

WORKPAPER 3

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OSS Cost Recovery for Number Pooling

System Cost Estimate

Functional Area	Application Name	Application Description	2000 Cost	2001 Cost	2002 Cost	2003 Cost	2004 Cost	2005 Cost	Total Cost	Description of New Developments and Enhancements	
Network Rtnng	Expense - Shared										
	NPAC	Western Region Numbering Administration System Release 3.0	##	##	##	##	##	##	##	## \$65,386 per month - U S WEST 30% allocation of Western Region LLC monthly charges, assumes that 1K Pooling cost allocation will be the same as LNP Initial payment due approximately October '2000', with the final payment due in September '2002'	
	NPAC - Admin Cost	Western Region Numbering Administration System 3.0	##	##	##	##	##	##	##	## Ongoing administrative costs are based on \$2 16 per pooled telephone number, which would be allocated in the same manner as the NPAC/SMS, with approximately 30% allocation to U S WEST. *The ongoing administrative costs will continue past 1Q 2003, although the NPAC/SMS agreement will be renegotiated by that time. Therefore, for purposes of this cost recovery spreadsheet the quarterly costs beyond 1Q2003 remain fixed at the 1Q 2003 level.	
	NPAC - v1.4	NPAC 1.4 cost are included because we assume that State Trials will start prior to implementing NPAC v3.0	##	##	##	##	##	##	##	## NPAC v 1.4 cost for 1K pooling - \$158,103 is U S WEST's portion. We will turn up the pooling feature in October, so IT spread the cost over the next 30 months at a monthly cost \$5,270.	
Network Rtnng	Expense - Recoverable										
	Leased worker charges for Number Pooling deployment for NPAC and SOA/LSMS	Resources required to install, test, and deploy the SOA/LSMS and interface with the NPAC v3.0. Interoperability Test all three US WEST Regions	0	1,871,000	1,871,000	0	0	0	0	3,742,000	
	Deployment Headcount for NPAC and SOA/LSMS	Resources required to install, test, and deploy the SOA/LSMS and interface with the NPAC v3.0.	180,000	270,000	90,000	0	0	0	0	540,000	This includes cost to support Industry NPAC v3.0 to ASMS v4.0 test, Internal Compliance Test, monitor the links to the NPAC, NPAC Correct and re-validate and to install and test future releases of the SOA/LSMS.
	LSMS Interface and Event Manager	The LSMS/SOA interface and Event Manager which will also link to LSMS/SPACE will provide access to the critical status data being supplied by NPAC broadcasts.	0	250,000	0	0	0	0	0	250,000	It is essential for service order transmission completion validation and NPAC work completion validation
	LNP Database	New database used to determine which switches can handle pooled in NPA/NXX-Xs	0	250,000	0	0	0	0	250,000	Identifies which switches are 'pool in' capable	
Program Office	Expense - Recoverable										
	IT's Core Number Pooling Team	IT resources required to support the US WEST implementation of Number Pooling	1,707,518	3,165,043	3,165,043	0	0	0	8,037,604	Costs are associated with headcount required to support the Number Pooling Program Office (Director, Project Manager/Account Managers, Architects, Analyst, Program Manager, PMA, AA and Financial Manager)	

