5-158: Service Provider SOA SV Query Indicator Modification RR5-159: Service Provider LSMS SV Query Indicator RR5-160: Service Provider LSMS SV Query Indicator Default RR5-161: Service Provider LSMS SV Query Indicator Modification

Yes

5.1.4

STATEMENT:

TRD FRS Section 5: Sub Section 5.1.4: Subscription Version Processing for National Number Pooling

This section details the functional requirements for user interaction (either NPAC Personnel or Service Provider Personnel via their SOA and/or LSMS to NPAC/SMS interface) with the NPAC/SMS to appropriately operate in the National Number Pooling environment.

5.1.4.1*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.4.1: Subscription Version, General

The following requirements outline the basic NPAC/SMS processing requirements for subscription versions in a National Number Pooling environment.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-84: Number Pooling Subscription Version Information - Reject Messages
RR5-85: Number Pooling Subscription Version Information - Suppression of Notifications
RR5-85.5: Number Pooling Subscription Version Information - Disconnect Notifications to Donor Service Provider
RR5-86: Number Pooling Subscription Version Information - Filters for "Pooled Number" Subscription Versions
RR5-87: Number Pooling Subscription Version Information - Broadcast of Subscription Data
RR5-88: Number Pooling Subscription Version Information - Failed SP List Update for Block
RR5-89: Number Pooling Subscription Version Information - Data Integrity for Pooled Subscription Versions and Block

Yes

5.1.4.2*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.4.2: Subscription Version, Addition for Number Pooling

The following section outlines the NPAC/SMS functional requirements for processing pooled subscription version additions. Subscription versions with LNP Type set to POOL are created when a Number Pool Block is activated.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-90: Addition of Number Pooling Subscription Version Information - Subscription Data
RR5-91: Addition of Number Pooling Subscription Version Information - Create "Pooled Number" Subscription Version
RR5-92: Addition of Number Pooling Subscription Version Information Create "Pooled Number" Subscription Version - Bypass of Existing Subscription Versions
RR5-93: Addition of Number Pooling Subscription Version Information Create "Pooled Number" Subscription Version - Set to Sending
RR5-94: Addition of Number Pooling Subscription Version Information - Status

Update
RR5-95: Addition of Number Pooling Subscription Version Information - Failed SP List
RR5-220: Addition of Number Pooling Subscription Version Information - Create "Pooled Number" Subscription Version - Status Rollup to Active with empty Failed SP List

Yes

5.1.4.3*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.4.3: Subscription Version, Block Create Validation of Subscription Versions

The following requirements define validation processing on behalf of the NPAC/SMS once a Number Pool Block has been activated.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-96: Block Create Validation of Subscription Versions - Subscription Version Completion Check
RR5-97: Block Create Validation of Subscription Versions - First Time Execution of Subscription Version Completion Check
RR5-98: Block Create Validation of Subscription Versions - Subscription Version Create for Missing TNs
RR5-99: Block Create Validation of Subscription Versions - Subscription Version Broadcast to non-EDR Local SMS
RR5-100: Block Create Validation of Subscription Versions - Block Status Update
RR5-101: Block Create Validation of Subscription Versions - Block Failed SP List Update
RR5-102: Block Create Validation of Subscription Versions - Subscription Version Logging

Yes

5.1.4.4*

QUESTION:

TRD FRS Section 5: Sub Section 5.1.4.4: Subscription Version, Modification for Number Pooling

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

RR5-103: Modification of Number Pooling Subscription Version Information - Subscription Data
RR5-104: Modification of Number Pooling Subscription Version Information - Status Update to Sending
RR5-105: Modification of Number Pooling Subscription Version Information - Status Update
RR5-106: Modification of Number Pooling Subscription Version Information - Failed SP List

Yes

QUESTION:

TRD FRS Section 5: Sub Section 5.1.4.5: Subscription Version, Deletion for Number Pooling

Does the Respondent's proposal fully comply with these requirements in

5.1.4.5*	**time to meet the published implementation date?** RR5-107: Deletion of Number Pooling Subscription Version Information - Sending Status Update to Subscription Versions RR5-108: Deletion of Number Pooling Subscription Version Information - Broadcast of Subscription Version Data RR5-109: Deletion of Number Pooling Subscription Version Information - Status Update to Subscription Versions RR5-110: Deletion of Number Pooling Subscription Version Information - Failed SP List
Yes	

5.1.4.6*	QUESTION: **TRD FRS Section 5: Sub Section 5.1.4.6: Subscription Version, Block Delete Validation Subscription Versions** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** RR5-111: Block Delete Validation of Subscription Versions - Ensure no Subscription Versions with LNP Type POOL
Yes	

6. TRD FRS Section 6: NPAC/SMS INTERFACES

6.1	STATEMENT: **TRD FRS Section 6: Sub Section 6.1: SOA to NPAC/SMS Interface** The SOA to NPAC/SMS Interface is a CMIP-based, mechanized interface to the NPAC/SMS. The SOA interface supports the Service Provider's Service Order Administration (SOA) systems. This interface is referred to as the SOA to NPAC/SMS interface. This interface supports two-way communications between service providers SOA systems and the NPAC/SMS.

6.2	STATEMENT: **TRD FRS Section 6: Sub Section 6.2: NPAC/SMS to LSMS Interface** The LSMS to NPAC/SMS Interface is a CMIP-based, mechanized interface to the NPAC/SMS. The LSMS interface supports the Service Provider's Local Service Management System (LSMS). This interface is referred to as the NPAC/SMS to LSMS interface. This interface support two-way communications between the service providers LSMS and the NPAC/SMS.

6.3*	QUESTION: **TRD FRS Section 6: Sub Section 6.3: Interface Transactions** The CMIP protocol provides for six types of transactions over the interface (Reference: ISO 9595 and 9596). They are: • Create • Delete • Set • Get • M-Action

- Event Report

Does the Respondent's proposal fully comply with the requirement below in time to meet the published implementation date?

R6-22: Manager-agent relationship of interface transactions.

Yes

6.4*

QUESTION:

TRD FRS Section 6: Sub Section 6.4: Interface and Protocol Requirements

While it is expected that dedicated links will be used for the interfaces, switched connections should also be supported. Reliability and availability of the links will be essential and high capacity performance will be needed.

Does the Respondent's proposal fully comply with the requirement below in time to meet the published implementation date?

R6-23: Open interfaces

Yes

6.4.1*

QUESTION:

TRD FRS Section 6: Sub Section 6.4.1: Protocol Requirements

Does the Respondent's proposal fully comply with these requirements below, in time to meet the published implementation date?

R6-24: Interface protocol stack
R6-25: Multiple application associations

Yes

6.4.2*

QUESTION:

TRD FRS Section 6: Sub Section 6.4.2: Interface Performance Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R6-26: Interface availability
R6-27: Interface Reliability
R6-28.1: SOA to NPAC/SMS interface transaction rates - sustained
R6-28.2: SOA to NPAC/SMS interface transaction rates - peak
RR6-107: SOA to NPAC/SMS interface transaction rates - total bandwidth
RR6-108: NPAC/SMS to Local SMS interface transaction rates - sustained
RR6-109: NPAC/SMS to Local SMS interface transaction rates - total bandwidth

Yes

QUESTION:

TRD FRS Section 6: Sub Section 6.4.3: Interface Specification Requirements

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

R6-30.1: Interface specification

6.4.3*

R6-30.2: Interface specification identification
R6-35: NPAC/SMS Interoperable Interface Specification extensibility
RR6-1: Acknowledgment of a Cancel Pending for a Subscription Version
RR6-2: Acknowledgment of a Conflict Resolution for a Subscription Version
RR6 3: Deferred Disconnect of a Subscription Version
RR6-4: Cancel Request Notification
RR6-5: Conflict Resolution Request Notification

Yes

6.4.4*

QUESTION:

TRD FRS Section 6: Sub Section 6.4.4: Request Restraints Requirements

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-8: Tunable Parameter Number of Aggregated Download Records
RR6-9: Download Time Tunable Parameter to Restricted Time Range
RR6-13: Queries Constrained by NPA-NXX
RR6-14: Subscription Version Resynchronization Filter Usage

Yes

6.4.5*

QUESTION:

TRD FRS Section 6: Sub Section 6.4.5: Application Level Errors Requirements

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-110: NPAC/SMS Application Level Errors
RR6-111: NPAC/SMS Application Level Error Details
RR6-112: NPAC/SMS Application Level Error Details in soft format
RR6-113: SOA Action Application Level Errors Indicator
RR6-114: SOA Action Application Level Error Indicator Default
RR6-115: SOA Action Application Level Errors Indicator Modification
RR6-116: LSMS Action Application Level Errors Indicator
RR6-117: LSMS Action Application Level Errors Indicator Default
RR6-118: LSMS Action Application Level Errors Indicator Modification
RR6-119: LSMS Application Level Errors Indicator
RR6-193: SOA Non-Action Application Level Errors Indicator
RR6-194: SOA Non-Action Application Level Errors Indicator Default
RR6-195: SOA Non-Action Application Level Errors Indicator Modification
RR6-196: LSMS Non-Action Application Level Errors Indicator
RR6-197: LSMS Non-Action Application Level Errors Indicator Default
RR6-198: LSMS Non-Action Application Level Errors Indicator Modification

Yes

6.5*

QUESTION:

TRD FRS Section 6: Sub Section 6.5: NPAC SOA Low-tech Interface Requirements

The NPAC SOA Low-tech Interface supports the request functionality of the SOA to NPAC/SMS interface.

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RX6-2.1: NPAC SOA Low-tech Interface
RX6-2.2: SOA to NPAC/SMS Create Subscription Versions administration requests via an NPAC SOA Low-tech Interface
RX6-2.3: SOA to NPAC/SMS Cancel Subscription Versions administration requests via an NPAC SOA Low-tech Interface
RX6-2.4: SOA to NPAC/SMS Modify Subscription Versions administration requests via an NPAC SOA Low-tech Interface
RX6-2.5: SOA to NPAC/SMS Query Subscription Versions administration requests via an NPAC SOA Low-tech Interface
RX6-2.6: SOA to NPAC/SMS Activate Subscription Versions administration requests via an NPAC SOA Low-tech Interface
RX6-2.7: SOA to NPAC/SMS Disconnect Subscription Versions administration requests via an NPAC SOA Low-tech Interface
RR6-189: SOA to NPAC/SMS Un-Do Cancel-Pending Subscription Version administration requests via an NPAC SOA Low-tech Interface
RX6-3: SOA to NPAC/SMS audit requests
RR6-35: SOA to NPAC/SMS Number Pool Block Create Request via the SOA Low-tech Interface
RR6-36: SOA to NPAC/SMS Number Pool Block Modify Request via the SOA Low-tech Interface
RX6-4: NPAC/SMS Notification Handling

Yes

6.6*

QUESTION:

TRD FRS Section 6: Sub Section 6.6: CMIP Request Retry Requirements

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-15: SOA Retry Attempts - Tunable Parameter
RR6-16: SOA Retry Interval - Tunable Parameter
RR6-17: SOA Retry Attempts - Tunable Parameter Modification
RR6-18: SOA Retry Interval - Tunable Parameter Modification
RR6-19: SOA Retry Attempts - Tunable Parameter Default
RR6-20: SOA Retry Interval - Tunable Parameter Default
RR6-21: SOA Activation Failure Retry
RR6-22: LSMS Retry Attempts - Tunable Parameter
RR6-23: LSMS Retry Interval - Tunable Parameter
RR6-24: LSMS Retry Attempts - Tunable Parameter Modification
RR6-25: LSMS Retry Interval - Tunable Parameter Modification
RR6-26: LSMS Retry Attempts - Tunable Parameter Default

RR6-27: LSMS Retry Interval - Tunable Parameter Default
RR6-28: LSMS Activation Failure Retry

Yes

6.7*

QUESTION:

TRD FRS Section 6: Sub Section 6.7: Recovery Requirements

The following requirements define the Recovery functionality supported by the NPAC/SMS to SOA interface and NPAC/SMS to LSMS interface.

