



585-247-010

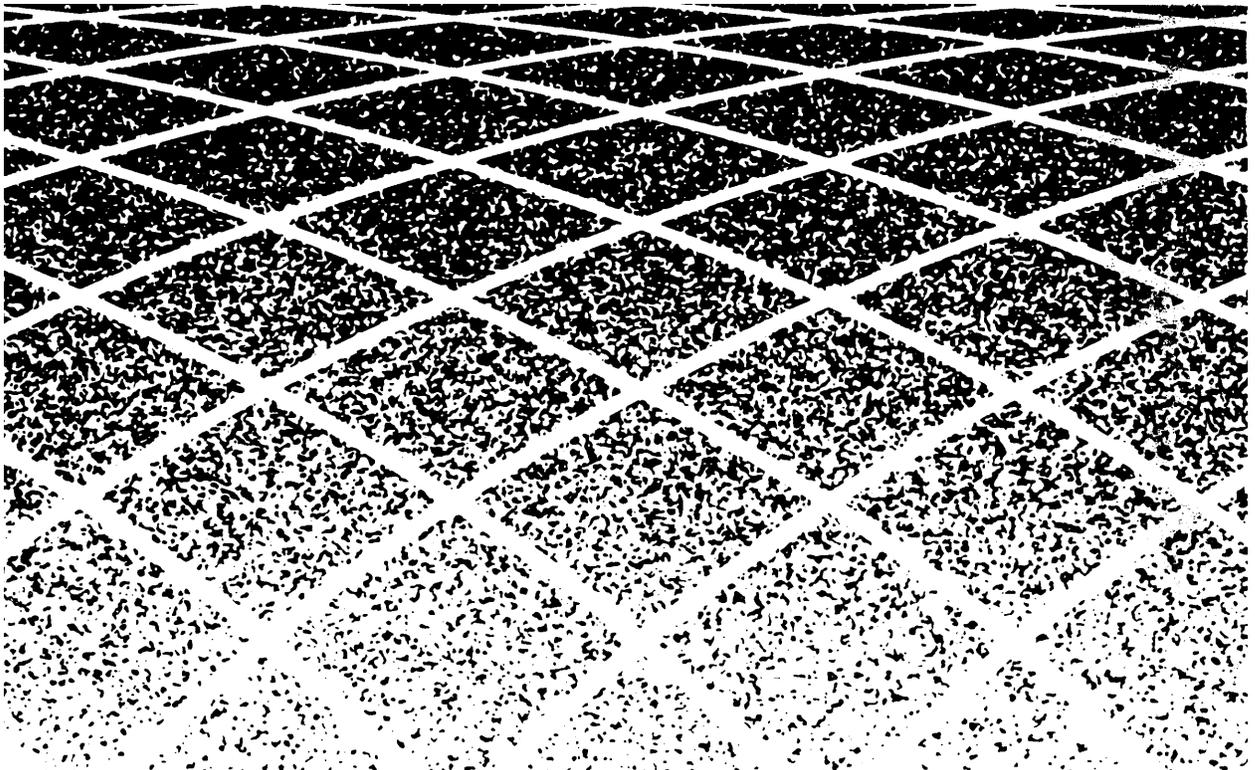
Issue 1

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Call Accounting System (CAS)

Integrated Solution II Site Installation and Implementation Guide

for the MERLIN LEGEND™ Communications System



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About this Document

Purpose

This manual is intended to guide those who want to understand the customization process of the Call Accounting System (CAS) for the MERLIN LEGEND™ Integrated Solution II (IS-II). It provides detailed instructions for loading a site's rate tables, setting up a basic configuration, and testing that the system is operational.

Intended Audiences

This document is written for those people who will install CAS.

How to Use this Document

This document describes the installation tasks typically performed by AT&T implementors, in the order they should be carried out. This document must be used in conjunction with the completed Planning Forms for the site.

For an overview of the installation process, read the following material:

- Chapter 1, *Installation Overview*, provides a flowchart of an IS-II installation process and the appropriate CAS documentation to help you accomplish the tasks related to the CAS application.

To load the site software and configure the system according to the information in the Planning Forms, read the following material:

- Chapter 2, *Loading and Setting Up a Basic Configuration*, provides instructions to create a site and enter a minimal configuration from the site, telephone system configuration, dialed digit processing, and call record collection planning forms.
- Chapter 3, *Creating the Organization Table*, describes how to set up your company's organization of telephone extensions.
- Chapter 5, *Customizing the System*, describes how to enter the report schedules, cost adjustments, and account code planning forms, as well as how to back up your system.
- Appendix A, *CAS Menu System*, shows the CAS menu system as a "tree" diagram.
- Appendix C, *Loading the Organization Table*, describes how to transfer a previously prepared text file containing the organization configuration. This is used to speed the installation process, instead of creating the table manually (as documented in chapter 3).

To verify that the system is operational or to correct a problem discovered while testing the system, read the following material:

- Chapter 4, *Performing the Acceptance Test*, documents testing procedures to verify that the system is receiving and processing call records.
- Appendix B, *Getting Assistance for Problems*, provides basic troubleshooting guidelines for CAS users to identify and correct problems and how to get help for problems that they cannot correct.

Conventions Used in this Document

The following typographic conventions are used in this document:

- Terminal keys that you press are shown in brackets — for example:

Press <ESC>.

- Two or more keys that you press simultaneously are shown together in brackets — for example:

Press <Ctrl-w>.

- Some commands are executed by typing the first letter of the command name (shown in brackets) — for example:

Press <U>pdate.

- The word “enter” in a procedure means to type a value and press <ENTER>. For example, an instruction to type the letter “y” and press <ENTER> is shown as:

Enter **y** to continue.

- Information that is displayed on your terminal screen is shown in constant-width type. Information that you enter from your keyboard is shown in constant-width bold type — for example:

At the login: prompt, enter **is**

- Variables that the system or you supply are shown in italic type — for example:

Find "loadorg*mmddy*" — where *mmddy* is today's date.

Related Resources

The following documents may provide you with additional information:

- *Call Accounting System (CAS) Integrated Solution II Planning Guide and Forms for the MERLIN LEGEND™ Communications System* (585-247-050) — contains the planning forms with the collected information used to set up and configure all CAS databases at installation.
- *Call Accounting System (CAS) Integrated Solution II User's Guide for the MERLIN LEGEND™ Communications System* (585-247-070) — provides instructions and detailed information on all CAS features and screens.

Installation Overview

1

Installing the AT&T CAS and creating its database requires the careful coordination of the following tasks:

- Preparation — in which site requirements are planned and the information used to customize the system is collected on planning forms. Typically, AT&T account teams will assist CAS users in completing these forms.
- Platform installation — in which the Integrated Solution II (IS-II) hardware and software components are installed. Typically, AT&T support specialists and implementors will install the switch, the Master Controller, operating system, and the CAS application as part of an Integrated Solution II installation.
- CAS site installation — in which the information on the planning forms is entered into the system and the system is certified operational. Typically, AT&T implementors will load the site software, customize the system, and perform an acceptance test.

