

AT&T

Call Accounting System (CAS)

**Integrated Solution II
User's Guide**

for MERLIN LEGEND™ Communications System

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About this Document

Purpose

This manual is intended to guide those who want to understand CAS, how it operates, and how it is used for call accounting operations. It provides detailed instructions for generating reports and managing the system.

Intended Audiences

This document is written for the following audiences:

- Telecommunications managers that wish to use the information in CAS reports
- System managers responsible for maintaining CAS

How to Use this Document

This document describes every CAS function, following the order of CAS menu system. An introductory chapter precedes the body of CAS function descriptions; appendixes provide additional reference material.

First time users should read the following material:

- Chapter 1, *Introducing Your Call Accounting System*, describes the design and flow of a working system.
- Appendix A, *Summary of Commands*, describes all CAS database commands.

Telecommunication managers that wish to obtain reports should read the following report-related material:

- Chapter 2, *Generating and Selecting Reports*, describes all call accounting reports and how to generate them.
- Appendix C, *Sample Reports*, shows sample printouts of call accounting reports.

System managers should read the following material:

- Chapter 3, *Managing the Site Configuration*, describes how to keep the site, account code, and telephone system databases up-to-date.
- Chapter 4, *Managing the Organization Configuration*, details the functions used to create and maintain a table of telephone extensions structured after a company's own corporate organization.
- Chapter 5, *Managing the CDR Collection Configuration*, documents call collection functions.
- Chapter 6, *Managing the Costing Configuration*, documents call costing functions.
- Chapter 7, *Using the System Configuration Functions*, describes functions to manage system resources.
- Appendix B, *Recommended Maintenance Schedules*, provides the system manager with a suggested schedule for completing tasks.

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>update.

- 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 Quick Reference Card for the MERLIN LEGEND™ Communications System (585-247-071)* — is a concise job aid for generating reports and other frequently used CAS functions.
- *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 CAS databases at installation.
- *Call Accounting System (CAS) Integrated Solution II Site Installation and Implementation Guide for the MERLIN LEGEND™ Communications System (585-247-010)* — provides instructions to install CAS and to input the information collected in the CAS planning forms.

Introducing Your Call Accounting System

1

The AT&T Call Accounting System (CAS) is a comprehensive software package designed to administer telephone expenses and track facility usage in a business, university, or government installation using up to 150 telephone extensions.

CAS runs on a processor (the Master Controller II) connected to your MERLIN LEGEND™ switch, as an application of Integrated Solution II (IS-II). Once you log into the system, the IS-II main menu appears on display, listing the applications available to you.

A sample IS-II main menu appears below.

```
1 Integrated Solution II
AUDIX Voice Power (AVP)
> Call Accounting System (CAS)
System Programming and Maintenance Utility (SPM)
User Maintenance
Exit
```

Figure 1-1. IS-II Main Menu

System Operation

Figure 1-2 illustrates the flow of a working system.

1. As a phone call is placed on site, it is routed through the switch to its final destination. Incoming calls are routed to an extension.
2. The switch prepares an electronic record of the "transaction."
3. The CAS background task receives the switch output and stores it in the call input buffer. When the buffer reaches its programmed occupancy thresholds, all call records in the buffer are processed, costed, and stored.
4. Stored call record information is accessible for reports.

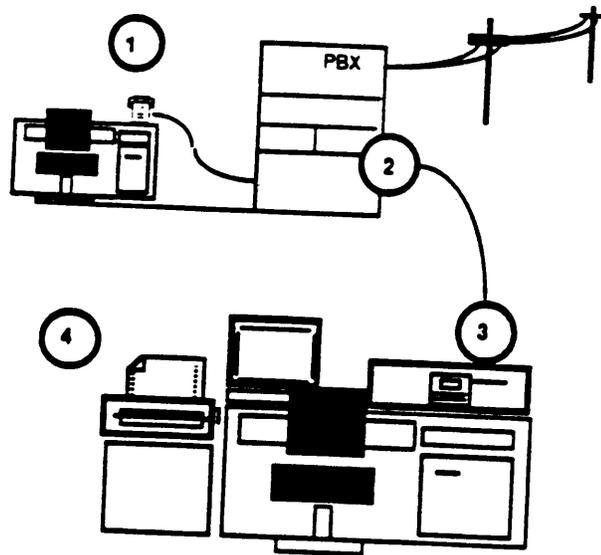


Figure 1-2. Operational Flowchart

User Interface

The AT&T CAS is a tool for a telecommunications manager, requiring some knowledge of call accounting and of the telephone switching system used on premises. At all levels, CAS is not difficult to learn.

This section describes how to use the menu system and screen displays before you begin to enter requests for reports or make changes to keep the information up-to-date.

Using Menus

The figure below shows the CAS main menu. You can access any CAS function from this menu — sometimes via another menu. A diagram of the CAS menu system appears in appendix A.

You access a menu item by selecting it with the reverse video bar with the up or down arrow keys or by typing its first few unique letters, then pressing <ENTER>.

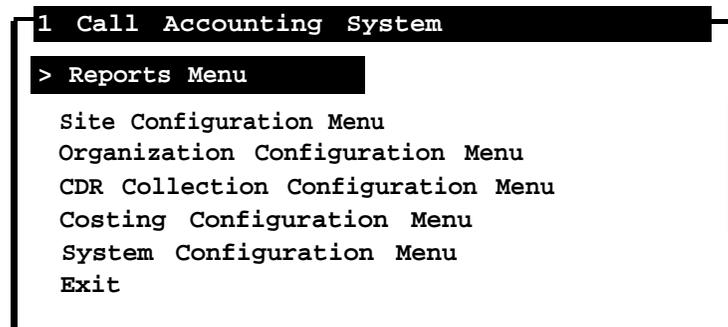


Figure 1-3. CAS Main Menu

The bottom of a menu screen displays boxed labels that correspond to the function keys <F1> through <F8>, in that order. If the box is empty, that key has no current functionality.

Most menu displays have the <F1> ("HELP") and the <F6> ("CANCEL") keys enabled, as shown in the figure below (this particular displays appears after having selected Reports Menu from the CAS main menu):

- <F1> displays a "window" containing a brief explanation of all items in the current menu (framed in red, if you have a color monitor).
- <F6> cancels the current menu or "help window" frame and returns to the prior menu.

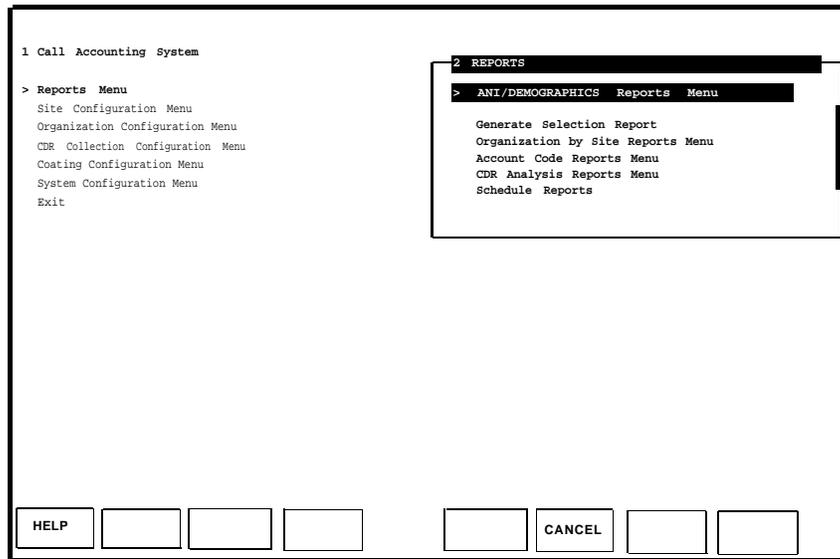


Figure 1-4. Sample Menu Display

Using Data Entry Screens

Menu selections ultimately lead into a data entry screen — similar to the sample below — used to complete the function by a query or an update of information, or by starting a process such as generating a report.

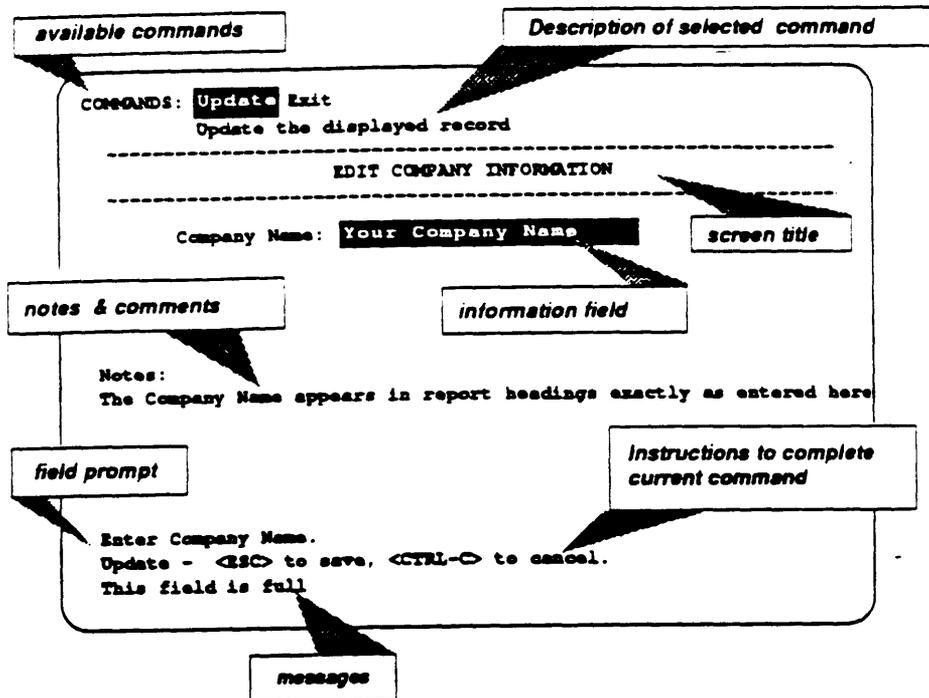


Figure 1-5. Sample Data Entry Screen

When a function is accessed by a menu selection, CAS retrieves all records in the file associated with that function and displays the first record on the screen.

Some files have a single record (for example, the Company Information file shown in figure 1-5), other files have many records (for example, the Rate Tables containing the tariffs for all carriers built-in for CAS or the Organization Table containing a user-defined directory of all departments, cost centers, extensions, and personnel records).

Most data entry screens have these elements in common:

- **Commands.** The top of the screen displays the list of available commands, along with a brief description of the selected command (highlighted). A summary of database commands appears in appendix A.

To advance the highlighted selection, press the arrow keys; to execute the current selection press <ENTER> or type the first letter in the command name.

- **Fields.** These are highlighted areas where the information you exchange with the system appears. Fields show "parts" of records — such as "Last Name" or "Extension" — that are stored or retrieved by the system.

When a command that involves a query, an addition, or update is initiated, the cursor moves to the first information field. At this point, the terminal keyboard will respond as a regular typewriter for data entry.

- **Comments.** The notes, prompts, command instructions, and messages at the bottom of the screen guide you through the data entry session. Some "notes" will be instructions, listing the keyboard commands you can use in this particular operation. Helpful information, system messages, error messages, and warnings will be displayed here.

Generating and Scheduling Reports

2

This chapter describes all report generating functions selected from the `REPORTS` menu. It is organized as follows:

- *Generating ANI/Demographics Reports*
- *Generating Selection Reports*
- *Generating Organization Reports*
- *Generating Account Code Reports*
- *Generating CDR Analysis Reports*
- *Scheduling Reports*

The last section, *Application Tips*, provides suggested uses of CAS reports.

Generating ANI/Demographics Reports

CAS offers five reports that support the *Automatic Number Identification (ANI)* and *Abandoned Call* features if an ISDN service and a Primary Rate Interface (PRI) are available on premises.

- The two Area Code summaries, one for outgoing calls and one for incoming calls, provide total and average values for the number, duration, and cost of calls grouped by:
 - Area code dialed (outgoing) or of origin (incoming)
 - 800 (calls to toll-free 800-numbers—outgoing only)
 - 900 (calls to paid-service 900-numbers—outgoing only)
 - INT (international direct or operator assisted calls—outgoing only)
 - LOCAL (calls to/from local exchanges)
 - OTHER (calls to 411, 911, 0, etc.—outgoing only)

- The two City/State summaries, one for outgoing calls and one for incoming calls, provide the distribution of calls among the top fifty most frequently connected cities. The reports list for each city with more than 9 calls, the number of calls from all city exchanges and the percentage this value represents over the reporting period.

- The Abandoned Call report provides detailed information on incoming calls that were terminated by the caller, typically while placed “on hold.” The report lists all the stored details — including the calling number, if provided by the switch — of individual calls that fall in the range of time and dates specified, sorted by the time of the call.

Sample reports appear in appendix C.

Generating and Scheduling Reports

To define and/or run a report, proceed as follows:

1. From the CAS main menu, select **Reports Menu**, next, **ANI/Demo-graphics Reports Menu**, then the desired report.
2. For an Abandoned Call Selection Report, the top of the screen displays fields similar to those shown below:

```
COMMANDS:  Update  Generate  Exit
           Update  the displayed record
-----
           ABANDONED CALL SELECTION REPORT
-----
Date Range:  Jan 1 1970      to:  Dec 31 1999
Time Range:  00:00          to:  23:59
```

- a. To change the display, press <U>update and enter a Date Range — from 1/01/70 to 12/31/2020 — and a Time Range — from 00:00 to 23:59. No other changes are necessary. Then press <ESC>.
- b. If you are only defining the report for scheduling it at a later time, press <E>xit and proceed to step 4; to run the report now, press <G>enerate. A screen similar to the one below appears:

```
COMMANDS:  Update  Generate  Exit
           Update  the displayed record
-----
           ABANDONED CALL SELECTION REPORT
-----
Output Method:  P
Output Device:  wide 570 l1p
```

- c. To change values, press <U>update, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - To display on the terminal, use method **T**. Device is not required.
 - To print, use method **P** and device **wide 570 l1p** (compressed) or **l1p** (uncompressed).
- d. When complete, press <G>enerate. Proceed to step 4.