Functional Area	Application Name	Application Description	2000 Cost	2001 Cost	2002 Cost	2003 Cost	2004 Cost	2005 Cost	Total Cost	Description of New Developments and Enhancements	
TN Administration	Expense - Recoverable										
	Development - new reporting and forecasting system	A new application to support donating and receiving 1K blocks, Reporting and forecasting	1,500,000	0	0	0	0	0	1,500,000	Identifies 1K blocks and the level of contamination. Will also report on the FCC required definitions of number category usage. Provide forecasting capability.	
Manual Trials	Expense - Recoverable										
	State Mandates	Develop interim systems mechanization to support trial. Also provide resources and processes to support trial's manual workarounds.	2,048,000	14,507,000	0	0	0	0	16,555,000	State Mandate support will be supplied by 70% employees and 30% consultants. Rate was calculated at \$68.68 for employees and \$125 for consultants. Each state mandate will require 25 headcount to support systems fall-out and manual provisioning of service orders. If multiple states within a USW region are allowed to perform a state trial we assume that the first state will require 25 resources with each additional state requiring 10 incremental resources. Number of state mandates US WEST will support as a manual implementation is estimated at 6 states. (AZ, CO, MN, OR, UT, WA) per Mike Whaley's 5-10-00 Draft Schedule doc. IT estimates full system mechanization will be available by 11/1/2001. Headcount will be ramped up 1 month prior to the start of state mandate.	
PROVISIONING	Expense - Recoverable										
	Telecordia Systems License Fees		##	##	##	##	##	##	##		
	SOAC (all regions)	Service Order Analysis and Control. SOAC is the hub of the service order provisioning systems flow and provides service order routing to the SOA/LSMS, inventory, activation, and billing systems.	##	##	##	##	##	##	##	##	SOAC will process the new Pooling FIDs and send to the appropriate systems. Routing tables and the LRN determination tables will be expanded to support the allocation to a wire center and switching machine at less-than-NXX level. SOAC will also send the new FIDS to PAWS when errors occur for orders involving the Pooled TNS
	LFACS (All regions)	Loop Facility Assignment and Control. Provides cable pair information for local loops to SOAC. It does a lookup for addresses, terminals, and services and sends the information to SOAC.	##	##	##	##	##	##	##	##	No changes required
	PAWS (All Regions)	Provision Analysis Workstation System. Provides manual corrections for service orders that do not automatically flowthru the provisioning systems.	##	##	##	##	##	##	##	##	Required modifications to support corrections for any Pooled service orders.

Functional Area	Application Name	Application Description	2000 Cost	2001 Cost	2002 Cost	2003 Cost	2004 Cost	2005 Cost	Total Cost	Description of New Developments and Enhancements
	SWITCH (All Regions)	The SWITCH system takes the telephone number information from CNUM, cable pair information from LFACS and guides the information to the correct network location.	##	##	##	##	##	##	##	## System will provide a new utility to handle donating and receiving Pooled 1K blocks. Moving contaminated numbers with LRN to Ad-Hoc inventory
	WFA/C (All Regions)	Work and Force Administration/Control. Mechanizes the administration of the installation and maintenance of designed and non-designed circuits. Directs the flow of work items to WFA/DI and WFA/DO	##	##	##	##	##	##	##	## WFA/C required modifications to identify pooled in numbers and pooled out numbers to the WFA/DO and WFA/DI systems.
	WFA/DI (All Regions)	Work and Force Administration/Dispatch In. Automates the work assignments of technicians in the centers. Assists in pricing, loading, and tracking work requests.	##	##	##	##	##	##	##	## No changes required
	WFA/DO (All Regions)	Work and Force Administration/Dispatch Out. Automates the support of the dispatch function for outside plant installation, maintenance, and routine work. It provides screening, pricing, mapping, routing, scheduling, and loading functions	##	##	##	##	##	##	##	## No changes required
	CNUM (All Regions)	Telephone number administration.	##	##	##	##	##	##	##	## CNUM will provide batch utility that can be initiated from the GUI screen that will be used to set the correct status on Pooled Out number, Pooled In numbers and contaminated numbers. The System will also store a Pooled indicator
Internal Systems Development	Expense - Recoverable									
	PM, Testing, Support, small systems development	Project management, systems testing, integrated testing with business units and network, and industry level testing.	330,000	750,000	750,000	0	0	0	1,830,000	
	New Development to support Cause Code 26 CNUM, SWITCH, ASMS and NEs	Misrouted call error handling - Allows US WEST to accommodate misrouted calls that are received by other networks providing the caller with an announcement that the dialed number has been ported and/or pooled.	##	##	##	##	##	##	##	## This new system must have the capability to synchronize data contained in CNUM, ASMS, SWITCH and the Network Element and provision that information in a trigger like mechanization through MARCH, so that the network has the intelligence to route misrouted calls. Cost estimates are based on internal development cost. If we are unable to have access into Telecordia systems to effectively develop a system that supports Cause Code 26, then we will ask Telecordia to develop a solution, which will more than likely increase cost.