The flowchart on the next page illustrates the installation process and the appropriate CAS documentation to help you accomplish the tasks related to the CAS application.

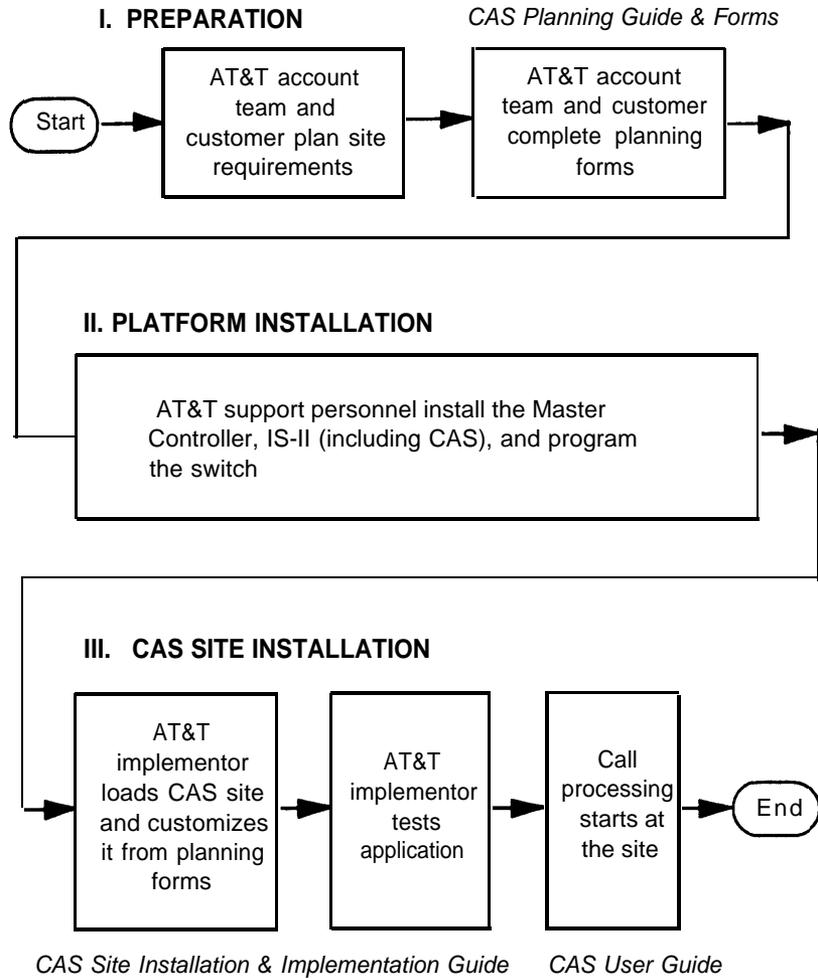


Figure 1-1. CAS Implementation Flowchart

Loading and Setting Up a Basic Configuration

2

You create a CAS site by loading the rate tables for its local calling area and then following an installation program that sets up a basic configuration.

Rate tables are contained in either the SITEGEN diskette (if the site ordered custom rates) or in the MAJOR METRO EAST and WEST diskettes shipped with the software package.

The installation program is automatically activated after loading the rate tables. It will "walk" you through a series of screens to enter information from the following planning forms:

- *Site Information*
- *Telephone System Configuration*
- *Dialed Digit Processing*
- *CDR Collection Configuration*

Should you skip any of the screens used to enter the above information, you may return to them after the installation program completes. Simply access that particular screen from the CAS main menu and follow the instructions under the appropriate section in this chapter. Appendix A contains a "menu tree" of all CAS screens.

Loading the Rate Tables

1. If the site is installing custom rates, retrieve the SITEGEN diskette and proceed directly to step 2; otherwise, find the site area code in the map below and retrieve the MAJOR METRO EAST or MAJOR METRO WEST diskette — whichever contains the major metropolitan center associated with the site area code.

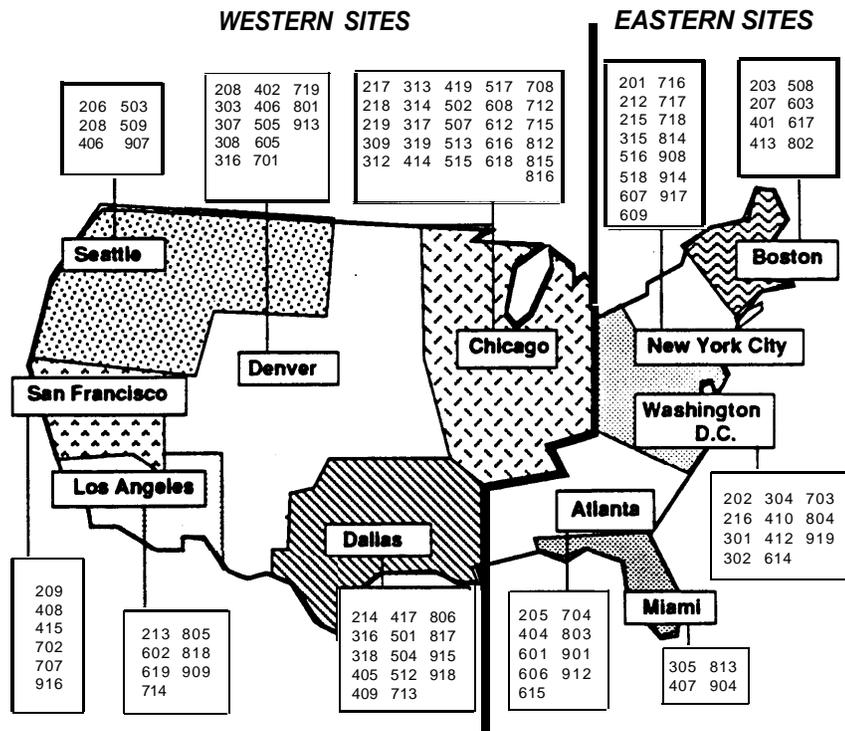


Figure 2-1. Major Metropolitan Centers

Loading and Setting Up a Basic Configuration

- From the CAS main menu, select Site Configuration Menu and then, Install a Site. The screen displays:

```
-----
                        INSTALL SITE
-----

Please wait while costing is shutdown.
Press <RETURN> to continue.
```

- Press <ENTER>. The screen displays:

```
-----
                        INSTALL SITE
-----

Ready to read in site software from media.
Note: Only one site can be installed at a time.

Please enter the root password when prompted below.
Password:
```

- Enter the root password. Then follow the screen instructions to select a drive (if necessary), insert the SITEGEN or MAJOR METRO diskette chosen on step 1, and press <ENTER>.
- If installing a SITEGEN, proceed directly to step 6; otherwise, depending on your choice of MAJOR METRO diskette, the screen displays the menu on the left (Western Sites) or the right (Eastern Sites):

```
-----
                        INSTALL SITE
-----

Select the major metropolitan center closest to the site installed.

A simplified rate schedule based on an area code and exchange from
the selected center will be used to cost calls from this site.

-----
```

Western Sites	1 Quit 2 Chicago, IL 3 Dallas, TX 4 Denver, CO 5 Los Angeles, CA 6 San Francisco, CA 7 Seattle, WA 8 Eastern Sites	1 Quit 2 Atlanta, GA 3 Boston, MA 4 Miami, FL 5 New York City, NY 6 Washington, DC 7 Western Sites	Eastern Sites
----------------------	---	--	----------------------

```
-----
Your choice:
Your choice:
```

5. Enter the number corresponding to the major metropolitan center closest to the site calling area.
6. The screen displays either the *area code/exchange* from the SITEGEN or dummy numbers (210/221) from the MAJOR METRO diskette and prompts you to confirm the installation. Press <ENTER> to continue.
7. Remove the diskette from the drive. The EDIT SITE INFORMATION screen appears on display. Proceed to the next section.