3. For all other reports, a screen similar to the one below appears:

```
COMMANDS: Update Generate Exit
          Update the displayed record
-----
          CITY/STATE REPORT FOR INCOMING CALLS
-----
Reporting Period: M
Start of Period: Nov 8 1989
Output Method: P
Output Device: wide 570 11p
```

- a. To change the display, press <U>pdate and enter values for the following fields:
- Reporting Period. Enter the letter or number indicator to select one of these periods: <Y>ear, <Q>uarter, <M>onth, i-week, <W>eek, <D>ay, or 1 to 99 days from the date in Start of Period, or <A>ll (all calls in storage — start of period entry is not required).
 - Start of Period. Enter a date. This value, together with the reporting period, sets a range of dates for calls in the report.
 - Output Method and Output Device. Typical values are:
 - To display on the terminal, method **T**. Device is not required.
 - To print, method **P** and device either **wide 570 11p** (compressed) or **1p** (uncompressed).
- b. When complete, press <ESC>, then <G>enerate.
4. The procedure is complete; if you sent the report to the terminal, the screen now displays the report, one page at a time. Move through the report using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.

When the screen returns to a menu display, you may initiate another function or exit CAS.

Generating Selection Reports

The Selection Report is one of CAS most versatile tools, used primarily to pinpoint details (or summarize trends) in problem areas discovered by other reports. You may specify up to 30 distinct reports by setting any combination of the following selection criteria:

- A range of times, dates, duration, cost, and/or extension numbers
- The matching name or number pattern for department(s), cost center(s), account code(s), and/or dialed number(s)
- A single trunk and/or a single call type

Once defined, Selection Reports can be generated on demand or they can be scheduled. Sample reports appear in appendix C.

To define a Selection report, proceed as follows:

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

```
COMMANDS: Next Previous Update Generate Exit
           Update the displayed record
-----
                    SELECTION REPORT
-----

Report Number: 1
Date Range: Jan 01 1970 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: $9999.99
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. To change the display, press <U>update and enter values from the list that follows. When complete, press <ESC>.

Notice the `Report Number` on the screen (not editable). This is the number ($n = 1$ to 30) in the report code `SRn` used to identify this report for the *Schedule Reports* function.

- `Date Range`. Month, day, and year — from 1/01/70 (Jan 1 1970) to 12/31/2020 (Dec 31 2020).
- `Time Range`. Hours and minutes in a 24 hour notation — from 00:00 to 23:59.
- `Duration Range`. Hours, minutes, and seconds — from 0:00:00 to 23:59:59.
- `Cost Range`. Dollars and cents — from 0.00 to 9999.99.
- `Extension Range`. Valid extensions from the Organization Table.
- `Department and Cost Center`. Valid names from the Organization Table or a blank (all values selected). Wild card characters are allowed — see note at the end of the list.
- `Trunk`. A valid trunk number from the Telephone System Configuration or a blank (all values selected).
- `Carrier Type`. <L>ocal, <P>rimary, <S>econdary, or a blank (all values selected).
- `Routing Code`. <D>irect, <O>perator assisted, <I>ncoming, <T>an-dem call, or a blank (all values selected).
- `Source Type`. <V>oice, <D>ata transmission, <A>uthorization Code, <Q>uit (abandoned calls), or a blank (all values selected).

- **Call Type.** A valid call type for your system or a blank (all values selected). Call types are the names, one to 5 characters long, that describe a call. CAS costing algorithms derive call type names from the system internal list, as follows:
 - if the dialed number matches a pattern in the DIALED DIGIT PROCESSING table, it follows the *call type* naming instructions in the table. CAS includes two built-in call types in this table:
SPCL Information, 800-, 900-, and other "special" numbers
ZERO+ Operator assisted call

See *Editing the Dialed Digit Processing Table* in chapter 6.
 - if the call used a non-tariffed facility, it takes the user-defined *facility name* as it appears in the TELEPHONE SYSTEM CONFIGURATION table. These names are user-defined. See *Editing the Telephone System Configuration Table* in chapter 3.
 - if the call used a tariffed facility, it takes the name INCOM (for an incoming call) or one of the names in the list that follows, depending on the call destination.
IDDD International Direct Distance Dial
IS-IL In-State, In-LATA (custom rate systems)
IS-OL In-State, Out-of-LATA (custom rate systems)
LATA Local Access Transport Area (systems with Major Metro rates)
MTS Message Telephone Service (systems with Major Metro rates)
LOCAL Local (usually, a 7-digit call)
OS-IL Out-of-State, In-LATA (custom rate systems)
OS-OL Out-of-State, Out-of-LATA (custom rate systems)

NOTE:

CAS includes a list of call types — not used by any costing algorithm — from which you can select *call types* for Dialed Digit Processing or *facilities* for the Telephone System Configuration. See the complete list of built-in call types in *Edit Cost Adjustments* in chapter 6.

- **Account Code.** An account code number, up to 16 digits or the word UNASSIGNED (for calls without account codes) or a blank (all values selected). Wild card characters are allowed — see note below.
- **Dialed Digits.** Up to 12 digits, dashes, and/or wild cards (see note below) defining a telephone number pattern or a blank (all values selected). Do not enter routing codes 0, 1, 01, or 011. Use dashes for local and long distance numbers (for example, 555-1212 or 716-555-1212), omit dashes for international numbers (for example, 44256844949).
- **Report Type.** <D>etail or <S>ummary.

NOTE:

As noted in the preceding list, some fields allow wild card characters:

? stands for a single character in the ? position. For example, 123456 or 123999 match 123???

% stands for any number of trailing character. For example, 123, 1234, or 1234567 match 123%.

3. If you are only defining the report for scheduling it at a later time, press <E>xit. When the screen returns to a menu display, you may initiate another function or exit CAS.
4. To run the Selection Report now, press <G>enerate. A screen similar to the sample below appears.

```
COMMANDS: Update Generate Exit
           Update the displayed record
-----
                        SELECTION REPORT
-----
Output Method: T
Output Device: Your Terminal
```

- a. To change values, press <U>pdate, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - To display on the terminal, enter method **T**. Device is not required.
 - To print, enter method **P**, then device **wide 570 11p** (compressed) or **1p** (uncompressed).
 - b. When complete, press <G>enerate.
5. The procedure is complete; if you sent the report to the terminal, the screen now displays the report, one page at a time. Move through the report using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.

When the screen returns to a menu display, you may initiate another function or exit CAS.

Generating Organization Reports

CAS provides four organization reports used to allocate telephone expenditures to the site, department, and cost center associated with extensions charged with a call. CAS presents this information in summary or detail under the ORGANIZATION BY SITE REPORTS menu:

- Organization Detail by Site
- Department Summary by Site
- Cost Center Summary by Site
- Extension Summary by Site

Generating and Scheduling Reports

You may specify up to 10 distinct reports of each type by setting any combination of the following selection criteria, page break definitions, and subtitles:

- A department and/or cost center
- A range of times, call duration, and/or cost
- A type of call

Once defined, organization reports can be generated on demand or they can be scheduled. Report samples appear in appendix C.

To define an organization report, proceed as follows:

1. From the CAS main menu, select **Reports Menu**, next, **Organization by Site Report**, and then, the desired report.

A screen similar to the one below appears:

```
COMMANDS:  Next Previous Update Generate Exit
           Find next record
-----
                ORGANIZATION DETAIL BY SITE REPORT
-----
Report Number: 50
Department Name: ACCOUNTING
Cost Center Name:
Start Time: 00:00
End Time: 23:59
Page Break: N
Call Type:
Inclusion/Exclusion: 1
Subtitle:
Minimum Duration: 00:00:00
And/Or: A
Minimum Cost: $ 0.00
                Inclusion/Exclusion Options
                -----
                1. Include Call Type
                2. Exclude Call Type
Maximum Duration: 23:59:59
Maximum Cost: $ 1000.00
```

2. To change the display, press <U>pdate and enter values for the selection criteria from the list that follows. When complete, press <ESC>.

Notice the `Report Number` in figure 2-4 (not editable). The right-most digit is the number ($n = 0$ to 9) used to identify this report for later scheduling under the report codes:

ODS n (Organization Detail by Site, numbers 50 to 59)

DSS n (Department Summary by Site, numbers 60 to 69)

CSS n (Cost Center Summary by Site, numbers 70 to 79)

ESS n (Extension Summary by Site, numbers 80 to 89)

- `Department Name` and `Cost Center Name`. Valid names from the `Organization Table`.
- `Start Time` and `End Time`. Time of day range in a 24-hour notation.
- `Page Break`. <Y>es or <N>o breaks after subtotals.
- `Call Type`. A blank (CAS ignores the `Inclusion/Exclusion` field — that is, all values are selected) or a valid call type to report (or not), as instructed by the `Inclusion/Exclusion` value. See the explanation for the `Call Type` field in *Generating Selection Reports* in this chapter.
- `Inclusion/Exclusion`. The values 1 or 2 — that is, 1 produces a report with only the call type selected, 2 produces a report containing all call types, except the one selected.
- `Subtitle`. A report subtitle, up to 48 characters long.
- `Minimum Duration` and `Maximum Duration`. Duration range in hours and minutes.
- `And/Or`. <A>nd = include calls that meet both duration and cost criteria; <O>r = include calls that meet either duration or cost criteria.
- `Minimum Cost` and `Maximum Cost`. Cost range in dollars and cents.

Generating and Scheduling Reports

3. If you are only defining the report for scheduling it at a later time, press **<E>**xit. When the screen returns to a menu display, you may initiate another function or exit CAS.
4. To run the report now, press **<G>**enerate. A screen similar to the one below appears:

```
COMMANDS:  Update  Generate  Exit
           Update  the  displayed  record
-----
           ORGANIZATION  DETAIL  BY  SITE  REPORT
-----
Reporting  Period:  M
Start of  Period:  Nov 8 1989
Output  Method:  P
Output  Device:  wide 570 11p
```

5. To change the display, press **<U>**pdate and enter values for the fields in the list that follows. When complete, press **<ESC>**, then **<G>**enerate.
 - **Reporting Period.** Enter the letter or number indicator to select one of these periods: **<Y>**ear, **<Q>**uarter, **<M>**onth, ****i-week, **<W>**EEK, **<D>**ay, or 1 to 99 days from the date in **Start of Period**, or **<A>**ll (all calls in storage — start of period entry is not required).
 - **Start of Period.** Enter a date. This value, together with the reporting period, sets a range of dates for calls in the report.
 - **Output Method and Output Device.** Typical values are:
 - To display on the terminal, use method **T**. Device is not required.
 - To print, use method **P** and device **wide 570 11p** (compressed) or **1p** (uncompressed).
6. The procedure is complete; if you sent the report to the terminal, the screen now displays the report, one page at a time. Move through the report using the arrow keys, **<ENTER>**, or **<Page Up>** and **<Page Down>** keys.

When the screen return to a menu display, you may initiate another function or exit CAS.

Generating Account Code Reports

CAS provides Account Code reports in both, summary and detail form:

- The Account Code Summary Report lists all active accounts in numerical order. If a name is associated with an account, it is also reported. This report is useful in charging clients for calls made on their behalf.
- The Account Code Detail Report lists itemized records of every call associated with each account. Different accounts print in different pages, so that the report is suitable as a bill for the client.

To run an Account Code report, proceed as follows:

1. From the CAS main menu, select **Reports Menu**, next, **Account Code Reports Menu**, then the desired report.

A screen similar to the one below appears:

```
COMMANDS:  Update  Generate  Exit
           Update  the  displayed  record
-----
                ACCOUNT  CODE  SUMMARY  REPORT
-----
Reporting  Period:  M
Start of Period:  Nov 8 1989
Output Method:  p
Output Device:  wide 570 lfp
```

2. To change the display, press <U>pdate and enter values for any field in the list that follows. When complete, press <ESC>, then <G>enerate.
 - Reporting Period. Select one of these periods: <Y>ear, <Q>arter, <M>onth, i-week, <W>eek, <D>ay, or 1 to 99 days from the date in Start of Period, or <A>ll (start of period is not required).
 - Start of Period. Enter a date. This value, together with the reporting period, sets a range of dates for calls in the report.

- Output Method and Output Device. Typical values are:
 - To display on the terminal, use method **T**. Device is not required.
 - To print, use method **P** and device **wide 570 l1p** (compressed) or **lp** (uncompressed).
- 3. The procedure is complete; if you sent the report to the terminal, the screen displays the report, one page at a time. Move through the report using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.

When the screen returns to a menu display, you may initiate another function or exit CAS.

Generating CDR Analysis Reports

The CDR Analysis Reports — “CDR” for Call Detail Recording — consist of eight reports used to analyze the traffic patterns in your company. Sample reports appear in appendix C.

- The Call Type Report summarizes call activity by call types. It provides count, duration, and cost subtotals for every call type. The system includes a built-in list of call type names, in addition to the user-defined facility names from the *Telephone System Configuration*. This report helps pinpoint facility usage.
- The Duration Report sorts calls by seven duration ranges — from less than one minute, to over one hour — to highlight the length of calls. It then provides count, duration, and cost subtotals for each duration range. This report helps analyze productivity levels or possible abuse.

- The Time-of-Day Report breaks down telephone activity into 24 one-hour intervals. It provides count, duration, and cost subtotals for each hour over the entire reporting period. This report helps analyze calling patterns throughout the day.
- The Trunk Group Report provides totals and averages for the count, duration, and cost of calls routed through each trunk in your system. The listing is divided into trunk groups, to easily identify facility usage and help evaluate existing trunks.
- The Site Report provides grand totals on the count, duration, and cost of calls handled by the switch in the specified reporting period.
- The Date Report provides daily totals — count, duration, and cost of calls — that indicate day-to-day traffic variance. The number of days in the report depends on the specified reporting period.
- The Busy Day Trunk Utilization Report provides hourly summaries for the day with the greatest total call duration within the reporting period. It breaks the day into 24 one-hour slots, each listing the count, duration, and % utilization ("% utilization" = total duration of calls that started in a time slot + the total trunk time available — that is, one hour x number of trunks in the system).
- The Trunk Group Busy Hour Report provides peak hour information on every trunk group in the system. Given all 24 one-hour slots of each day in the reporting period, the system reports the "hour" with the greatest total call duration, the day it occurred, and its % utilization ("% utilization" = total duration of calls in the trunk group that started in that time and day slot + the total trunk time available — that is, one hour x number of trunks in the group).

Generating and Scheduling Reports

To run a report, proceed as follows:

1. From the CAS main menu, select **Reports Menu**, next, **CDR Analysis Reports Menu**, then the desired report.

A screen similar to the one below appears:

```
COMMAND: Update Generate Exit
         Update the displayed record
-----
                                CALL TYPE REPORT
-----
Reporting Period: M
Start of Period: Nov 8 1989
Output Method: P
Output Device: wide 570 l1p
```

2. To change the display, press <U>pdate and enter values for:
 - Reporting Period. Select one of these periods: <Y>ear, <Q>uar-
ter, <M>onth, i-week, <W>eek, <D>ay, or 1 to 99 days from the
date in Start of Period, or <A>ll (start of period is not required).
 - Start of Period. Enter a date. This value, together with the re-
porting period, sets a range of dates for calls in the report.
 - Output Method and Output Device. Typical values are:
 - To display on the terminal, method **T**. Device is not required.
 - To print, method **P** and device either **wide 570 l1p** (com-
pressed) or **l1p** (uncompressed).
3. When complete, press <ESC>, then <G>enerate.
4. The procedure is complete; if you sent the report to the terminal, the
screen displays the report, one page at a time. Move through the report
using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.

When the screen returns to a menu display, you may initiate another func-
tion or exit CAS.

Scheduling Reports

CAS Schedule Reports feature is valuable for generating reports or tables that are required periodically. You can define up to 150 report schedules.

To schedule a report:

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

The first data entry screen (see sample below) 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: CTYP
      Frequency: M
      Next Run Date: 00:00 Dec 1 1989
      Output Method: P
      Output Device: wide 570 11p
```

2. Press <N>ext (or <P>revious) to move through your list until you reach the schedule of interest — an existing schedule that you wish to change or an undefined schedule that appears with the **Report Code** blank.
3. When the screen of interest appears, press <U>date and enter values for the fields that follow.

