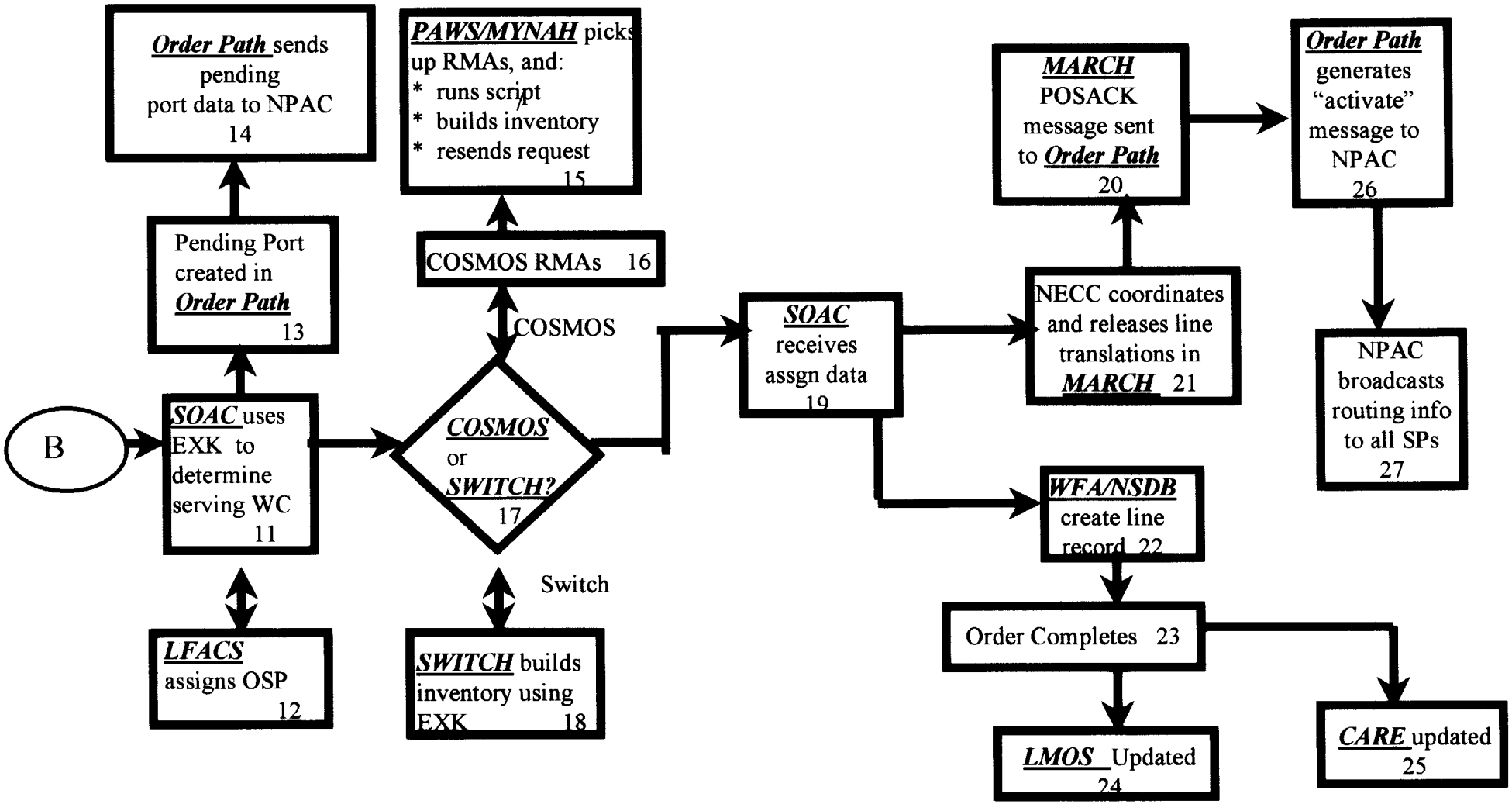
Port In - cont'd



Port In

This flow defines processes and impacts required by Ameritech to support the porting in of a customer into the Ameritech network from another Service Provider (SP)/ Telecommunications Carrier (TC).

BOX 2 -
Street Address Guide (SAG) modifications were required to reflect which end offices are LNP capable and also to identify which rate district an address is located in.

BOX 6 -
Ameritech Customer Information System (ACIS) is Ameritech's Service Order Processor (SOP) and Billing System. ACIS required changes to support service negotiation, issuance and billing processing, including:

- Identification of Ported NPA-NXXs
- identification of rate districts
- newly required USOCs/FIDs for identification of imported accounts

In addition, completed service order data is used to populate from ACIS to the LMOS data base for maintenance support.

Service Provisioning System (SPS) is an Ameritech internally developed system used for processing complex accounts e.g. Centrex, Multi-Line Hunt Groups, et al. SPS required upgrades to recognize ported accounts and integrate processing with the various complex account processing.

