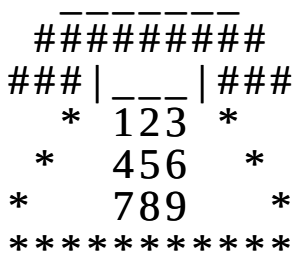

Computer-Based Systems for Bell System Operations

This file contains a variety of operating systems in the Bell System. Some of them are very familiar to most people and others are widely unknown. Each sub-section gives a brief description of what the computer system's functions are.

Table Of Contents:
%%%%%%%%%%%%%%%%%%%

I. TIRKS

1. COC
2. E1
3. F1
4. C1
5. FEPS

II. PICSIII. PREMISIV. TNDS

1. EADAS
2. EADAS/NM
3. TDAS
4. CU/EQ
5. ICAN
6. LBS
7. 5XB COER
8. SPCS COER
9. SONDS
10. CU/TK
11. TSS
12. TFS
13. CSAR
14. SCCS

VI. COEESVII. MATFAP

VIII. Various Operating Systems

IX. Acronym Glossary

TIRKS (Trunks Integrated Records Keeping System)
%%%

TIRKS is the master record-keeping system for the network. It supports network operations related to growth and change in the network by providing accurate records of circuits and components that are in use and available for use. It was developed to mechanize the circuit-provisioning process. Two circuit-provisioning aspects are applied: daily circuit provisioning and current planning.

Daily circuit provisioning is processing orders to satisfy customer needs for special service circuits and processing orders initiated for message trunks and carrier systems for the PSTN. The process begins at various operations centers and ends up at the CPCs (Circuit Provision Centers) which track orders, design circuits, and assign the components using TIRKS. It also prepares work packages and distributes them to technicians working in the field who implement them.

Current planning determines the equipment and facility requirements for future new circuits. It apportions forecasts for circuits among the circuit designs planned for new circuits.

TIRKS consists of five major interacting component systems: COC (Circuit Order Control system), E1 (Equipment system), F1 (Facility system), C1 (Circuit system), and FEPS (Facility and Equipment Planning System).

- COC controls message trunk orders, special-services orders, and carrier system orders by tracking critical dates throughout the existence of an order as it flows from the source to the CPC and on to the field forces. It provides management with the current status of all circuit orders and provides data to other TIRKS component systems to update the assigned status of equipment, facilities, and circuits as orders are processed.
- C1 is the heart of TIRKS. It automatically determines the types of equipment required for a given circuit, assigns the equipment and facilities needed, determines levels at the various transmission level points on the circuit, specifies the test requirements, and establishes circuit records for the circuits. All records of circuits already installed are kept in C1 for future additions or changes.
- E1 is one of the two major inventory component systems in TIRKS. It contains equipment inventory records, assignment records, and pending equipment orders. The records show the amount of spare equipment that is available and equipment's circuit identification.
- F1 is the other of the major inventory component systems. It contains cable and carrier inventory and assigns records.
- FEPS supports the current planning process which determines the transmission facilities and equipment that will be required for new service. It uses data in E1, F1, and C1 as well as other forecasts to allocate existing inventories efficiently, to determine future facility and equipment requirements, and to update planning designs.

TIRKS uses IBM-370 compatible hardware and direct-access storage devices. It provides benefits to the BOCs through improved service to customers, capital and expense savings, and better management control.

PICS (Plug-in Inventory Control System)
%%%

PICS is the mechanized operations system developed for the efficient management of large amounts of equipment inventories. It assists with both inventory and materials management. Inventory managers establish corporate policies for the types of equipment and for equipment utilization, assist engineering organizations in introducing new types of equipment while phasing out older types, and set utilization goals that balance service objectives and carrying charges on spare equipment. Material managers work to achieve utilization goals by acquiring spare equipment for growth and maintenance purposes. They also administer a hierarchy of locations used for storing spare equipment.

PICS/DCPR (PICS with Detailed Continuing Property Records) administers all types of CO equipment. The DCPR portion of PICS/DCPR serves as a detailed investment database supporting accounting records for all types of CO plug-in and "hardwired" equipment. PICS/DCPR accomplishes its goals of increasing utilization, decreasing manual effort, and providing a detailed supporting record for phone company investment through software, databases, administrative procedures, and workflows.