Entering Site Information

1. When a screen similar to the sample below appears on display, retrieve the Site Information planning form.

```
COMMANDS: Query Next Previous Update Exit
          Query for record
-----
                    EDIT SITE INFORMATION
-----

      Site Name:
      Site Number: 1
      Site Area Code: 210
      Site Exchange: 221
      Site Address:
      Site City:
      Site State:
      Site Zip Code:
      Site Contact Person:
      Site Contact Number:

                                Date           Order Number
                                -----
      Installation: 00:00 May 12 1989 M12345-00
      Last Update:  00:00 May 12 1989 NEVER
```

NOTE:

The Site Number, Area Code, Exchange, and the Date and the Order Number for the Installation and Last Update are non-editable values associated with the rate tables loaded.

2. Press <U>update.
 - a. As the cursor moves to the `Site Name` field, enter the site *name* from the planning form — remember, this means to type in the *name* followed by pressing <ENTER>. The cursor moves to the next field.
 - b. In a similar fashion, enter the *address, city, state, zip code, contact person, and contact number*. After you enter the last field, the cursor moves back to the first field.
 - c. Check your entries. If incorrect, press <ENTER> to move the cursor to the appropriate field and re-enter it.

NOTE:
As you write over a field, make certain the cursor is placed at the end of your entry before pressing <ENTER>.
 - d. When complete, press <ESC> to save this information.
3. Press <E>xit. The `EDIT TELEPHONE SYSTEM CONFIGURATION` screen appears on display. Proceed to the next section.

Entering the Telephone System Configuration

1. When a screen similar to the sample below appears on display, retrieve the Telephone System Configuration planning form.

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Find detail record
-----
          EDIT TELEPHONE SYSTEM CONFIGURATION - FACILITY
-----
          Site: HEADQUARTERS
          Trunk Group: ???
          Facility: CO
          Number of Trunks: 1
```

2. Press <A>dd. The data entry fields become blank and the cursor moves to the Trunk Group field.
 - a. Enter values from the first three columns of the first line in the form.
 - b. Check your entries. If incorrect, press <ENTER> to move the cursor to the appropriate field and re-enter it.
 - c. When complete, press <ESC> to save this information.
3. Press <D>etail. A screen similar to the sample below appears on display.

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Find detail record
-----
          EDIT TELEPHONE SYSTEM CONFIGURATION - DIAL ACCESS CODE
-----
          Site: HEADQUARTERS
          Trunk Group: 1
          Facility: CO
          Number of Trunks: 3
          Dial Access Code: NONE
          Rate (in cents): 0
          Rate Type: M
          Carrier: 0
          Incoming Calls: N
```

4. Press <A>dd. The cursor moves to the Dial Access Code field.
 - a. One at a time, enter values from the next five columns of the form.
 - b. Check your entries. If incorrect, press <ENTER> to move the cursor to the appropriate field and re-enter it.
 - c. When complete, press <ESC> to save this information.
5. Press <D>etail. Trunk Line: appears at the bottom of the screen.
6. Press <A>dd, enter a trunk number from the form, and press <ESC>.

If there are more trunks in the form under this access code, repeat step 6; otherwise, continue with step 7.

7. Press <M>aster twice to return to the Facility screen level. If the planning form has more facilities, repeat steps 2 to 6.
8. When the planning form is complete, press <E>xit.

The EDIT DIALED DIGIT PROCESSING screen appears on display. Proceed to the next section.

Entering the Dialed Digit Processing Table

1. When a screen similar to the one below appears on display, retrieve the Dialed Digit Processing planning form.

```
COMMANDS: Query Next Previous Add Update Remove Master Exit
           Query for record
-----
           EDIT DIALED DIGIT PROCESSING
-----
           Site: HEADQUARTERS
Search for:
           Dialed Digits: 0%           Trunk Group:
Cost as:
           Cost Method: C           Rate: 0
           Trunk Group:           Call Type: ZERO+
           Dialed Digits:           Substitute the Digits? N
```

2. Refer to the planning form to verify if there are any changes to this entry. If changes are required, press <U>pdate, write over the fields as necessary, and press <ESC>.

For example, to change the rate from 0¢ to 50¢, press <U>pdate, move to the Rate field, enter 50, and press <ESC>.

3. When complete, press <N>ext to access the next entry and repeat step 2.

- After checking all built-in entries, add any new entries. For example, to add the following line from the planning form:

SEARCH PATTERN		REPLACE PATTERN					Substitute Digits?
DIALED DIGITS	Trunk Group	Cost Method	RATE (cents)	Trunk Group	Call Type	DIALED DIGITS	
1212???????		T	0		LOCAL		

press <A>dd, enter 1212???????, skip to the Cost Method field, enter T and then, 0, skip to the Call Type field, enter LOCAL, and press <ESC>.

- Repeat step 4 until the planning form is complete, then press <E>xit.

The EDIT CDR COLLECTION CONFIGURATION screen appears on display. Proceed to the next section.

Entering CDR Collection Information

- When a screen similar to the sample below appears on display, retrieve the CDR Collection Information planning form.

```

COMMANDS: Update Master Detail Exit
          Update the displayed record
-----
          EDIT CDR COLLECTION INFORMATION
-----
                   Site: HEADQUARTERS
          Collection Device:
          Call Record Format:
          Communication Type:
                   Time Zone:
          Daylight Savings?
    
```

- Press<U>pdate, enter the values from this portion of the planning form, and press <ESC>.

3. Press <D>etail. The bottom of the screen displays the default values below.

```
Direct PBX Interface Parameters:
PBX Port Baud Rate: 1200
PBX Port Data Bit: 8
PBX Port Stop Bit: 1
PBX Port Parity: N
Press <M>aster to view/edit additional fields.
```

4. If changes are needed, press <U>pdate, enter the values from this portion of the planning form, and press <ESC>.
5. Press <E>xit.

This completes the installation program for a basic setup. The `SITE CONFIGURATION MENU` appears. Return to CAS main menu by pressing <F6>.

You may exit CAS (by pressing <E>xit in CAS main menu) or proceed to the Company Organization setup as described on the next chapter.

Creating the Organization Table

3

This chapter describes how to create a Company Organization table by manual data entry of the Organization Configuration form.

NOTE:

The Company Organization Table may be created by a data file transfer using a CAS function, the Load Organization Table, under the Organization Configuration menu.