- **Report Code**. See list below or press <Ctrl-W> with the cursor at that position to select the code from the help window.

— Report codes for call accounting reports:

ACD Account Code Detail Report
ACDR All CDR Analysis Reports
ACR Abandoned Call Report

(list continues...)

— Report codes for call accounting reports (*Continued*):

- ACS Account Code Summary Report
- ASBS All Summary by Site Reports
- BDT Busy Day Trunk Utilization Report
- BHT Trunk Group Busy Hour Report
- CSI City/State Report for Incoming Calls
- CSO City/State Report for Outgoing Calls
- CSS n Cost Center Summary by Site Report ($n=0$ to 9) ^{1, 2}
- CTYP Call Type Report
- DATE Date Report
- DSS n Department Summary by Site Report ($n=0$ to 9) ^{1, 2}
- DURA Duration Report
- ESS n Extension Summary by Site Report ($n=0$ to 9) ^{1, 2}
- NPAI Area Code Summary Report For Incoming Calls
- NPAO Area Code Summary Report For Outgoing Calls
- ODS n Organization Detail by Site Report ($n=0$ to 9) ^{1, 2}
- OSS n All Organization Summary by Site Reports ($n=0$ to 9) ^{1, 2}
- SR n Selection Report ($n= 1$ to 30) ²
- TIME Time of Day Report
- TRNK Trunk Group Report

— Report codes for system tables:

- ACT Account Code Table
- ADT All Directory Tables
- ALCT All Costing Tables
- AOT All Organization Tables
- AST All System Tables
- CADJ Cost Adjustments
- CARR Carrier Information
- CDRC CDR Collection Information
- COMP Company Information
- CPI CDR Port Information
- CRC Call Report Configuration

(list continues...)

1 The n in the report code of an organization report corresponds to the last digit of its report number at the time it was defined. For example, a Cost Center Summary by Site defined as report number 75 corresponds to CSS5.

2 To schedule a Selection or Organization report, make certain to define it first. See *Generating Selection Reports* or *Generating Organization Reports* in this chapter.

— Report codes for system tables (continued):

DDIR	Department Directory
DDP	Dialed Digit Processing Table
EDIR	Extension Directory
HOLT	Holiday Table
ODIR	Organization Table
ORS	Organization Selection Report Criteria
PDIR	Personnel Directory
SCHR	Report Schedules
SITE	Site Information
SR	Selection Report Criteria
TSC	Telephone System Configuration

- Frequency of the printouts, starting on the Next Run Date: <Y>early, <Q>quarterly, <M>onthly, i-weekly, <W>eekly, <D>aily, <H>ourly, every 1 to 99 days, or <O>nce.
- Next Run Date. The time — in a 24-hour clock format — and the date of the next printout (at least 5 minutes in the future).

NOTE:

If you are scheduling call accounting reports, make certain that:

- the next run date is consistent with the calls you wish to include in the report (see Reporting Period and Start of Period, ahead). After a report scheduled for more than “once” runs, CAS updates this field to keep it current.
- the run times are staggered from 10 to 30 minutes apart. Should reports fail to print, try re-scheduling them at times farther apart.
- Output Method and Output Device. Typical values are:
 - To display on the terminal, method **T**. Device is not required.
 - To print, method **P** and device either **wide 570 l1p** (compressed) or **l1p** (uncompressed).

Generating and Scheduling Reports

4. When complete, press <ESC>. If this was an Abandoned Call Report, a Selection Report, or a system table, proceed directly to step 6.

If this was any other call accounting report, press <D>etail. The second screen appears, similar to the sample 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: Oct 31 1989
Increment Period: Y
```

5. Press <U>pdate and enter values for the fields below. When complete, press <ESC>.
 - Reporting Period. Enter the letter or number indicator to establish the range of dates of calls reported: <Y>ear, <Q>uarter, <M>onth, i-week, <W>eek, <D>ay, <H>our, or 1 to 99 days from the date of the Start of Period, or <A>ll calls in storage.
 - Start of Period. Enter a date (*mm/dd/yy*) and whether or not to Increment Period: <Y>es will add the number of days in the Reporting Period to the date in Start of Period, so that next run will only include calls from the "next" period; <N>o will include the same calls on the next run.
6. Press <E>xit. The screen returns to a menu display. You may initiate another function or exit CAS.

Application Tips

The following pages review some CAS report benefits.

Spotting Telephone Abuse

Excessive personal calls, calls placed by unauthorized personnel (visitors, delivery personnel, janitorial staff), and calls to dial-up recordings are all forms of abuse.

- Check calls to specific telephone numbers in a Selection Report. Here are a few suggestions:
 - Your competitors (Is someone giving out inside information?)
 - Local media (Who is talking to the press?)
 - Time and weather, dial-a-joke, etc. It was recently reported that a federal government office in Washington, D.C., placed over \$25,000.00 per month in calls to two dial-up recordings in New York City. Dial-up recordings in many locations are identified by the 976 exchange.
- Check calls dialed after office hours. You will find the Time of Day Report helpful in determining if this abuse exists. Use the Selection Report to find the details.
- Check incoming WATS in a Call Type Report. Are people giving out 800 numbers to friends? Use the Selection Report to look for a pattern — for example, every Friday noon, extension 315 receives a WATS call and talks for an hour.

Allocating Costs

Departments, cost centers, and individual company personnel are often accountable for expenses incurred and need to remain within their respective budgets. Some companies operate individual departments on a profit center basis, making expense accountability mandatory.

- The various Organization Summary by Site Reports will provide local managers enough information to keep track of their groups' telephone costs. The Organization Summary Reports, on the other hand, will provide top management a comparative view of the various groups' expenses across all sites.
- To allocate expenses by other than corporate structure level names, certain groups within the company may profit by redefining the Organization Table — for example, using "cost centers" as a project name to keep track of project costs, or using "departments" and/or "cost centers" for the names of managers and project leaders, respectively.

Generating Revenue

Today's technologies allow telephone equipment to be shared by multiple users. This is called reselling and until recently, it was limited to the lodging industry. Hospitals, universities, or complexes with shared facilities (such as condominiums for housing or office space) can be served by a single switch with shared access to WATS lines or other discounted long distance services.

To charge calls placed by patients, students, or tenants (as the case may be), define your "departments" and "cost centers" accordingly and use printed copies of the Organization Detail by Site Report as the actual telephone bill for selected departments and/or cost centers.

NOTE:

To charge at a profit, use the *Edit Cost Adjustments* function prior to generating these reports to add any markups and surcharges (see chapter 8, *Costing Configuration*). Remove the markups after generating the reports to produce actual costs on your other reports.

Billing Back Clients

Calls are frequently placed on behalf of clients or particular projects. Professional service departments within an organization must be able to account for their time in order to bill their clients. These calls can result in recovering hundreds of dollars from calls which may otherwise go unbilled.

Obtain detail or summary Account Code reports. Use the printout as the actual bill to your client.

NOTE:

To charge at a profit, use the *Edit Cost Adjustments* function prior to generating these reports to add any markups and surcharges (see chapter 8, *Costing Configuration*). Remove the markups after generating the reports to produce actual costs on your other reports.

Measuring Productivity

Telephone intensive organizations such as telemarketing firms, credit collection agencies, your sales department, and other similar environments require intensive use of their phones.

- Use the Organization Summary by Site Report to check calls made by selected extensions. Are your employees making enough calls? Who are they calling?
- Use the Selection Report to check incoming calls received by selected extensions. How busy is your customer service department?
- Use the Selection Report on incoming calls in support of your service calls. Police, fire departments, security agencies, or any customer service oriented organization may want to compare the time of a complaint, call for service, etc., with the time help was actually dispatched.

Stopping Facilities Misuse

Misuse refers to unknowingly placing calls that incur excess usage charges. They normally occur because of ignorance or misunderstanding on the part of the user, although they may occur because the ARS (Automatic Route Selection) pattern in the switch is set incorrectly.

- Use the Call Type Report to find if there are many calls under the SPCL call type name, then pinpoint details to calls to directory assistance via the Selection Report (even small 50 cent calls can add up to a large bill.)
- Use the Call Type Report to find your long-distance calling patterns. Are you using your WATS for all your long distance calls?

Optimizing Networks

Many long distance service alternatives exist today. WATS, Tie, FX, and T1 lines are a few examples. An optimally designed network for each of your sites will have the proper mix of these services.

- Use your Trunk Group Report to monitor loads. If the load for a trunk within a facility appears too large, coupled with little or no usage on other lines, this might indicate some of the other circuits need servicing. Light usage may also justify deleting some lines.
- Use your Time of Day Report to analyze your busy hour traffic patterns. Then pinpoint facility usage for those hours with a Selection Report. Busy lines at peak hours require rerouting to more expensive lines — perhaps changing calling patterns to a different time of day will solve network delays. Heavy usage may also justify adding some lines.

Managing the Site Configuration

3

This chapter describes the functions used to keep the site, telephone system, and account code tables up-to-date. It is organized into sections following the order of the `SITE CONFIGURATION` menu.

- *Editing the Site Information* — is used to look up the site name, address, phone number, and miscellaneous ordering information.
- *Editing the Telephone System Configuration* — is used to edit trunking information.
- *Editing the Account Code Table* — is used to edit the account code numbers and names.
- *Changing Account Codes in Call Records* — is used to change the account numbers in stored call records.
- *Installing a Site* — is used to load the rate tables and set up a basic configuration after installing CAS.
- *Listing Site Tables* — is used to generate a listing of any table from the `SITE CONFIGURATION` menu.

Editing the Site Information

Use this function to look up or change the site name, address, and the name and phone number of the CAS administrator at the site.

Procedure

1. From CAS main menu, select **site Configuration Menu**, then **Edit Site Information**.

A screen similar to the sample below appears.

```
COMMANDS:  Query Next Previous Update Exit
           Query for record

-----
                EDIT SITE INFORMATION
-----

      Site Name: HEADQUARTERS
      Site Number: 1
      Site Area Code: 716
      Site Exchange: 385
      Site Address: 300 TULIP ST
      Site City: ROCHESTER
      Site State: NY
      Site Zip Code: 14609
      Site Contact Person: P. BROOK
      Site Contact Number: 7163056440

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

2. To make any changes, press <U>pdate, edit the fields of interest, and press <ESC>.
3. Press <E>xit. The procedure is complete; the screen returns to a menu display. You may initiate another function or exit CAS.

Field Description

The following list describes all fields in this function.

- `Site Name`. The name (1 to 15 characters) associated with this site. A CAS site, typically a building serviced by a single switch, is the CAS organizational entity that is the source of call records.
- `Site Number`. (Not editable) This field always shows the number 1.
- `Area Code and Exchange`. (Not editable, used for informational purposes) Unless custom rates are installed for this site, these are dummy numbers (210/221) associated with major metro rates. Sites with custom rates show the actual local calling area.
- `Site Address` (40 characters), `City` (30 characters), `State` (2 characters), `Zip Code` (5 or 11 characters), `Contact Person` (40 characters), and `Number` (10 characters).
- `Installation and Last Update`. (Not editable) The time, date, and ordering information of the initial site installation or the installation of its most recent rate update.

Editing the Telephone System Configuration

Use this function to identify how the switch at the site reports the telephone facilities used and how calls using those facilities should be costed.

CAS structures the Telephone System Configuration as a hierarchy of facilities, dial access codes, and trunk/lines — following a typical way of programming trunk access at the switch.

Namely, in most installations you access a telephone facility — CO. WATS. Foreign Exchange (FX), Tie line, etc.— by dialing one (of possibly, several) access codes or buttons, each associated with a billing scheme and with one or more trunks. Switches programmed for Automatic Route Selection (ARS) choose the telephone facility for you, based on availability, cost, and type of call dialed. Regardless of the programming, your switch will report the “line” actually used.

NOTE:

If necessary, use IS-II SPM utility menus to display facility, access code, and trunk assignments for the switch.

The following diagram is an example of a site's grouping of trunk information.

Trunk Group	Facility Name	Dial Access Code	Billing Scheme	Trunk /Line
1	CO	----- 9	by tariff	----- 801, 802, 803, 804, 805, 806
2	WATS4	----- 890	6¢/minute	----- 811, 812
3	FX-NY	----- 891	13¢/minute	----- 815

Procedure

1. From CAS main menu, select **Site Configuration Menu**, then **Edit Telephone System Configuration**.
2. A screen similar to the one below appears on display. Press <D>etail.

```
COMMANDS: Query Next Previous Detail Exit
          Query for record
-----
          EDIT TELEPHONE SYSTEM CONFIGURATION - SITE
-----
          Site: HEADQUARTERS
```

3. The next three fields appear on display, as in the sample below.

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Find detailed record
-----
          EDIT TELEPHONE SYSTEM CONFIGURATION - FACILITY
-----
          Site: HEADQUARTERS
          Trunk Group: 1
          Facility: CO
          Number of Trunks: 5
```

- a. To create a new facility record, press <A>dd. The three fields at the bottom will be blanked. Enter values for these fields as described at the end of this section and press <ESC>. Proceed directly to step 5.
 - b. To change or remove an existing record and/or its details, press <N>ext or <P>revious (if necessary) to bring the facility name of interest to the screen.
4. a. To change any values, press <U>pdate, enter the changes, and press <ESC>.
 - b. To remove the facility on display, make certain its details are removed first, then press <R>emove and follow screen instructions.

5. To add, change, or remove facility details, press <D>etail. The next five fields appear on display, as in the sample below.