Two new functional entities are created in the BOC first: PIA (Plug-In Administration) and the central stock. PIA is the materials manager and is responsible for acquiring equipment, distributing it as needed to field locations, repairing it, and accounting for it. The central stock is a warehouse where spare equipment is consolidated and managed.

There are five subsystems in PICS/DCPR:

- Plug-in inventory subsystem - maintains order, repair, and inventory records for all types of plug-in equipment.
- Inventory management subsystem - provides the PIA with mechanized processes to assist in various tasks.
- Plug-in DCPR subsystem - provides processes required to maintain investment records for plug-in units.
- Hardwired DCPR subsystem - maintains detailed accounting records for hardwired CO equipment.
- Reference file subsystem - provides and maintains reference data used by all other subsystems.

PICS/DCPR runs on IBM-compatible equipment with the IBM Information Management System database manager. It interfaces with TIRKS as well as a few other circuit-provisioning systems.

PREMIS (PREMises Information System)
%%

PREMIS provides fast, convenient access to information needed to respond to service requests. It was developed in response to the need for address standardization. It has three mechanized databases: address data, a credit file, and a list of available telephone numbers. It also serves a function to the LAC (Loop Assignment Center), called PREMIS/LAC. PREMIS/LAC is an extension of the address database and provides for the storage of outside plant facility data at each address entry.

PREMIS supports the following service representative tasks:

- Determining the customer's correct address. The address relatedand address-keyable information is the major feature of PREMIS. If an input request does not contain an accurate or complete address, PREMIS displays information that can be used to query the customer. The address database allows PREMIS to give the full address and information about the geographic area which includes WC (Wire Center), exchange area, tax area, directory group, and the service features available for that area. It also displays existing or previous customer's name and telephone number, modular jacking arrangement at the address, and an indication of whether a connect outside plant loop from the address back to the CO was left in place. If service was discontinued at the site, the reason for disconnect and the date of disconnect are also displayed.
- Negotiating service features. PREMIS indicates the service features that can be sold at that address, providing useful information for discussing these with a customer.
- Negotiating a service date. If it indicates that an outside plant loop back to the CO has been left in place, PREMIS allows for earlier installation as no installer will need to visit the site.
- Checking a customer's credit status. PREMIS maintains a name-keyable file of customers with outstanding debts to the telephone company. If there is a match in the database, the customer's file is displayed.
- Selecting a telephone number. There is a file in PREMIS listing all available telephone numbers from which service representatives request numbers for a specific address. The available telephone numbers are read from COSMOS (COmputer System for Mainframe OperationS)

magnetic tape.

PREMIS/LAC has a feature called DPAC (Dedicated Plant Assignment Card). Records of addresses where outside plant loop facilities are dedicated are organized and accessed by address by the LAC through DPAC.

PREMIS is an on-line interactive system whose prime users are service representatives interacting with customers. It uses the UNIVAC 1100 as its main computer. It has network links to various other computer systems, too, to obtain various pieces of information that are helpful or necessary in efficiently completing service functions.

TNDS (Total Network Data System)
%%

TNDS is actually a large and complex set of coordinated systems which supports a broad range of activities that depend on accurate traffic data. It is more of a concept that incorporates various subsystems as opposed to a single computer system. It consists of both manual procedures and computer systems that provide operating company managers with comprehensive, timely, and accurate network information that helps in analysis of the network. TNDS supports operations centers responsible for administration of the trunking network, network data collection, daily surveillance of the load on the switching network, the utilization of equipment by the switching network, and the design of local and CO switching equipment to meet future service needs.

TNDS modules that collect and format traffic data usually have dedicated minicomputers which are at the operating company's Minicomputer Maintenance (Operations) Center (MMOC/MMC). Other modules generate engineering and administrative reports on switching systems and on the trunking network of message trunks that interconnects them. These mostly run on general-purpose computers. Still others are located in AT&T centers and are accessed by various operating companies for data.