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-84: Linked Replies Information - Sending Linked Replies During Recovery
RR6-85: Linked Replies Information - Service Provider SOA Linked Replies Indicator Sending of Linked Replies
RR6-86: Linked Replies Information - Service Provider SOA Linked Replies Indicator Sending of Non-Linked Replies
RR6-87: Linked Replies Information - Service Provider Local SMS Linked Replies Indicator Sending of Linked Replies
RR6-88: Linked Replies Information - Service Provider Local SMS Linked Replies Indicator Sending of Non-Linked Replies
RR6-122: SWIM Recovery Tracking
RR6-123: Service Provider SOA SWIM Recovery Indicator
RR6-124: Service Provider SOA SWIM Recovery Indicator Default
RR6-125: Service Provider SOA SWIM Recovery Indicator Modification
RR6-126: SOA SWIM Maximum Tunable
RR6-127: SOA SWIM Maximum Tunable Default
RR6-128: SOA SWIM Maximum Tunable Modification
RR6-129: Service Provider LSMS SWIM Recovery Indicator
RR6-130: Service Provider LSMS SWIM Recovery Indicator Default
RR6-131: Service Provider LSMS SWIM Recovery Indicator Modification
RR6-190: LSMS SWIM Maximum Tunable
RR6-191: LSMS SWIM Maximum Tunable Default
RR6-192: LSMS SWIM Maximum Tunable Modification
RR6-199: Service Provider SOA SPID Recovery Indicator
RR6-200: Service Provider SOA SPID Recovery Indicator Default
RR6-201: Service Provider SOA SPID Recovery Indicator Modification
RR6-202: Service Provider LSMS SPID Recovery Indicator
RR6-203: Service Provider LSMS SPID Recovery Indicator Default
RR6-204: Service Provider LSMS SPID Recovery Indicator Modification
RR6-205: Service Provider SOA Cancel-Pending-to-Conflict Cause Code Tunable
RR6-206: Service Provider SOA Cancel-Pending-to-Conflict Cause Code Tunable Default
RR6-207: Service Provider SOA Cancel-Pending-to-Conflict Cause Code Tunable Modification
RR6-208: Service Provider LSMS Cancel-Pending-to-Conflict Cause Code Tunable
RR6-209: Service Provider LSMS Cancel-Pending-to-Conflict Cause Code Tunable Default
RR6-210: Service Provider LSMS Cancel-Pending-to-Conflict Cause Code Tunable Modification

Yes

QUESTION:

TRD FRS Section 6: Sub Section 6.8: Out-Bound Flow Control Requirements

The following requirements define the Out-Bound Flow Control functionality.

6.8*

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-148: Out-Bound Flow Control Upper Threshold Tunable
RR6-149: Out-Bound Flow Control Upper Threshold Tunable Default
RR6-150: Out-Bound Flow Control Upper Threshold Tunable Modification
RR6-151: Out-Bound Flow Control Lower Threshold Tunable
RR6-152: Out-Bound Flow Control Lower Threshold Tunable Default
RR6-153: Out-Bound Flow Control Lower Threshold Tunable Modification

Yes

6.9*

QUESTION:

TRD FRS Section 6: Sub Section 6.9: Roll-Up Activity and Abort Behavior Requirements

The following requirements define the Roll-up Activity and Abort Behavior functionality.

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-154: Roll-Up Activity-Single Tunable
RR6-155: Roll-Up Activity-Single Tunable Default
RR6-156: Roll-Up Activity-Single Tunable Modification
RR6-157: Roll-Up Activity Timer Expire SVRange Tunable
RR6-158: Roll-Up Activity Timer Expire SVRange Tunable Default
RR6-159: Roll-Up Activity Timer Expire SVRange Tunable Modification
RR6-160: Abort Processing Behavior Upper Threshold Tunable
RR6-161: Abort Processing Behavior Upper Threshold Tunable Default
RR6-162: Abort Processing Behavior Upper Threshold Tunable Modification

Yes

6.10*

QUESTION:

TRD FRS Section 6: Sub Section 6.10: NPAC Monitoring of SOA and LSMS Associations Requirements

The following requirements define the NPAC Monitoring of SOA and LSMS Association functionality.

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

RR6-163: NPAC/SMS Monitoring of SOA and Local SMS Connections via an Application Level Heartbeat
RR6-164: NPAC/SMS-to-SOA Application Level Heartbeat Indicator
RR6-165: NPAC/SMS-to-SOA Application Level Heartbeat Indicator Default
RR6-166: NPAC/SMS-to-SOA Application Level Heartbeat Indicator Modification
RR6-167: NPAC/SMS-to-Local SMS Application Level Heartbeat Indicator
RR6-168: NPAC/SMS-to- Local SMS Application Level Heartbeat Indicator Default
RR6-169: NPAC/SMS-to- Local SMS Application Level Heartbeat Indicator Modification
RR6-170: NPAC/SMS Application Level Heartbeat Tunable Parameter
RR6-171: NPAC/SMS Application Level Heartbeat Tunable Parameter Usage
RR6-172: NPAC/SMS Application Level Heartbeat Tunable Parameter Default
RR6-173: NPAC/SMS Application Level Heartbeat Tunable Parameter Modification
RR6-174: NPAC/SMS Application Level Heartbeat Timeout Tunable Parameter
RR6-175: NPAC/SMS Application Level Heartbeat Timeout Tunable Parameter Usage
RR6-176: NPAC/SMS Application Level Heartbeat Timeout Tunable Parameter Default
RR6-177: NPAC/SMS Application Level Heartbeat Timeout Tunable Parameter

	Modification
Yes	

6.11*	**QUESTION:** **TRD FRS Section 6: Sub Section 6.11: Separate SOA Channel for Notifications Requirements** The following requirements define the Separate SOA Channel for Notifications functionality. **Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?** RR6-178: SOA Notification Channel Service Provider Indicator RR6-179: SOA Notification Channel Service Provider Indicator - Default RR6-180: SOA Notification Channel Service Provider Indicator - Modification RR6-182: Separate Association for the Notification Function From different NSAPs RR6-183: Security Management of Multiple SOA Associations of Different Association Functions RR6-184: Sending of SOA Notifications when Notification Channel is Active RR6-185: Separate Notification Channel during Recovery RR6-186: Treatment of Multiple Associations when there is an Intersection of Association Function
Yes	

6.12*	**QUESTION:** **TRD FRS Section 6: Sub Section 6.12: Maintenance Window Timer Behavior Requirements** The following requirements define the Maintenance Window Timer Behavior. **Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?** RR6-187: NPAC Maintenance Windows - Timer Update Tool RR6-188: NPAC Maintenance Windows - Timer Update Tool - Affected Timers
Yes	

7. TRD FRS Section 7: SECURITY

7.1	**STATEMENT:** **TRD FRS Section 7: Sub Section 7.1: Security Overview** In addition to the general security requirements based on the user interface paradigm, there are requirements for the security on an OSI application-to-application interface (such as the one specified in Section 6, NPAC/SMS Interfaces, for the SMS to SMS and SMS to SOA interfaces).

	QUESTION: **TRD FRS Section 7: Sub Section 7.2: Identification Requirements** The NPAC will accept only authorized NPAC customers through interface connections, and among NPAC customers, the NPAC will make appropriate limitations on their actions (for example, letting only old or new Service Providers view a pending record). The NPAC will

only accept authorized customer user IDs. However, the NPAC will make no distinction among an NPAC customer's employees; the NPAC customer and their systems must control individual NPAC customer employee actions.

A user identification is a unique, auditable representation of the user's identity within the system. The NPAC/SMS requires all system users, both individuals and remote machines, to be uniquely identified to support individual accountability over the NPAC Administrative and NPAC SOA Low-tech Interfaces.

7.2*

Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?

R7-1: Unique User Identification Codes - Individuals
R7-2: Assigned Userid Identification
R7-3: Current Active User List Maintenance
R7-4: User Invoked Processes
R7-5.1: Userids, Unused - Disabling
R7-5.2: Unused Userid Disable Period - Tunable Parameter
R7-5.3: Unused Userid Disable Period - Tunable Parameter Modification
R7-5.4: Unused Userid Disable Period - Tunable Parameter Default
R7-6.1: Userids, Disabled - Reinstatement
R7-6.2: Userids - Deletion
R7-7: Userids - Temporary Disabling
R7-8: Userids, Disabled - Automatic Reactivation
R7-9.1: Userids - One Active Login
R7-9.2: Second Login Attempt

Yes

7.3*

QUESTION:

TRD FRS Section 7: Sub Section 7.3: Authentication

The identity of all NPAC/SMS system users, both individuals and remote machines, must be verified or authenticated to enter the system, and to access restricted data or transactions over the NPAC Administrative and NPAC SOA Low-Tech Interfaces.

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-10: User Authentication
R7-12: Authentication Data Protection

Yes

7.3.1*

QUESTION:

TRD FRS Section 7: Sub Section 7.3.1: Password Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-13: Passwords - Non-shared
R7-14: Passwords - Userid Unique
R7-15: Passwords - One-Way Encrypted
R7-16: Passwords, Encrypted - Privileged Users Access Control
R7-18: Passwords, Entry - Automatic Clear Text Suppression
R7-19: Passwords - Network Transmission Clear Text Suppression
R7-20: Passwords - Non-Null
R7-21: Passwords - User-Changeable
R7-22: Passwords - Reset Capability

R7-23.1: Passwords - Aging Enforcement
R7-23.2: Password Aging Default
R7-24.1: Passwords - Expiration Notification
R7-24.2: Passwords - Expiration Notification Default
R7-24.3: Passwords - Require User to Enter New Password
R7-25.1: Passwords - Non-Reusable
R7-25.2: Password Reuse Default
R7-26.1: Passwords - Minimum Structure Standard #1
R7-26.2: Passwords - Associated Userid
R7-27.1: Password Generator
R7-27.2: Passwords, System Generated - Attack Resistant
R7-27.3: Passwords, System Generated - Random

Yes

7.4

STATEMENT:

TRD FRS Section 7: Sub Section 7.4: Access Control

Access to the NPAC/SMS and other resources will be limited to those users that have been authorized for that specific access right.

7.4.1*

QUESTION:

TRD FRS Section 7: Sub Section 7.4.1: System Access Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-28.1: System Access - Individuals
R7-28.2: System Access - Remote Machines
R7-29.1: System Access, User Information - Entry
R7-29.2: System Access, User Information - Modification
R7-31: System Access, Login - Trusted Communication
R7-32.1: System Access - Disconnect User
R7-32.2: Non-use Disconnect Tunable Parameter
R7-33.1: System Access - User Authentication Failure
R7-33.2: Incorrect Login Exit Default
R7-34: System Access, User Authentication Failure - Notification
R7-35.1: System Access - Login Process I/O Port Restart
R7-35.2: Login Process Restart Default
R7-36: System Access, User Authentication Failure - Userid Non-Suspension
R7-37: System Access, User Authentication Procedure - Entry
R7-38: System Access, User Authentication Procedure Entry - Error Feedback
R7-39: System Access, User Authentication Procedure Entry - Time Parameters
R7-40.1: System Access, User Authentication Procedure Entry - Method
R7-40.2: System Access, User Authentication Procedure Entry - Location
R7-41: System Access, User Authentication Procedure Entry - SSL VPN Limitations
R7-42.1: System Access - Network Basis
R7-42.2: System Access - Per-Port Basis
R7-43.1: System Access, Network Authentication
R7-43.2: Internet Access
R7-43.3: SSL VPN Access
R7-44: System Access - Secure Logoff Procedures
R7-46: System Access, Unauthorized Use Message - Specifiable
R7-47.1: System Access, Unauthorized Use Message - Specifiable (Warning)
R7-47.2: Advisory Warning Message Default
R7-48.1: System Access - User's Last Successful Access

R7-48.2: System Access - User's Unsuccessful Access Attempts
R7-49.1: System Access, Security Administration - Authorize Users
R7-49.2: System Access, Security Administration - Revoke Users
R7-50.1: System Access, Security Administration - Adding Users
R7 50.2: System Access, Security Administration Deleting Users

Yes

7.4.2*

QUESTION:

TRD FRS Section 7: Sub Section 7.4.2: Resource Access

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-51: Data Access for Authorized Users
R7-52: Service Provider Data Protected
R7-53.1: Authorized User Access to Software
R7-53.2: Authorized User Access to Transactions
R7-53.3: Authorized User Access to Data
R7-54.1: Access Control of Executable Software
R7-55: Access Control of Resources
R7-56: User ID and System ID
R7-57: Resource Access to Users
R7-58: Resource Access Denied to Users
R7-60: Only NPAC Personnel Can Modify User Access
R7-61: Removal of User Access Rights

Yes

7.5*

QUESTION:

TRD FRS Section 7: Sub Section 7.5: Data and System Integrity

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-63: Identify Originator of System Resources
R7-64: Identify Originator of Information Received Across Communication Channels
R7-65.1: Monitor System Resources
R7-65.2: Detect Error Conditions
R7-65.3: Detect Communication Errors
R7-65.4: Detect Link Outages
R7-66.1: Rule Checking on Update
R7-66.2: Handling of Duplicate Inputs
R7-66.3: Check Return Status
R7-66.4: Validate Inputs
R7-66.5: Transaction Serialization
R7-67: Database Integrity Checking

Yes

7.6

STATEMENT:

TRD FRS Section 7: Sub Section 7.6: Audit

QUESTION:

TRD FRS Section 7: Sub Section 7.6.1: Audit Log Generation Requirements

7.6.1*

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-68.1: Security Audit Log for After the Fact Investigation
R7-68.2: Security Audit Data Availability
R7-68.3: Security Audit Data Archived
R7-69: User Identification Retained
R7-70: Protection of Security Audit Log Access
R7-71.2: NPAC Personnel Delete Security Audit Log
R7-72: Security Audit Control Protected
R7-73.1: Log Invalid User Authentication Attempts
R7-73.2: Log NPAC/SMS End User Logins
R7-73.3: Log NPAC Personnel Activities
R7-73.4: Log Unauthorized Data Access
R7-73.5: Log Unauthorized Transaction Access
R7-74: No Disable of Security Auditing
R7-75: Security Audit Record Contents
R7-76.1: Recorded Login Attempts

Yes

7.6.2*

QUESTION:

TRD FRS Section 7: Sub Section 7.6.2: Reporting and Intrusion Detection Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-77.1: Exception Reports on Data Items
R7-77.2: Exception Reports on Users
R7-77.3: Exception Reports on Communication Failures
R7-77.4: Summary Reports on Data Items
R7-77.5: Summary Reports on Users
R7-77.6: Summary Reports on Communication Failures
R7-77.7: Detailed Reports on Data Items
R7-77.8: Detailed Reports on Users
R7-77.9: Detailed Reports on Communication Failures
R7-78: Review User Actions
R7-79.1: Monitor Network Address
R7-80.1: Real-time Security Monitor
R7-80.2: Security Event Notification

Yes

7.7*

QUESTION:

TRD FRS Section 7: Sub Section 7.7: Continuity of Service

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-81: System Made Unavailable by Service Provider
R7-82: Detect Service Degrading Conditions
R7-83: System Recovery After Failure
R7-84.1: Software Backup Procedures
R7-84.2: Data Backup Procedures
R7-84.3: Software Restoration Procedures
R7-84.4: Data Restoration Procedures
R7-85.1: Software Version Number (Installed)

R7-85.2: Software Version Number

Yes

7.8*

QUESTION:

TRD FRS Section 7: Sub Section 7.8: Software Vendor

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-86: Software Development Methodology
R7-87: Bypass of Security
R7-88: Documented Entry

Yes

7.9

STATEMENT:

TRD FRS Section 7: Sub Section 7.9: OSI Security Environment

7.9.1

STATEMENT:

TRD FRS Section 7: Sub Section 7.9.1: Threats

Attacks against the NPAC/SMS may be perpetrated in order to achieve any of the following:
1. Denial of service to a customer by placing wrong translation information in the SMS
2. Denial of service to a customer by preventing a valid message from reaching the SMS
3. Disrupting a carrier's operations by having numerous spurious calls (to users who are not clients of that carrier) directed to that carrier
4. Switching customers to various carriers without their consent
5. Disrupting the functioning of the NPAC/SMS by swamping it with spurious messages

7.9.2*

QUESTION:

TRD FRS Section 7: Sub Section 7.9.2: Security Services

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R7-89: Authentication
R7-90: Data Origin Authentication
R7-91.1: Detection of Message Replay
R7-91.2: Deletion of a Message
R7-91.3: Modification of a Message
R7-91.4: Delay of a Message
R7-92: Non-repudiation of Origin
R7-93: Access Control

Yes

7.9.3

STATEMENT:

TRD FRS Section 7: Sub Section 7.9.3: Security Mechanisms

QUESTION:

TRD FRS Section 7: Sub Section 7.9.3.1: Encryption

7.9.3.1*	**Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** R7-94.1: Public Key Crypto System (PKCS) R7-95: RSA Encryption Modulus Size
Yes	

7.9.3.2*	QUESTION: **TRD FRS Section 7: Sub Section 7.9.3.2: Authentication** **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** R7-96: Digital Signature Algorithm R7-97: Authenticator Contents R7-98: Authenticator in Access Control Field R7-99.1: Subsequent Messages Contain Access Control Field R7-99.2: Separate Counter for Association Sequence Numbers R7-99.3: Increment Sequence Numbers
Yes	

7.9.3.3*	QUESTION: **TRD FRS Section 7: Sub Section 7.9.3.3: Integrity and Non-Repudiation** **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** R7-100.1: Security Field R7-100.2: Security Field Syntax R7-102: Notifications in Confirmed Mode
Yes	

7.9.3.4*	QUESTION: **TRD FRS Section 7: Sub Section 7.9.3.4: Access Control** **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** R7-104: Responsible for Access Control R7-105.2: Generalized Time - Valid Message Timeframe RR7-3: Generalized Time - Departure Time Threshold Tunable Parameter RR7-4: Generalized Time - Departure Time Threshold Tunable Parameter Default
Yes	

7.9.3.5*	QUESTION: **TRD FRS Section 7: Sub Section 7.9.3.5: Audit Trail** **Does the Respondent's proposal fully comply with the requirement below in time to meet the published implementation date?** R7-106: Log Contents
Yes	

Telcordia08070

7.9.3.6*	QUESTION: **TRD FRS Section 7: Sub Section 7.9.3.6: Key Exchange** **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** R7-107.1: Lists of Keys R7-107.2: Keys in Electronic Form R7-107.4: Key List Exchange R7-107.5: Remote Key List Exchange R7-108.1: Remote Reception Acknowledgment R7-108.2: Acknowledgment Contents R7-108.3: Phone Confirmation R7-110.1: List Encryption Keys R7-110.3: List Encryption Keys (Unique Numbering of Keys) R7-111.1: New Encryption Key Can Be Chosen R7-111.2: Keys Not Reused R7-111.3: Compromised Keys R7-111.4: Key Change Once Per Year R7-111.5: Key Size Increase Per Year R7-111.6: Per Service Provider Application Basis R7-111.7: NPAC Key Change Algorithm R7-111.8: Service Provider Key Marked Used/Invalid RR7-1: Load Key List RN7-1: Authenticator Contents - Individual System Clock Accuracy RN7-2: Authenticator Contents - Zero Sequence Number
Yes	

8. TRD FRS Section 8: AUDIT ADMINISTRATION

8.1*	QUESTION: **TRD FRS Section 8: Sub Section 8.1: Overview** **Does the Respondent's proposal fully comply with the requirement below in time to meet the published implementation date?** A8-1: Service Provider Audits Issued Immediately
Yes	

8.2*	QUESTION: **TRD FRS Section 8: Sub Section 8.2: Service Provider User Functionality** **Does the Respondent's proposal fully comply with these requirements below in time to meet the published implementation date?** RR8-19: Service Provider Audit Request – Required Information R8-3: Service Providers Specify Audit Scope
Yes	

	QUESTION: **TRD FRS Section 8: Sub Section 8.3: NPAC User Functionality Requirements** **Does the Respondent's proposal fully comply with the requirements below in**

8.3*

Yes

time to meet the published implementat

RR8-20: NPAC Personnel Audit Request – Required Information
R8-61: Specify an Immediate Audit Request
R8-9: NPAC Personnel Specify Audit Scope
R8-10: NPAC Personnel Status of Audit Request
R8-11: Audit Progress Indicators
R8-12: NPAC Personnel Cancel of an Audit

8.4*

Yes

QUESTION:

TRD FRS Section 8: Sub Section 8.4: System Functionality Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R8-15.1: NPAC Personnel View of ALL Audit Requests
R8-15.2: Mechanized SOA Interface Obtain Audit Requests
R8-15.3: Send Audit Results to Originating SOA
R8-16.1: Flow of Audit Execution
R8-17.1: Compare NPAC/SMS Subscription Versions to Service Provider Subscription Versions
R8-17.2: Add TNs to Service Provider Subscription Versions
R8-17.3: Modify Erroneous TNs
R8-17.4: Delete Discrepant TNs from Service Provider Subscription Versions
R8-19: Record Audit Results in an Audit Log
RR8-4: Skip Subscription Versions with a Status of Sending
RR8-5: Report No Discrepancies Found in Audit Results for Skipped Subscription Versions
RR8-21: Audit for Support of SV Type
RR8-22: Audit for Support of Alternative SPID
RR8-26: Audit for Support of Last Alternative SPID
RR8-27: Audit for Support of Voice URI
RR8-28: Audit for Support of MMS URI
RR8-29: Audit for Support of SMS URI

8.5*

Yes

QUESTION:

TRD FRS Section 8: Sub Section 8.5: Audit Report Management Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R8-20: Service provider Audit Retrieval
R8-21.1: Generate an Audit Report
R8-21.2: Audit Report Contents
R8-23.1: NPAC Personnel View an In-progress Audit Report
R8-22: NPAC Personnel Generate and View an Audit Report
R8-23.2: Service Providers View Results of Audits They Have Requested
R8-25: NPAC Personnel Specify Time Audit Results Retained

QUESTION:

TRD FRS Section 8: Sub Section 8.6: Additional Requirements

Does the Respondent's proposal fully comply with the requirement below in

8.6*	**time to meet the published implementation date?** RX8-1: Valid Audit Statuses
Yes	

8.7*	**QUESTION:** **TRD FRS Section 8: Sub Section 8.7: Database Integrity Sampling** **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR8-1: Random Sampling of Active Subscription Versions RR8-2.1: Data Integrity Sample Size - Tunable Parameter RR8-2.2: Data Integrity Sample Size - Tunable Parameter Modification RR8-2.3: Data Integrity Sample Size - Tunable Parameter Default RR8-3.1: Data Integrity Frequency - Tunable Parameter RR8-3.2: Data Integrity Frequency - Tunable Parameter Modification RR8-3.3: Data Integrity Frequency - Tunable Parameter Default
Yes	

8.8*	**QUESTION:** **TRD FRS Section 8: Sub Section 8.8: Audit Processing in a Number Pool Environment Requirements** **Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?** RR8-6: Audit Processing for All Subscription Versions in a Number Pooling Environment RR8-7: Audit Discrepancy and Results Notifications for Pooled Number Subscription Versions to Requesting SOA RR8-8: Audit Discrepancy and Results Notifications for Pooled Number Subscription Versions for Audited TNs RR8-9: Audit Status Attribute Value Change Notification Send for Pooled Number Blocks RR8-10: Audit Attribute Value Change Notification Send for Pooled Number Blocks RR8-11: Audit for Pooled Numbers and Block to EDR Local SMS RR8-12: Audit Response – Ignore missing SVs for Pooled Ports at EDR Local SMS RR8-13: Audit Response – Delete erroneous SVs for Pooled Ports at EDR Local SMS RR8-14: Audit Response – Compare NPAC/SMS Block to Service Provider Block at EDR Local SMS RR8-15: Audit Response – Block Missing from EDR Local SMS RR8-16: Audit Response – Block Discrepant at EDR Local SMS RR8-17: Audit Response – Extra Block at EDR Local SMS RR8-18: Audit Processing – Skipping In-Progress Blocks
Yes	

	QUESTION: **TRD FRS Section 8: Sub Section 8.9: Audit Processing in a Pseudo-LRN Environment Requirements** The Audit processing that is described in this section deals with all Subscription Versions and Number Pool Blocks in a pseudo-LRN environment. Audit processing in a pseudo-LRN environment will use the information in the Service Provider's profile (NPAC Customer LSMS Pseudo-LRN Indicator) to determine whether to send a query for a TN/TN Range and/or Number Pool Block.

8.9*

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR8-30: Audit of Pseudo LRN Subscription Versions-Query all LSMSs.
RR8-31: Audit of Pseudo LRN Subscription Version-Roll up Query results only for supporting LSMS.
RR8-32: Audit of Pseudo LRN Number Pool Block query all LSMSs.
RR8-33: A1Audit of Pseudo LRN Number Pool Block- Roll up query results only for supporting LSMS.
RR8-34: Audit of Pseudo LRN Subscription Version Send Audit results to Originating SOA.
RR8-35: Audit of Pseudo LRN Number Pool Block- Send Audit results to Originating SOA.
RR8-36: Add/Modify /Delete TNs to Service Provider Pseudo LRN Subscription Versions.

Yes

9. TRD FRS Section 9: REPORTS

9.1

STATEMENT:

TRD FRS Section 9: Sub Section 9.1: Overview

The NPAC/SMS must support scheduled and ad hoc report generation for selectable reports. The report generation service shall create output report files according to specified format definitions, and distribute reports to output devices as requested. A report distribution service shall be used to distribute report files to selected output devices. Authorized NPAC personnel can request reports from active database, history logs, error logs, traffic measurements, usage measurements, and performance reports.