```
COMMANDS: Query Next Previous Add Update Remove Master Detail Exit
          Query for record
-----
          EDIT TELEPHONE SYSTEM CONFIGURATION - DIAL ACCESS CODE
-----

          Site: HEADQUARTERS
          Trunk Group: 1
          Facility: CO
          Number of Trunks: 5
          Dial Access Code: 9
          Rate (in cents): -1
          Rate Type: M
          Carrier: 0
          Incoming Calls: 0
```

- a. To create a new dial access code record, press <A>dd. The five fields at the bottom will be blanked. Enter values for these fields as described at the end of this section and press <ESC>. Proceed directly to step 7.
 - b. To change or remove an existing record and/or its details, press <N>ext or <P>revious (if necessary) to bring the dial access code of interest to the screen.
6. a. To change any values, press <U>pdate, enter the changes, and press <ESC>.
 - b. To remove the dial access code on display, make certain its details are removed first, then press <R>emove and follow screen instructions.
7. To return to the facility level, press <M>aster and proceed to step 3a or 3b; to add, change, or remove dial access code details, press <D>etail.

8. The last field (Trunk Line) is added at the bottom of the display.

```
COMMANDS: Query Next Previous Add Update Remove Master Exit
          Query for record
-----
          EDIT TELEPHONE SYSTEM CONFIGURATION - TRUNK LINE
-----
          Site: HEADQUARTERS
          Trunk Group: 1
          Facility: CO
          Number of Trunks: 5
          Data Access Code: 9
          Rate (in cents): -1
          Rate Type: M
          Carrier: 0
          Incoming Calls: C
          Trunk Line:
```

- a. To create a new record, press <A>dd, enter a new trunk/line as described at the end of this section, and press <ESC>. Proceed directly to step 10.
 - b. To change or remove an existing trunk/line, press <N>ext or <P>revious (if necessary) to bring it to the screen.
9. a. To change a trunk/line, press <U>pdate, enter the change, and press <ESC>.
 - b. To remove a trunk/line, press <R>emove and follow screen instructions.
10. To return to the dial access code level, press <M>aster and proceed to step 5a or 5b.
 11. To end the procedure, press <E>xit. The screen returns to a menu display. You may initiate another function or exit CAS.

Field Description

The following list describes all fields in this function.

- **Site.** (Not editable) The name of your site, from the EDIT SITE INFORMATION screen.
- **Trunk Group.** An arbitrary number from 0 to 9998 assigned by you to identify a group of lines providing the same telephone service.

NOTE:

The trunk group 9999 is reserved for installations using major metro rates and which have either AT&T or MCI as a secondary carrier. If this is the case, the proper entries associated with this group are:

- Trunk Group: **9999**
 - Facility: **SEC**
 - Number of Trunks: **1**
 - Dial Access Code: **9999**
 - Rate: **-1**
 - Rate Type: (blank)
 - Carrier: **0** (if secondary carrier is AT&T) or **1** (if it is MCI)
 - Incoming Calls: **N**
 - Trunk Line: **9999**
- **Facility.** The name — 1 to 5 characters long — assigned by you to a type of telephone service available on site. Facilities that do not use tariff costing are reported as call types. We suggest entering names that are descriptive (for example, **FX-LA** and **FX-NY** distinguish an FX line to Los Angeles from another to New York).

NOTE:

The call type of tariffed facilities is derived internally from the dialed number and may not be used as facility names. These are LOCAL, LATA, MTS, IS-IL, IS-OL, OS-IL, OS-OL, IDDD, SPCL, and ZERO+.

CAS includes the following facility naming conventions:

- CO. Central Office — regular services provided by your local and long distance carriers.
- IWTS*n*. Inbound, band *n* (*n* = 0 to 6) WATS, billed by usage.
- WATS*n*. Outbound (or both inbound and outbound), band *n* (*n* = 0 to 9) WATS, billed by usage.
- Number of Trunks. The number — from 0 to 9999 — of lines in this group (optional, used for information only).
- Dial Access Code. The number — from 0 to 99999 — used to identify a billing scheme for a particular facility. Typically, this is the one to three-digit code that you dial to place an outside call via a trunk in this group.
- Rate. The costing associated with a facility: -1 for tariff table costing; for all others, a flat rate — 0 to 32000 cents — according to the rate type (see below). We suggest you average the rates for this facility using actual telephone bills over two or three billing periods.
- Rate Type. The costing associated with the flat rate specified above — either C (per call) or M (per minute).
- Carrier. The numbers 0 or 1. 1 is used for any group of lines dedicated to a secondary carrier service, 0 for all others.
- Incoming Calls. The disposition of any incoming calls routed through these lines: D (discard), N (accept at no cost), or C (cost at the flat rate specified above).
- Trunk Line. The identifier reported by the switch for the route of a call — in a MERLIN LEGEND switch, this is the "line" number.

Calls reported by the switch as using trunks not defined in this table will be costed at CO rates and the trunk reported as ???????.

Editing the Account Code Table

This function is used to support the account code feature of your switch.

When the feature is used — usually by dialing the code number for a client account before starting the call — the switch adds the account identifier to that call record. Account codes appearing in call records are checked against the system internal list. If the account code is not listed, it will be added automatically to the account named `UNASSIGNED`.

Procedure

1. From CAS main menu, select **site Configuration Menu**, then **Edit Account Code Table**.
2. Press `<D>`etail. CAS accesses the Account Code Table and displays the first record on the screen, as in the sample below.

```
COMMANDS: Query Next Previous Add Update Remove Master Exit
           Query for record
-----
                        EDIT ACCOUNT CODE TABLE
-----
                Site: HEADQUARTERS
            Account Code: 12345
            Account Name: BERRY, CURTIS & ELDER
```

3. To enter a new account, press `<A>`dd and enter field information as described at the end of this section. When complete, press `<ESC>`.
4. To remove or update an account first bring the account code of interest to the screen with a `<Q>`uery, `<N>`ext, or `<P>`revious command.
5. Depending on the operation, press `<R>`emove and follow the screen instructions or press `<U>`pdate, edit field information, and press `<ESC>`.
6. When complete, press `<E>`xit. The screen returns to a menu display. You may initiate another function or exit CAS.

Field Description

The following list describes the fields in this function.

- **Site.** (Not editable) The name of your site, from the **EDIT SITE INFORMATION** screen.
- **Account Code.** One (1) to 15 numeric characters corresponding to the client account, etc., as programmed for the switch.
- **Account Name.** One (1) to 20 alphanumeric characters corresponding to the name associated with the client account or project code.

Changing Account Codes in Call Records

Use this function to change the account code numbers in the stored call records themselves.

To illustrate this procedure, we shall use the following example: change a call incorrectly charged to account "1234" to account code "12345."

1. From CAS main menu, select **Site Configuration Menu**, then **Change Account Code in Call Record**.

A screen similar to the one below appears.

```
COMMANDS: Query Next Previous Detail Exit
          Query for record
-----
          CHANGE ACCOUNT CODE IN CALL RECORD - SITE
-----
          Site: HEADQUARTERS
```

2. Select the destination account code:

Managing the Site Configuration

- a. Press <D>etail, <Q>uery, enter the new account code (in our example, 12345), and press <ESC>. The screen displays:

```
COMMANDS: Query Next Previous Choose Master Detail Exit
          Query for record
-----
          CHANGE ACCOUNT CODE IN CALL RECORD
-----
          Site: HEADQUARTERS
          Account Code: 12345
          Account Name: BERRY CURTIS & ELDER
```

- b. Press <C>hoose. The screen displays:

```
COMMANDS: Query Next Previous Choose Master Detail Exit
          Query for record
-----
          CHANGE ACCOUNT CODE IN CALL RECORD
-----
          Site: HEADQUARTERS
          Account Code: 12345
          Account Name: BERRY CURTIS & ELDER

          Destination Account Code: 12345
          Destination Account Name: BERRY CURTIS & ELDER
```

3. Find the call record(s) with the old account code:
- a. Press <Q>uery, enter the old account code (in our example, 1234), and press <ESC>. The screen displays:

```
COMMANDS: Query Next Previous Master Detail Exit
          Query for record
-----
          CHANGE ACCOUNT CODE IN CALL RECORD
-----
          Site: HEADQUARTERS
          Account Code: 12345
          Account Name: BERRY CURTIS & ELDER

          Destination Account Code: 12345
          Destination Account Name: BERRY CURTIS & ELDER
```

- b. Press <D>etail, CAS retrieves all call records with this account code and displays the first record on the screen.

```
COMMANDS: Query Next Previous Transfer Master Detail Exit
          Query for record
-----
CHANGE ACCOUNT CODE IN CALL RECORD - UPDATE CALL RECORD
-----
                Site: HEADQUARTERS
                Account Code: 12345
                Account Name: UNASSIGNED
                Call Record Start Date: Dec 15 1988
                Call Record Start Time: 14:30
                Call Record Extension: 422
                Call Record Dialed Digits: 385-6440
                Call Record Account Code: 1234

                Destination Account Code: 12345
                Destination Account Name: BERRY CURTIS & ELDER
```

4. Effect the changes: press <T>transfer, <ESC>, and <ENTER>.
5. The transfer is complete. Press <E>xit. The screen returns to a menu display. You may initiate another function or exit CAS.

Installing a Site

Use this function at installation to load the SITEGEN diskette (for custom rates) or the MEJOR METRO EAST or WEST diskette (for non-custom rates) and set up a basic configuration.

For details on this, and related site installation procedures, see *Call Accounting System (CAS) Integrated Solution II Site Installation and Implementation Guide for the MERLIN LEGEND™ Communications System* (585-247-050).

Listing Site Tables

Use this menu to generate any of the following tables:

- Site Information
- Telephone System Configuration
- Account Code Table

Figure 3-1 shows sample tables.

1. From the CAS main menu, select **Site Configuration Menu**, next, **site Tables Menu**, then the desired table. A screen similar to the one on the next page below appears on display.

```
COMMANDS:  Update Generate Exit
           Update the displayed record
-----
           LIST TELEPHONE SYSTEM CONFIGURATION
-----
Output Method: P
Output Device: wide 570 11p
```

2. To change values, press <U>pdate, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - a. To display on the terminal, enter method **T**. Device is not required.
 - b. To print, enter method **P**, then device **wide 570 11p** (compressed) or **1p** (uncompressed).
3. Press <G>enerate. If you sent the report to the terminal, the screen displays it, one page at a time. Paginate using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.

The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Managing the Site Configuration

12:05 PM Site Information Page
YOUR COMPANY NAME Nov 09 1988
SITE NAME

Name YOUR COMPANY NAME
Area Code 716
Exchange 205
Address
Cont.
Inst.
Last

12:05 PM Telephone System Configuration Page
YOUR COMPANY NAME Nov 09 1988
SITE NAME

Trunk Group	Facility	Trunk Count	Access Code	Rate	Rate Type	Carrier	Cost Incoming
1111	CD	.	NONE	5.00	Tariff	ACT	No Cost
14	CD	.	9	5.00	Tariff	ACT	No Cost

End of Telephone System Configuration Table

12:05 PM Account Code Table Page
YOUR COMPANY NAME Nov 09 1988
SITE NAME

Account Code	Account Name
1001	UNASSIGNED
1002	ABC TOYS
1003	BIG BOYS SHOP
1010	CRAFTS & GAMES
1020	RITTES UNLIMITED
1021	TODDLERS WORLD
1030	TRAINCRAFT LTD
1033	WAGON WHEELS CO

End of Account Code Table

Figure 3-1. Sample Site Tables

Managing the Organization Configuration

4

This chapter describes the functions to look up, list, change, or create entries in your company organization table. It is organized into sections following the order of the ORGANIZATION CONFIGURATION MENU.

- *Editing the Company Information* — is used to change the name of the company for report headers.
- *Editing the Organization Table* — is used to edit entries in any hierarchical level of the company organization table.
- *Loading the Organization Table* — is used to transfer a specially formatted text file of the organization table into the CAS organization database.
- *Moving Entries in the Organization Table* — is used to reassign personnel, extensions, or cost centers to a different extension, cost center, or department (respectively).
- *Listing the Directory and Organization Tables* — is used to generate any table listing from the ORGANIZATION CONFIGURATION menu.

Editing the Company Information

This function is used to change the company name in the report headers.

Procedure

1. From CAS main menu, select **Organization Configuration Menu**, then **Edit Company Information**.

A screen similar to the sample below appears.

```
COMMANDS:  Update  Exit
           Update the displayed record

-----
                EDIT COMPANY INFORMATION
-----
Company Name:  ACME HARDWARE
```

2. To make any changes, press < U>update, type over the name, and press <ESC>.
3. Press <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

Company Name. The name (1 to 20 alphanumeric characters) of the company that will appear on all report headers.

Editing the Organization Table

Use this function to add, remove, or change department names, cost centers, extensions and their users' telephone charge information. Reports will reflect current entries.

CAS structures a site into departments, and departments into cost-centers, to allocate telephone expenses for calls made or received from any extension. Personnel entries for extension users provide a useful directory.

Figure 4-1 illustrates the hierarchical nature of an organization table.

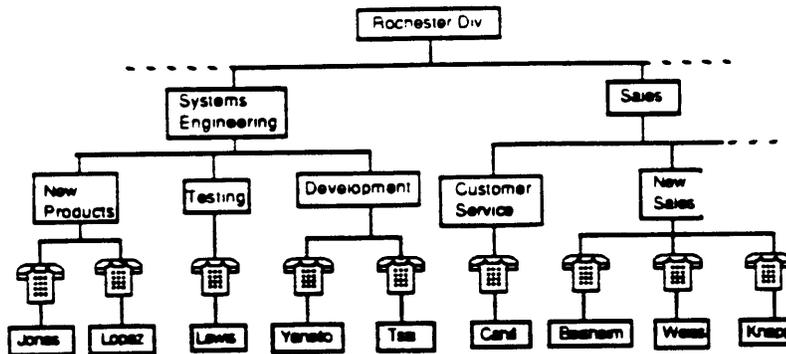


Figure 4-1. Sample of a Site Organization

NOTE:

To reassign entire "branches" of the organization — for example, to move an entire cost center to another department, or an extension and its users to another cost center — use the functions documented under *Move Organization Table Entries* in this chapter.

Procedure

1. From CAS main menu, select **Organization Configuration Menu**, then **Edit Organization Table**.
2. A screen similar to the one below appears on display. Press <D>etail.

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

3. The Department field appears on display.

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

- a. To create a new department, press <A>dd, enter its name as described at the end of this section, and press <ESC>. Proceed directly to step 5.
 - b. To change or remove an existing organization record and/or its details, press <N>ext or <P>revious (if necessary) to bring the department of interest to the screen.
4.
 - a. To change the department on display, press <U>pdate, enter the new name, and press <ESC>.
 - b. To remove the department on display, make certain its details are removed first, then press <R>emove and follow screen instructions.
 5. To add, change, or remove department details, press <D>etail.

Managing the Organization Configuration

6. The Cost Center field appears on display.