The functions of TNDS are carried out by various computer systems since TNDS itself is just a concept. These subsystems include EADAS, EADAS/NM, TDAS, CU/EQ, LBS, 5XB COER, SPCS COER, ICAN, SONDS, TSS, CU/TK, TFS, and CSAR. The following sections cover these systems briefly.

EADAS (Engineering and Administrative Data Acquisition System)
%%

EADAS is the major data collecting system of TNDS and runs on a dedicated minicomputer at the NDCC (Network Data Collection Center). Each EADAS serves up to fifty switching offices. The 4ESS and No. 4 XBAR both have their own data acquisition systems built into the switch and they feed their data directly to other TNDS component systems that are downstream from EADAS, thereby bypassing the need for EADAS on those switches. EADAS summarizes data collected for processing by downstream TNDS systems and does so in real-time. EADAS is used by network administrators to determine quality of service and to identify switching problems. It also makes additional real-time information available to these administrators by providing traffic data history that covers up to 48 hours. This data history is flexible through the module NORGEN (Network Operations Report GENerator) so that administrators can tailor their requests for information to determine specifics. Information from EADAS is forwarded to other downstream systems in TNDS via data links or magnetic tape.

EADAS/NM (EADAS/Network Management)
%%

EADAS/NM is one of the three TNDS systems that EADAS forwards traffic data downstream to either by data links or magnetic tape. EADAS/NM uses data directly from EADAS as well as receiving data from those switching systems which do not interface with EADAS previously mentioned. It monitors switching systems and trunk groups designated by network managers and reports existing or anticipated congestion on a display board at local and regional NMCs (Network Management Centers). It is used to

analyze problems in near real-time to determine their location and causes. EADAS/NM provides information that requires national coordination to the AT&T Long Lines NOC (Network Operations Center) in Bedminster, NJ which uses it's NOCS (NOC System) to perform EADAS/NM-like functions on a national scale. Like EADAS, EADAS/NM uses dedicated minicomputers to provide interactive real-time response and control.

TDAS (Traffic Data Administration System)
%%

The second of three TNDS systems that is downstream from EADAS is TDAS which formats the traffic data for use by most of the other downstream systems. It accepts data from EADAS, local vendor systems, and large toll switching systems on a weekly basis as magnetic tape. It functions basically as a warehouse and distribution facility for the traffic data and runs a batch system at the computation center. Correct association between recorded traffic data and the switching or trunking elements is the result of shared information between TDAS and CU/EQ. Data processed through TDAS is matched against that stored in CU/EQ. The data is summarized weekly on magnetic tape or printout and is sent for use in preparation of an engineering or administrative report.

CU/EQ (Common Update/EQuipment)
%%

CU/EQ is a master database which stores traffic measurements taken by TDAS and it shares information with TDAS, ICAN and LBS. As said before, correct association between recorded traffic data and the switching or trunking elements is due to the shared information between CU/EQ and TDAS. It runs as a batch system in the same computer as TDAS and is regularly updated with batch transactions to keep it current with changes in the physical arrangement of CO switching machines which ensures that recorded measurements are treated consistently in each of the reporting systems that use CU/EQ records.

ICAN (Individual Circuit ANalysis)
%%

The final of the three systems downstream from EADAS is ICAN, which also uses data directly from EADAS but uses CU/EQ for reference information. It is a CO reporting system which detects electromechanical switching system faults by identifying abnormal load patterns on individual circuits within a circuit group. ICAN produces a series of reports used by the NAC (Network Administration Center) to analyze the individual circuits and to verify that such circuits are being correctly associated with their respective groups.

LBS (Load Balance System)
%%

LBS is a batch-executed system that helps assure the network administrator that traffic loads in each switching system are uniformly distributed. It analyzes the traffic data to establish traffic loads on each line group of the switching system. The NAC uses the resulting reports to determine the lightly loaded line groups to which new subscriber lines can be assigned. LBS also calculates load balance indices for each system and aggregates the results for the entire BOC.