9.2*

QUESTION:

TRD FRS Section 9: Sub Section 9.2: National Number Pooling Reports Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R9-1: NPAC Personnel Report Selection
R9-2: NPAC Personnel Selection of Output Destination
R9-3: NPAC Personnel Re-print of Reports
R9-4: NPAC Personnel Create Customized Reports
R9-5: NPAC Personnel Define Scope and Filtering
R9-6: Service Providers Receive Reports on Their Activities
RX9-1: Service and Network Data Reports
RX9-2: Service Provider Reports
RX9-3: Subscription Data Reports
RX9-4: System Reports
RX9-5: Security Reports
RX9-6: Log File Reports
RX9-7: Audit Reports
RX9-8: Regularly Scheduled Reports
RR9-1: Data Integrity Report - Database Sample Report
RR9-39: Pseudo-LRN Data in Reports - Service Provider Personnel
RR9-40: Pseudo-LRN Data in Reports - NPAC Personnel

Yes

QUESTION:

9.3*

TRD FRS Section 9: Sub Section 9.3: System Functionality Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

R9-9: Verification of User Privileges
R9-10: Support of On-Line Fire Transfer
R9-11: Transaction History Log
R9-12.1: Error Log - Transaction Errors
R9-12.2: Error Log - Transmission Errors

Yes

9.3.1*

QUESTION:

TRD FRS Section 9: Sub Section 9.3.1: National Number Pooling Reports Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR9-2: Pooled Number Reports - Query functions
RR9-3: Pooled Number Reports - Block Holder Default Routing Report Data Elements
RR9-4: Pooled Number Reports - Block Holder Default Routing Report Page Break
RR9-7: Pooled Number Reports - OpGUI Report Generation
RR9-8: Pooled Number Reports - Block Holder Default Routing Report
RR9-9: Pooled Number Reports - Active-Like TNs in a NPA-NXX-X Report
RR9-10: Pooled Number Reports - Active-Like TNs in a NPA-NXX-X Report Data Elements
RR9-11: Pooled Number Reports - Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report
RR9-12: Pooled Number Reports - Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report Data Elements
RR9-13: Pooled Number Reports - Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report Sort Priority
RR9-14: Pooled Number Reports - Pending-Like No-Active and Pending-Like Port-to-Original Subscription Versions Report Page Break
RR9-15: Pooled Number Reports - Pending-Like With Active POOL Subscription Versions Report
RR9-16: Pooled Number Reports - Pending-Like With Active POOL Subscription Versions Report Data Elements
RR9-17: Pooled Number Reports - Pending-Like With Active POOL Subscription Versions Report Sort Priority
RR9-18: Pooled Number Reports - Pending-Like With Active POOL Subscription Versions Report Page Break

Yes

9.3.2*

QUESTION:

TRD FRS Section 9.3: Sub Section 9.3.2: Cause Code Reports Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR9-19: Logging Cause code usage by SPID Reporting
RR9-20: Cause Code Usage Log Report via OpGUI
RR9-21: Cause Code Usage Log Report Monthly Generation
RR9-22: Cause Code Usage Log Report Sort Criteria

RR9-23: Cause Code Usage Log Report Selection Criteria
RR9-24: Cause Code Usage Log Report Display

Yes

9.3.3*

QUESTION:

TRD FRS Section 9: Sub Section 9.3.3: Resend Excluded Service Provider Report Requirements

Does the Respondent's proposal fully comply with the requirements below in time to meet the published implementation date?

RR9-25: Subscription Version Failed SP List - Excluded Service Provider Log Data Availability for the Excluded Service Provider Report
RR9-26: Subscription Version Failed SP List - Resend Excluded Service Provider Report by Current SPID via OpGUI
RR9-27: Subscription Version Failed SP List - Resend Excluded Service Provider Report by Current SPID Request
RR9-28: Subscription Version Failed SP List - Resend Excluded Service Provider Report by Current SPID Request Sort Criteria
RR9-29: Subscription Version Failed SP List -Resend Excluded Service Provider Report by Excluded SPID via OpGUI
RR9-30: Subscription Version Failed SP List - Resend Excluded Service Provider Report by Excluded SPID Request
RR9-31: Subscription Version Failed SP List -Resend Excluded Service Provider Report by Excluded SPID Request Sort Criteria
RR9-32: Number Pool Block Failed SP List - Excluded Service Provider Log Data Availability for the Excluded Service Provider Report
RR9-33: Number Pool Block Failed SP List -Resend Excluded Service Provider Report by Current SPID/Blockholder SPID via OpGUI
RR9-34: Number Pool Block Failed SP List - Resend Excluded Service Provider Report Request by Current SPID/Blockholder SPID
RR9 35: Number Pool Block Failed SP List Resend Excluded Service Provider Report by Current SPID/Blockholder SPID Request Sort Criteria
RR9-36: Number Pool Block Failed SP List -Resend Excluded Service Provider Report by Excluded SPID via OpGUI
RR9-37: Number Pool Block Failed SP List - Resend Excluded Service Provider Report by Excluded SPID Request
RR9-38: Number Pool Block Failed SP List -Resend Excluded Service Provider Report by Excluded SPID Request Sort Criteria

Yes

10. TRD FRS Section 10: PERFORMANCE AND RELIABILITY

QUESTION:

TRD FRS Section 10: Sub Section 10.1: Availability and Reliability

This section defines the reliability, availability, performance and capacity requirements for the NPAC/SMS. The NPAC/SMS will be designed for high reliability, including fault tolerance and data integrity features, symmetrical multi-processing capability, and allow for economical and efficient system expansion.

Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?

R10-1: System Availability

10.1*	R10-2: System Reliability R10-3: Unscheduled Downtime R10-4: Mean Time to Repair for Unscheduled Downtime R10-5: Scheduled Downtime AR10 1: Scheduled Downtime R10-6.1: Communication Link Monitoring R10-6.2: Detecting Communication Link Failures R10-7: Detecting Single Bit Data Transmission Errors R10-8: Continue Transaction Processing After Downtime R10-9.1: Self Checking Logic R10-9.2: Continuous Hardware Checking R10-9.3: Duplexing of Hardware R10-9.4: Transparent Hardware Fault Tolerance R10-10.1: Service Provider Notification of System Unavailability R10-10.2: System Availability Notification Method R10-10.3: System Availability Notification Contents R10-11: Updates Highest Priority R10-12.1: Tolerance to Communication Link Outages R10-12.2: Alternate routing R10-13.1: Switch to Backup or Disaster Recovery Machine R10-13.2: Time to Switch Machines R10-13.3: Total Disaster Recovery R10-13.4: Full Functionality Restored R10-14: Reports on Reliability
Yes	

10.2*	QUESTION: **TRD FRS Section 10: Sub Section 10.2: Capacity and Performance** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** R10-16: Capacity R10-18: History File Data Storage R10-19: Broadcast Update Response Time R10-20: Request/Transaction Response Time R10-21: Future System Growth
Yes	

10.3*	QUESTION: **TRD FRS Section 10: Sub Section 10.3: Requirements Not Given a Unique ID** **Does the Respondent's proposal fully comply with these requirements in time to meet the published implementation date?** RN10-2: Return to the Primary Machine SOA Notification RN10-3: Return to the Primary Machine Local SMS Notification RN10-4: Database Sync after Return to the Primary Machine
Yes	

11. TRD FRS Section 11: BILLING

	QUESTION: **TRD FRS Section 11: Sub Section 11.1: User Functionality**

11.1*	**Does the Respondent's proposal fully comply with the requirements below, in time to meet the published implementation date?** R11-1: Toggling the Generation of Usage Measurements A11-2: Accounting Measurements Will Not Degrade the Basic System Performance
Yes	

11.2*	**QUESTION:** **TRD FRS Section 11: Sub Section 11.2: System Functionality** **Does the Respondent's proposal fully comply with the requirements below, in time to meet the published implementation date?** R11-2: Generating Usage Measurements for NPAC Resources R11-3: Generating Usage Measurements for Allocated Connections R11-4: Generating Usage Measurements for Allocated Mass Storage R11-5: Generating Usage Measurements for the Number of Messages Processed by type R11-6: Generating Usage Measurements for the Number of Messages Downloaded R11-8: Generating Detailed Usage Measurement Reports R11-9: Billing Report Types R11-10: Full Billing Report R11-11: Billing Report Creation by NPAC Personnel R11-12: Billing Report Creation by Service Provider R11-13: NPAC Personnel Billing Report Destination R11-14: Service provider Billing Report Destination R11-15: NPAC Personnel Only can Access Billing System
Yes	

12. TRD Detailed Response

12.1*	**QUESTION:** Please attach a **SUMMARY** document explaining how the Respondent's proposal addresses the requirements defined in this TRD survey, and explain in detail any differences and suggested areas of improvement (as an example, reduction of BDD processing time), or enhancements which may affect the NPAC/SMS implementation, ensuring the Respondent's proposal will not interfere with or degrade any porting/pooling activities. This summary document should also be used to include an explanation of any "No" responses.
Attachments: TRD_Section 12.1_TRD Detailed Response.pdf (1.5 MB)	

Please note: Your response has been submitted to the sponsor. It is final and may not be edited.

Technical Requirements Document (TRD) Section 12 – TRD Detailed Response

TRD_Section 12.1_TRD Detailed Response

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1 Executive Summary

This document addresses question 12.1 of the 2015 LNP Technical Requirements Document (TRD) requesting a summary document explaining how the Respondent's proposal addresses the requirements defined in the 2015 LNP TRD survey, describes any additional enhancements being provided, and explains any non-conformances.

The Telcordia NPAC SMS solution is built on over 17 years of direct Telcordia experience working with and delivering products and services to the Number Portability industry both domestically as well as internationally. Telcordia in conjunction with SunGard as its data center and service partner provides a wealth of industry experience to offer a functionally compliant, secure, scalable, and reliable NPAC SMS solution as follows:

i. **Quality and Experience** – Telcordia and its data center and service partner SunGard provide a demonstrated excellence in building number portability applications and operating data centers around the world.

   a) Telcordia has a long history of designing and building software products using an industry-recognized software development methodology that is certified to the ISO 9001:2008 standard and certified to the TL 9000 quality standard for the telecommunications industry. Telcordia has developed and implemented Number Portability-related Clearinghouse (NPAC SMS-like) and local system products (SOA/LSMS and like) in the US, Canada and 15 other countries – **covering more than 1.5 billion subscribers**, far surpassing any other vendor's breadth of performance. Telcordia local products support over 90% of wireless porting in the US and 100% of wireless porting in Canada.

   b) SunGard has a comprehensive Quality Assurance program in place, which consists of the internationally recognized ISO 9001:2008 standard and the Statement on Standards for Attestation Engagements (SSAE) No. 16. SunGard is one of the world's leading software and technology services companies. They provide software and technology services to telecommunications, financial services, education and public sector organizations. They also provide disaster recovery services, managed services, information availability consulting services and business continuity management software. SunGard serves approximately 25,000 customers in more than 70 countries.

ii. **Full conformance to requirements plus additional features** – Telcordia's NPAC SMS solution fully conforms to all requirements in the NANC Functional Requirements Specification for the NPAC SMS and the NPAC SMS Interoperable Interface Specifications. This compliance translates to **no functional changes** to service providers' back end systems (i.e., SOA, LSMS, and other provisioning systems) in order to interface with the Telcordia NPAC SMS. Telcordia's proposal includes additional **customer focused add-on features** in operational areas to enhance our clients' experience with our solution, including:

   a) **Responsive Help Desk Support** – the Telcordia Help Desk will be **staffed 24x7x365** allowing round the clock access to a Telcordia associate. The Help Desk can be accessed via telephone, email, web portal (e.g., web chat), or facsimile.

   b) **Proactive Monitoring Dashboard** - an optional monitoring tool for service providers accessing the Telcordia NPAC SMS via a mechanized interface, allowing clients to quickly diagnose and rectify connectivity issues.

   c) **Self-service access to Customer Ticketing and Knowledgebase** – giving clients control over entry and tracking of any type of service request (e.g., issue, enhancement, customized report) as well as search capabilities of a Knowledgebase that is regularly updated with problem resolutions or answers to Help Desk frequently asked questions. A single sign-on

capability to Telcordia administered NPAC SMSs and our operations tool suite is also provided.

iii. [redacted] separate from each other. Key benefits offered by the Telcordia NPAC SMS solution include:

a) [redacted]

b) **Access Choices** – access protocols are independent from the application – service providers can choose the access mechanism of their choice without affecting the application; service providers can migrate forward off of legacy protocols much easier and at their own pace.

c) **Support Future Needs** – changes can be made to one layer without affecting the other layers – new feature support is localized to only those components affected minimizing cross impacts to ancillary software modules not involved in the change. This allows more **rapid and cost efficient** introduction of new functionality (clustering and spare capacity may also allow maintenance windows for upgrading software to be reduced).

iv. [redacted]

v. **Robust Operations** – the Telcordia NPAC SMS Solution includes a set of operational tools that are built on best-in-class commercial off-the-shelf products that are aligned with Information Technology Information Library standards for IT Service Management. The key Service Management best practices supported by our Operations Architecture are *Service Operation* and *Continuous Service Improvement*, which include:

a) **Service Desk** – provides a single point of contact for customers and includes the Help Desk which logs all incidents/requests and performs first line investigation and diagnosis

b) **Event, Incident, and Problem Management** – logging, tracking, and diagnosing events (changes of state that may have significance), incidents (unplanned interruption or degradation of service) or problems (the cause of one or more incidents).

c) **Monitoring** – to detect the status of services and take appropriate action

d) **Service Measurement, Reporting and Service Level Management** - continuous monitoring, analysis, and reporting of service delivered versus committed service levels.

vi. **Strict Security Procedures** – Telcordia adheres to a set of stringent security procedures at all levels – from software design, data and access encryption, employee hiring and management processes, and physical data center security. [redacted] Additionally, the data center is annually audited to verify that the environment is secure and properly managed.