BOX 11,19 -
Service Order Analysis and Control (SOAC) is the system which parses appropriate service order data to facilitate service provisioning, activation, and maintenance. SOAC software was enhanced to parse and process new LNP FIDs and map the appropriate data into tags to send to impacted downstream operational support (OSSs). These OSSs are: MARCH, LFACS, COSMOS, SWITCH, NSDB, WFA system

BOX 13 & 14 -
Order Path (OP) is the new system required to support the uploading of data to the NPAC SMS. OP is the SOA interface to the NPAC. This interface is required for LNP.

BOX 15 -
PAWS/MYNAH are scripting programs used to support the processing and provisioning imported TNs for accounts served out of wire centers supported by the COSMOS system. PAWS/MYNAH generates exception reports for these accounts and builds the TN inventory in the appropriate wire center.

BOX 16 - 18
COSMOS and SWITCH inventory and assign telephone numbers (TNs) and switching equipment. Both systems required modifications to build the appropriate inventory of TNs when importing TNs foreign to a serving wire center.

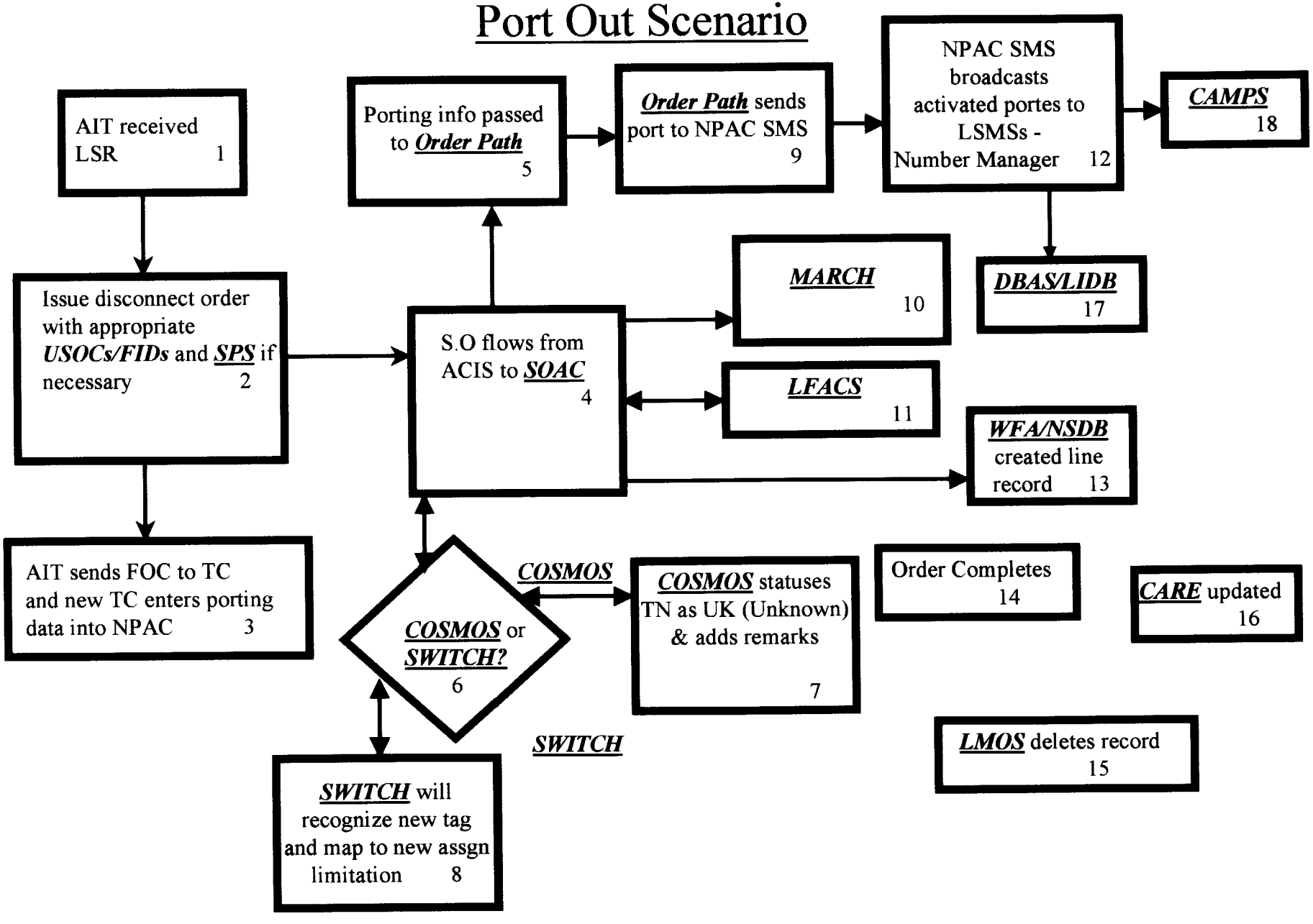
BOX 20 - 21 -
MARCH is the front end OSS which translates service order data into End Office Switch translation language. MARCH was modified to recognize and accept foreign TNs and translate to the appropriate serving switch language.