5XB COER (No. 5 Crossbar Central Office Equipment Reports)
%%

The 5XB COER provides information on common-control switching equipment operation for different types of switching systems. It is a batch-executed system that runs on a BOC mainframe that analyzes traffic data to determine how heavily various switching system components are used and measures certain service parameters. It calculates capacity for the No. 5 Crossbar. Network administrators use 5XB COER reports to monitor day-to-day switching performance, diagnose potential switching

malfunctions, and help predict future service needs. Traffic engineers rely on reports to assess switching office capacity and to forecast equipment requirements. It produces busy hour and busy season reports so service and traffic load measurements can be most useful in predictions.

SPCS COER (Stored-Program Control Systems Central Office Equipment Reports)
%%

The SPCS COER is basically the same as the 5XB COER as it too monitors switching system service and measures utilization in the same manners as mentioned above. The essential differences between the 5XB COER and the SPCS COER are that the latter calculates capacity for 1ESS, 2ESS, and 3ESS switching offices as opposed to the No. 5 Crossbar switch and SPCS COER is an interactive system that runs on a centralized AT&T mainframe computer.

SONDS (Small Office Network Data System)
%%

SONDS collects its own data from small step-by-step offices independently of EADAS and TDAS. It performs a full range of data manipulation functions and provides a number of TNDS features economically for smaller electromechanical step-by-step offices. The data collected is directly from the offices being measured. It processes the data and automatically distributes weekly, monthly, exception, and on-demand reports to managers at the NACs via dial-up terminals. SONDS runs on an interactive basis at a centralized AT&T mainframe computer.

CU/TK (Common Update/TrunKing)
%%

CU/TK is a database system that contains the trunking network information and as well as other information required by TSS (Trunking Servicing System) and TFS (Trunk Forecasting System). The CU/TK is regularly updated by CAC (Circuit Administration Center) by personnel to keep it current with changes in the physical arrangements of trunks and switching machines in the CO. For correct trunking and switching configuration in the processing by TSS and TFS, this updating process, which includes maintaining office growth information and a "common-language" circuit identification of all circuits for individual switching machines, ensures that traffic data provided by TDAS will be correctly associated.

TSS (Trunk Servicing System)
%%

TSS helps trunk administrators develop short-term plans and determine the number of circuits required in a trunk group. Data from TDAS is processed in TSS and the offered load for each trunk group is computed. Through offered load calculation on a per-trunk-group basis, TSS calculates the number of trunks theoretically required to handle that traffic load at a designated grade of service. TSS produces weekly reports showing which trunk groups have too many trunks and which have too few that are performing below the grade-of-service objective. Trunk orders to add or disconnect trunks are made by the CAC after they use the information provided through TSS.

TFS (Trunk Forecasting System)
%%

TFS uses traffic load data computed by TSS as well as information on the network configuration and forecasting parameters stored in the CU/TK database for long-term construction planning for new trunks. TFS forecasts message trunk requirements for the next five years as the fundamental input to the planning process that leads to the provisioning of additional facilities.

CSAR (Centralized System for Analysis and Reporting)
%%%

CSAR is designed to monitor and measure how well data is being processed through TNDS. It collects and analyzes data from other TNDS systems and provides operating company personnel at NDCCs, NACs, and CACs with quantitative measures of the accuracy, timeliness, and completeness of the TNDS data flow as well as the consistency of the TNDS record bases. CSAR also presents enough information to locate and identify a data collection problem. CSAR summarizes the results of its TNDS monitoring for the company as input to the TPMP (TNDS Performance Measurement Plan) which is published monthly by AT&T. CSAR runs as a centralized on-line interactive system at an AT&T computer center. Its data is placed into special files, which, at the end of a CSAR run, are merged and transferred to the AT&T computer center. CSAR performs the proper associations and analyzes each system's results. These results are obtained by company managers via dial-up and they can be arranged in a number of formats that provide details on overall TNDS performance or individual system effectiveness. Specific problems can also be identified through these reports.