```
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
```

- a. To create a new cost center, press <A>dd, enter its name as described at the end of this section, and press <ESC>. Proceed to step 8.
- b. To change or remove an existing organization record and/or its details, press <N>ext or <P>revious (if necessary) to bring the cost center of interest to the screen.
7. a. To change the cost center on display, press <U>pdate, enter the new name, and press <ESC>.
- b. To remove the cost center on display, make certain its details are removed first, then press <R>emove and follow screen instructions.
8. To return to the department level, press <M>aster and proceed to step 5a or 5b; to add, change, or remove cost center details, press <D>etail.
9. The Extension field appears on display.

```
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
```

- a. To create a new extension, press <A>dd, enter its number, and press <ESC>. Proceed directly to step 11.

Managing the Organization Configuration

- b. To change or remove an existing organization record and/or its details, press <N>ext or <P>revious (if necessary) to bring the extension of interest to the screen.
 10.
 - a. To change the extension on display, press <U>pdate, enter the changes, and press <ESC>.
 - b. To remove the extension on display, make certain its details are removed first, then press <R>emove and follow screen instructions.
 11. To return to the cost center level, press <M>aster and proceed to step 9a or 9b; to add, change, or remove extension details, press <D>etail.
 12. The personnel record appears on display.

```
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:
```

- a. To create a new record, press <A>dd, enter the extension user's name, and press <ESC>.

NOTE:

The *authorization code*, *credit card number*, and *carrier* are not used.

Repeat this step, if this extension has more users; otherwise, proceed to step 14.

- b. To change or remove an existing record and/or its details, press <N>ext or <P>revious (if necessary) to bring the name of interest to the screen.

13. a. To change any values on display, press <U>pdate, enter the changes, and press <ESC>.
- b. To remove the record on display, press <R>emove and follow screen instructions.
14. To return to the extension level, press <M>aster and proceed to step 10a or 10b.
15. To end the procedure, press <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes field entries supported by IS-II:

- **Site.** (Not editable) The name of your site, from the `EDIT SITE INFORMATION` screen.
- **Department and Cost Center.** The names (1 to 15 alphanumeric characters) of the master and detail levels (respectively) under which extensions are placed. You may duplicate a cost center name under a different department.

To speed the sorting process in reports, we recommend single word names (using such separators as "-" or "_" if necessary, for example, `NEW_SALES`).

CAS includes default entries, the `UNATTACHED` department and cost center, used to capture information on undefined extensions appearing in call records (see *Extension* in this list). CAS does not allow changing these entries.

- **Extension.** The station number (1 to 5 digits) as it appears in the call record from the switch. Extension numbers are unique. CAS will not allow the same extension under another cost center/department.

Unidentified extensions will be added to the table under the UNATTACHED department and cost center. To assign "unattached" extension to the proper department and cost center, use the *Move* functions documented in this chapter.

- **Name.** The name of an extension user (1 to 39 alphanumeric characters). To print a directory in alphabetical order, we recommend entering the last name first — for example, SMITH, MARY.

An extension may have more than one user; however, only the first entry will appear on reports. Extensions without users will be listed as UNASSIGNED.

- **Authorization Code, Credit Card Number, and Carrier.** Not used.

Loading the Organization Table

Use this function to reproduce the site organization table from a previously prepared ASCII file that contains the table entries. This function may be used at installation, instead of creating the table via the EDIT ORGANIZATION TABLE function.

For details on the file format and the data transfer and verification procedures, see *Call Accounting System Site Installation and Implementation Guide for the MERLIN LEGEND™ Integrated Solution II* (585-247-050).

Moving Entries in the Organization Table

CAS provides three functions used to reassign any company subdivision — Cost Center, Extension, or Personnel, including its lower "branches" — to a different part of the organization "tree." These functions are:

- Move Cost Centers Between Departments
- Move Extensions Between Cost Centers
- Move Personnel Between Extensions

Procedure

We shall use an example to illustrate this procedure: move extension 100 from the UNATTACHED department and cost center to the RESEARCH cost center of the MARKETING department.

1. From CAS main menu, select **Organization Configuration Menu**, then **Move Extensions Between Cost Centers**.

A screen similar to the one below appears.

```
COMMANDS: Query Next Previous Detail Exit
          Query for record
-----
MOVE EXTENSIONS BETWEEN COST CENTERS - SITE
-----
Site: HEADQUARTERS
```

2. Select the destination department and cost center.
 - a. Press <D>etail, then <N>ext until the destination department (MARKETING) appears on display.

Managing the Organization Configuration

```
COMMANDS: Query Next Previous Master Detail Exit
          Query for record
-----
MOVE EXTENSION BETWEEN COST CENTERS - DEPARTMENT
-----
                Site: HEADQUARTERS
                Department: MARKETING
```

- b. Press <D>etail, then <N>ext until the destination cost center (RESEARCH) appears on display.

```
COMMANDS: Query Next Previous Choose Master Detail Exit
          Query for record
-----
MOVE EXTENSIONS BETWEEN COST CENTERS - COST CENTER
-----
                Site: HEADQUARTERS
                Department: MARKETING
                Cost Center: RESEARCH
```

- c. Press <C>hoose. The screen displays:

```
COMMANDS: Query Next Previous Master Detail Exit
          Query for record
-----
MOVE EXTENSIONS BETWEEN COST CENTERS - DEPARTMENT
-----
                Site: HEADQUARTERS
                Department: MARKETING

Destination Department: MARKETING
Destination Cost Center: RESEARCH
```

3. Find the extension in the original department and cost center (UNATTACHED) and transfer it to its final destination.
- a. Press <N>ext (or <P>revious) until the original department (UNATTACHED) appears on display.

Managing the Organization Configuration

```
COMMANDS: Query Next Previous Master Detail Exit
           Query for record
-----
MOVE EXTENSIONS BETWEEN COST CENTERS - DEPARTMENT
-----
                Site: HEADQUARTERS
                Department: UNATTACHED

Destination Department: MARKETING
Destination Cost Center: RESEARH
```

- b. Press <D>etail, then <N>ext (or <P>revious) until the original cost center (UNATTACHED) appears on display.

```
COMMANDS: Query Next Previous Choose Master Detail Exit
           Query for records
-----
MOVE EXTENSIONS BETWEEN COST CENTERS - COST CENTER
-----
                Site: HEADQUARTERS
                Department: UNATTACHED
                Cost Center: UNATTACHED

Destination Department: MARKETING
Destination Cost Center: RESEARCH
```

- c. Press <D>etail, then <Q>uery. Enter the extension of interest (100) and <ESC>.

```
COMMANDS: Query Next Previous Transfer Master Exit
           Query for record
-----
MOVE EXTENSIONS BETWEEN COST CENTERS
-----
                Site: HEADQUARTERS
                Department: UNATTACHED
                Cost Center: UNATTACHED
                Extension: 100

Destination Department: MARKETING
Destination Cost Center: RESEARCH
```

- d. Finally, press <T>ransfer, <ESC>, and <ENTER>.
4. The transfer is complete. Press <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Listing the Directory and Organization Tables

Use these options to generate listings of your company organization table:

- The Directory Table menu provides the following options:
 - `List Departments` generates a nested list of user names grouped by extensions, within cost centers, within departments.
 - `List Extensions` generates a flat list of extensions, departments, cost centers, and user names sorted in ascending order by extension.
 - `List Personnel` generates a flat list of users, extensions, departments, and cost centers, sorted alphabetically by user names.
- The Organization Table menu provides a printout of the Company Information and the Organization Table (see figure 4-2).

01:05 PM	Organization Table	Page	1
	Your Company Name	Feb 15, 1989	
	Site Name		

Department	Cost Center	Ext	Personnel

ENGINEERING	CA-1	315	FERNANDEZ, MIGUEL
ENGINEERING	CA-1	341	PROULX, MICHELLE
ENGINEERING	CA-1	361	GATES, LISA

Figure 4-2. Sample Organization Table Listing

To list a Directory or an Organization table, proceed as follows:

1. From CAS main menu, select **Organization Configuration Menu**, then, your choice of **Directory Tables Menu** or **Organization Tables Menu** and finally, the desired listing.

A screen similar to the one below appears on display.

```
COMMANDS:  Update  Generate  Exit
           Update the displayed record

-----
                    LIST  ORGANIZATION  TABLE
-----

Output Method: T
Output Device: wide 570 l1p
```

2. To change values, press <U>update, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - a. To display on the terminal, enter method **T**. Device is not required.
 - b. To print, enter method **P**, then device **wide 570 l1p** (compressed) or **lp** (uncompressed).
3. Press <G>enerate. If you sent the report to the terminal, the screen displays it, one page at a time. Paginate using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.
4. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Managing the CDR Collection Configuration

5

This chapter describes the functions used in controlling and interpreting the flow of call record data — also known as "Call Detail Recording" (CDR) — from your switch. The chapter is organized into sections following the order they appear on the CDR COLLECTION CONFIGURATION menu.

- *Editing CDR Collection Information* — is used to identify how call record data is collected from the switch.
- *Editing CDR Port Information* — is used to identify the port used for call record collection.
- *Listing the CDR Configuration Tables*— is used to generate the CDR collection and port information tables.

Editing CDR Collection Information

Use this function to view or update control information for data transmissions from the switch.

Procedure

1. From the CAS main menu, select **CDR Collection Configuration Menu**, then **Edit CDR Collection Information**.

A screen similar to the one below appears.

```
COMMANDS: Query Detail Exit
          Query for record
-----
          EDIT CDR COLLECTION INFORMATION - SITE
-----
          Site: HEADQUARTERS
```

2. Press <D>etail. A screen similar to the one below appears.

```
COMMANDS: Update Master Detail Exit
          Update the displayed record
-----
          EDIT CDR COLLECTION INFORMATION
-----
          Site: HEADQUARTERS
          Call Record Format: legendbase
          Communication Type: 1
          Time Zone: 5
          Daylight Savings? y
```

3. To change any values on display, press <U>pdate and enter the new information as described at the end of this section. When complete, press <ESC>.

4. To view the interface parameters in use, press <D>etail.

```
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
```

5. To end the procedure, press <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes valid field entries.

- **Site.** (Not editable) The name of your site, from the EDIT SITE INFORMATION screen.
- **Call Record Format.** The type of call record output by your switch: **legendbase** (basic SMDR format), **legendisdn** (ISDN format).
- **Communication Type.** This must be **1**.
- **Time Zone.** The hour difference from Greenwich time: **4** (Atlantic), **5** (Eastern), **6** (Central), **7** (Midwest), **8** (Pacific), **10** (Alaska), **11** (Hawaii).
- **Daylight Savings.** **Y** (yes), if daylight savings time is observed at your site; otherwise, **N** (No).
- **Direct PBX Interface Parameters.** These must be the following values:
 - PBX Port Baud Rate: **1200**
 - PBX Port Data Bit: **8**
 - PBX Port Stop Bit: **1**
 - PBX Port Parity: **N** (none)

Editing CDR Port Information

Use this function to view or change the information that identifies the computer port connected to the switch and to enable or disable that port.

Procedure

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? Y
Description: COMM PORT 2
```

2. To change any values on display, press <U>pdate and enter the changes. When complete, press <ESC>.
3. To end the procedure, press <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes the fields in this function.

- Port Name. The UNIX name for a port used by the switch.
- Communication Type. This must be 1.
- Port Enabled? **Y** (yes, active port), **N** (no, inactive port).
- Description. Optional comments.

Listing the CDR Configuration Tables

Use these options to generate a listing of the current values for CDR Collection Information or CDR Port Information (see figure 5-1).

12:05 PM	CDR Collection Information	Page 1
	YOUR COMPANY NAME	Nov 09 1989
	SITE NAME	

Call Record Format	Legendbase	
Communication Type	1	
Time Zone	5	
Daylight Savings	Y	
Direct PBX Interface Parameters:		
PBX Port Baud Rate	1200	
PBX Port Data Bits	8	
PBX Port Stop Bits	1	
PBX Port Parity	None	
End of CDR Collection Information . . .		

12:05 PM	CDR Port Information	Page 1
	YOUR COMPANY NAME	Nov 09 1989
	SITE NAME	

Port Name	tty01	
Communication Type	1	
Port Enabled	Y	
Description	COMM PORT 2	
End of CDR Port Information . . .		

Figure 5-1. Sample CDR Collection Tables

Managing the CDR Collection Configuration

To list the CDR Collection Information or CDR Port Information table, proceed as follows:

1. From CAS main menu, select **CDR Collection Configuration Menu**, then, **CDR Configuration Tables Menu**, and finally, the desired listing.

A screen similar to the one below appears on display.

```
COMMANDS:  Update  Generate  Exit
           Update  the  displayed  record
-----
                LIST  CDR  COLLECTION  INFORMATION
-----
Output Method: P
Output Device: wide 570 l1p
```

2. To change values, press <U>pdate, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - a. To display on the terminal, enter method **T**. Device is not required.
 - b. To print, enter method **P**, then device **wide 570 l1p** (compressed) or **l1p** (uncompressed).
3. Press <G>enerate. If you sent the report to the terminal, the screen displays it, one page at a time. Paginate using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.
4. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Managing the Costing Configuration

6

This chapter describes the functions that allow you to look up and change the costing tables for your site. It is organized into sections following the order of the COSTING CONFIGURATION MENU.

- *Editing the Carrier Information* — is used to identify the dialed prefix to access secondary long distance carriers.
- *Editing Cost Adjustments* — is used to mark up or discount the cost of calls and correct call durations.
- *Editing the Holiday Table* — is used to identify the dates during which rates are discounted.
- *Editing the Dialed Digit Processing Table* — is used to identify special numbers and dialed patterns that require additional processing in order to be properly interpreted and costed.
- *Looking Up Rate Tables* — is used to view or update all carriers' rate tables.
- *Listing Costing Tables* — is used to generate any table in the COSTING CONFIGURATION menu.

Figure 6-1 illustrates how CAS uses some costing tables in processing calls.