The Telcordia NPAC SMS Solution and architecture components described are for a single regional NPAC SMS. Benefits of this solution are applicable to a full nationwide deployment across all regions as well to a regional deployment supporting multiple LNPAs where each LNPA serves a unique subset of the regions.

The Telcordia NPAC SMS provides a highly reliable and scalable solution that effectively manages costs now and in the future resulting in savings for the Industry.

2 Introduction

This TRD Summary document contains Telcordia's Detailed Response to Section 12.1 of the 2015 LNPA Technical Requirements Document. Section 12.1 requested the following:

> Please attach a SUMMARY document explaining how the Respondent's proposal addresses the requirements defined in this TRD survey, and explain in detail any differences and suggested areas of improvement (as an example, reduction of BDD processing time), or enhancements which may affect the NPAC SMS implementation, ensuring the Respondent's proposal will not interfere with or degrade any porting/pooling activities.
>
> This summary document should also be used to include an explanation of any "No" responses.

This document summarizes why Telcordia is qualified to provide the NPAC SMS solution and how Telcordia's NPAC SMS Solution meets the identified requirements through our highly-reliable solution and disaster recovery architecture, customer-focused operations, and robustly secure procedures.

2.1 Terminology

The following provides definitions for the acronyms used throughout this document.

Term	Definition
ASN.1	Abstract Syntax Notation number One
ATIS	Alliance for Telecommunications Industry Solutions
BDD	Bulk Data Download
CMIP	Common Management Information Protocol
CMISE	Common Management Information Service Element
CPU	Central Processing Unit
DBMS	Database Management System
FAQ	Frequently Asked Questions
FCC	Federal Communications Commission
FRS	Functional Requirement Specification
FTP	File Transfer Protocol
GB	Gigabyte
GDMO	Guideline for Definition of Managed Objects
GUI	Graphical User Interface
HTTPS	Hypertext Transfer Protocol Secure
ICP	Inter-carrier Communication Process
IIS	Interoperable Interface Specification
IP	Internet Protocol
ISO	International Standards Organization

Term	Definition
IVR	Interactive Voice Response
J2EE	Java2 Enterprise Edition
LAN	Local Area Network
LATA	Local Access Transport Area
LNP	Local Number Portability
LNPA	Local Number Portability Administration
LRN	Location Routing Number
LSMS	Local Service Management System
LTI	Low Tech Interface
M&P	Methods and Procedures
Mbps	Megabits per second
NANC	North American Numbering Council
NANP	North American Numbering Plan. A 10-digit numbering scheme used in North America to uniquely identify a directory number.
NANPA	North American Numbering Plan Administrator
NAPM	North American Portability Management
NOC	Network Operations Center
NP	Number Portability
NPAC	Number Portability Administration Center
NPAC SMS	Number Portability Administration Center Service Management System
NPA-NXX-X	A range of 1000 pooled TNs within the NPA-NXX, beginning with a station of n000, and ending with n999, where n is a value between 0 and 9.
OBF	Ordering and Billing Forum
OSI	Open System Interconnection
OSS	Operational Support System
PSAP	Public Safety Access Point
QMO	Quality Method of Operation
RAC	Oracle Real Application Clusters
RDBMS	Relational Database Management System
RFP	Request for Proposal
SAN	Storage Array Network
sFTP	Secure FTP
SLR	Service Level Requirement
SMS	Service Management System

Term	Definition
SOA	Service Order Administration or Service Order Activation
SOAP	Simple Object Access Protocol
SP	Service Provider
SPID	Service Provider ID
SSAE	Statement on Standards for Attestation Engagements
TN	Telephone Number
WAN	Wide Area Network
WICIS	Wireless Inter-carrier Communication Interface Specification
WNP	Wireless Number Portability
XML	eXtensible Markup Language

3 Why Telcordia?: Quality Built on Experience

Transitioning the NPAC SMS support to a totally new vendor will prove to be the best-value, lowest-risk service option only if the new vendor is a rock-solid NAPM partner who can be relied upon to execute a seamless transition and provide a continuous quality service. Telcordia has for decades gained the broadest, deepest relevant experience during which we have built a set of best practices to the highest quality standards to position us as that singular, solid NAPM partner.

Telcordia Quality Policy: Quality, defined as Customer Satisfaction, is our number one priority.

Telcordia has a long history of designing and building our software products using an industry-recognized software development methodology that focuses on quality. This development methodology – our Quality Method of Operation (QMO) - is a component of the Telcordia Technologies Software Quality Management System, a three-tier set of process documentation that is certified to the ISO 9001:2008 standard and registered to the TL 9000 quality standard for the telecommunications industry. The SQMS provides the framework for developing software that meets our customer commitments and maintains the standards necessary to produce quality software.

Telcordia Software Quality Management System.

SunGard, Telcordia's data center and services partner, is one of the world's leading software and technology services companies. They provide software and technology services to telecommunications, financial services, education and public sector organizations. They also provide disaster recovery services, managed services, information availability consulting services and business continuity management software. SunGard serves approximately 25,000 customers in more than 70 countries. SunGard has a comprehensive Quality Assurance program in place, which consists of the internationally recognized ISO 9001:2008 standard and the Statement on Standards for Attestation Engagements (SSAE) No. 16 (which replaces the American Institute of Certified Public Accountants Statement on Auditing Standards (SAS) No. 70).

Telcordia together with SunGard have experience using certified methodologies to ensure a quality NPAC SMS software application is architected, designed, built, tested, and continually operated in order to satisfy the needs of the NAPM.

3.1 Experience

Telcordia has developed and implemented Number Portability-related Clearinghouse (NPAC SMS-like) and local system (SOA/LSMS-like) products in the US, Canada, and 17 other countries -- **covering more than 2 billion subscribers**, far surpassing any other vendor's breadth of performance, as further detailed in the Telcordia Response to the Vendor Qualification Survey component of the RFP [1].

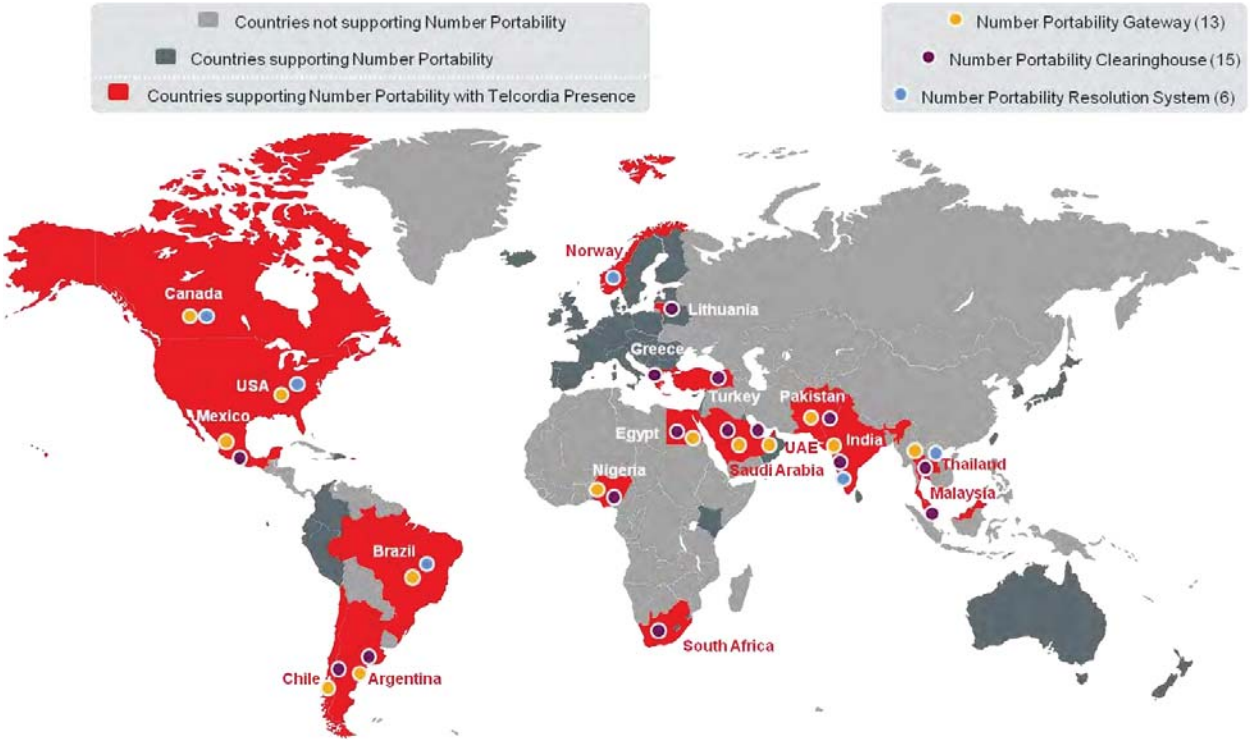

Figure 1 - Telcordia World Wide Number Portability Deployments

In India, Telcordia has successfully built and is operating an NPAC SMS-like clearinghouse in a regional configuration – the India regulator has divided the country into two distinct regions and selected different administrators to build and operate the NPAC SMS-like system, with Telcordia selected as one of the administrators. Telcordia has also built local systems for operators in India that have successfully integrated with the two NPAC SMS-like clearinghouses to provision and activate ports.

In the US and Canada, Telcordia is the leading developer of the SOA and LSMS local systems that wireline and wireless service providers use to interface with the NPAC SMS. The SOA supports the provisioning functionality needed to initiate ports or define network related data in the NPAC SMS, and supports much of the same validation processing that the NPAC SMS performs. The LSMS supports the activation functionality needed to deploy routing data for ported numbers into the network.

Over 90% of all wireless involved ports in the US and 100% in Canada use Telcordia gateways.

Telcordia actively participates in North American Number Portability Industry Standards bodies (today known as the LNPA Working Group and its subgroups) with efforts including:

- Initial support to define the NPAC SMS CMIP interface specifications, NPAC SMS functional requirements, testing needs and methods and procedures to support the initial rollout of LNP.
- Continuing support to define and vet the NPAC SMS functional, interface, testing, and methods and procedures (M & P) changes needed as the industry approves change orders adding or modifying NPAC SMS capabilities. This effort included the number pooling and one day porting change orders in the past as well as NANC 372, the Alternative Interface.
- Support of the adoption of wireless number portability for which we were a prime contributor in defining the ATIS/OBF Wireless Inter-carrier Communications Interface Specification (WICIS) and associated changes in NPAC SMS functionality to support wireless number porting. Telcordia is also the provider of the North American Number Portability Gateway for wireless carriers that

implements the functionality to support WICIS and integrates it with SOA functionality to seamlessly interface with the NPAC SMS. The Telcordia North American Number Portability Gateway supports over 90% of the wireless porting in the US and 100% of wireless porting in Canada.

- Defining the NPAC SMS changes needed to support a NPAC SMS peering architecture (NANC change order 437), where two or more LNPAs could support a single region. This peering architecture defined the interoperating requirements to support peering, defining the functional requirements changes and inter-NPAC SMS interoperable interface specifications needed to support messaging among multiple NPAC SMSs within a region. Telcordia led the industry over an 18 month period through a review of the peering change order documentation in a very open and transparent fashion to present this solution and vetted over 200 issues. The majority of technical issues raised were discussed and resolved resulting in the peering architecture found to be a technically feasible solution. This effort demonstrates Telcordia's comprehensive understanding of the NPAC SMS.

Through our past and continued support of the US number portability industry, Telcordia has consistently demonstrated that we understand the requirements and operations of the NPAC SMS and are qualified to deliver the NPAC SMS.

4 Telcordia NPAC SMS Solution Functionality

4.1 Full Conformance to Industry Requirements

Telcordia is building and will deliver a fully compliant NPAC SMS solution which:

1. Meets ***all*** of the requirements specified in the NANC Functional Requirements Specification (FRS) for the NPAC SMS [2] as referenced in the TRD. The Telcordia NPAC SMS is implementing the business logic represented by the requirements in the NANC FRS, including building the Low Tech Interface (LTI) that allows service providers and LNPA Administrative users to directly access the NPAC SMS to perform their authorized functions via a secure web-based GUI.