Functional Area	Application Name	Application Description	2000 Cost	2001 Cost	2002 Cost	2003 Cost	2004 Cost	2005 Cost	Total Cost	Description of New Developments and Enhancements
	New Development to support the FCC reporting requirements for both pending and reserved numbers	New database and front end system that will alert the Service Delivery Consultants that a TN is about to expire the 5 day Pending and 45 day Reserve thresholds	1,000,000	0	0	0	0	0	1,000,000	System must be able to query CNUM, SOPS and CRIS to identify the TNs that are about to expire the reporting threshold and alert the Service Delivery Consultants
	SOPAD, SOLAR, RSOLAR and SONAR	Manages all service orders for each US WEST region. Each service order is validated and distributed to downstream systems. The Service Order Processor maintains a status of a service order from initiation to completion.	1,750,000	5,750,000	0	0	0	0	7,500,000	For every service order written with a 'Pooled In' TN, the SOPS must have the capability to auto populate the Pool FID and the Exchange Key.
	Other Systems (SDTM, ROMS, Location Database and FAS)	Systems that may require minimal changes	500,000	500,000	500,000	0	0	0	1,500,000	Most of this systems have already been enhanced to support LNP and those enhancements should apply for Number Pooling
	APRIL	Automated activation system for line side translations to the network element.	100,000	400,000	400,000	0	0	0	900,000	Set LSA triggers and provide appropriate updates to the network elements based on the exchange key and Pool FID
	LSDB	Location Shared Data Base. This is a new data base created specifically to communicate new NPANXXs for LNP to the Legacy Systems and Network translators for correct and timely LN setup.	100,000	100,000	100,000	0	0	0	300,000	Change database view to report at NXX-X level
	RTT	Referral Tracking tool. Tracks held orders in all regions greater than 30 days.	50,000	50,000	50,000	0	0	0	150,000	Report held orders at NXX-X level
	Facility Check, Network Information Applet	This is a group of applications that supports spare facilities for additional lines and services.	150,000	150,000	150,000	0	0	0	450,000	Added Donate and Receive capabilities to Facility Check for Pooling support. The Network Information Applet is a application which provides rate center information to the Pooling Administrator to support requesting new 1K blocks
	Magic	Service order error correction service supporting all retail markets channels (consumer, small and large business)	200,000	0	0	0	0	0	200,000	Enhancements needed to track and correct errors associated with pooled in numbers. Enhancements will also include a way to auto generate "R" record orders to handle contamination of donated 1K blocks
	Network Information Applet (NIA)	A front end application that provides customer contact personnel with the necessary information to determine whether number portability can be offered to a U S WEST customer.	100,000	100,000	100,000	0	0	0	300,000	Enhancements will enable customer contact personnel to determine if TN pooled in to native or non-native switch and whether NPA/NXX-X for the TN is already opened in the non-native switch and supporting systems. Needs to be integrated w/ Consulting +.
	WIND	Database used to support NIA	50,000	50,000	50,000	0	0	0	150,000	Stores and maintains data for NIA to determine whether TN is opened in non-native switch
	Repair Group Voice Response Unit	Call handling system that routes incoming calls to the appropriate group	100,000	100,000	0	0	0	0	200,000	Upgrade required to appropriately route calls related to pooled numbers into the repair center.

Functional Area	Application Name	Application Description	2000 Cost	2001 Cost	2002 Cost	2003 Cost	2004 Cost	2005 Cost	Total Cost	Description of New Developments and Enhancements
	Provisioning and Repair Order Tool Effecting Complex Translations (PROTECT)	The work force management system for the complex translations group.	100,000	100,000	0	0	0	0	200,000	Enhancements are needed to integrate PROTECT with service order applications in order to inform complex translators where NPA NXX combinations need to be opened and to develop a tracking and update process. Would require additional enhancements to support Cause Code 26
BILLING	Expense recoverable									
	Billing	Billing Systems	504,676	757,012	0	0	0	0	1,261,688	Calculating Taxing and Rating will be based on Service Address as opposed to NPA/NXX or EXK
Repair	Expense recoverable									
	LMOS	Develop an LMOS Replacement	##	##	##	##	##	##	##	## This develop is required because porting/pooling break the fundamental database design of LMOS. If it were not for pooling LMOS would not have to be replaced. These cost estimates are per Lucent Technologies which developed LMOS
Total Maintenance			0	2,207,500	5,641,500	\$6,963,000	\$6,963,000	\$6,963,000	28,738,000	Maintenance of software, both purchased and developed in house, covers keeping the software current with the operating systems they run on, back up and recovery procedures, and database management. 11-15 percent of total spent is normal maintenance exp.
Total Expense Recoverable			14,440,162	60,372,427	14,931,257	7,770,810	7,755,000	7,755,000	113,024,656	