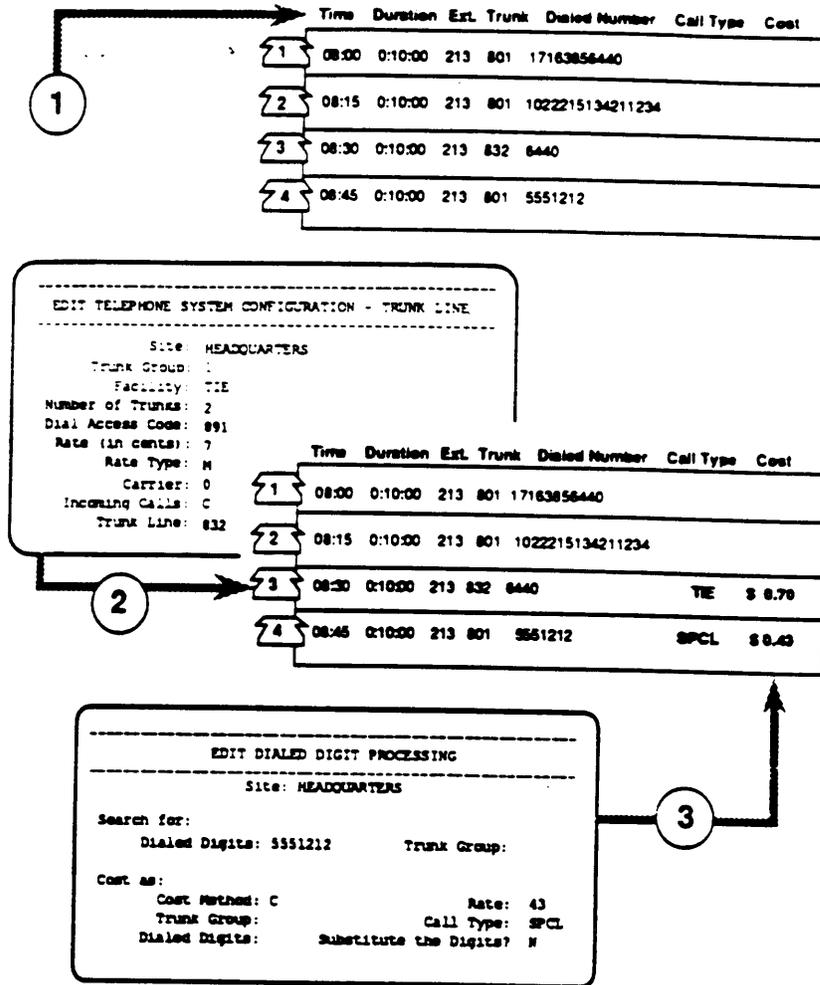
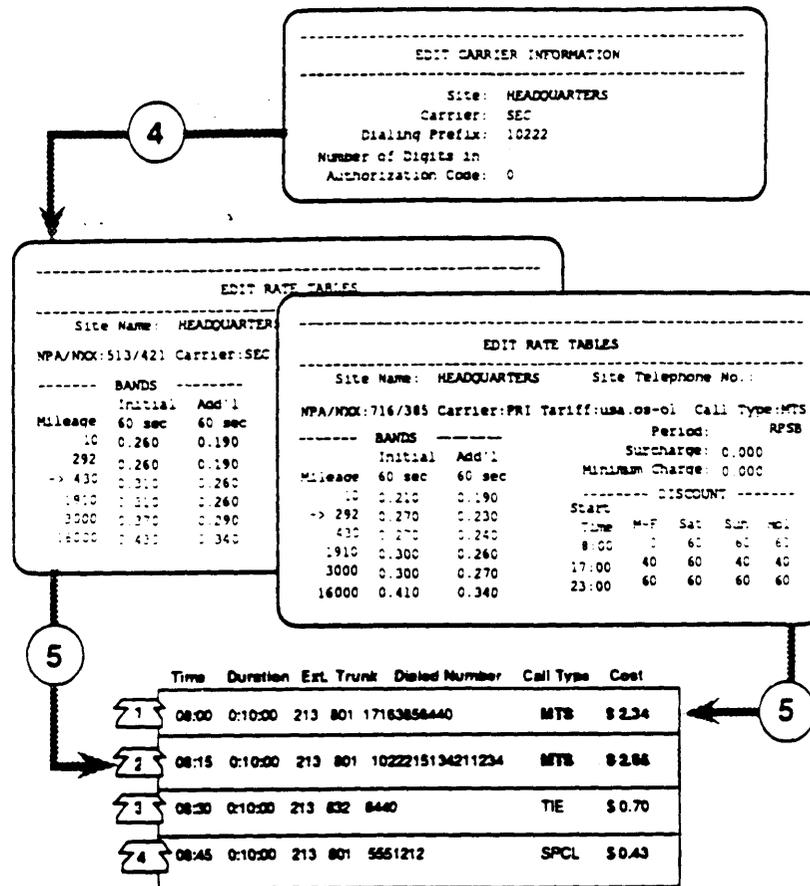


Figure 6-1. Call Costing



- 1 Extension 213 places four calls.
- 2 The Telephone System Configuration identifies the cost of a TIE call.
- 3 The Dialed Digit Processing table identifies the cost of a "special" call.
- 4 The Carrier Information identifies the secondary carrier.
- 5 The Rate Tables find the distance to the area called and calculates the cost of long distance calls using the appropriate carrier's table.

Figure 6-1. Call Costing (Continued)

Editing the Carrier Information

Use this function to view or change the dialed code to access the services of long distance carriers from your site. If you have Equal Access, do not change this information.

Procedure

1. From the CAS main menu, select **Costing Configuration Menu**, then **Edit Carrier Information**.
2. Press <D>etail. A screen similar to the one below appears on display.

```
COMMANDS: Next Previous Update Master Exit
           Find next record
-----
           EDIT CARRIER INFORMATION
-----
           Site: HEADQUARTERS
           Carrier: ATT
           Dialing Prefix: 10288
           Number of Digits in
           Authorization Code: 0
```

3. Press <N>ext or <P>revious (if necessary) until the record of interest appears on display.
4. To make any changes, press <U>pdate and enter new information, as described in the next section. When complete, press <ESC>.
5. Press <E>xit. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes the fields in this function.

- **Site.** (Not editable) The name of your site, from the EDIT SITE INFORMATION screen.
- **Carrier.** (Query only) If this site has custom rates, this is the code name of a long distance carrier whose tariffs have been included as part of the rate customization for the site. A site without custom rates will include the following names:
 - PRI — primary carrier (simplified AT&T rates)
 - SEC — secondary carrier (simplified MCI rates)
 - PROA — primary carrier operator assisted (simplified AT&T rates)
 - SEOA — secondary carrier operator assisted (simplified MCI rates)
- **Dialing Prefix.** In Equal Access areas, this is the 10xxx code that you dial to access the carrier's network (do not change this entry); in areas without Equal Access, this is the carrier's local phone number — typically, a 950xxxx number.
- **Number of Digits in Authorization Code.** In Equal Access areas, this should be zero (0); in areas without Equal Access, this is the length of the account number with that carrier — typically, a 14-digit code.

Editing Cost Adjustments

Use this function to view or change the values by which CAS adjusts the cost of calls, according to its type.

Adjustments are necessary, for example, to add local and state taxes, to mark up (or discount) calls in reselling telephone services to clients, or to correct the call duration reported by switches without answer supervision.

CAS provides default values for every call type in your system that result in the following adjustments:

- No adjustments to incoming calls
- Operator-assisted calls are free
- Non-incoming calls of less than a 30-second duration are discarded
- If a non-incoming call is not discarded, its duration is reduced by 15 seconds

Procedure

1. From the CAS main menu, select **Costing Configuration Menu**, then **Edit Cost Adjustments**.
2. Press <D>etail. A screen similar to the one below appears on display.

```
COMMANDS: Next Previous Update Master Exit
          Find next record
-----
          EDIT COST ADJUSTMENTS
-----

          Site: E ROCHESTER
          Call Type: ZERO+
          Tax (%): 0
          Markup (%): -100
          Surcharge (cents): 0
          Minimum Charge (cents): 0
          Minimum Duration: 0:00:30
          Network Correction: 0:00:15
```

3. Press <N>ext or <P>revious (if necessary) to bring the call type of interest to the screen.
4. To make any changes, press <U>pdate and enter field values as described in the next section. When complete, press <ESC>.
5. Press <E>xit. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes the fields in this function.

- **Site.** (Not editable) The name of your site, from the `EDIT SITE INFORMATION` screen.
- **Call Type.** (Not editable) The name, one to 5 characters long, that describes a call. CAS costing algorithms derive call type names from a built-in list of call types and user-defined names, as follows:
 - if the dialed number matches a pattern in the `DIALED DIGIT PROCESSING` table, it follows the *call type* naming instructions in the table. CAS includes two built-in call types in this table:

<code>SPCL</code>	Information, 800-, 900-, and other "special" numbers
<code>ZERO+</code>	Operator assisted call
 - if the call used a non-tariffed facility, it takes the user-defined *facility name* as it appears in the `TELEPHONE SYSTEM CONFIGURATION` table. See *Editing the Telephone System Configuration Table* in chapter 3.
 - if the call used a tariffed facility, it takes the name `INCOM` (for an incoming call) or one of the names in the list that follows, depending on the call destination.

IDDD International Direct Distance Dial
IS-IL In-State, In-LATA (custom rate systems)
IS-OL In-State, Out-of-LATA (custom rate systems)
LATA Local Access Transport Area (systems with Major Metro rates)
LOCAL Local (usually, a 7-digit call)
MTS Message Telephone Service (systems with Major Metro rates)
OS-IL Out-of-State, In-LATA (custom rate systems)
OS-OL Out-of-State, Out-of-LATA (custom rate systems)

NOTE:

CAS includes the following list of call types — not used by any costing algorithm — from which you can select *call types* for Dialed Digit Processing or *facilities* for the Telephone System Configuration:

CCSA Common Control Switching Arrangement (private network)
DILIT Dial-it service (weather, time, etc.)
FX Foreign Exchange call
IWTS n Incoming (only), band n WATS call
MAT-N Marine/Aircraft/Train call, originated in North America
MAT-O Marine/Aircraft/Train call, originated overseas
MOB-N Mobile phone call, originated in North America
MOB-O Mobile phone call, originated overseas
MSNGR Messenger service call
MTS-I Measured call, international
MTS-M Measured call, Marine/Aircraft/Train
MTS-N Measured call, North America
MTS-O Measured call, originated overseas
MTS-R Measured call, radio linked
NDC-N Non-dial conference call, originated in North America
NDC-O Non-dial conference call, originated overseas
PICPH Picture phone call
RADIO Radio link call
SPRAD Sent paid radio link call
TELGR Telegram
TIE Tie line call
VERFY Verification service call
WATS n Outgoing (or incoming/outgoing), band n WATS

- Tax (0 to 100 percent), Markup (-100 to 100 percent), Surcharge (-9999 to 9999 cents), Minimum Charge (0 to 32000 cents) — applied as in the formula below (these values are newly computed prior to every report run, without modifying the stored cost).

Reported cost = the largest of (a) *minimum charge* or (b) adjusted cost, where adjusted cost = (call cost + (call cost x *markup* x 0.01) + *surcharge*) x (1 + (*tax* x 0.01))

- Minimum Duration. A length of time in hours, minutes, and seconds (0:00:00 to 9:59:59) that defines a valid call. Call records with a duration lower than this value are discarded.

Default: 30 seconds (any non-INCOM calls), 0 seconds (INCOM calls).

- Network Correction. A length of time in hours, minutes, and seconds (0:00:00 to 9:59:59) subtracted from the duration of a valid call, to account for the time before it is answered. This is done in calculating and storing the cost of the call only; CAS stores call records with the duration reported by the switch.

Default: 15 seconds (any non-INCOM calls), 0 seconds (INCOM calls).

Editing the Holiday Table

Use this function to specify (and then look up, change, or remove) the holidays during which rates are discounted.

Procedure

1. From the CAS main menu, select **Costing Configuration Menu**, then **Edit Holiday Table**.
2. A screen similar to the one below appears on display.

```
COMMANDS: Query Next Previous Add Update Remove Exit
           Query for record
-----
                EDIT HOLIDAY TABLE
-----
Date of Holiday: Jan 1 1990
```

- a. To change or remove an entry, press <N>ext or <P>revious (if necessary) to bring the date of interest to the screen; then press <U>pdate or <R>emove and make the necessary changes. When complete, press <ESC>.
 - b. To create a new holiday, press <A>dd and enter a new date. When complete, press <ESC>.
3. Press <E>xit. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

Date of Holiday. The date of a holiday when telephone companies offer discounts. Use the format *mm/dd/yy* (for example 01/01/90), *mm/dd/yyyy* (for example, 01/01/1990), or *mmm dd yyyy* (for example, Jan 01 1990).

Editing the Dialed Digit Processing Table

This function is used to identify certain dialed number patterns that require additional processing in order to be properly interpreted and costed.

Dialed digit processing (DDP) occurs as soon as CAS receives a call record and identifies the trunk group. At this point, DDP checks if the call is dialed in any of the specified number patterns and/or trunk groups and, upon a match, either:

- Discards the call
- Costs the call according to your instructions:
 - At a specified rate per minute or per call
 - As if routed through another trunk group
 - As if dialed using a substitute dialed number pattern

If the call is not discarded, you may further instruct CAS to report the call under a specified call type and/or the substitute dialed number.

CAS includes a default DDP table with values similar to figure 6-2. These entries take care of most dialed number exceptions and may not require any additions or corrections:

- Operator assisted calls are directed to use AT&T's operator assisted rates (or MCI's operator assisted rates via the special-purpose trunk group 9999); the call type is set to `ZERO+` and equal access prefixes are removed from the dialed number.
- Calls to directory assistance, "dial-it" services, 800, and 900 service numbers are costed at special rates (these values should have been updated at installation, as they may vary for each locality); the call type is set to `SPCL`.
- Incompletely dialed calls are discarded.