This operation assumes the existence of a previously prepared text file containing the organization table entries. Creating the file, however, requires access to UNIX commands and is beyond the scope of this manual.

Appendix C, *Loading the Organization Table*, describes the file format and its loading and verification procedures.

Entering the Organization Table

1. From the Organization Configuration Menu, select Edit Organization Table. Refer to the Organization Table planning form.

A screen similar to the sample below appears on display.

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Query for record
-----
          EDIT ORGANIZATION TABLE - SITE
-----
          Site: HEADQUARTERS
```

2. Press <D>etail. The Department field appears on display.
3. Press <A>dd, enter a department (for example, **SYS-ENGINEERING**), and press <ESC>. The screen displays your entry:

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Query for record
-----
          EDIT ORGANIZATION TABLE - DEPARTMENT
-----
          Site: HEADQUARTERS
          Department: SYS-ENGINEERING
```

4. Press <D>etail. The Cost Center field appears on display.
5. Press <A>dd. Enter a cost center (for example, **R&D**), and press <ESC>. The screen displays your entry:

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Query for record
-----
          EDIT ORGANIZATION TABLE - COST CENTER
-----
          Site: HEADQUARTERS
          Department: SYS-ENGINEERING
          Cost Center: R & D
```

6. Press <D>etail. The Extension field appears on display.

Creating the Organization Table

7. Press <A>dd. Enter an extension (for example, 363), and press <ESC>. The screen displays your entry:

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
Query for record
-----
EDIT ORGANIZATION TABLE - EXTENSION
-----
Site: HEADQUARTERS
Department: SYS-ENGINEERING
Cost Center: R & D
Extension: 363
```

8. Press <D>etail. The personnel record appears on display.
9. Press <A>dd, enter a name (for example, **SMITH, MARY**). Since the other fields are not used, press <ESC>. The screen displays your entry:

```
COMMANDS: Query Next Previous Add Update Remove Master Exit
Query for record
-----
EDIT ORGANIZATION TABLE - PERSONNEL
-----
Site: HEADQUARTERS
Department: SYS-ENGINEERING
Cost Center: R & D
Extension: 363
Name: SMITH, MARY
Authorization Code:
Credit Card Number:
Carrier:
```

10. If this extension has more users, add them one at a time as in step 9. Otherwise, press <M>aster to return to the Extension level and add all other extensions to this cost center — as in steps 7 to 9.
11. Press <M>aster to return to the Cost Center level and add all other cost centers to this department — as in steps 5 to 10.
12. Press <M>aster to return to the Department level and add all other departments — as in steps 3 to 10.
13. When the planning form is complete, press <E>xit.

Printing the Organization Table

1. From the Organization Configuration Menu, select Organization Tables Menu, and then, List All Organization Tables.
2. Press <G>enerate. When the reports print, leave them at the site for future reference.

The task is complete. You may proceed with the *Acceptance Test* in the next chapter.

Performing the Acceptance Test

4

This chapter is devoted to enabling and testing call record collection. It assumes the following items have been installed, tested, and are operational:

- All computer components, UNIX tools, and Integrated Solution II
- Switch and switch-to-computer interface cable

This procedure also assumes that the CAS software, site, and organization tables have been installed. **DO NOT CONTINUE OTHERWISE.**

Enabling Call Record Collection

1. From the CAS main menu, select CDR Collection Configuration Menu, then Edit CDR Port Information. A screen similar to the sample below appears.

```
COMMANDS: Query Next Previous Add Update Remove Exit
          Query for record
-----
                EDIT CDR PORT INFORMATION
-----
          Port Name: tty01
Communication Type: 1
          Port Enabled? N
          Description: COMM PORT 2
```

2. Note the value of the field Port Enabled? If it is **N**, press <U>pdate, change it to **Y**, and press <ESC>.
3. Press <E>xit and return to CAS main menu.

Placing Test Calls

Place several test calls of at least one minute duration. Wait five minutes, then proceed to the next section.

Printing a Selection Report

1. From the CAS main menu, select Reports Menu, then Generate Selection Report. A screen similar to the sample below appears.

```
COMMANDS: Next Previous Update Generate Exit
          Update the displayed record
-----
                    SELECTION REPORT
-----
Report Number: 1
Date Range: Jan 1 1980 to: Dec 31 1999
Time Range: 00:00 to: 23:59
Duration Range: 0:00:00 to: 23:59:59
Cost Range: $ 0:00 to: $1000.00
Extension Range: 0 to: 99999
Site:
Department:
Cost Center:
Trunk:
Carrier Type:
Routing Code:
Source Type:
Call Type:
Account Code:
Dialed Digits:
Report Type: D
```

2. Press <G>enerate. A screen similar to the sample below appears.

```
COMMANDS: Update Generate Exit
          Update the displayed record.
-----
                    SELECTION REPORT
-----
Output Method: P
Output Device: wide 570|lp
```

3. Press <G>enerate. When the report prints, verify that your test calls appear. If you experience any problems, refer to appendix B.
4. Press <E>xit and return to CAS main menu.

The system is installed and operational. Please read chapter 5, *Customizing the System*, for further recommendations.

This chapter describes the final tasks that will leave CAS customized. These tasks are:

- *Scheduling Reports* — to set up the frequency for automatic printout of reports.
- *Entering the Cost Adjustment Table* — to set up call cost markups and duration adjustments.
- *Entering the Account Code Table* — to create a table of account code numbers and names.
- *Setting a Password* — to limit access to CAS to authorized users.
- *Backing Up CAS Data* — to save a copy of all the information entered up to this point on diskettes.

Scheduling Reports

1. From CAS main menu, select Reports Menu then, Schedule Reports.

The master data entry screen references a report schedule by its Number (1 to 150, not editable).

```
COMMANDS: Next Previous Update Detail Exit
          Find next record
-----
                SCHEDULE REPORTS
-----
          Number: 1
          Report Code:
          Frequency: N
          Next Run Date: 00:00 Jan 1 1970
          Output Method: P
          Output Device: wide 570|lp
```

2. Refer to the Schedule Reports planning form for the first report.

Press <U>pdate, enter the *report code* and change the other values from this portion of the form, as required. When complete, press <ESC>.

A sample screen appears below.

```
COMMANDS: Next Previous Update Detail Exit
          Update the displayed record
-----
                SCHEDULE REPORTS
-----
          Number: 1
          Report Code: CTYP
          Frequency: M
          Next Run Date: 00:00 Sep 1 1990
          Output Method: P
          Output Device: wide 570|lp
```

3. Press <D>etail.

When the second screen appears, press <U>pdate and enter the rest of the planning form for this report. When complete, press <ESC>.

A sample screen appears below.

```
COMMANDS: Update Master Exit
          Update the displayed record
-----
          SCHEDULE REPORTS - REPORTS DETAIL
-----
          Number: 1
          Report Title: Call Type Report
          Reporting Period: M
          Start of Period: Aug 1 1990
          Increment Period: Y
```

4. If there are more schedules to define, press <M>aster, then <N>ext, and repeat steps 2 and 3.
5. When the planning form is complete, press <E>xit and return to CAS main menu.