Functional Area	Application Name	Application Description	2000 Cost	2001 Cost	2002 Cost	2003 Cost	2004 Cost	2005 Cost	Total Cost	Description of New Developments and Enhancements
TN ADMIN.	Capital-Recoverable									
	Hardware	Hardware upgrades to support Internal Developed software	200,000	2,000,000	0	0	0	0	2,200,000	Will support new hardware requirements for internal systems development.
	Hardware	New server and database	1,000,000	0	0	0	0	0	1,000,000	Will support new requirements for TN Administration, Forecasting and Reporting
	Hardware	Hardware upgrades to support Telecordia solution	##	##	##	##	##	##	##	## Will support hardware upgrades for the Telecordia provisioning systems
REPAIR	Hardware	LMOS Replacement	##	##	##	##	##	##	##	## New hardware required to host an LMOS replacement
Total Capital Recoverable	TOTAL		1,500,000	11,000,000	0	0	0	0	12,500,000	

PROVISIONING	Expense - Non Recoverable									
	Telecordia Systems License Fees		##	##	##	##	##	##	##	##
	CNUM, SOAC, MARCH, WFA/C and NSDB	Currently the provisioning of Direct Inward Dial (DID) is done manually. This new package would allow the service order process to automate the provisioning of regular DID and the porting of DID ranges (Import, Location and exporting)	##	##	##	##	##	##	##	## Mechanized the Porting In/Out of DID ranges. This package is important so that US WEST will accurately report to the FCC required Number Categories. The cost of this enhancement is expected to be offset by efficiencies in operation.
Internal Systems Development	Expense - Non Recoverable									
	Testing new DID package	Systems and integrated testing with business units to ensure the package works properly with other US WEST systems and processes	##	##	##	##	##	##	##	## The cost of this enhancement is expected to be offset by efficiencies in operation.
Expense - Non Recoverable	TOTAL		##	##	##	##	##	##	4,300,000	

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Number Pooling Service Delivery Costs Type 2 (Recoverable)

	Acct. Code	2000	2001	2002	2003	2004	2005	Total
Headcount								
Program Office	6623	3	3	0	0	0	0	0
Methods & Procedures	6623	8	8	2	0	0	0	0
Training	6623	6	4	0	0	0	0	0
Operator & Information Services	6622	4	0	0	0	0	0	0
Backroom	6623	6	89	0	0	0	0	0
Service Negotiation	6623	94	238	64	63	63	63	63
Total Headcount		121	342	66	63	63	63	63
Expense								
Program Office	6623	2,275,277	1,017,167	0	0	0	0	3,292,444
Methods & Procedures	6623	311,604	611,205	310,202	0	0	0	1,233,011
Training	6623	1,745,620	1,003,830	13,000	13,000	2,000	2,000	2,779,450
Operator & Information Services	6622	250,000	250,000	0	0	0	0	500,000
Backroom	6623	79,208	6,366,003	0	0	0	0	6,445,211
Service Negotiation	6623	1,405,544	8,170,796	2,624,673	2,636,770	2,715,747	2,803,908	20,357,438
Total Expense		6,067,252	17,419,002	2,947,875	2,649,770	2,717,747	2,805,908	34,607,554
Capital								
Program Office	6623	606,000	0	0	0	0	0	606,000
Methods & Procedures	6623	16,000	0	0	0	0	0	16,000
Training	6623	0	0	0	0	0	0	0
Operator & Information Services	6622	1,500,000	500,000	0	0	0	0	2,000,000
Backroom	6623	12,000	166,000	0	0	0	0	178,000
Service Negotiation	6623	197,000	304,000	0	0	0	0	501,000
Total Capital		2,331,000	970,000	0	0	0	0	3,301,000
Expense and Capital Total								
Program Office	6623	2,881,277	1,017,167	0	0	0	0	3,898,444
Methods & Procedures	6623	327,604	611,205	310,202	0	0	0	1,249,011
Training	6623	1,745,620	1,003,830	13,000	13,000	2,000	2,000	2,779,450
Operator & Information Services	6622	1,750,000	750,000	0	0	0	0	2,500,000
Backroom	6623	91,208	6,532,003	0	0	0	0	6,623,211
Service Negotiation	6623	1,602,544	8,474,796	2,624,673	2,636,770	2,715,747	2,803,908	20,858,438
Total Expense and Capital		8,398,252	18,389,002	2,947,875	2,649,770	2,717,747	2,805,908	37,908,554

Number Pooling Service Delivery Cost Descriptions

Wholesale Service Delivery

The implementation of Thousands Block Number Pooling will impact procedures and processes for pre-ordering, ordering and provisioning for our wholesale customers to ensure compliance with the FCC guidelines for Number Pooling and other number conservation measures.