BOX 22 -
WFA/NSDB (Work Force Administration and Network Services Data Base) are maintenance support systems. These systems support installation and maintenance of special services, message trunks, carrier type circuits and POTS service. Modifications were required to these systems to recognize foreign TNs thru various USOCs/FIDs and process appropriate records.

BOX 24 -
Loop Maintenance Operating System (LMOS) is also a maintenance support system utilized within Ameritech. LMOS required significant upgrades to recognize imported TNs and process thru to Mechanized Loop Testing (MLT).

BOX 25 -
The CARE system tracks and administers all service order activity for PIC administration. Modifications were required to enable the ability to support the processing of foreign TNs now served by the Ameritech network.

Port Out Scenario



Port Out

This flow defines process and impacts required by Ameritech support the porting out of a customer to a different Service Provider (SP)/Telecommunications Provider (TC).

BOX 2 -
New ***Universal Service Order Codes (USOCs)*** and Field Idenitifiers (FIDs) were required to support service order issuance, provisioning and billing. ***Service Provisioning System (SPS)*** is an adjunct Ameritech system required to support service order issuance for more complex services (i.e., DID, CTX).

BOX 4 -
Ameritech Customer Information System (ACIS) is Ameritech's Service Order Processor (SOP) and Billing system. ***ACIS*** required changes to support service negotiation and billing processing, including:

- Identification of ported NPA-NXXs
- Identification of rate districts
- Newly required USOCs/FIDs for identification ported TNs

In addition completed service order data is used to populate from ACIS to the LMOS data base for maintenance support.

Service Order Analysis and Control (SOAC) is the system which parses appropriate service over data to facilitate service provisioning activation and maintenance. ***SOAC*** software was enhanced to parse and process new LNP FIDs and map the appropriate data into tags for impacted downstream operational support systems (OSSs). These OSSs are: ***MARCH, LFACS, COSMOS, SWITCH, NSDB, WFA.***

BOX 5 -
Order Path is the new system required to support uploading of data to the NPAC SMS. ***Order Path*** is the SOA interface to the NPAC. This interface is required for LNP.

BOX 6 - 8 -
COSMOS and ***SWITCH*** inventory and assign telephone numbers (TNs) and switching equipment. Both systems required modifications to ensure appropriate treatment of ported out TNs to avoid inadvertent assignment of ported TNs. In addition, enhancements were required to support snap back processes.

BOX 10 -
MARCH is the front end OSS which translates service order data into End Office Switch translation language. MARCH was modified to recognize LRN, port out indicator and 10 digit trigger provisioning.

BOX 11 -
Loop Facility Assignment Control System (LFACS) is the OSS which supports and administers outside plant facilities assignment and utilization. LFACS software was enhanced to support a flexible disconnect policy for ported out TNs.

BOX 12 -
Number Manager is a new system required to support the download of ported routing data and associated administrative messages. Number Manager is the LSMS interface to the NPAC. This interface is required for LNP and to provision network elements for routing of calls.

BOX 13 -
Work Force Administration (WFA) and Network Servies Data Base (NSDB) are maintenance support systems. These systems support installation and maintenance of special services, message trunks, carrier type circuits and POTS servie. Modifications to these systems were required to recognize and process porting FIDs.

BOX 15 -
Loop Maintenance Operating System (LMOS) is a maintenance support system utilized within Ameritech. LMOS required enhancements to recognize LNP FIDs to properly identify ported out numbers.

BOX 16 -
The ***CARE*** system tracks and administers all service order activity for PIC administration. Modifications were required to properly identify carriers when TNs have been ported out from Ameritech.

BOX 17 -
Database Administrative System (DBAS)/Line Information Database (LIDB) support on line validation of calling card, collect and bill-to-third-party calls. DBAS/LIDB process appropriate billing information to the customer's telephone company. LNP required enhancements to process Service Provider Identification (SPID) to enable proper billing for these call types.