Entering the Cost Adjustment Table

1. From CAS main menu, select the Costing Configuration Menu, then Edit Cost Adjustments.
2. Press <D>etail. A screen similar to the sample below appears on display. This is the first entry of CAS internal table with default values for every call type in your system.

```
COMMANDS: Query Next Previous Update Master Exit
          Find next record
-----
          EDIT COST ADJUSTMENTS
-----
          Site: HEADQUARTERS
          Call Type: OS-OL
          Tax(%): 0
          Markup (%): 0
          Surcharge (cents): 0
          Minimum Charge (cents): 0
          Minimum Duration: 0:00:30
          Network Correction: 0:00:15
```

3. Refer to the Cost Adjustments planning form to verify if there are any changes to these entries.
4. If changes are required, press <U>pdate, write new values over existing ones as necessary, and press <ESC>. Otherwise, press <N>ext to access the next entry and repeat steps 3 and 4.
5. When the planning form is complete, press <E>xit and return to CAS main menu.

Editing the Account Code Table

1. From CAS main menu, select Site Configuration Menu, and then, Edit Account Code Table.
2. Press <D>etail. A screen similar to the sample below appears. Refer to the Account Code Table planning form.

```
COMMANDS: Query Next Previous Add Update Remove Master Exit
          Query for record
-----
                EDIT ACCOUNT CODE TABLE
-----
                Site: HEADQUARTERS
                Account Code: 123456789012345
                Account Name: UNASSIGNED
```

NOTE:

During testing, actual calls using account codes may already have populated the account code table.

3. If account codes already exist, a value will appear on the screen in the Account Code field with UNASSIGNED as Account Name. Press <U>pdate, replace UNASSIGNED with the appropriate *account name* from the planning form, and press <ESC>.

4. Press <N>ext to access the next entry and repeat step 3. If there are no more account codes to update, proceed to step 6.
5. To transfer the rest of the information from the planning form, press <A>dd, enter an *account code* and *name*, and press <ESC>. Repeat this step as necessary.
6. When the planning form is complete, press <E>xit and return to CAS main menu.

Setting a Password

1. From CAS main menu, select System Configuration, then Change Password.
2. At the screen prompt, Do you want to change the password for "cas"[n/y]?, enter <Y>es.
3. At the screen prompt, Old Password:, enter the old password (if any) or press <ENTER>, otherwise.
4. At the screen prompt, New Password:, enter a new password which must have the following characteristics:
 - a. It must be at least 6 characters long, with at least two alphabetic and one numeric or special character.
 - b. It must differ by at least 3 positions from the old password.

NOTE:

If the password is not accepted, the screen displays: Sorry.

5. Press <ENTER> to continue. The screen returns to the prior menu.

Printing System Tables

1. From the System Configuration Menu, select System Tables Menu, and then, List All System Tables.
2. Press <G>enerate. When the reports print, leave them at the site for future reference.

Backing Up CAS Data

1. From the System Configuration Menu, select Diagnostics & Monitoring Menu, and then, Backup CAS Data.
2. The screen displays a message that it is stopping call costing and prompts you to continue. If you need to abort the procedure at this point, press <ESC>; otherwise, press <ENTER>.
3. The screen displays the approximate number of diskettes required and the time it will take to perform the operation. If you need to abort the procedure at this point, press <ESC>; otherwise, press <ENTER>.
4. Label "CAS BACKUP" diskettes with *today's date* and *order number*.

 **CAUTION:**

Do not omit this step. Restoring data requires reloading diskettes from the same backup, in the proper order.

5. Insert the first diskette and press <ENTER>. When prompted, remove the diskette and follow the screen instructions to continue.
6. When the backup is complete, a screen message informs you that costing has been started. Press <ENTER>, return to CAS main menu, and exit.

CAS is completely installed.

CAS Menu System



This appendix shows the CAS menu system as a “tree” diagram.

Starting with the CAS main menu, below, the following pages contain all levels of access.

```
1 Call Accounting System
> Reports Menu
  Site Configuration Menu
  Organization Configuration Menu
  CDR Collection Configuration Menu
  Costing Configuration Menu
  System Configuration Menu
  Exit
```

REPORTS

ANI/Demographics Reports Menu - - - - -	Generate Area Code Summary Report By ANI for Incoming Calls Generate Area Code Summary Report for Outgoing Calls Generate City/State Report for Incoming Calls Generate City/State Report for Outgoing Calls Generate Abandoned Call Selection Report
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Edit Telephone System Configuration	
Edit Account Code Table	
Change Account Code in Call Record	
Install a Site	List Site Information
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Edit Holiday Table	
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	List Scheduled Reports
	List Organization Selection Reports
	List All System Tables

Getting Assistance for Problems

B

This appendix describes basic troubleshooting procedures to identify and correct problems and how to get assistance for problems that you cannot correct.

How to Report a Problem

If a problem arises when you are using CAS, first attempt to solve it using the troubleshooting flowchart in the following pages. If the problem is caused by a peripheral system or device, consult the system or device documentation.

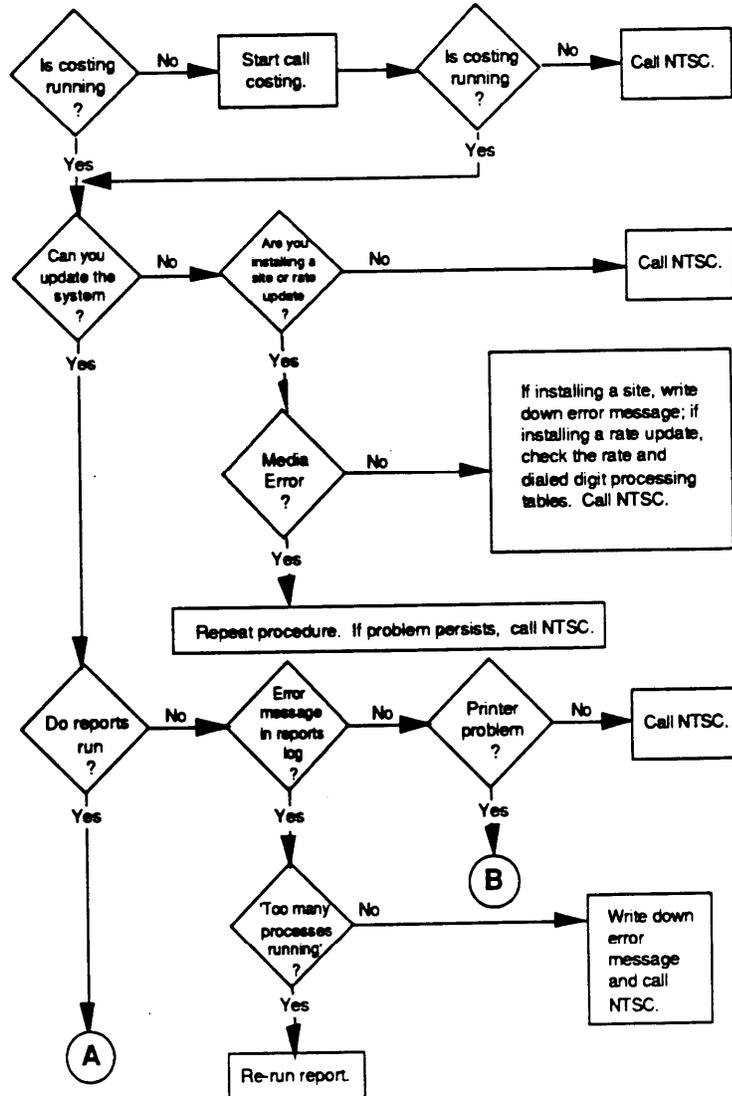
If you cannot correct the problem, call the National Technical Support Center (NTSC) at 1-800-628-2888 or your authorized AT&T dealer. They will assist you by performing remote diagnostics. If it is necessary to replace a defective device or load a software maintenance diskette that corrects the problem, they will dispatch a technician, or they will arrange for sending the software or a mail-in return of a device, as the case requires.