    - **NOTE**: As specified in Section 7.1.3 of the LNPA RFP document [2] concerning the Elimination of NPAC SMS support of Non-EDR, Telcordia is using the latest FRS Requirements (NANC Version 3.4.2a, released 2/8/2013 and includes NANC change order 448, NPAC Sunset of non-EDR) which has removed requirements related to non-EDR functionality.
    - Telcordia recognizes the importance of proper management of all of the Industry's assets. This ranges from the physical facilities required to manage/operate the NPAC SMS solution to the data contained within the service. The appropriate security and privacy must be maintained and evolved as new features are implemented. Although Security concerns are addressed in the Section 15.1 response to the LNP RFP Survey, Section 8 of this TRD Summary also contains this Security Response.

2. Implements the CMIP interfaces to SOA and LSMS systems as described in the NPAC SMS Interoperable Interface Specification (IIS). These interfaces allow service providers to remotely communicate with the NPAC SMS over a mechanized interface to provision and activate ported numbers and number pool blocks. These interfaces also support other functions such as auditing and network data provisioning.

    - The Telcordia NPAC SMS supports the NPAC SMS IIS Part 1 [3] which together with the GDMO and ASN.1 describes the managed objects, security, and protocol requirements supported on the CMIP interface.
    - The Telcordia NPAC SMS supports the NPAC SMS IIS Part 2 [4], which describes the message flows identifying the messages and their sequencing between NPAC SMS and the SOA/LSMS systems to perform various tasks supported by the NPAC SMS.

3. Implements NANC Change Order 372, Alternative Interface, which is defining an HTTPS/XML interface as an alternative to the CMIP interface [5]. Telcordia has been actively involved in the industry review process for the functional requirements and interface specifications for this interface as it proceeds through the change order process in the industry. Telcordia is also implementing NANC Change Order 447 supporting IPv6.

4.2 Additional Solution Features

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5 Telcordia NPAC SMS Solution Architecture

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5.1 Functional Architecture

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5.2 Hardware Architecture

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5.3 Telcordia NPAC SMS Solution Network Architecture

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6 Disaster Recovery Architecture

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6.1 Production System Failover

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6.2 Service Provider Connectivity Failover

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7 Telcordia NPAC SMS Operations Architecture

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7.1 Monitoring

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7.5 Identity and Access Management

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7.6 Billing

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7.7 Interactive Voice Response (IVR) System

As discussed in Section 6.9 of the 2015 LNPA RFP, Telcordia will provide an IVR system to allow authorized users, in a single call to the IVR system, to query and obtain Local Service Provider information (Local Service Provider Name and contact number (if available)) for up to a maximum of 20 telephone numbers (TNs) in a single call. The TNs can be ported, pooled, or non-ported. Authorized users include service providers, law enforcement agencies, and Public Safety Access Point Providers (PSAPs). Each authorized user (service provider, law enforcement agency, or PSAP) will be given a PIN to access the service.

. The IVR system will contain Service Provider contact data for each Service Provider. For each TN queried by a qualified user via the IVR, a query to the NPAC SMS DB or a secondary source would be initiated to determine the appropriate message response to provide the user – either the associated Service Provider contact data or “telephone number not ported”.

The IVR system will be able to record a detailed set of data for each call serviced, including the PIN of the user making the call, the TN(s) queried and results, and the start and end times of the call. Additionally the IVR system will be redundantly implemented in the Primary and Secondary Data Centers for Disaster Recovery purposes.

7.8 Enhanced Law Enforcement Platform

As discussed in Section 11.2 of the 2015 LNPA RFP, Telcordia will provide an Enhanced Law Enforcement Platform service to qualified law enforcement agencies and PSAPs that require access to NPAC SMS data beyond the IVR limitation of 20 TNs per access. This Platform is separate from the NPAC SMS and will provide both GUI and application protocol interface (API) access to qualified users through our secure website to retrieve information in bulk based on a range or list of TNs.

The Enhanced Law Enforcement Platform data elements that the service must make available are (as identified in Section 11.2 of the LNP RFP):

- NPAC SPID of the service provider associated with a TN
- Identity of that service provider
- The date on which the port(s) from one service provider (by NPAC SPID) to another service provider (by NPAC SPID) occurred with respect to that telephone number
- The current contact name and number for each service provider as submitted in any manner to the NPAC by each service provider as its law enforcement and/or emergency contact

[redacted]

7.9 Secure Website

A secure website, including password-administered access for all authorized users, provides a portal to access Telcordia NPAC SMS Solution information. This secure website is key for customers during the transition period as well as for ongoing production operations. This secure website provides:

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7.10 Secure FTP Site

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7.11 Intermodal Ported Number Identification sFTP Site

As discussed in Section 11.1 of the 2015 LNPA RFP, Telcordia will provide an intermodal ported number identification service to qualified limited user data recipients. This service allows qualified users to avoid engaging in Telephone Consumer Protection Act Prohibited Conduct (such as telemarketing to wireless numbers).

[redacted]

[redacted]

7.12 Public Website

Telcordia is also providing a public website which contains information on Number Portability and the NPAC role in Number Portability. It will also provide the information needed to become an NPAC user. All LNPA WG Best Practices will be available as well as a list and links to all public LNP documents including, but not limited to, the following:

- NPAC SMS FRS
- NPAC SMS IIS and XIS (XML Interface Specification for NANC 372)
- NPAC SMS GDMO and ASN.1 files
- NPAC SMS Industry Testing documents
- Current and Future NPAC SMS release information
- Relevant FCC Orders
- Link to Secure Website
- Links to other appropriate websites
- Other information as needed

8 Security

Telcordia recognizes the importance of proper management of all of the Industry's assets. This ranges from the physical facilities required to manage/operate the NPAC to the data contained within the service. The appropriate security and privacy must be maintained and evolved as new features are implemented (e.g. change order NANC 372, the alternate interface or new feature that may contain more sensitive user data, such as those that support VoIP, LTE and advanced features).

As a local system vendor, Telcordia has many years of experience with supporting the required security implementations and protecting our customers' assets across a large number of US service providers. One example of supporting application level security, Telcordia's North American Number Portability Gateway is deployed in individual service provider environments and is also deployed in a Service Bureau arrangement supporting over 100 clients, some whom access the system via mechanized interfaces and others who access via a Web-based GUI. The North American Number Portability Gateway ensures that only authorized clients can access the system through either interfacing mechanism, ensures that users or systems only access and invoke capabilities for which they are authorized, and ensures users or systems can only access and modify their own data with the appropriate logging and notifications.

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8.1 Meeting Data Center and Other Security Requirements

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8.1.2 Additional Security and Security Related Features

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8.2 Meeting FRS and IIS Security Requirements

8.2.1 Interface Security

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[redacted]

[redacted]

8.2.2 User Identification Management

[redacted]

8.2.3 User Authentication

The Telcordia NPAC SMS Solution provides a fully automated and complete NPAC user authentication function in full compliance with TRD Section 7.3 requirements. The Telcordia NPAC SMS establishes the validity of each service provider session be it a mechanized interface or LTI/Administrative GUI user session. [redacted]

Only authorized Telcordia personnel with Security Administration privileges are able to create or access user authentication information.

8.2.4 Access Control

[redacted]

[redacted]

[redacted]

8.2.5 Data and System Integrity

The Telcordia NPAC SMS Solution supports and enforces the data and system integrity requirements identified in TRD Section 7.5. [redacted]

[redacted]

[redacted]. All infrastructure, source and NPAC related software and data will be housed in Telcordia-controlled data centers within the US.

The following touches upon how we'll ensure integrity for various Telcordia NPAC SMS components.

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8.2.6 Audit Logs

The Telcordia NPAC SMS Solution supports the security audit requirements identified in TRD Section 7.6. Comprehensive audit logs or trails are employed to maintain a record of system activity by application processes and user activity. In conjunction with appropriate tools and procedures, audit trails provide a means to help accomplish the security-related objectives, including individual accountability, reconstruction of events, intrusion detection, and problem identification.

Auditing and Audit Logging capabilities include:

- Individual Accountability. The audit trail supports accountability by providing a trace of user actions. While users cannot be prevented from using resources to which they have legitimate access authorization, audit trail analysis can be used to examine their actions. Any unauthorized access is recorded and monitored.
- Reconstruction of Events. The audit trail supports after-the fact investigations of how, when, and why normal operations ceased.
- [redacted]
- Contents of Audit Trail Records. All audit trails include sufficient information to establish what event occurred and who (or what) caused them.

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8.2.7 OSI Security

The Telcordia NPAC SMS Solution supports the OSI security requirements identified in TRD Section 7.9.

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9 Summary

This document addresses question 12.1 of the TRD Survey, requesting a summary document explaining how the Respondent's proposal addresses the requirements defined in the TRD survey, as follows:

1. Telcordia and its Data Center Partner SunGard provide **demonstrated excellence** in building number portability applications and operating data centers around the world.

2. Telcordia's proposed NPAC solution **fully conforms to all requirements** in the NANC Functional Requirements Specification for the NPAC SMS and NPAC SMS Interoperable Interface Specifications. Telcordia's proposal includes additional add-on features in operational areas to enhance our clients' experience with our solution.

3. The Telcordia NPAC SMS Solution is built on **state-of-the-art distributed hardware and software** to enable [redacted]

5. The Telcordia NPAC SMS Solution will include **robust operational tools** that are built on best-in-class commercial off-the-shelf products that are aligned with Information Technology Information Library standards that leverage work processes that adhere to these best practices.

6. Telcordia adheres to **strict security procedures** at all levels – from software design, data and access encryption, employee hiring and management processes, and physical security – safeguarding all of our client's assets.

The Telcordia NPAC SMS Solution and architecture components described are for a single regional NPAC SMS. Benefits of this solution are applicable to a full nationwide deployment across all regions as well to a regional deployment supporting multiple LNPAs each serving a unique subset of the regions.

The Telcordia NPAC SMS provides a highly reliable and scalable solution that effectively manages costs now and in the future resulting in savings for the Industry.

10 References

1. Telcordia Response to the 2015 LNPA Vendor Qualification Survey, Section 3.3.1
2. North American Numbering Council (NANC) Functional Requirements Specification, Number Portability Administration Center (NPAC) Service Management System (SMS), Release 3.4.2a, February 8, 2013.
3. NPAC SMS Interoperable Interface Specification, NANC Version 3.4.2a (Part 1), February 28, 2013.
4. NPAC SMS Interoperable Interface Specification, NANC Version 3.4.2a (Part 2), March 31, 2013.
5. NPAC SMS XML Interface Specification, NANC Version 0.12, February 22, 2013.
6. Information Technology Infrastructure Library (ITIL): http://www.itil-officialsite.com/home/home.aspx

BAFO QUESTION 2.3

Best and Final Offer for National Fixed Rate Pricing - Option B

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10000 – Telcordia10002

BAFO QUESTION 2.5

Best and Final Offer for Regional Fixed Rate Pricing - Option B

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

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Best and Final Offer (BAFO) Survey Section 2 – BAFO Questions

BAFO Survey Question 2.6 – Best and Final Offer for the Protection of Privacy

CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT

With respect to all responses provided to BAFO Questions, please explain the policies, policy framework and measures that Respondent will use to protect the privacy and confidential information of NPAC customers and their respective subscribers, customers and end users.

Please also explain how these privacy policies and measures relate to, and will be integrated with, the data security proposal that Respondent previously provided in response to the RFP survey, Vendor Qualification Survey, and TRD survey.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 6, Respondent must answer "no" to this question.

Telcordia Response

The following is the Telcordia response to the above question on Protection of Privacy providing the policies, policy framework and measures that Respondent will use to protect the privacy and confidential information of NPAC customers and their respective subscribers, customers and end users.

Included in the response is how these privacy policies and measures relate to, and will be integrated with, the data security proposal that Respondent previously provided in response to the RFP Survey, Vendor Qualification Survey, and TRD Survey.

The following information is intended as an overview for clarification purposes. The information originally provided in the RFP Survey, Vendor Qualification Survey and the TRD Survey is still valid regarding the Telcordia Solution.

1.1 Introduction

The protection of privacy and confidential information of NPAC customers and their respective subscribers, customers and end users is of the utmost importance to Telcordia. Telcordia's commitment to ensuring and protecting the privacy and security of data shared with it is reflected in the original response to the RFP and the complementary information in this BAFO.

The Telcordia NPAC SMS Solution and Services will provide the data security to protect privacy and confidential information. As stated in the Telcordia response to RFP survey Question 15.1, Telcordia recognizes the importance of proper management of all of the Industry's assets. This ranges from the physical facilities required for the management/operation of the NPAC SMS to the data contained within the service. The appropriate security and privacy will be maintained and evolved as new features are implemented. Telcordia has many years of experience with supporting the required security implementations and protecting our customers' assets across a large number of US Service Providers.

The following lists the components (i.e., governance, policies, and audits) that safeguard privacy and confidential information.