Wholesale Service Delivery costs represent incremental service order negotiation time required to process orders that require number assignment or negotiations regarding reserved telephone numbers. Number assignments are performed for resold lines, Public Access Lines and Unbundled Network Elements – Platform (UNE-P) and any other services that may have numbers associated with them. If the assigned number is a pooled number, a manual written order will be required until full systemization is in place to support Number Pooling.

The percentage of Service Orders requiring a new TN assignment was multiplied by the additional time required per order. The total additional time required was divided by productive time to determine the full time equivalent (FTE) occupational headcount in the Service Delivery organization.

Number Pooling and the related number conservation initiatives will require 3 additional managers, to establish measurements, report on results, participate in industry forums and to ensure that the industry, federal and state requirements are being met from an overall systems, network and process perspective.

Retail Service Delivery

With the implementation of Thousands Block Number Pooling, major impacts to Retail Service Delivery will occur in the Program Office, Methods and Procedures, Training Development and Delivery, Operator and Information Services, Service Negotiation, and Backroom Operations.

Service Negotiation Time (Frontline)

These costs represent the incremental service order negotiation time required to process orders for end user customers. In NPA's where number pooling is deployed, the following additional functions are required to be performed by a service representative:

1. Check to see if the assigned number is a pooled number.
2. All pooled numbers require manual written orders and additional order entries until systemization is available (estimated 4th Quarter 2001).
3. Explain ramifications to the customer of the newly defined categories per the FCC Numbering Optimization Order.

The additional time required will increase Service Negotiations headcount from the current level of 5,667 by 238 (2001 at peak) to 5,905 or a 4.2% increase to current

workload. Headcount and negotiation time will decrease as mechanized processes deploy and reduced time to process orders occurs.

Training Development and Delivery

These costs are representative of the costs to create and deliver training to sales and service consultants, order writers and service order error correction personnel. Training will provide an overview of Number Pooling including the process and criteria for issuing orders with Pooled Numbers and an in depth understanding of Number Usage Mandated by the FCC. These costs include Instructor lead training including instructor time, travel and materials to insure all FCC Mandated rules are communicated to Service Representatives.

Methods and Procedures

Methods and Procedures require additional headcount to work on Number Pooling methods and procedures. Due to the FCC ruling on 45 day limitation requirements on reserved numbers additional managerial and occupational headcount are necessary. This includes: identification of customers that have reserved numbers, notification of customers to advise of reserved status and service order issuance to remove the reserved telephone numbers from accounts.

Backroom Costs

Represents personnel and associated costs to the Backroom. The additional personnel will be required to accommodate the expected increase in Service Order Errors and increases to manual order typing due to the FCC ruling on Number Pooling. As systems are upgraded, the typing of these orders will be eliminated. In addition, orders will be required to retain customers that currently reside in a pooled thousand block of numbers that is contaminated.

Operator Information Services (OIS)

Represents additional headcount and system work to handle the complexities associated with directory listings. These costs are incurred over a two year period and will not be necessary after 2001. These costs include:

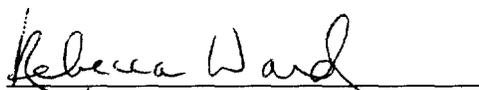
1. Assignment of White Page Directory Code to Pooled Numbers
2. Accurate Community information for Directory Assistance Data Base
3. Ability to contractually meet numerous List Product agreements
4. Revise existing system work to allow for White Page Directory Code by other means rather than NPA/NXX.

Program Office

Within the various units of U S WEST coordination must take place to insure a smooth deployment of Number Pooling. The Program Office will consist of project managers, and program managers and a business case analysts. System upgrades that are out of the scope of the Information Technologies Organization are also identified here. These costs include system requirement and system testing.

CERTIFICATE OF SERVICE

I, Rebecca Ward, do hereby certify that on this 22nd day of May, 2000, I have caused a copy of the foregoing **ERRATUM TO COMMENTS OF U S WEST COMMUNICATIONS, INC.** to be served, via hand delivery, upon the persons listed on the attached service list.


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Last update: 5/22/00