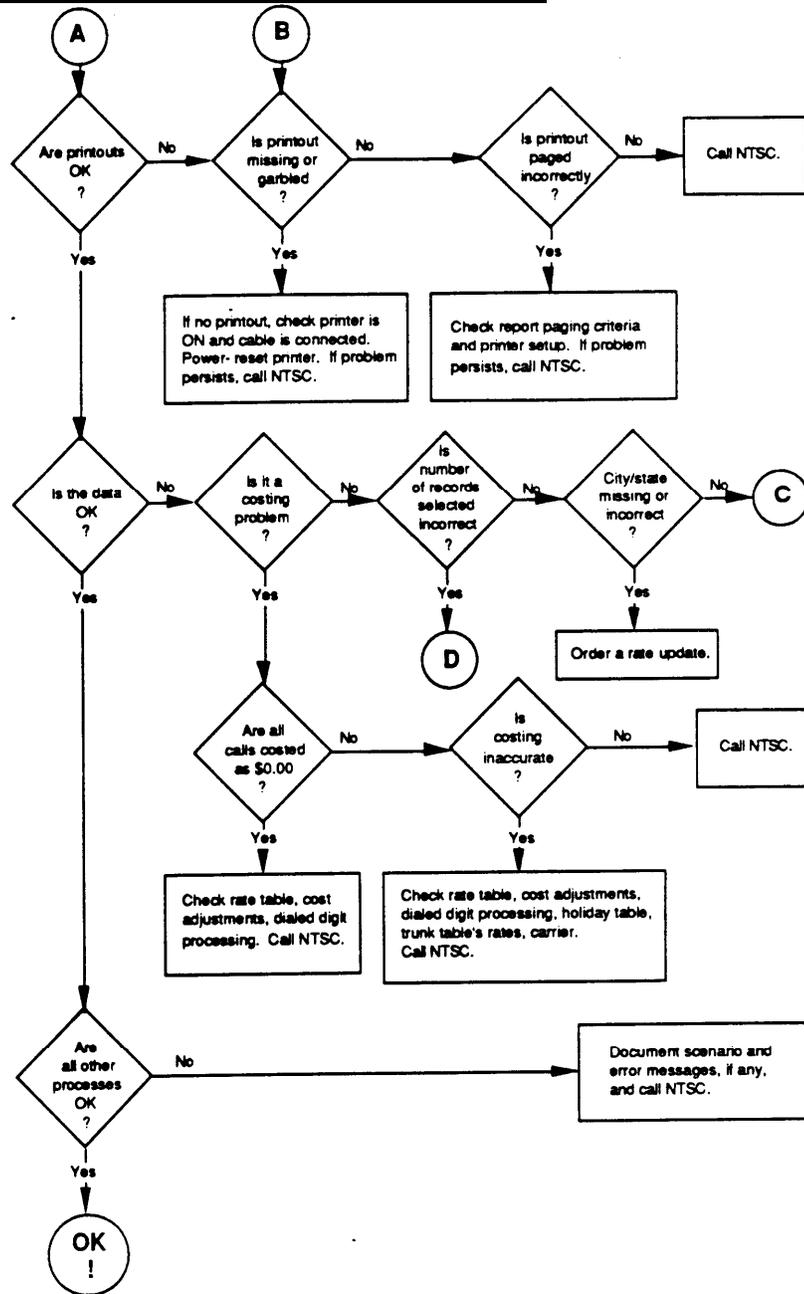
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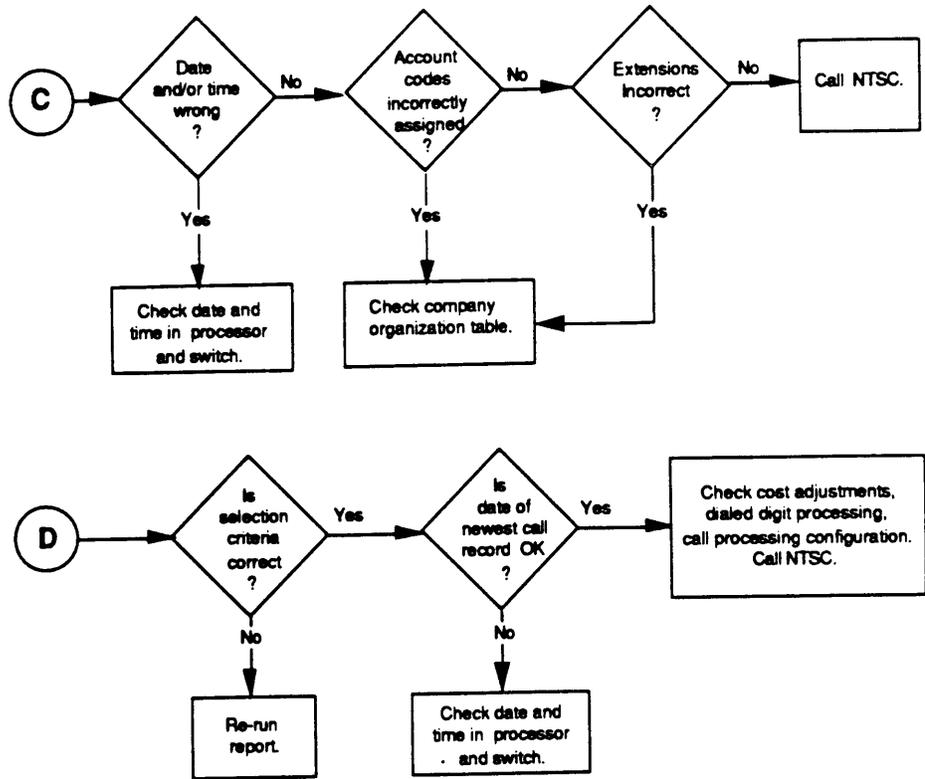
There is a service charge for NTSC involvement and dispatched maintenance if the system is out of warranty, not leased, or not covered by a contract.

Basic Troubleshooting

The flowchart below displays the paths to take when a problem manifests itself.