DIALED DIGIT PROCESSING							Page 1 of _____	
SEARCH PATTERN			REPLACE PATTERN				Substitute Digits?	
DIALED DIGITS	Trunk Group	Call Method	RATE (cents)	Trunk Group	Call Type	DIALED DIGITS		
0%		T	0		ZERO+		N	Operator assisted
011????????%		T					N	International, exception to above
102220%		T	0	9999	ZERO+	0%	Y	MCI operator assisted
10222011%		T		9999		011%	Y	MCI int'l, exception to above
10???0%		T	0		ZERO+	0%	Y	IXC operator assisted
10???011%		T				011%	Y	IXC int'l, exception to above
1800??????%		C	0		SPCL		N	Toll free number
1900??????%		M	50		SPCL		N	900 service numbers
411		C	43		SPCL		N	Local information
5551212		C	43		SPCL		N	Local information
800??????%		C	0		SPCL		N	Toll free number
900??????%		M	50		SPCL		N	900 service numbers
911		C	0		SPCL		N	Emergency
976????		M	50		SPCL		N	Dial-it local services
?		D						Incompletely dialed call
?11		C	0		SPCL		N	General x11 telephone services
?411		C	43		SPCL		N	Local information
?5551212		C	43		SPCL		N	Local information
??		D						Incompletely dialed call
???		D						Incompletely dialed call
???5551212		C	60		SPCL		N	Long distance information
????		D						Incompletely dialed call
????5551212		C	60		SPCL		N	Long distance information
?????		D						Incompletely dialed call
??????		D						Incompletely dialed call

Figure 6-2. Default Dialed Digit Processing Table (from Planning Form)

Other cases when you should use dialed digit processing are:

- The switch reports "speed dialed" codes in the call record instead of the programmed number. To be able to cost the call, the actual number should be substituted.
- The site uses Major Metro rates and it is located within the listed area codes in figure 6-3. To "recognize" local calls, you should add the entries suggested in figure 6-3 for your particular area code.
- The switch is connected to a remote switch. To be able to cost a call routed via the remote switch, you must remove the second *dial access code* from the dialed number reported by the local switch.
- The switch reports the "#" or "*" dialed by users at the site — typically, to leave a "voice mail" message on some switches. To interpret the called number properly, you must remove these characters from any 7- to 12-digit number patterns as follows:

Search for:	Replace by:
??????#% and ??????#*%	???????

- The site uses TIE lines and the switch outputs RNX codes for on-net calls. To report the area called, you should substitute the dialed number as if you had used the public network.
- You want to mask sensitive phone numbers or lines that require privacy. To do so, you may replace the last 4 digits dialed by a masking number — for example 9999.

Managing the Costing Configuration

	SEARCH PATTERN		REPLACE PATTERN				Dialing Digits
	DIALED DIGITS	Trunk Group	RATE (cents)	Trunk Group	Call Type	DIALED DIGITS	
<i>From NYC area codes 212, 516, 718, or 914 (near NYC only)</i>	1212???????	T	0		LOCAL		
	1516???????	T	0		LOCAL		
	1718???????	T	0		LOCAL		
	1914???????	T	0		LOCAL		
<i>From Boston area codes 508 or 617</i>	1508???????	T	0		LOCAL		
	1617???????	T	0		LOCAL		
<i>From Washington DC area codes 202, 301 or 703</i>	202???????	T	0		LOCAL		
	301???????	T	0		LOCAL		
	303???????	T	0		LOCAL		
<i>From Chicago area codes 312, 708, or 815</i>	1312???????	T	0		LOCAL		
	1708???????	T	0		LOCAL		
	1815???????	T	0		LOCAL		
<i>From Dallas/Ft Worth area codes 214 or 817</i>	214???????	T	0		LOCAL		
	817???????	T	0		LOCAL		
<i>From Los Angeles area codes 213, 310, or 818</i>	1213???????	T	0		LOCAL		
	1310???????	T	0		LOCAL		
	1818???????	T	0		LOCAL		
<i>From San Francisco area codes 415 or 510</i>	1408???????	T	0		LOCAL		
	1415???????	T	0		LOCAL		
	1510???????	T	0		LOCAL		

Figure 6-3. Sample Entries for Major Metro Sites

Procedure

1. From the CAS main menu, select **Costing Configuration Menu** then **Edit Dialed Digit Processing Table**.
2. Press <D>etail. A screen similar to the one on the next page appears on display.

Managing the Costing Configuration

```
COMMANDS:  Query Next Previous Add Update Remove Master Exit
           Query for record
-----
           EDIT DIALED DIGIT PROCESSING
-----
           Site: HEADQUARTERS
Search for:
Dialed Digits: 12225551212      Trunk Group:
Cost as:
Cost Method: C                      Rate: 60
Trunk Group:                        Call Type: SPCL
Dialed Digits:                      Substitute the Digits? N
```

3. To view every entry, press <N>ext (or <P>revious) until you reach the end of the table.
4. To change any values on display, press <U>pdate and enter the changes. When complete, press <ESC>.
5. To add an entry, press <A>dd and enter field values as described in the next section. When complete, press <ESC>.
6. Press <E>xit. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes the fields in this function.

- Site. (Not editable) The name of your site, from the EDIT SITE INFORMATION screen.
- Search for. The Dialed Digits and Trunk Group that require additional processing.

- **Dialed Digits.** A dialing pattern defined as a sequence of up to 16 digits (0 - 9) and/or # and *. Use ? and % as wild cards:
 - ? represents any single character in that position. For example, "385?????" is any 7-digit number with 385 as a local exchange.
 - % represents any number of trailing characters. Use only at the end of the pattern. For example, "0%" is any number starting with 0.
- **Trunk Group.** A valid trunk group number for your system. Trunk groups identify the costing of calls routed through their trunk members (see *Editing the Telephone System Configuration* in chapter 3). A blank indicates any trunk.
- **Cost as.** The costing and replacement instructions for processing calls that match the `Search for` conditions.
 - **Cost Method.** One of the following choices:
 - D** — discard call (the rest of the `Cost as` fields are ignored)
 - T** — cost as routed via the specified trunk group (rate is ignored)
 - M** — cost per minute at the specified rate (trunk group is ignored)
 - C** — cost per call at the specified rate (trunk group is ignored)
 - **Rate.** 0 to 32000 cents per minute or call.
 - **Call Type.** The name of a valid type for your system. A blank indicates the type normally associated with the call as dialed or trunk used.
 - **Trunk Group.** A valid trunk group number for your system. A blank indicates the costing normally associated with the trunk used.
 - **Dialed Digits.** A dialing pattern of up to 16 digits that defines replacement rules for the `Search for` dialing pattern.

- Every digit represented by a ? in the search pattern is matched to a ? in the replace pattern by its position from the left (first, second, etc.). For example, replacing **1716385????** with **385????** results in 1-716-385-6440 reported as (local) 385-6440.
 - Trailing digits represented by a % in the search pattern are matched to a % in the replace pattern (if a % is not present in the replace pattern, the digits are dropped). For example, replacing **10222%** with **%** results in 10222-1-716-385-6440 (MCI) reported as (AT&T) 1-716-385-6440.
 - If there are less ?s to replace the search pattern, the right-most matches are discarded. For example, replacing **?385????** with **385????** results in 1-385-6440 reported as 385-1644.
- Substitute the Digits? Y (yes) stores the new number; N (no) retains the number reported by the switch. The default is N.

Editing Rate Tables

Use this function to look up any one of your carrier's director operator assisted rates for a specific area code/exchange in the U.S or country code abroad.

The rate tables initially installed with your system contain simplified tariffs based on one of eleven major metropolitan centers (Atlanta, Boston, Chicago, Dallas, Denver, Los Angeles, Miami, New York City, San Francisco, Seattle, or Washington DC — whichever is closest to you), with AT&T and MCI as primary and secondary carriers (respectively), AT&T international rates, and average initial/additional minute rates for calls within the LATA of the major metropolitan center chosen.

NOTE:

You can obtain greater costing accuracy, especially for local and in-state calls, by installing a custom rate table update. We do not recommend using the EDIT RATE TABLES function for updating your rates.

Procedure

1. From the CAS main menu, select **Costing Configuration Menu**, then **Edit Rate Table**.
2. Press <D>etail. CAS retrieves all rate tables for the site and displays the first one on the screen, similar to the sample below. Note the following information:
 - (Bottom left) Bands by mileage or country name show the rates in dollars and cents for the initial and additional time intervals
 - (Bottom right) Discounts for the time of day, day of the week, weekend, and holidays show a percentage value or the name of the period — DAY, EVE, NITE, HOL, etc. — as described under *Field Information*.

```

COMMANDS: Query Change carrier Next Previous Update Master
          Query for record
-----
                        EDIT RATE TABLES
-----
Site Name: HEADQUARTERS      Site Telephone No.:
NPA/NXX:      Carrier:PRI    Tariff:usa.os-01    Call Type:MTS
-----
BANDS -----
Initial  Add'l      Period:      RPSB
60 sec   60 sec      Surcharge: 0.000
Mileage  10  0.260  0.190      Minimum Charge: 0.000
          292 0.260  0.190      ----- DISCOUNT -----
          430 0.310  0.260      Start
          1910 0.310  0.260      Time M-F Sat Sun Hol
          3000 0.370  0.290      8:00 0 60 60 60
          16000 0.430  0.340      17:00 40 60 40 40
                                   23:00 60 60 60 60
    
```

3. Press <C>hange-carrier to select rate tables for the carrier or carrier service of interest. In a major metro site, the names PRI (primary), PROA (primary operator-assisted), SEC (secondary), and SEOA (secondary operator-assisted) will cycle in the field called "Carrier." The "Bands" and "Discount" tables will change to display the appropriate information for the carrier.

Managing the Costing Configuration

4. To look up the rates for a specific area, press <Q>uery, enter the area code and exchange (or country code) in the NPA/NXX field, and press <ESC>.

The appropriate table appears on display, with an arrow by the mileage band for that area. For example, it may show on the bottom of the screen:

```
NPA/NXX: 315/458
----- BANDS -----
      Initial   Add'l
Mileage 60 sec   60 sec
   10  0.260    0.190
-> 292  0.260    0.190
   430  0.310    0.260
  1910  0.310    0.260
  3000  0.370    0.290
 16000  0.430    0.430

----- DISCOUNT -----
Start
Time  M-F  Sat  Sun  Hol
8:00   0   60   60   60
17:00  40   60   40   40
23:00  60   60   60   60
```

NOTE:

Use this display to calculate the cost of a call to that area code/exchange — for example, a 10-minute call placed on a Friday at 6:00 pm — as follows:

Initial minute	\$ 0.26
Plus 9 additional minutes	+ 1.71
<hr/>	
Subtotal	\$ 1.97
Less 40% discount	- 0.79
<hr/>	
Cost of call	\$ 1.18

6. To end the procedure, press <M>aster, then <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Information

The list that follows describes the fields in this function.

- **Site Name and Telephone Number.** (Display only) The name and phone number associated with this site.
- **NPA/NXX.** A valid area code and exchange separated by a slash (/) for long distance domestic calls, or the country code for international calls. Used to query rates for a specific area (see *Procedure*).
- **Carrier.** In custom systems, the display cycles through the code-name for the built-in carriers' direct and operator assisted rate schedules; in non-custom systems, the display cycles through these code names:
 - PRI — AT&T simplified direct dialed rates
 - SEC — MCI simplified direct dialed rates
 - PROA — AT&T simplified operator assisted rates
 - SEOA — MCI simplified operator assisted rates
- **Tariff.** (Display only) The internal name of the file, for example, `usa.os-01` for MTS rates, `intrastate` for LATA, etc.
- **Call Type.** (Display only) One of the call type designations defined for your system.
- **Bands.** The rates for the *period* (see below) in tabular form. Rates are specified in dollars to three decimal places for each initial and additional time intervals. Time intervals are expressed in whole seconds.
- **Period.** (Display only) The name of the rate period.

- The field is blank if the tariff specifies rate period discounts as a % of standard rates. In this case, the Bands contain the standard rates and the Discount table contains the specific % discount values.
- The names DAY, EVE, NITE, (or STD, DISC, ECON), and HOL. In this case, the Bands contain the rates of the specified period and the Discount table displays the rate period names.

The letters RPSB (rate period specific billing) appear next to this field if the discount for a rate period is applied only to the portion of a call within that period (otherwise, discounts in effect at the start of the call are applied to the entire call).

- **Surcharge/Minimum Charge.** Flat rates expressed in dollars to three decimal places — used typically to set local message unit rates — according to the formula:

Call cost = the greatest of (a) *minimum charge* or (b) call cost less applicable discount plus *surcharge*.

- **Discount.** The display of specific discount values or rate period names in tabular form. When a discount entry is changed, all entries for the entire period change. Rate period's starting and ending times are not editable.

Listing Costing Tables

This function is used to generate any of the tables below.

- Carrier Information
- Cost Adjustments
- Holiday Table
- Dialed Digit Processing Table

We recommend printing tables after database updates.

The figure shows four overlapping screenshots of terminal output for costing tables. Each screenshot has a header with 'JOB COMPANY NAME' and 'SITE NAME'. The first screenshot shows a table with columns: Call Type, Tar. (1), No. Plan, Loc Charge, Station Charge, Station Station, and Remarks. The second screenshot shows a table with columns: Station, Group, Cost, Station Rate, Total Station, and Call Type. The third screenshot shows a table with columns: Year, Jan 01, July 01, Sep 01, Nov 01, Dec 01. The fourth screenshot shows a table with columns: Carrier, Station Per. Eq., and Number of Stations in.

Figure 6-4. Costing Table Samples

To list a costing table, proceed as follows:

1. From the CAS main menu, select **Costing Configuration Menu**, next, **Costing Tables Menu**, then the desired table.

A screen similar to the one below appears on display.

```
COMMANDS:  Update Generate Exit
           Update the displayed record
-----
           LIST DIALED DIGIT PROCESSING TABLE
-----
           Output Method: P
           Output Device: /usr/bin/lp
```

2. To change values, press <U>update, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - a. To display on the terminal, enter method **T**. Device is not required.
 - b. To print, enter method **P**, then device **wide 570 l1p** (compressed) or **lp** (uncompressed).
3. Press <G>enerate. If you sent the report to the terminal, the screen displays it, one page at a time. Paginate using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.
4. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Using the System Configuration Functions

7

This chapter describes the functions used to perform several maintenance tasks. It is organized into the following sections.

- *Deleting Call Records from Storage*
- *Editing the Call Reporting Configuration*
- *Viewing Logs*
- *Changing the Password*
- *Stopping and Starting Call Costing*
- *Monitoring CDR Collection*
- *Checking System Storage*
- *Backing Up and Restoring CAS Data*
- *Installing CAS Software*
- *Listing System Tables*

Deleting Call Records from Storage

Use this function to display call storage usage and/or to delete call records in storage.

Procedure

1. From the CAS main menu, select **System Configuration Menu**, then **Delete Call Records**.

A screen similar to the one below appears.

```
COMMANDS:  Start Exit
           Start process

-----
                        DELETE CALL RECORDS
-----

Delete Call Records before:  Jan  1 1970
Number of Call Records Stored: 21,255
Date of oldest Call Record:  Jan  2 1990
Date of newest Call Record:   Oct 12 1990

Notes:
Deleteing call records may require the creation of large temporary
disk files. To avoid potentially running out of disk space, select
a date after Jan 2, 1990.
```

2. Press <S>art and enter a cut-off date. The note at the bottom of the screen will display the system's suggested date (for example, Jan 2 1990). When complete, press <ESC>.
3. Press <E>xit. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Description

The following list describes the fields in this function.