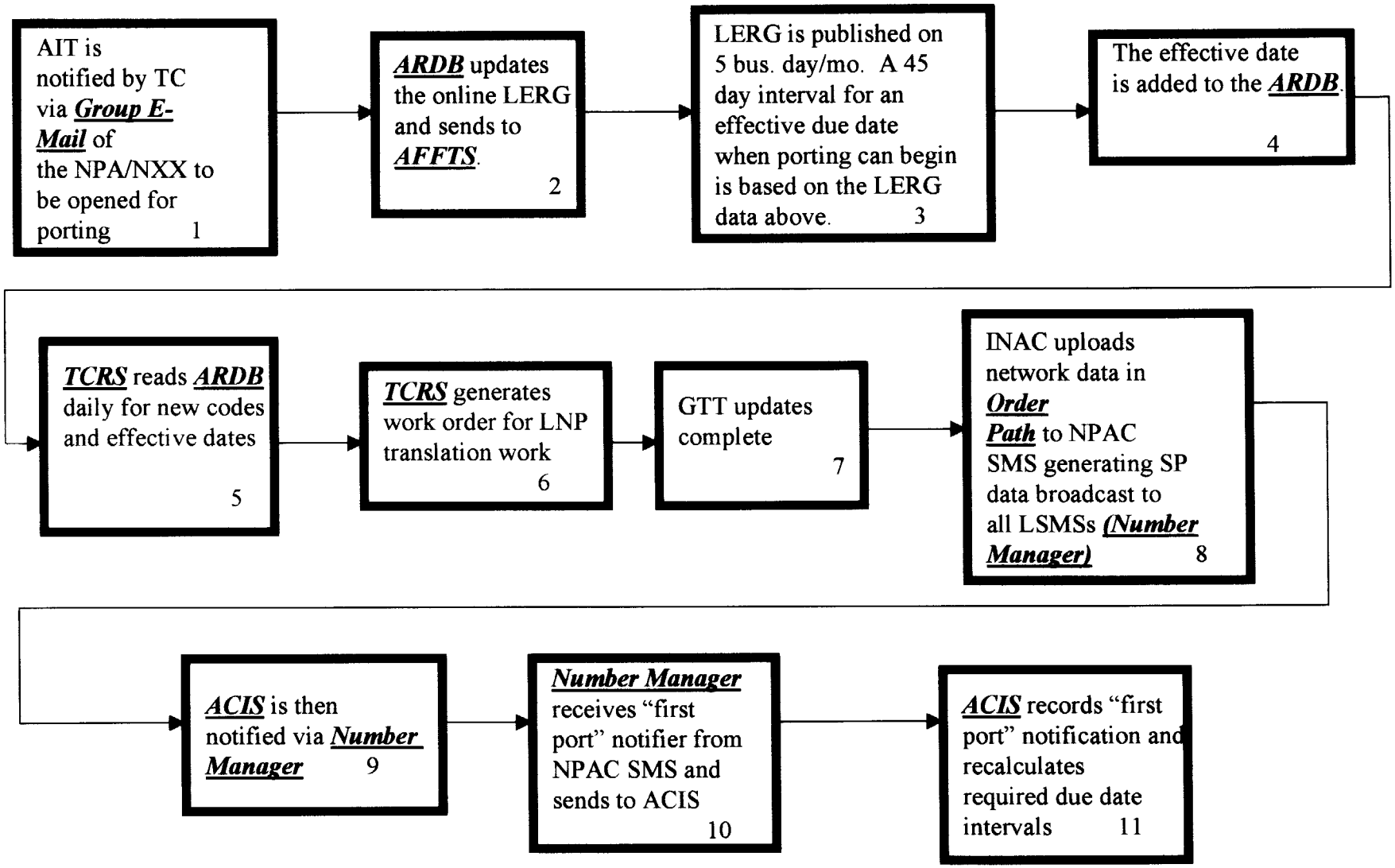
BOX 18 -
CAMPS is a billing subsystem that supports message distribution and revenue settlement processes. Modifications were required to enable SPID processing for originating, terminating and billing numbers for the above billing processing.

ADDITIONAL NOTES:

To enable COSMOS functionality, additional processing support was required through a scripting program -- MYNAH provide a safety net ensuring no duplicate TN assignment, supporting snap back and provisioning of DID and non-dial tone TNs.

Enhanced Mechanized and Control System (EMAC) is the service order provisioning and service activition system utilized in Wisconsin. ***EMAC*** is unable to support mechanized processing of LNP orders, and will be converted to SOAC/SWITCH to enable LNP support.

LNP Code Opening Scenario



Code Openings

BOX 1 -
Ameritech requires notification from Service providers when they are requesting NPA-NXXs be opened for porting. To facilitate this process, Ameritech developed a ***"Group E-Mail"***.

BOX 2 & 4 -
Ameritech Routing Data Base (ARDB) is Ameritech's interface to the LERG. ARDB sends and receives porting data to the LERG.
Ameritech Feature & Functionality Tracking System (AFFTS) tracks end office features and functionalities. This system feeds into the front end Service Order Negotiation system enabling service representatives to properly issue service orders. Modifications were required to identify LNP capable offices, rate districts, and due date intervals.

BOX 5 & 6 -
Translation Change Record System (TCRS) generates work orders for office translation work in tandem and end office switches Modifications were required to support opening NPA-NXXs for portability and setting triggers. In addition TCRS originates and tracks work orders for required Global Title Translations.