- Governance of the Telcordia NPAC SMS Solution and Services is based on the IT Infrastructure Library (ITIL) framework.
- The policies under the governance framework implement the processes and measures defined by the governance framework and industry requirements such as
  - Master Agreements
  - NPAC SMS FRS, IIS, XIS, etc.
  - Ancillary services definitions
  - Vendor Code of Conduct
- Audits, such as SSAE 16 and ISO 20000-1, verify that the solution and related personnel adhere to the policies.

These components are described in further detail in subsequent sections. In addition, details of how these components relate to and are integrated with Telcordia responses to the RFP, VQS, and TRD are provided at the end of this response (Section 1.6).

Telcordia policies and procedures will protect the NPAC SMS application data as well as the physical security of the Data Center providing the Telcordia NPAC SMS Solution and Services. Regularly scheduled audits of the Telcordia NPAC SMS Solution and Services will be performed to ensure compliance with policies and procedures.

The information below provides an overview of the governance, policies/measures, and audits that the Telcordia NPAC SMS Solution and Services will use to protect privacy and confidential information. As an LNPA, Telcordia will engage on an ongoing basis with the Industry and the NAPM LLC to ensure the appropriate policies are implemented and maintained to protect the privacy and confidential information of NPAC customers and their respective subscribers, customers and end users as the Services continue to evolve.

1.2 Governance

Governance is the process by which policies are set and decision making is executed. [redacted]

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1.3 Policies Overview

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1.3.1 Security Administration Team

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1.3.2 Maintaining Data in the Continental United States

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1.3.3 Access Management

1.3.3.1 Interface Security

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1.3.3.2 Authentication of Users

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1.3.3.3 Access Control

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1.3.3.4 Data and System Integrity

Policies are limited not only to security but also to the ongoing operations of the Data Center physical infrastructure, the application and the associated data. These policies also provide and maintain the integrity and availability of the data. The governance policy will prescribe when scheduled maintenance of the application and infrastructure will take place in accordance with NPAM LLC SLAs. This will ensure that the Service will be available as the Industry requires.

The majority of changes to the NPAC/SMS software will originate from the LNPA Working Group. Other changes may originate from the Telcordia engineering team and the operations team to enhance application processing. New software releases of the NPAC/SMS system will be based upon industry-defined schedules.

Telcordia has a well-defined governance policy to control all changes made in the Data Centers in order to ensure there are no impacts to NPAC SMS Solution and Services customers. No changes will be made to the Data Center hardware or software without approval from a Telcordia Change Management Board, in coordination with the customer as shown described in Section 5.3 of the Telcordia response to RFP Section 12.3.

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1.3.4 [redacted]

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1.3.5 Security of the Data Center

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1.3.6 Vendor Code of Conduct

As indicated in the Telcordia response to RFP Section 12.1, all Telcordia employees follow the Ericsson Code of Business Ethics, which includes specific privacy and security provisions. In addition, our subcontractor, in its Global Business Conduct and Compliance Program, also has specific privacy and security provisions. Both documents are included as part of the original RFP response in VQS Section 3.5. Furthermore, all employees involved with the Telcordia NPAC SMS Solution and Services will follow an LNPA Code of Conduct, such as the one proposed in the Telcordia response. Telcordia will engage with the NAPM LLC to review and refine the LNPA Code of Conduct, as appropriate.

As LNPA, Telcordia will retain all decision making authority regarding LNPA services; any subcontractor will provide services to the specific direction of the LNPA and will not have discretionary decision making authority regarding LNPA services.

1.3.7 Neutrality

At all times, Telcordia and its subcontractor engaged in providing the Telcordia NPAC SMS Solution and Services will be a Neutral Third Party, as described in VQS Section 3.4. Telcordia and its subcontractor engaged in providing the NPAC Solution and Services are impartial and are not aligned with any particular telecommunications industry segment. Telcordia and its subcontractor engaged in providing the NPAC Solution and Services can assure that access to the NPAC/SMS for all qualified Users will be at all times evenhanded, impartial and nondiscriminatory.

The Telcordia response to VQS Section 3.5 included a Legal Opinion to substantiate the neutrality of Telcordia and its subcontractor engaged in providing the NPAC Solution and Services.

As described in Section 3.2.6.3 of the Telcordia response to RFP Section 15.1, a Neutrality Assurance team will ensure neutral performance of the LNPA's responsibilities and continuous compliance with the neutrality assurance plan.

1.4 Auditing and Reporting Related to Protection of Privacy and Confidential Information

To ensure that policies are being followed, procedures and personnel are audited on a scheduled basis. [redacted]

1.4.1 Audits Required Under Master Agreements

[redacted]

[redacted]

1.4.2 ISO 20000-1

[redacted]

1.4.3 Data Center Audits (SSAE 16)

[redacted]

1.4.4 Neutrality Reviews

Telcordia will engage a third party to conduct reviews of the LNPA's neutrality every six months in every region and deliver a legal opinion substantiating the LNPA's neutrality during that six month period. This report will be delivered to the NAPM LLC and FCC. RFP Section 4.2 and Telcordia's response provide additional details of Neutrality Reviews.

1.5 Summary

The Telcordia NPAC SMS Solution and Services is fully compliant with all requirements related to privacy and confidential information. This response describes the governance, policies/measures, and audits that protect privacy and confidential information.

The protection of privacy and confidential information of NPAC customers and their respective subscribers, customers and end users is of the utmost importance. The Telcordia NPAC SMS Solution and Services provide the data security to protect privacy and confidential information. As stated in the Telcordia response to RFP Section 15.1, Telcordia recognizes the importance of proper management of all of the Industry's assets. This ranges from the physical facilities required for the management/operation of the NPAC SMS to the data contained within the service. The appropriate security and privacy will be maintained and evolved as new features are implemented. Telcordia has many years of experience with supporting the required security implementations and protecting our customers' assets across a large number of US Service Providers.

As an LNPA, Telcordia will be engaged on an ongoing basis with the Industry and the NAPM LLC to ensure the appropriate policies are implemented and maintained to protect the privacy and confidential information of NPAC customers and their respective subscribers, customers and end users as the NPAC services continue to evolve.

The previously submitted Telcordia response to the LNPA RFP and the complementary information provided in this BAFO demonstrate Telcordia's ability to fulfill all LNPA RFP requirements for Protection of Privacy and Data Security.

1.6 Summary of Telcordia Protection of Privacy and Data Security Proposals in VQS, RFP, and TRD

The Protection of Privacy and Data Security Requirements in the tables below are a brief summary of what was provided in the survey documents.

In the tables below, Telcordia has highlighted the main requirements regarding the Protection of Privacy and Data Security in the RFP surveys. This does not change or modify any of the responses Telcordia has already submitted in its response to the RFP.

VQS Survey:

Section Number	Protection of Privacy and Data Security Requirement	Telcordia Comments
3.4 and 3.5	Neutrality Requirements requiring Submittal of Legal Opinion	Legal Opinion submitted in original response and will be audited in accordance with the LNPA Contract
3.6.8	LNPA must submit request to be a User of the NPAC/SMS following the NUE Process	Agreed to comply
3.6.14	Provision of disaster recovery plans for Data Centers to ensure data on the NPAC/SMS is recoverable at all times	Agreed to comply and perform required audits and testing
3.6.15	NPAC/SMS servers and Data Centers and NPAC /SMS User Data must be maintained and stored in the continental US. No data relating to any such service will be stored, at, in, or through a site located outside of the continental US.	Agreed to comply
3.6.18	LNPA on behalf of itself and any subcontractors must agree that User Data shall be maintained as confidential information and may not be used or commercially exploited in any manner other than the performance of the LNPA's obligations under the Master Agreements and User Agreements subject to certain regulatory requirements or in certain cases, under the consent of the NAPM LLC as set forth in the Master Agreements	Agreed to comply

The processes and procedures that are discussed in this BAFO response fully support meeting the above requirements in the VQS survey.

RFP Survey:

Section Number	Protection of Privacy and Data Security Requirement	Telcordia Comments
4.2	Neutrality Review and Audits	Agreed to comply
4.4	LNPA NPAC/SMS Data Center Operations Audit on annual basis with provision of at least two redundant NPAC/SMS Data Centers separated geographically within continental US	Agreed to comply
4.6	Benchmarking Process	Agreed to comply
5	Administer User access to the NPAC/SMS following the requirements of the Master Agreement and the NUE Process	Agreed to comply
6.7	Data Center Security covering physical access and maintaining NPAC/SMS User Data in the continental US	Agreed to comply and support required audits
9	Service Level Requirements • SLR 17 System Security- Security Error Log • SLR 18 System Security – Remedy Invalid Access Event	Agreed to comply to all SLRs
11.1	Intermodal Ported Telephone Number Identification Service managing selection process of users and only providing access certain User Data elements as defined in the Master Agreement.	Agreed to comply
11.2	Enhanced Platform for Law Enforcement Agencies and Public Safety Answering Point Providers	Agreed to comply
12.1	Vendor Code of Conduct	Agreed to comply and provided requested materials
12.3	Transition and Implementation Plan	Provided plan with associated security organization
15	Optional Attachments	Section 2.4 in this document covered the security capabilities that will be offered and followed consistent with the RFP Survey requirements

The processes and procedures that are discussed in this BAFO response fully support meeting the above requirements in the RFP survey.

TRD Survey:

Section Number	**Protection of Privacy and Data Security Requirement**	**Telcordia Comments**
FRS Section 3 Sub Section 3.4	R3-15 LNPA must provide a Secure FTP Site for Database Extracts	Agreed to comply
FRS Section 7 Security	Covers all FRS security requirements	Agreed to comply. In addition to the overall security requirements, this section covers all existing NPAC SMS interfaces. The requirements for XML were not finalized in the FRS when the RFP was issued. Telcordia in its response agreed to XML interface which includes the security requirements.
12	TRD Detailed Response	Section 8 of that response covers security and its compliance with the TRD requirements.

The processes and procedures that are discussed in this BAFO response fully support meeting the above requirements in the TRD survey.

Welcome, Joel Zamlong with Telcordia Technologies Inc Logout

Home > Current Projects > 431766 - LNPA RFP > Project Package > Survey-2015-LNPA-BAFO

Survey-2015-LNPA-BAFO
Survey Deadline: 9/18/2013 11:59:59 PM

A survey is a simple way for a project sponsor to gather information about your company to determine the possibility of doing business. These surveys typically include general questions about the company, specifications of goods and services to be provided, expertise, and other questions specific to the sponsor. You have been invited to respond to this survey.

Please note: Your response has been submitted to the sponsor. It is final and may not be edited.

1. Introduction

1.1

STATEMENT:

Request for Best and Final Offers

CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT

Pursuant to Section 13.6 of the 2015-LNPA-RFP-1 survey (RFP Survey), the Future of the NPAC Subcommittee (FoNPAC), an advisory committee of the North American Portability Management LLC (NAPM LLC), requests best and final offers as expressly set forth in this survey (BAFO Survey). Unless otherwise expressly provided in this BAFO Survey, capitalized terms have the meanings set forth in the RFP Survey. All responses to this BAFO Survey become the property of the NAPM LLC upon submission. This BAFO Survey and all responses thereto will be treated as Confidential Information in accordance with the terms of the confidentiality agreement by and between the NAPM LLC and the Respondent.

STATEMENT:

BAFO Survey Response Instructions

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1. All responses to this BAFO Survey must be submitted through the Iasta® SmartSource SRM® Tool.

2. All responses to this BAFO Survey must be complete, truthful, and accurate. Material misrepresentations or omissions may result in disqualification or reductions in scoring.

3. Every question in the BAFO Survey must be answered before a response can be submitted in the Iasta® SmartSource SRM® Tool.

1.2

4. Substantive responses to BAFO Questions 2.1 through 2.6 must be provided in attachments that, apart from the response to BAFO Question 2.6, use the same format provided in Section 14.2 of the RFP Survey.

5. Each page of any attachment submitted in response to this BAFO Survey must state: (a) "Request for Proposal No. 2015-LNPA-BAFO"; (b) the number of the BAFO Question to which the attachment responds; and (c) "CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT".

6. Responses to this BAFO Survey submitted by the Respondent through IASTA® SmartSource SRM® Tool supersede any conflicting responses by the Respondent to the Request for Proposal (RFP) Survey, the Vendor Qualification Survey (VQS), or the Technical Requirements Document (TRD) Survey.

7. All responses to this BAFO Survey must be submitted in the Iasta® SmartSource SRM® Tool on or before 23:59:59 EDT on the September 18, 2013 (BAFO Deadline) in accordance with Section 1.4 of this BAFO Survey. Responses submitted after the BAFO Deadline will not be considered.

8. In exchange for consideration of a Respondent's submission to this BAFO survey, Respondent agrees by such submission to indemnify and hold harmless the NAPM LLC, the FoNPAC, its employees, officers, agents, contractors, consultants, Members, and counsel from and against any and all liabilities, demands, damages, expenses and losses arising from such submission and any subsequent award or decision not to award a contract pursuant to the RFP or the vendor selection process. The Respondent shall be solely responsible for any claims, costs, or damages it incurs in connection with all submissions of and responses to this BAFO survey.