The following is a diagram of data flow among TNDS systems:

Trunk Network Reporting Systems

```
                    |-> TSS ----------------------> TFS
      *        Data*|     ^                          ^
      *Acquisition*|      %_______          _______/
      *    Systems*|              %-CU/TK-/
 _________          |
|         |-->EADAS |
|Switching|    Alt. |
|Systems  |  Systems|        * Central Office  *
|_________|%    |   /        *Reporting Systems*     *System Performance *
      |   %  %->TDAS-------------------------        *Measurement Systems*
      |    %     |  %_______       |    |     |
      |     %  EADAS        |      LBS  5XB   SPCS .............CSAR
      |      %   |          |     /     COER  COER                .
      |       EADAS/NM   CU/EQ-<                                  .
      |                        %                                  .
      |                          ICAN  SONDS                      .
      |                                  ^                        .
      |_________________________________|          Selected data from
                                                   other TNDS Systems
```

SCCS (Switching Control Center System)
%%%

The Switching Control Center (SCC) was created to centralize the administration, maintenance, and control of the 1ESS switching system. By using the remote-interaction interfacing of the MCC (Master Control Center), which is a frame of equipment in a 1ESS system that indicates the current state of the office equipment, the SCC functions as the centralized maintenance center for the switch.

At the SCC, a minicomputer system called the CSS (Computer Sub-System) is added and along with the equipment units that remote the MCC, it makes up the SCCS. The CSS can support a number of SCCs. Generally, the CSS is located in the MMOC. Basically, a number of switches are handled by each SCC and the various SCCs are handled by the CSS.

The SCCS contains maintenance and administrative data that is sent directly from the switches. Through the SCCS, a technician can remotely operate the MCC keys on the switches hooked up to it as well as perform any available command or task supported by the switch. The SCCS can handle up to 30

or more offices although usually only 15 or so are handled per SCC. This number depends also on the size of the offices and the amount of data that is transmitted.

Major alarms that sound at a switching office set off alarms at the SCC within seconds and it also causes an update of the status of the office on the critical indicator panel and it displays a specific description of the alarm condition on a CRT alarm monitor at a workstation. Software enhancements to the SCCS fall into four broad classes:

- Enhanced Alarming - Besides alarms sounding, incoming data can generate failure descriptions for easy interpretation and real-time analysis techniques.
- Interaction with Message History - Using past information on a switch's troubles, the SCCS allows pertinent information on a specific switch to be provided in case of an alarm.
- Mechanization of Craft Functions - Certain conditions no longer need to be looked into directly. If an alarm goes off, the SCCS can perform routine tests and fix the problem as best it can or else, if that doesn't work, a trouble ticket is issued.
- Support for Switch Administration - Through the SCCS, data can be sent automatically to different operations centers as well as other operations systems which require data from the switches.

Since the original SCCS came into operation, many changes have taken place. The current SCCS supports all of the entire ESS family of switches as well as network transmission equipment and it also can maintain several auxiliary processor systems, like TSPS (Traffic Service Position System) and AIS (Automatic Intercept System), and supports network transmission equipment.

COEES (Central Office Equipment Engineering System)
%%%

COEES is a time-sharing system that runs on a DEC PDP-10. It is the standard system for planning and engineering local switching equipment. COEES contains component systems for Step-By-Step, Crossbar, 1/1AESS, and 2/2BESS switching systems, each of which has a different capability.

The COEES database stores information obtained from forecasts for each local switching office on number of lines of all types, number of trunks of all types, average call rate per line and trunk, average usage per line and trunk, and all features, signaling types, etc. that are required. COEES determines the quantity of each type of equipment in the office needed to satisfy the forecasted load at objective service levels, determines an estimated price for engineering, procuring, and installing the equipment addition needed to reach the require level, and then it sums up the costs of doing it eight different ways for the network designer to review. The system also takes into account varying parameters like call rate or proportion of lines with certain features which is called sensitivity analysis.

With the information provided by the COEES forecast, the designer can then make a recommendation. After a decision is made on the recommendation, COEES prints out an order so that the additional equipment can more quickly and easily be obtained.

COEES also puts out a report called call store on a 1ESS, which tells the engineer and the equipment supplier how much memory to allocate to different functions in the switch depending on inputs that the engineer provides to the system.