BOX 8 -
Order Path is a new system required to support uploading of data to the NPAC SMS. ***Order Path*** is the SOA interface to the NPAC. This interface is required for LNP.
Number Manager is a system required to support the download of ported routing data and associated administrative messages. Number Manager is the LSMS interface to the NPAC. This interface is required for LNP and to provision network elements for routing of calls.

BOX 9 - 11 -
Customized functionality was added to the vendor's Number Manager product to process data to the front end Service Order Negotiation system in ACIS. ***Ameritech Customer Information System (ACIS)*** is Ameritech's Service Order Processor (SOP) and Billing system. ***ACIS*** required changes to support service negotiation.

Appendix F
Ameritech Further Comments
August 3, 1998
CC Docket No. 95-116: Long Term Number Portability

AIN/Switching

In September, 1995, the Illinois Commerce Commission Number Portability workshop selected an architecture which would allow the deployment of a database solution for Long Term Number Portability (LNP), using a technology called Location Routing Number (LRN). This architecture was subsequently adopted by the Commission as the national standard. Ameritech supported this standard, in part because it had deployed Advanced Intelligence Network (AIN) capabilities in all switches but its few remaining analog switching systems.

Subsequent to the adoption of this architecture, an inter-industry committee was formed to develop specific requirements to make LRN work among all carriers. The resulting document, "Generic Switching and Signaling Requirements for Number Portability," was completed February 2, 1996. The requirements in this document define new parameters for routing calls to ported numbers. When a call is made to a ported number, the originating switch will send a Signaling System 7 (SS7) message to an AIN database to determine if the number has been ported and, if so, how to complete the call.

Ameritech negotiated with each of its three switch suppliers (Lucent, Siemens and Nortel) for the cost of procuring the required LRN functionally and to support its switches. The three resulting contracts specifically identified the costs of providing LRN capability. It is only these costs that are in the LNP cost tracking system. For its remaining number analog switches, Ameritech also identified the minimum AIN requirements needed to support LRN. The software purchased for the analog switches is required only to support LRN; no other AIN features can be

provisioned by use of this software.

With the installation of LRN software, Ameritech assessed the changes required to send and receive the messages LRN generates for each switch that was made LRN-capable. The three affected areas of a switch are its processing, SS7 and billing capabilities. A study looked at how many calls would not require a database lookup (intra-switch, 2-PIC and long distance); assumed all NPA-NXXs are available for porting; and then calculated the additional query load LNP would place on the switch.

This result was shared with suppliers of AIN and switch hardware and software. Joint determinations were made as to any changes or capability augmentations required. Where changes were required, the suppliers used Ameritech's demand forecasts (see Appendix C) to engineer the particular switch changes necessary. Nowhere in this process did Ameritech add any additional forecast data for growth of any services other than LNP. All orders were carefully tracked to assure nothing other than LNP-related equipment was purchased.

All related switching costs incurred to deploy and provide LNP are carrier-specific direct costs, not joint costs. No additional functionality or capacity was added other than the capability to provision and maintain LRN.

Appendix C

Ameritech's Further Comments
August 3, 1998
CC Docket No. 95-116: Long-term Number Portability

Demand Forecast Methodology

Database queries made as a result of Long-Term Number Portability (LNP) will be projected by the use of a combination of actual switch call completion data, call completion billing records, reasonable engineering assumptions and interconnecting carrier surveys. All carrier surveys / forecasts provided to Ameritech will be considered confidential and will only be used for network planning purposes, and to price and provide the LNP monthly charge and LNP Query.

Three types of anticipated LNP queries are required in an LNP capable geographic calling area. These are the LNP Monthly Charge queries (Ameritech customer originated calls), LNP Query Service (other carrier originated calls that are routed to Ameritech by N-1 carriers) and Unbundled LNP Database Access queries (other carrier originated calls where the Ameritech LNP database is directly queried for routing information). Query capacity requirements and demand forecasts necessary to implement LNP in the Ameritech region will be calculated as follows:

LNP Monthly Charge:

There are two types of retail LNP queries Location Routing Number (LRN) and Global Title Translation (GTT) queries. The LRN query is launched by an originating or intermediate switch to obtain routing information necessary for call

path route selection and call completion to the correct carrier's switch. The GTT queries are used to route data inquiries which support supplemental services on ported calls such as Credit Card Calling or Calling Name Identification as described in Appendix G.

In order to estimate the volume of calls upon which Ameritech will perform a query as the N-1 carrier, actual call originating peg count traffic data will be obtained from all Ameritech switches during a high day busy hour, e.g., the busy hour on Mother's Day. This data will represent all calls originated from these switches in that given hour. Not all of these calls require an LRN query for call completion and , therefore, should be excluded from the LNP demand forecast. First, a percentage of these calls are completed to interexchange carriers ("IXC") and do not require that Ameritech perform the query. The volume of calls to IXCs will be obtained from Ameritech settlements records. These percentages will vary from switch to switch. Since IXC / interLATA calls do not require an LNP query, the originating peg count will be reduced by this interLATA percentage.