Loading the Organization Table

C

This appendix describes the `Load Organization Table` function, which can be used at installation as an alternative to entering the table manually via the `Edit Organization Table` function.

Loading the Organization Table is a data transfer process that assumes the existence of a previously prepared text file containing the table entries.

This appendix describes the format of the data file as well as the procedure to verify that the transfer was successful. Creating the file, however, requires access to UNIX commands and is beyond the scope of this manual.

Data File Format

The file used by `Load Organization Table` is an ASCII file, prepared using a UNIX text editor such as `vi`. A file prepared using any other tool must be carefully checked to conform to the requirements on the following page.

Consult your UNIX manuals to create this file. Note the path-name (1 to 45 characters long) where it resides to enter it in step 2 of *Loading the Data File*, documented in the next section.

- Each line is a company organization record, terminated in a UNIX <newline> character (implicitly set when you hit the <ENTER> key during insert mode in `vi`).
- The record contains four (4) required fields, one (1) optional and three (3) empty fields. Fields are delimited by a pipe <|> symbol, without spaces before or after the <|>, entered in the following order:

site | *department* | *cost center* | *extension* | *name* | | | |

- The list that follows describes valid field entries:
 - *site*. The site name (1 to 15 characters) as it appears in the `EDIT SITE INFORMATION` screen. Required field.
 - *department* and *cost center*. The names (1 to 15 characters) of the organizational divisions under which extensions are placed. Cost centers may be duplicated under different departments. Required fields.
 - *extension*. The station number (1 to 4 numeric characters) as it appears in the call record from the switch. Extensions must be unique — that is, the same extension may not be repeated under another cost center and/or department. Required field.
 - *name*. The name (1 to 39 characters) of an extension user. Extensions may have multiple users. Optional field.
- Whenever optional entries are left out, empty fields must be indicated by consecutive pipes <|>. For example:

ROCHESTER|SYS-ENGINEERING|R&D|365| | | |

- When the load executes, fields that overflow their size will be truncated to their maximum allowable size and character fields will be converted to upper case. These “corrections” will not appear as errors.

NOTE:

The following errors will result in an aborted operation (the error message and a copy of the offending record will be logged):

- Unknown site name
- Records with less than eight (8) pipe <|> symbols
- Required field missing
- Non-numeric extension number

The following are non-fatal errors — the offending record will be discarded without aborting the operation, an error message and a copy of the offending record will be logged:

- Duplicate record
- Extension linked to a second cost center or department

Loading the Data File

1. From CAS main menu, select Organization Configuration Menu, then Load Organization Table. A screen similar to the sample below appears.

```
COMMANDS: Update Load Exit Help
          Update the displayed record
-----
                    LOAD ORGANIZATION TABLE
-----
          Data File: /usr/uucp/public
```

2. Press <U>pdate, enter the full path-name to the file, and press <ESC>.
3. Press <L>oad. When the screen informs you that the load is complete, press <E>xit and return to CAS main menu.

Verifying the Operation

1. From CAS main menu, select System Configuration Menu, then View Logs. A screen similar to the sample below appears on display.

```
-----
                        VIEW LOGS
-----
1 admlog                4 install/pbx072690    7 install/software
2 chkpc.log             5 install/setup072690  8 loadorg072690
3 fe.err072689         6 install/site072690   E Previous Menu

Your choice: 8
```

2. Find "loadorg *mmdyy*" — where *mmdyy* is today's date — and enter its list number (for example, 8 above). A screen similar to the sample below appears on display.

```
Load started at      18:29:25 on 07/26/90
Checking Data File  "usr/uucp/public"
      130 Records Received From File "usr/uucp/public"
Loaded Departments
Loaded Cost Centers
Loaded Extensions
Loaded Personnel
Finished
Load ended at      18:31:01 on 07/26/90

(EOF) [loadorg072690] <RETURN> to continue, <Q> to quit.
```

NOTE:

If there were fatal errors, a message that the operation was aborted appears along with the cause; otherwise, status messages inform you of the number of records "received" and the number and list of records "rejected" (if any).

A fatal error requires correcting the data file before repeating this operation; discarded records may be added to the (partially) loaded database via the Edit Organization Table function.

3. To end the viewing session, press <ENTER> and then, <E>xit. The prior menu appears.

Glossary

A

access code

A field in a call detail record that contains the numbers dialed to get an outside line to a telephone facility such as a central office (CO).

account code

A field in a call detail record that contains a user-defined identifier. Account codes are typically dialed when placing or receiving a call to identify the call subject matter, client account, and so on.

account code report

A CAS report listing detailed call information for each active client account number.

add

The <A>dd command in CAS used to append a new record to a file.

answer supervision

The capability to detect when a telephone call has been answered.

area code

A geographic area encompassing many CO exchanges. A telephone number, for example, 716-385-6440, identifies the area code (716) and CO exchange (385) used by the subscriber's line (6440).

ASCII

The standard digital code for alphanumeric characters sent between computers established by the American Standards Committee for Information Interexchange.

authorization code

A field in a call detail record output by some switches that contains a user-defined identifier. Authorization codes are typically used when placing a call to identify the call origin or charge information. Feature currently not used by IS-II.

automatic number identification (ANI)

The ability of ISDN equipment to pass to their subscribers (in digital form) the phone number of subscribers' callers.

B

baud rate

A measurement of digital transmission speed representing the number of signal events per second. If the signal event represents the presence or absence of one bit, then the baud is identical to bits per second.

bits per character

The length (number of bits) of a single character transmission.

C

call detail recording (CDR)

A switch capability with which the details concerning the path of a call from origination to termination are recorded as a call detail record.

call type

The type of telephone service used by the call. Local, IDDD, WATS, etc. are call type examples used in CAS reports.

carrier

1. A company that provides telephone services, such as AT&T Communications, MCI, and US SPRINT. 2. A field in a CDR record that contains the interexchange carrier (IXC) code for the carrier used by a call.

central office

The telephone company facility that routes and connects calls from a local area.

CENTREX

A service provided by some local telephone companies, whereby subscribers are given switch-like capabilities by sharing CO facilities.

CCSA

Common Control Switching Arrangement. Switching facilities connected by the telephone company to corporate Tie line networks. All stations in the network can then dial one another regardless of distance and without using exchange facilities. They can also dial outside the network via local and/or foreign exchange lines.

correction time

An estimate of how long it takes to make a telephone connection. This includes all non-chargeable time from dialing to answering a call.

cost center

A level in a company's organizational hierarchy used by CAS to allocate telephone expenses.

costing

The set of CAS functions and data files used to screen and then, compute the cost of valid calls; the process of computing the cost of calls.

cursor

A movable pointer that designates where your input is entered on the screen or where you select an item from a displayed menu. The cursor occupies one character position.