MATFAP (Metropolitan Area Transmission Facility Analysis Program)
%%%

MATFAP is a computer program that aids in facility planning. It analyzes the alternatives available to the operating company for its future transmission equipment and facilities using present worth of future expenses and other measures.

By combining trunk and special-service circuit forecasts with switching plans, network configuration, cost data, and engineering rules, MATFAP can identify what transmission plant will be needed at various

locations and when it will be needed. It also determines economic consequences of specific facility and/or equipment selections as well as routing choices and it provides the least-cost assignment of circuits to each facility as a guide to the circuit-provisioning process. It is oriented towards metropolitan networks and facilities/equipment found in those regions.

MATFAP provides two benefits. It helps automate the transmissionplanning process and it takes into account economies that cannot be identified by restricted analysis. It also balances circuit loads on high-capacity digital lines with additional multiplex equipment. Data from MATFAP is edited through RDES (Remote Data Entry System).

Various Operating Systems
%%

<u>The following is a list of other operating systems used by the Bell System with brief descriptions:</u>

ATRS (Automated Trouble Reporting System) -
%%
Aids in the analysis of trouble reports by sorting, formatting,forwarding, and examining them from the entire country for standard errors.

BOSS (Billing and Order Support System)
%%
Allows access to customer records, CN/A, bill adjustments, and information routing.

CAROT (Centralized Automatic Reporting On Trunks)
%%
Operations system that tests a trunk on electromechanical and electronic switching systems and sends its findings to a remote computer terminal.

CATLAS (Centralized Automatic Trouble Locating and Analysis System)
%%
An operations system that automates trouble location procedures that identify faulty circuit packs in a switch when trouble is detected and diagnosed

CMDS (Centralized Message Data System)
%%
Analyzes the AMA tapes to determine traffic patterns.

COSMOS (COmputer System for Mainframe OperationS)
%%
Stores the full inventory of telephone numbers.

CRIS (Customer Records Information System)
%%
Contains the customer billing database.

CRS (Centralized Results System)
%%
A management information system that automates the collection, analysis, and publication of many measurement results.

CUCRIT (Capital Utilization CRITeria)
%%
Used mainly for project economic evaluation and capital budgeting and planning.

DACS (Digital Access Cross-connect System)
%%
Remote digital access for testing of special-service circuits in analog or digital form.

EFRAP (Exchange Feeder Route Analysis Program)
%%
Used in planning of the loop network.

OFNPS (Outstate Facility Network Planning System)
%%
Also like MATFAP but deals with radio and coaxial cable as opposed to voice-frequency facilities.

IPLAN (Integrated PLanning And Analysis system)
%%
Used mainly for project economic evaluation.

LMOS (Loop Maintenance Operations System)
%%
Maintenance outages on loops remotely by a service employee.

LRAP (Long Route Analysis Program)
%%
Like EFRAP, used in planning of the loop network.

LSRP (Local Switching Replacement Planning system)
%%
A system used in the planning of wire centers.

NOTIS (Network Operations Trouble Information System)
%%
Aids in the analysis of trouble reports.

NSCS (Network Service Center System)
%%
At the NSC, aids in the analysis of trouble reports.

OFNPS (Outstate Facility Network Planning System)
%%
Similar to MATFAP but contains a decision aid that identifies strategies for the introduction of digital facilities in a predominantly analog network; rural transmission facility network planning.

RDES (Remote Data Entry System)
%%
Allows for remote editing of on-line computer data.

RMAS (Remote Memory Administration System)
%%
Changes translations in the switching systems.

SARTS (Switched Access Remote Test System)
%%
Accessed to perform sophisticated tests on most types of special-service circuits.

SMAS (Switched Maintenance Access System)
%%%
Through the use of relays, provides concentrated metallic access to individual circuits to permit remote access and testing by SARTS.

TASC (Telecommunications Alarm Surveillance and Control System)
%%%
An alarm program that identifies the station and transmits it back to the central maintenance location.

TCAS (T-Carrier Administration System)
%%%
An operations system responsible for T-carrier alarms.

TCSP (Tandem Cross Section Program)
%%%
A program for analysis of traffic network planning.