9. All questions about this BAFO Survey must be posted in the on-line "Forum" in the Iasta® SmartSource SRM® Tool. The FoNPAC will answer questions posted on the Forum as soon as possible. Please note that all questions and answers can be viewed by any party with access to this BAFO survey in the Iasta® SmartSource SRM® Tool.

STATEMENT:

BAFO Process Time Line Telcordia10019

1.3

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The timeline for the BAFO process is as follows:

08/16/2013 BAFO survey open in Iasta® SmartSource SRM® Tool

09/18/2013 BAFO survey closes and must be submitted in the Iasta® SmartSource SRM® Tool at 23:59:59 EDT

Pursuant to Section 1.5 of the RFP Survey, the FoNPAC reserves the right to modify or adjust the dates in the timeline, or otherwise change or amend the timeline, with the consent of the Federal Communications Commission (FCC).

1.4*

QUESTION:

Respondent BAFO Acknowledgement

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By submitting a response to this BAFO Survey, Respondent acknowledges and agrees to all of the terms and conditions set forth in all of the RFP surveys, including the RFP Survey, VQS, TRD Survey, and this BAFO Survey.

Acknowledged

2. BAFO QUESTIONS

2.1*

QUESTION:

BAFO QUESTION 1: Best and Final Pricing Offer for original proposal(s) submitted in response to Section 14 of the RFP Survey

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With respect to the original proposal(s) submitted in response to Section 14 of the RFP Survey, please:

(a) provide Respondent's best and final offer with respect to pricing; and

(b) specifically identify all non-pricing changes to the original proposal(s), if any, that the best and final offer for BAFO Question 1 reflects.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 1, Respondent must answer "no" to this question.

YES

Optional Comments:

The Telcordia responses to this BAFO Question 1 are provided in the responses to BAFO questions 2 through 5 in sections 2.2, 2.3, 2.4 and 2.5, respectively.

Optional Attachments:

2.2*

QUESTION:

BAFO QUESTION 2: Best and Final Offer for National Fixed Rate Pricing - Option A

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Please provide your best and final offer for serving all seven (7) NPAC Regions based on fixed rate pricing that:

(a) excludes all annual price escalators, all transaction volume floors, all transaction volume ceilings, any recovery of any unpaid user invoices from the rest of the industry, and all credits or incentives of any kind; and

(b) includes all Statements of Work (SOWs).

Specifically identify all non-pricing changes to the original proposal(s), if any, that the best and final offer for BAFO Question 2 reflects.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 2, Respondent must answer "no" to this question.

YES

Optional Comments:

The Telcordia Best and Final Offer for National Fixed Rate Pricing which includes all the points noted in items (a) and (b) is provided in the attachment. The offer does not change any of the responses to non-pricing items that Telcordia provided in its already submitted offer to the LNPA RFP. The details of the BAFO offer are included in the attachment following the format specified in section 14.2 of the LNPA RFP as requested.

Optional Attachments:

BAFO QUESTION 2.2 - Best and Final Offer for National Fixed Rate Pricing - Option A.xlsx (18 KB)

2.3*

QUESTION:

BAFO QUESTION 3: Best and Final Offer for National Fixed Rate Pricing - Option B

CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT

Please provide your best and final offer for serving all seven (7) NPAC Regions based on:

(a) fixed rate pricing that excludes all annual price escalators, all transaction volume floors, all transaction volume ceilings, any recovery of any unpaid user invoices from the rest of the industry, all credits or incentives of any kind, and all SOWs; and

(b) separate pricing for SOWs (please explain in detail your proposal for separately pricing SOWs).

Specifically identify all non-pricing changes to the original proposal(s), if any, that the best and final offer for BAFO Question 3 reflects.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 3, Respondent must answer "no" to this question.

YES

Optional Comments:

The Telcordia Best and Final Offer for National Fixed Rate Pricing which includes all the points noted in items (a) and (b) is provided in the first attachment. The offer does not change any of the responses to non-pricing items that Telcordia provided in its already submitted offer to the LNPA RFP. The details of the BAFO offer are included in the first attachment following the format specified in section 14.2 of the LNPA RFP as requested.

In this question, item (b), separate pricing for SOWs (please explain in detail your proposal for separately pricing SOWs) is requested. We assumed that the referenced SOWs are those in section 7.2 of the LNPA RFP Survey which are titled Future Considerations. The specific LNPA RFP 7.2 SOWs are:
1. Automation of Processes Between NPAC and PAS
2. Combining Steps for Intra-Service Provider Ports
3. Inter Carrier Communications
4. Future Regulatory Mandated Changes
5. PSTN to IP

In its originally submitted response to section 7.3 of the LNPA RFP survey, Telcordia describes the approach and functionality to be delivered for each of the SOWs, listed above, based on agreement on the requirements reached with the industry for each of the items.

[redacted]

The first attachment (BAFO QUESTION 2.3 - Best and Final Offer for National Fixed Rate Pricing - Option B.xlsx) provides the BAFO pricing with the SOWs not included.

The second attachment (BAFO QUESTION 2.3 - Best and Final Offer for National Fixed Rate Pricing - Option B.pdf) provides further details on the separately priced SOWs.

Optional Attachments:

- BAFO QUESTION 2.3 - Best and Final Offer for National Fixed Rate Pricing - Option B.xlsx (18.1 KB)
- BAFO QUESTION 2.3 - Best and Final Offer for National Fixed Rate Pricing - Option B.pdf (207.4 KB)

2.4*

QUESTION:

BAFO QUESTION 4: Best and Final Offer for Regional Fixed Rate Pricing - Option A

CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT

Please provide your best and final offer for serving any combination of NPAC Regions having approximately fifty (50) percent of the cumulative national NPAC transactions based on fixed rate pricing that:

(a) excludes all annual price escalators, all transaction volume floors, all transaction volume ceilings, any recovery of any unpaid user invoices from the rest of the industry, and all credits or incentives of any kind; and

(b) includes all Statements of Work (SOWs).

Specifically identify all non-pricing changes to the original proposal(s), if any, that the best and final offer for BAFO Question 4 reflects.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 4, Respondent must answer "no" to this question.

YES

Optional Comments:

The Telcordia Best and Final Offer for Regional Fixed Rate Pricing which includes all the points noted in items (a) and (b) is provided in the attachment. The offer does not change any of the responses to non-pricing items that Telcordia provided in its already submitted offer to the LNPA RFP. The details of the BAFO offer are included in the attachment following the format specified in section 14.2 of the LNPA RFP as requested.

Optional Attachments:

BAFO QUESTION 2.4 - Best and Final Offer for Regional Fixed Rate Pricing - Option A.xlsx (18.2 KB)

2.5*

QUESTION:

BAFO QUESTION 5: Best and Final Offer for Regional Fixed Rate Pricing - Option B

CONFIDENTIAL UNDER NON-DISCLOSURE AGREEMENT

Please provide your best and final offer for serving any combination of NPAC Regions having approximately fifty (50) percent of the cumulative national NPAC transactions based on:

(a) fixed rate pricing that excludes all annual price escalators, all transaction volume floors, all transaction volume ceilings, any recovery of any unpaid user invoices from the rest of the industry, all credits or incentives of any kind, and all SOWs; and

(b) separate pricing for SOWs (please explain in detail your proposal for separately pricing SOWs).

Specifically identify all non-pricing changes to the original proposal(s), if any, that the best and final offer for BAFO Question 5 reflects.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 5, Respondent must answer "no" to this question.

YES

Optional Comments:

The Telcordia Best and Final response to its offer for Regional Fixed Rate Pricing which includes all the points noted in items (a) and (b) is provided in the first attachment. The offer does not change any of the responses to non-pricing items that Telcordia provided in its already submitted offer to the LNPA RFP. The details of the BAFO offer are included in the first attachment following the format specified in section 14.2 of the LNPA RFP as requested.

In this question, item (b), separate pricing for SOWs (please explain in detail your proposal for separately pricing SOWs) is requested. We assumed that the referenced SOWs are those in section 7.2 of the LNPA RFP Survey which are titled Future Considerations. The specific LNPA RFP 7.2 SOWs are:

1. Automation of Processes Between NPAC and PAS
2. Combining Steps for Intra-Service Provider Ports
3. Inter Carrier Communications
4. Future Regulatory Mandated Changes
5. PSTN to IP

In its originally submitted response to section 7.3 of the LNPA RFP survey, Telcordia describes the approach and functionality to be delivered for each of the SOWs, listed above, based on agreement on the requirements reached with the industry for each of the items.

[redacted]

The first attachment (BAFO QUESTION 2.5 - Best and Final Offer for Regional Fixed Rate Pricing - Option B.xlsx) provides the BAFO pricing with the SOWs not included.

The second attachment (BAFO QUESTION 2.5 - Best and Final Offer for Regional Fixed Rate Pricing - Option B.pdf) provides further details on the separately priced SOWs.

Optional Attachments:

BAFO QUESTION 2.5 - Best and Final Offer for Regional Fixed Rate Pricing - Option B.xlsx (18.3 KB)
BAFO QUESTION 2.5 - Best and Final Offer for Regional Fixed Rate Pricing - Option B.pdf (206.9 KB)

2.6*

QUESTION:

BAFO QUESTION 6: Best and Final Offer for the Protection of Privacy

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With respect to all responses provided to BAFO Questions, please explain the policies, policy framework and measures that Respondent will use to protect the privacy and confidential information of NPAC customers and their respective subscribers, customers and end users.

Please also explain how these privacy policies and measures relate to, and will be integrated with, the data security proposal that Respondent previously provided in response to the RFP survey, Vendor Qualification Survey, and TRD survey.

If Respondent does not wish to submit a best and final offer in response to this BAFO Question 6, Respondent must answer "no" to this question.

YES

Optional Comments:

In its previously submitted proposal to the LNPA RFP, Telcordia responded to all the questions regarding Protection of Privacy. In response to this question, Telcordia is providing further details to explain the policies, policy framework and measures that the Respondent will use to protect the privacy and confidential information of NPAC customers and their respective subscribers, customers and end users. The attachment also explains how these privacy policies and measures relate to, and will be integrated with, the data security proposal that Respondent previously provided in response to the RFP survey, Vendor Qualification Survey, and TRD survey.

Optional Attachments:

BAFO QUESTION 2.6 - Best and Final Offer for the Protection of Privacy.pdf (280.4 KB)

2.7*

QUESTION:

BAFO QUESTION 7: Best and Final Offer for Negotiation Expenses

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With respect to each of Respondent's proposals, would Respondent pay the substantiated and reasonable expenses of the NAPM LLC associated with negotiation of the Master Agreements for each NPAC region awarded to Respondent, including (a) NAPM LLC attorneys' fees and expenses (including travel and lodging), and (b) the travel and lodging expenses of the NAPM LLC Member representatives, so long as such expenses do not exceed the expenses of the Respondent associated with negotiation of the Master Agreements for each NPAC region awarded to Respondent, including (a) Respondent's attorneys' fees and expenses (including travel and lodging), and (b) the travel and lodging expenses of the Respondent representatives? To the extent necessary, Respondent may provide further explanation in an attachment.

YES

Optional Comments:

Telcordia would pay substantiated and reasonable expenses of the NAPM LLC associated with negotiation of the Master Agreements for each NPAC region awarded to Respondent, including (a) NAPM LLC attorneys' fees and expenses (including travel and lodging), and (b) the travel and lodging expenses of the NAPM LLC Member representatives, so long as such expenses do not exceed the expenses of the Respondent associated with negotiation of the Master Agreements for each NPAC region awarded to Respondent, including (a) Respondent's attorneys' fees and expenses (including travel and lodging), and (b) the travel and lodging expenses of the Respondent representatives.

Optional Attachments:

Please note: Your response has been submitted to the sponsor. It is final and may not be edited.

BAFO QUESTION 2.2

Best and Final Offer for National Fixed Rate Pricing - Option A

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10026

BAFO QUESTION 2.3

Best and Final Offer for National Fixed Rate Pricing - Option B

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10027

BAFO QUESTION 2.4

Best and Final Offer for Regional Fixed Rate Pricing - Option A

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10028

BAFO QUESTION 2.5

Best and Final Offer for Regional Fixed Rate Pricing - Option B

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10029

RFP_Section 14.2

Allocable Charges (Offer 1of2, Combined)

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10330

RFP_Section 14.2

Allocable Charges (Offer 2of2, Reg Combo)

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10331

RFP_Section 14.3

Direct Charges (Offer 1of2 Combined)

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10332

RFP_Section 14.3

Direct Charges (Offer 2of2, Regional Combination)

ENTIRE DOCUMENT IS

HIGHLY CONFIDENTIAL

Telcordia10333