Second, intraswitch calls also do not require a query for call completion. For that reason, Ameritech will obtain traffic peg count data that represents intraswitch calls and will deduct these calls from the remaining originating peg count data.

The remaining traffic count, after calls to IXCs and intraswitch calls have been removed, (interswitch/intraLATA calls) require that Ameritech perform an LRN query for call completion in a portable environment. These busy hour calls that

require an LRN query will be extrapolated to represent the total number of calls requiring a query per month. The per month call data will then be overlaid on the areas where LNP implementation is planned, resulting in a anticipated LNP query count. The assumptions and methodology used to calculate the LNP Monthly Charge queries are listed below:

- All NPA/NXXs will be opened for porting at the beginning of the LNP implementation schedule in which they are planned to be opened.
- Originating busy hour calls will be obtained from all Ameritech switches.
- Partial dial/abandoned calls will be subtracted.
- Engineering traffic data will be used for the calculation. A standard factor is used to determine volumes per year (through study period) that include growth.
- Originated calls, by switch, to IXCs will be subtracted from the base.
- Intraswitch calls will be subtracted from the base.
- Anticipated GTT queries associated with LNP will be added to the base by applying a standard factor that estimates intraLATA interoffice calls that require GTT queries.
- Busy hour volumes represent a faction of the call volumes for the day. A standard factor is applied to the busy hour calls to estimate the daily volume of intraLATA interoffice calls per day.
- Extrapolated daily call volume represents a fraction of the total call volume for the month. A standard factor is applied to the daily volume to calculate the volume per month.
- Query volumes in 1998 represent full implementation of the Metropolitan Statistical Areas (MSAs) in which LNP implementation is planned.
- Query volumes in 1999 represent full implementation throughout the Ameritech region.

LNP Query Service:

Ameritech will base its demand projections for the LNP Query Service on projections and plans received from other carriers and its general knowledge of traffic volumes and usage. This is necessary since the Query Service involves Ameritech performing queries on traffic it receives from other carriers where that carrier has not performed the query itself, or where a carrier elects to access Ameritech's LNP database. As such, Query Service demand depends upon the plans of other carriers. For example, Ameritech may be able to use its traffic data to estimate how much traffic it will receive, but has no way of knowing from its traffic data how much of that traffic will be queried by the N-1 carrier and how much must be queried by it. Ameritech will consider its projected level of query demand, when it determines the allocation of LNP costs to the Query Services. The allocation will be made on the basis of projected utilization of the facility, equipment or software involved based upon the relative demand projections. Also, Ameritech will use unseparated costs to develop a uniform intrastate and interstate rate. As such, Ameritech properly uses combined projected demand for both intrastate and interstate traffic.

Ameritech will develop its demand forecast for Query Service starting with its projections of non-Ameritech terminating access traffic to Ameritech's End Offices and Tandem switches during the relevant period. To calculate the percent of that traffic that would be unqueried, Ameritech will send letters to interconnected carriers asking whether they intend to send unqueried traffic to Ameritech (and if so at what

level). All forecasts will be treated as confidential information and will only be used for network planning and to price and provide LNP, and Query Service.

To augment actual carrier forecast information, Ameritech will estimate demand based upon its knowledge of LNP, and all available information regarding the plans of other carriers. For example, Ameritech will consider which carriers have SS7 capability or are known to be deploying LNP capabilities, in an effort to identify carriers who would likely prearrange with some other carriers to meet their N-1 responsibility (e.g., Illuminet is currently marketing N-1 Query services).

Ameritech's demand forecast will exclude IXCs that will meet their N-1 carrier responsibilities through the use of their own databases and therefore, will not require Ameritech to perform queries on their behalf and other interexchange carriers will use Ameritech's Query Service on either a prearranged or default basis during the tariff period.

Ameritech expects that it will receive little or no unqueried traffic for the three largest interexchange carriers based on (1) the participation of those carriers in the FCC LNP Field Trial in Chicago, and (2) the carriers' statements in the Illinois Commerce Commission's LNP Workshops that they would install their own databases. It also expects that the next three largest interexchange carriers will also send little or no unqueried traffic to Ameritech based upon these carriers' stated plans to implement N-1 query capability in their networks sometime in the second half of 1998.

Ameritech's expects that it will include demand from wireless carriers through 1999 based on (1) the published release time frame of vendor software to implement long-term number portability for wireless carriers, and (2) the fact that wireless carriers are not required to implement number portability until 1999. This expectation is further supported comments and waiver petitions filed with the Commission by wireless carriers stating that they are not yet prepared to implement LNP.