TFLAP (T-carrier Fault-Locating Application Program)
%%%
A subprogram of Universal Cable Circuit Analysis Program which analyzes networks with branches, multiple terminations and bridge taps.

Acronym Glossary
%%%

AIS	*Automatic Intercept System*
AMA	*Automatic Message Accounting*
ATRS	*AutomatedTrouble Reporting System*
BOSS	*Billingand Order Support System*
C1	*Circuit System*
CAC	*Circuit Administration Center*
CAROT	*CentralizedAutomatic Reporting On Trunks*
CATLAS	*Centralized AutomaticTrouble Locating and Analysis System*
CMDS	*CentralizedMessage Data System*
CPC	*CircuitProvision Center*
CO	*Central Office*
COC	*CircuitOrder Control*
COEES	*Central OfficeEquipment Engineering System*
COSMOS	*COmputer Systemfor Mainframe OperationS*
CRIS	*CustomerRecords Information System*
CRS	*CentralizedResults System*
CRT	*Cathode-RayTube*

CSAR	*Centralized System for Analysis and Reporting*
CSS	*ComputerSubSystem*
CUCRIT	*Capital UtilizationCRITeria*
CU/EQ	*Common Update/EQuipmentsystem*
CU/TK	*Common Update/TrunKingsystem*
DACS	*DigitalAccess and Cross-connect System*
DPAC	*DedicatedPlant Assignment Card*
E1	*Equipment system*
EADAS	*Engineeringand Administrative Data Acquisition System*
EADAS/NM	*EADAS/Network Management*
EFRAP	*ExchangeFeeder Route Analysis Program*
ESS	*ElectronicSwitching System*
F1	*Facility system*
FEPS	*Facilityand Equipment Planning System*
5XB COER	*No. 5 Crossbar Central OfficeEquipment Report system*
ICAN	*IndividualCircuit ANalysis*
IFRPS	*IntercityFacility Relief Planning System*
IPLAN	*IntegratedPLanning and ANalysis*
LAC	*LoopAssignment Center*
LBS	*Load Balance System*
LMOS	*LoopMaintenance Operations System*
LRAP	*LongRoute Analysis Program*
LSRP	*LocalSwitching Replacement Planning system*
MATFAP	*Metropolitan AreaTransmission Facility Analysis Program*
MCC	*MasterControl Center*
MMC	*MinicomputerMaintenance Center*
MMOC	*MinicomputerMaintenance Operations Center*
NAC	*NetworkAdministration Center*
NDCC	*NetworkData Collection Center*
NMC	*NetworkManagement Center*
NOC	*NetworkOperations Center*
NOCS	*NetworkOperations Center System*
NORGEN	*Network OperationsReport GENerator*
NOTIS	*Network OperationsTrouble Information System*
NSCS	*NetworkService Center System*
OFNPS	*OutstateFacility Network Planning System*

PIA	*Plug-InAdministrator*
PICS	*Plug-inInventory Control System*
PICS/DCPR	*PICS/Detailed Continuing PropertyRecords*
PREMIS	*PREMises InformationSystem*
PSTN	*PublicSwitched Telephone Network*
RDES	*RemoteData Entry System*
RMAS	*RemoteMemory Administration Center*
SARTS	*SwitchedAccess Remote Test System*
SCC	*SwitchingControl Center*
SCCS	*SwitchingControl Center System*
SMAS	*SwitchedMaintenance Access System*
SONDS	*Small OfficeNetwork Data System*
SPCS COER	*Stored-Program Control System/CentralOffice Equipment Report*
TASC	*TelecommunicationsAlarm Surveillance and Control system*
TCAS	*T-CarrierAdministration System*
TCSP	*TandemCross Section Program*
TDAS	*TrafficData Administration System*
TFLAP	*T-CarrierFault-Locating Applications Program*
TFS	*TrunkForecasting System*
TIRKS	*Trunks IntegratedRecords Keeping System*
TNDS	*TotalNetwork Data System*
TPMP	*TNDSPerformance Measurement Plan*
TSPS	*TrafficService Position System*
TSS	*TrunkServicing System*
WC	*Wire Center*

[edited and reformatted by Venadium]