D**database**

Information in CAS tables that identifies its users' equipment, company organization, geographical area, etc.

data bits

The actual length (number of bits) of a single character transmitted by a device.

data entry screen

The screen display used to view and/or edit database records.

default

The value, option, or feature automatically supplied by the system, unless the user specifies otherwise.

department

A level in a company's organizational hierarchy used by CAS to allocate telephone expenses.

detail

The <D>etail command; used to access a "branch" in a tree- like structured file.

detail reports

The Organization or Account Code Detail Reports; two reports that list every call record from every extension or active account, respectively.

dialed digit processing

A CAS feature whereby dialed number inconsistencies can be identified for additional processing.

dialing pattern

The way a telephone number is dialed from a locality.

directory

A CAS report listing the company's employees, their extensions and associated information from the Company Organization table.

disk

A rigid platter coated with magnetic material and used as a storage medium.

diskette

A thin, flexible platter (also called a floppy disk) coated with magnetic material and used as a storage medium.

E

equal access

The ability to place long-distance calls over any carrier network. A customer's primary carrier is typically accessed by dialing 1 or 0 before the telephone number, any other carrier is accessed by its 10xxx dialed code.

enter

The carriage return key on the terminal keyboard. Referred to as <RETURN> on CAS screen displays.

exchange

A geographic area within which calls are generally toll-free. A telephone number, for example, 716-385-6440, identifies the area code (716) and CO exchange (385) used by the subscriber's line (6440).

exit

The <E>xit command in CAS; used to move out of the current data entry screen or menu and return to the previous menu.

extension

A field in a call detail record that contains the number of a voice terminal, indicating the origin of an outgoing call or the destination of an incoming call.

F

facility

A service provided by a telephone company to its subscribers.

file

A collection of program, instructions, or data records stored on a disk. Each file has a label, following the operating system naming conventions.

foreign exchange (FX)

A line connecting a subscriber's switch to a remote CO.

format

The arrangement or layout of data.

H

hard disk

See disk.

holidays

The holidays during which telephone discount rates apply.

I

Integrated Services Digital Network (ISDN)

A network that provides end-to-end digital communications to support a wide range of services, including voice and data, to which users have access by a set of standard, multipurpose user network interfaces.

interface

A device or system forming a common boundary at which independent devices or systems interact.

International Direct Distance Dial (IDDD)

The CAS call type for calls to a foreign country dialed using the 011 toll prefix.

IS-IL

The CAS call type for in-state, in-LATA calls; a toll call placed within its own state and LATA boundaries.

IS-OL

The CAS call type for in-state, out-of-LATA calls; a toll call placed within its own state, but outside its LATA boundaries.

IWTS_{*n*}

The CAS call type for an incoming, band *n* WATS call, where *n* = 0 to 9.

K

KTS

Key Telephone System; see switch.

L

LATA

Local Access Transport Area; a region covering adjacent COs. Calls within their LATA are serviced by the local telephone company, calls outside their LATA require the services of a long distance carrier.

login

The process of gaining access to a computer system.

M

master

The <M>aster command in CAS; used from a "lower branch" to access the "parent" record in a tree-like structured file.

Megacom

Megacom 800 and Megacom are two services of AT&T similar to InWATS and OutWATS — except that the local lines from a subscriber's site and the AT&T service office are the responsibility of the subscriber (typically T1 lines).

memory

The working storage area in the computer where programs and data are processed.

menu

A list of selectable items on a screen.

minimum duration

A threshold value specified by the user that tells CAS when to consider a call valid.

MTS

Message Telephone Services; a call rating system for long distance services.

N

network

1. In the context of voice and/or data communications, a complex consisting of two or more interconnected switching systems. 2. In the context of computer operation, a system consisting of one or more computers and the connected terminals and related devices such as modems and input/output (I/O) channels.

next

The <N>ext command of CAS; used to access the next sequential record in a file (or portion thereof), retrieved either by opening the file or by the <Q>uery command, once the file is open.

O

OS-IL

CAS call type for out-of-state, in-LATA calls; a toll call that crossed its state boundaries, but stayed within its own home LATA.

OS-OL

CAS's call type for out-of-state, out-of-LATA calls; a toll call that crossed both its state and LATA boundaries.

P

parity

A method used by some devices to check that data was transmitted correctly. Parity can be "odd," "even," or not used at all.

password

A unique string of characters that a user enters to access a program.

PBX

Private Branch Exchange. See switch.

port

The data transmission "outlet" on a device used for communicating with other devices.

previous

The <P>revious command in CAS; used to access the record previously displayed on the screen.

Primary Rate Interface (PRI)

An ISDN link from a central office to a customer's switch.

Q

query

The <Q>uery command in the CAS; used to retrieve selected records from a file. The first record will be displayed on the screen. Subsequent records, if any, are displayed using the <N>ext command.

S

selection report

A CAS report that lists summary or detailed call record information based on the selection of a time, date, cost, duration, extension, account code, number, etc.

sitegen disk

The CAS disk containing site-specific call rating information on customized systems.

SMDR

Station Message Detail Recording. A switch capability with which the details concerning the path of a call from origination to termination are recorded in the form of an SMDR record. Also called call detail recording (CDR).

SPCL

The CAS call type for "special numbers," such as 411, 800 and 900 numbers.

stop bits

The number of bits that trail after the transmission of a single character.

summary reports

A collection of CAS reports condensing and summarizing call record information by total number of calls, duration, and cost.

switch

The software-controlled communications processor complex that interprets dialing pulses, tones, and/or keyboard characters, and makes the proper inter-connections both within the system and external to the system. The switch itself consists of a digital computer, software, storage device (memory), and carriers with special hardware to perform the actual connections. A switch provides voice and/or data communications services (including access to public and private networks) for voice and data terminals on a customer's premises.

T

T1

A digital facility that can carry multiple, simultaneous voice or data communications at high speeds on the same physical link. A T1 line is connected to a customer's switch using transmit/receive interface equipment that translates the voice or data streams into and out of a carrier's digital network.

tandem call

A connecting call in a telephone network, coming into a switch through one trunk and transferred out again through another.

threshold

A critical level which, when reached, produces a system response.

tie

A line that "ties" together two telephone switches. Extensions at either point, as well as the CO exchange, can be dialed locally.

trunk

1. A dedicated communication channel between two switches. 2. A field in a call detail record that contains the identifier for the specific trunk (or group of trunks) used by the call. CAS translates the "used access code" in AT&T switches as trunks.

tty name

The "logical" name of a physical computer port.

U

UNIX operating system

The program that manages the resources of some computers, including input and output procedures, process scheduling, and file systems.

update

The <U>pdate command of CAS; used to edit the information of in the record currently on display.

utilities

A group of programs that provide a specific application within a computer.

V

valid calls

Calls that have computable costs. That is, calls over the duration threshold, routed through defined trunks, and dialed using a pattern "understood" by CAS as able to reach a destination. Invalid calls are discarded by CAS.

W

window

An online "help" feature, used to display information about the selected function on a menu or to list valid entries for the current field on a data entry screen. Where enabled, help windows are accessible by pressing the <CTRL-W> keys.

WATS

Wide Area Telephone Services; a type of long distance service provided by some telephone companies like MCI and AT&T, where bulk usage over a billing period determines the rates for calls within the same distance band.

WATS_{*n*}

CAS call type for an outgoing, band *n* WATS call, where *n* = 0 to 9.

Z

ZERO+

The CAS call type for operator-assisted calls

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