Access billing data will be used to project call volumes of default routed traffic to the Ameritech network from N-1 carriers that do not perform their own queries. This traffic is expected to result in an LNP query being launched by Ameritech in order to complete each call. Access billing data will indicate the total number of calls, by carrier, completed to each Ameritech local switch and which Ameritech tandem it transits. Monthly call data will then be overlaid in the areas where LNP implementation is planned and a total anticipated LNP query count will be derived.

The assumptions and methodology to used to the calculate the LNP Query Service demand are listed below:

- Ameritech will utilize carrier surveys and public information to determine which carriers intend to perform their own queries.
- Traffic from carriers performing their own queries will be excluded from the Ameritech demand forecast.

- The smaller IXC and wireless carriers are expected to require Ameritech query service throughout the study period.

- An estimated factor will be applied to the projected completed messages to determine the volume of failed calls (eg; busy, no answer, etc) upon which a query was performed.

- All terminating traffic on Ameritech tandems from default and prearranged N-1 carriers will require a query, if the involved area has been converted for portability. A growth factor per year will be used to estimate the demand over the study period.

- All NPA/NXXs in the LNP area are opened for porting at the beginning of the scheduled implementation period.

- LNP Query Service projections will include end office queries (i.e. direct trunking arrangements) required to complete calls to ported numbers.

- Some carriers may at some future date meet their N-1 responsibility by installing their own network capability or arranging to use another carrier's database. An estimated factor will be used to decrease the LNP Query Service demand forecast volumes accordingly.

Unbundled LNP Database Access:

Some carriers may elect at some time in the future to provision their switches with LNP conforming switch software and purchase direct access to the Ameritech's LNP databases. The demand forecast for LNP Database Access queries will be based on current database customers, if any, and carrier surveys. Ameritech will also look at the following factors to determine the potential demand forecast for the Unbundled LNP Database Access queries:

- Nationally based interexchange, local exchange, or wireless carriers who want to use one national LNP Database. Since Ameritech only offers a regional database, this demand will be excluded.
- Regional based interexchange, local exchange, or wireless carriers who are or planning to be SS7 capable. It is believed that some carriers that have SS7 and LNP switching software will choose to use a LNP database over default routed traffic. However, it is not clear which vendor they will choose.
- Regional carriers who use another SS7 provider. It is likely that these carriers would choose to use their current provider for SS7 as their LNP database provider, if their provider offers a LNP database solution.
- Carriers who have already arranged with another carrier or third party to meet their N-1 Responsibility will be excluded.
- Carriers who want to diversify their implementation plan with more than one regional LNP Database provider may need to have their volumes prorated.

Appendix G
Ameritech Further Comments
August 3, 1998
CC: Docket No. 95-116: Long Term Number Portability

List of Additions, Modifications and Augmentations

Ameritech has been a leader in developing and establishing LNP requirements, and its personnel have led many of the inter-industry committees that established requirements for switching, STPs, SCPs and the Number Portability Administration Center (NPAC). In planning its deployment of LNP based on Location Routing Number (LRN) technology, Ameritech has been extremely diligent in assuring that the costs associated with LNP deployment are nothing other than direct costs attributable to LNP.

The following changes and additions were needed solely to implement LNP:

1) Switching:

a) End offices

The functionality purchased from switching vendors does not support any Advanced Intelligent Network (AIN) functions other than LNP. In addition, some switches were upgraded only to support LNP. Because these changes support no other services and would not be needed but for LNP implementation, all associated costs are properly treated as direct costs. The list of changes includes:

- LRN software for Lucent 5ESS, Siemens, Nortel DMS-100, DMS-10 and Lucent 1AESS. This software allows setting of LNP triggers and permits NPA-NXXs to be opened for porting and termination of calls to ported numbers;

- Main processor capacity upgrades in some switches. These upgrades were needed to support the additional query volumes offered by LNP;

- 1A/AMASE-METS/AMA. This feature is required to handle additional billing records generated by LNP queries;

- Additional SS7 capacity to support the additional query volumes generated by LNP; and

- Hardware capacity upgrades for Nortel DMS-10 switches to support the deployment of LNP.

b) Tandem switches

Ameritech has upgraded the capacity of all of its tandem switches to handle any LNP calls it receives from an N-1 carrier that were not queried by that carrier. These costs include additional SS7 links, processor upgrades and billing enhancements. All changes are directly due to LNP and all resulting costs are therefore treated as direct costs. Items include:

- Main processor upgrades to support the additional volumes of queries as a result of LNP implementation;

- LRN software to allow the setting of LRN triggers;

- Additional software required to bill queries on traffic entering the Ameritech network from N-1 carriers who did not perform a query themselves; and

- Additional SS7 hardware for increased signaling network loads incurred because of queries.

c) Operator Services

Ameritech has upgraded two of its Operator Services Centers. The costs of these upgrades are direct because they support only LNP deployment. Items included are:

- Software allowing an operator to initiate an LNP query;

- Replacement of existing terminals so operators can see the new fields (such as LRN) associated with LNP; and

- New billing software to allow proper billing of calls to ported numbers.

2) SS7

a) Switching Control Points (SCPs)

To insure proper routing of LNP calls, Ameritech established an internal database to store routing information it receives from the Number Portability Administration Center (NPAC). Because of the volume of traffic involved and in order to provide reliable service, Ameritech deployed four pairs of SCPs to perform this function. No services other than LNP use these SCP platforms, and Ameritech would not have purchased them but for LNP implementation. As such, costs associated with their deployment are properly treated as direct costs. Items associated with the SCPs include:

- Field hardware for the SCPs;
- Hardware for the Ameritech lab, to allow for redeployment testing;
- Building preparation for installation in both the field and lab;
- SCP LRN software;
- Software for the Service Management System (SMS);
- Hardware for the SMS, both field and lab; and
- Establishment of A-links between Ameritech SCPs and STPs.

b) Signaling Transfer Points (STPs)

In routing an LNP call, a function called 10 digit Global Title Translation (10 GTT) must be performed. Before LNP, the Signaling Transfer Point (STP) needed only to look at the NPA/NXX to determine how to route a call. To port numbers between networks, the STP must now look at all 10 dialed digits to determine the correct carrier to whom the message must be sent. To accomplish this, the best place to handle 10 GTTs is at the STP. All costs associated with this application are due to the need to respond to LRN

queries and are consequently treated as direct costs. Items required include:

- Hardware to store the 10 GTT software;
- 10 GTT application software;
- Software to detect if an LNP query is looping in the SS7 network; and
- Software for Netpilot (an Ameritech OSS) to download information received from the NPAC to the STP.

3) Operations Support Systems (OSS)

To make all of the above hardware and software work, Ameritech reviewed its provisioning, billing and maintenance processes, and determined what changes were needed to meet industry agreed-upon requirements (for example, the five day window for a first port in a given NPA-NXX). The design goal is that LNP order information should be sent to all systems on a mechanized basis and flow to the NPAC for processing without manual intervention.

In addition to modifying existing OSS, new systems and interfaces were required to support LNP implementation. Two new systems allow Ameritech to exchange porting information with the NPAC. Several new interfaces tell various systems that an NPA-NXX is opened for porting, indicate if there has been a first port, and notify appropriate work centers that the opening of a NPA-NXX has been requested.

The attachment to this Appendix G lists the OSS capabilities that required development, modification or capacity augmentation and indicates specifically why each change was necessary to support LNP. With the exception of the link monitoring system, all changes were required exclusively to support the preordering, ordering, provisioning, billing and maintenance functions associated with LNP service. Thus, with this sole exception, all costs incurred for these changes are appropriately treated as direct costs.

OSS Modifications Required for LNP

Attachment to Appendix G

OSS System Name	Function	System Function	Modifications Required	Reason for Modification
Legend:	**B- Billing**			
	N- Network Routing			
	P- Provisioning			
	R- Repair & Maintainence			
Predictor	**R**	Mechanized means of identifying cable pair associated with each Directory Number (DN). Also provides real-time verification of CO-based features associated with each DN.	New G13/LNP software, G10/G11 Operating software, 5 (new) HP mid-range servers.	Predictor was incapable of accepting the new LNP information (LRN and Exchange Key). Vital information on numbers imported into Ameritech's network would be blocked.
CARE	**B**	Database of ACIS records that identifies what Primary Interexchange Carrier (PIC), is associated with a line.	New software.	Added the capability to handle non-Ameritech telephone numbers (port in), and to retain numbers that port out of Ameritech.
COSMOS	**P**	Inventories and assigns Telephone Numbers (TNs) and switching equipment.	Conversion to SWITCH/FOMS preparation costs.	COSMOS was unable to support LNP functionality, to appropriately status ported out TNs and to expand the TN inventory to add imported TNs. COSMOS is a legacy System.
DSF/FACS	**P**	Dual Standard Operating Environment Facility Assignment and Control System provides a mechanized process of service provisioning for local loop facilities and integration to other provisioning and operations systems.	Replacement of software for provisioning outside plant facilities. IS/IGS Hardware, Bellcore conversion analysis and mapping requirements from EMAC to DSF/FACS as well as code development.	DSF requires a modification to accept a new interface from ACIS required by LNP to process and pass LNP service order requests to the Order Path application (see below).
DBAS II	**N**	Data Base Administration System. Updates the LIDB database with calling card, and bill to third party validation information.	Software changes to identify facility based provider of specific TN.	LIDBs (Line Information DataBases) needs an additional field to store information on carrier ID. Required where numbers maybe ported for validating the calling card number.