- `Delete Call Records Before` indicates the cut-off date — in the format *mm/dd/yy* (for example, 01/01/70), *mm/dd/yyyy* (for example, 01/01/1970), or *mmm dd yyy* (for example, Jan 1 1970) — for deleting call records. Calls dated on or after that date will be retained.
- `Number of Call Records Stored`. (Display only) The total number of call records in storage.
- `Date of Oldest/Newest Call Record`. (Display only) The range of dates of call records in storage.

Editing the Call Reporting Configuration

Use this function to specify call record storage and print options at the time call records are processed.

Procedure

1. From the CAS main menu, select **System Configuration Menu**, then **Edit Call Reporting Configuration**.

A screen similar to the one below appears.

```
COMMANDS:  Update  Exit
           Update the displayed record
-----
                EDIT CALL REPORTING CONFIGURATION
-----
                Store all local calls?  Y
Store any call whose duration is greater than (seconds):  30
                Print:  All stored calls?  Y
or
    Any call whose duration is greater than (seconds):  3600
                or whose cost is greater than:  $100.00
Output Method:  A
Output Device:  /dev/null
```

2. Press <U>update and enter field values as described in the next section. When complete, press <ESC>.
3. Press <E>xit. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Field Description

The following list describes the fields in this function.

- Store all local calls — **N** (no) discards local calls or **Y** (yes), otherwise.
- Store any call whose duration is greater than (seconds) — **0** to **32000**.
- Print:
 - All stored calls: **Y** (yes) generates a listing of calls as they are collected, or **N** (no) generates a listing of calls that exceed the cost or duration specified below.
 - Any call whose duration is greater than (seconds):
0 to **32000**
 - or whose cost is greater than: **\$0.00** to **\$320.00**
- Output Method (**A** = append or **R** = redirect) and Output Device (the full UNIX path-name to a device or file) identify how and where the print options above will be generated. Typical values are:
 - **<A>**ppend to **/dev/null** (to disable the print options)
 - **<A>**ppend to **/usr/cas/cas/errlogs/ name** (to access the listing via `VIEW LOGS`, under the file named “*name*.” This assumes that **/usr/cas** is CAS “home” directory.)

NOTE:

If you use the second definition, we recommend examining the named file from time to time — as all files in `VIEW LOGS` have a size constraint and you may lose information.

Viewing Logs

Use this function to display the logs of system processes whenever an event — errors, software installations, the call monitor, etc. — triggers the creation of a log file. This function is a tool for CAS support personnel to help resolve any problems with the system.

Typically, CAS logs the date, time, and usage information of processes and significant events. Events associated with an error list the error code and a brief message. Subsequent events append messages to an existing file. Table 7-1 lists the most common log file names and a brief description of its contents.

All logs have size constraints to prevent running out of space. If the file becomes larger than 50K, CAS clears the oldest entries as follows:

- SMDR_1 file is truncated to 50K every 30 minutes
- poller and report files create up to three additional file extensions — *file .1*, *file .2*, and *file .3* — moving the older data into the larger numbered extension. After reaching capacity on all four files, new data “bumps” older data into the next higher file extension, with the oldest data cleared out of *file .3*.
- All other files are truncated to 4K automatically

1. From the CAS main menu, select **System Configuration Menu**, then **view Logs**. A screen similar to the one below appears.

```
-----  
                        VIEW LOGS  
-----  
1  SMDR_1                4  install/site072689    7  mail for cas  
2  install/pbx072689    5  install/software      E Prior Menu  
3  install/setup072689  6  loadorg072689  
  
Your choice:
```

2. To display the log contents, enter the menu number.

3. To end a viewing session, press <Q>uit and <ENTER>, then, <E>xit and <ENTER>. The screen returns to a menu display; you may initiate another function or exit CAS.

Table 7-1. CAS Log Files

File Name	Contents
chkctrl.log	Background task usage log
chkfe.log	Switch interface controller usage log
chkpc.log	Stop/start call costing usage log
cost	Costing event — typically, call processing stopped under abnormal circumstances
dbwork	Database event — typically a severe error
delcr	Delete call record usage log
fe.err	Switch interface event — typically, rejected call records due to format errors
form	Screen display problem
frontend	Switch interface error — typically severe
install/pbx <i>mmddyy</i>	Install PBX/KTS interfaces log
install/setup <i>mmddyy</i>	CAS initial software setup log
install/sgupd <i>mmddyy</i>	Install a custom rate update log
install/site <i>mmddyy</i>	Install site log
install/software	CAS installation log
install/upd <i>mmddyy</i>	Install a system update log
loadorg <i>mmddyy</i>	Load organization table usage log
mail for <CAS login>	UNIX mail
misc	Miscellaneous event
poller or poller. <i>n</i>	Polling event — including status of latest poll
rate_edit.log	Rate edit usage log
reports or reports. <i>n</i>	Report generation and table listing usage log
SMDR_1	Call record stream from the switch

Changing the Password

Use this function to change the password to access the CAS application (not to be confused with the password to access IS-II).

NOTE:

Change passwords every 14 to 28 days. Most systems will not allow changing them sooner than 14 days or keeping them longer than 28 days.

1. From CAS main menu, select **System Configuration Menu**, then **Change Passwords**.
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.
Press <RETURN> to continue.

5. Press <ENTER> to end the procedure. The screen returns to a menu display; you may initiate another function or exit CAS.

Stopping and Starting Call Costing

Use these functions to stop and re-start the costing processes in an orderly manner.

 CAUTION:

Use only if indicated by support personnel.

To use these functions, proceed as follows:

1. From the CAS main menu, select **System Configuration Menu**, next, **Diagnostics & Monitoring Menu**, then, **Stop (or Start) Call Costing**.
2. A screen message informs you that costing has been stopped (or started). Press <ENTER> to end the procedure.

The screen returns to a menu display; you may initiate another function or exit CAS.

Monitoring CDR Collection

Use this function in conjunction with the `VIEW LOGS` screen to monitor unprocessed call records received from the switch:

1. From the CAS main menu, select **System Configuration Menu**, next, **Diagnostics & Monitoring Menu**, then, **Monitor PBX/KTS SMDR**.
2. Press `<S>`art. CAS will open a file named `SMDR_1` within 5 minutes of the next call received from the switch (subsequent calls will be appended to the file until you disable the monitor, documented in steps 7 and 8).
3. Press `<E>`xit to return to the `System Configuration Menu`. Wait until you are sure that there are calls in the file, then select **View Logs**.

A screen similar to the one below appears on display.

```
-----  
                                VIEW LOGS  
-----  
1  SMDR_1                        4  install/site072689  7  mail for cas  
2  install/pbx072689            5  install/software    E  Prior Menu  
3  install/setup072689          6  loadorg072689  
  
Your choice:
```

5. Find `SMDR_1` in the list and enter its menu number — for example, 1. The screen displays a listing of call records as they are received from the switch. For example:

```
09/06/90 14:40          3856440 00:01:30 800 22  
09/06/90 14:43                IN 00:05:08 801 27  
09/06/90 14:44          5551212 00:11:10 800 23  
09/06/90 14:46                IN 00:00:52 803 22
```

6. To stop the viewing session, press `<Q>`uit `<ENTER>`, then `<E>`xit and `<ENTER>`. The screen returns to the `System Configuration` menu.

7. Select **Diagnostics & Monitoring Menu**, then, **Monitor PBX/KTS SMDR**.
8. To stop the monitoring session, press <F>inish, then <E>xit. The screen returns to a menu display; you may initiate another function or exit CAS.

Checking System Storage

Use this function to check on disk usage:

1. From CAS main menu, select **System Configuration Menu**, then **Diagnostics & Monitoring Menu**, and finally, **Check System**.

The screen lists under **File System** and **Total Blocks** the disk partitions and the space allocated to them by the system administrator when UNIX was installed. A block is 512 bytes (0.5 K) of storage.

```
-----  
                        CHECK  SYSTEM  
-----  
Today's Date: 10/15/90  
Package Name: AT&T CAS  
Package Version: 7.1  
  
File System      Free Blocks  Total Blocks  Used  
-----  
/                20006       29920        33%  
/usr            73422      236000       46%  
/tmp            9756       29920        67%  
Call Records                194
```

2. To estimate the space available for call records, multiply the number of **Free Blocks** under **/usr** by 3.63. For example, the above display shows that there is enough room for $73422 \times 3.63 = 266,522$ call records.
3. To return to the prior menu, press <ENTER>.

Backing Up and Restoring CAS Data

Use `BACKUP CAS DATA` to copy the call record and CAS database onto diskettes; use `RESTORE CAS DATA` to re-install a prior backup — typically, to run reports on archived calls or to re-build CAS, after a system failure (in which case, calls received since the last backup will be lost).

NOTE:

To run reports on archived data, follow this outline (see the individual procedures for details):

1. Stop costing and back up current data.
2. Restore data from the time of interest and run the reports.
3. Restore current data, then start costing.

Performing a Backup

1. From the CAS main menu, select **System Configuration Menu**, next, **Diagnostics & Monitoring Menu**, 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 step 4. 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> to end the procedure.
7. The screen returns to a menu display. Your system is back to normal operations; you may initiate another function or exit CAS.

Performing a Restore

1. From the CAS main menu, select **System Configuration Menu**, next, **Diagnostics & Monitoring Menu**, then, **Restore CAS Data**.
2. If prompted, select the drive to use. Make certain that the set of "CAS BACKUP-*date*" diskettes from which you will restore the system is within reach, and in the order they will be inserted.
3. Insert the first diskette and press <ENTER>. When prompted, remove the diskette and follow the screen instructions to continue.
4. When the operation is complete, the prior main menu appears. You may initiate another function or exit CAS.

NOTE:

If you restored archived data to print reports, generate the reports now. Do not restart call costing, until after you restore current data.

Installing CAS Software

Use these functions for the following operations:

- `INSTALL PBX/KTS INTERFACES` to load a PBX/KTS Interface diskette
 - `INSTALL UPDATE` to load any other diskette containing a rate update, system upgrade, or any CAS option
1. From the CAS main menu, select **System Configuration Menu**, next, **Diagnostics & Monitoring Menu**, then, **Stop Call Costing**.



CAUTION:

To avoid corrupting your call record database, do not omit step 1.

2. Return to the **System Configuration Menu**, then select **Install PBX/KTS Interfaces** or **Install Update** (as appropriate).
3. Enter the `root` password and, if prompted, select installation from a 3.5" floppy diskette.
4. Insert the diskette into the drive and press `<ENTER>`.
5. When prompted, remove the diskette from the drive, then press `<ENTER>` to conclude the update and return to the prior menu.
6. Select **Start Call Costing**.
7. Press `<ENTER>` to return to the prior menu. You may initiate another function or exit CAS.

Your system is back to normal operations.

Listing System Tables

Use this function to generate any of the tables below:

- Call Reporting Configuration
- Selection Report Criteria
- Selection Criteria for all Organization Reports
- Report Schedules
- The entire set of system tables, except for the Directory Reports

To list a system table, proceed as follows:

1. From the CAS main menu, select **System Configuration Menu**, next, **System Tables Menu**, then the desired table(s). A screen similar to the one below appears on display.

```
COMMANDS:  Update  Generate  Exit
           Update  the  displayed  record
-----
           LIST  CALL  REPORTING  CONFIGURATION
-----
Output Method: P
Output Device: wide 570 11p
```

2. To change values, press <U>pdate, enter the *Output Method* and *Device*, and press <ESC>. Typical values are:
 - a. To display on the terminal, enter method **T**. Device is not required.
 - b. To print, enter method **P**, then device **wide 570 11p** (compressed) or **1p** (uncompressed).
3. Press <G>enerate. If you sent the report to the terminal, the screen displays it, one page at a time. Paginate using the arrow keys, <ENTER>, or <Page Up> and <Page Down> keys.
4. The procedure is complete. The screen returns to a menu display; you may initiate another function or exit CAS.

Using the System Configuration Functions

See figure 7-1 for sample reports.

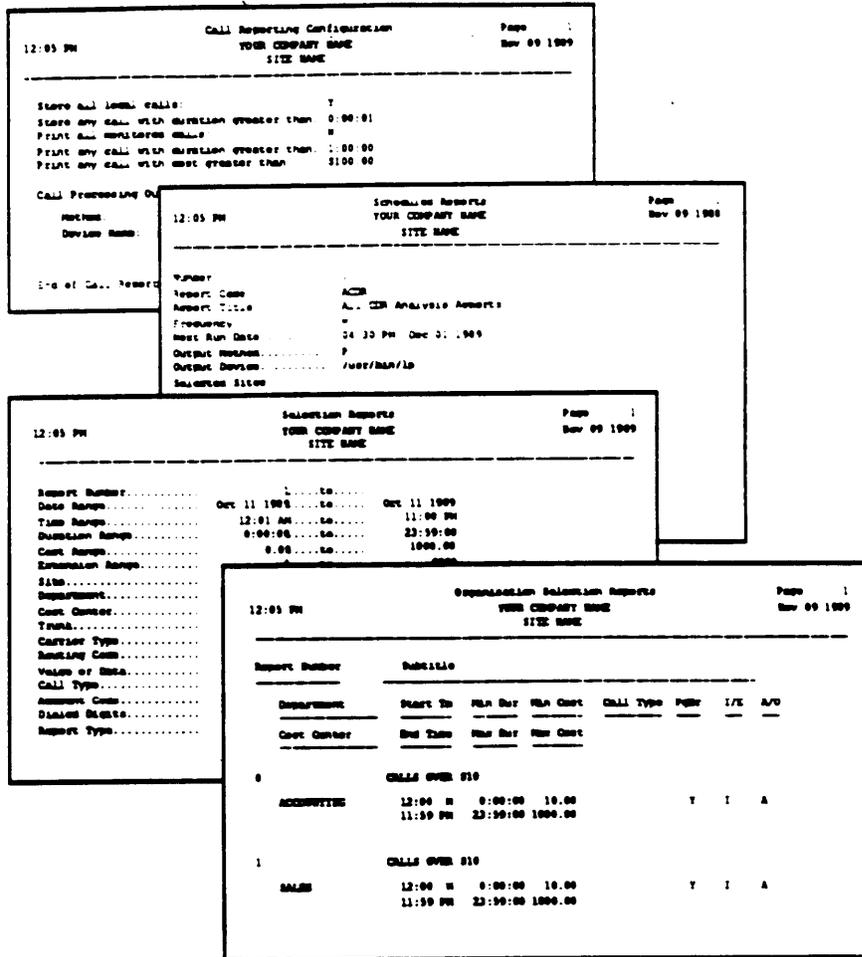


Figure 7-1. System Tables

Getting Assistance for Problems

8

This chapter 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.

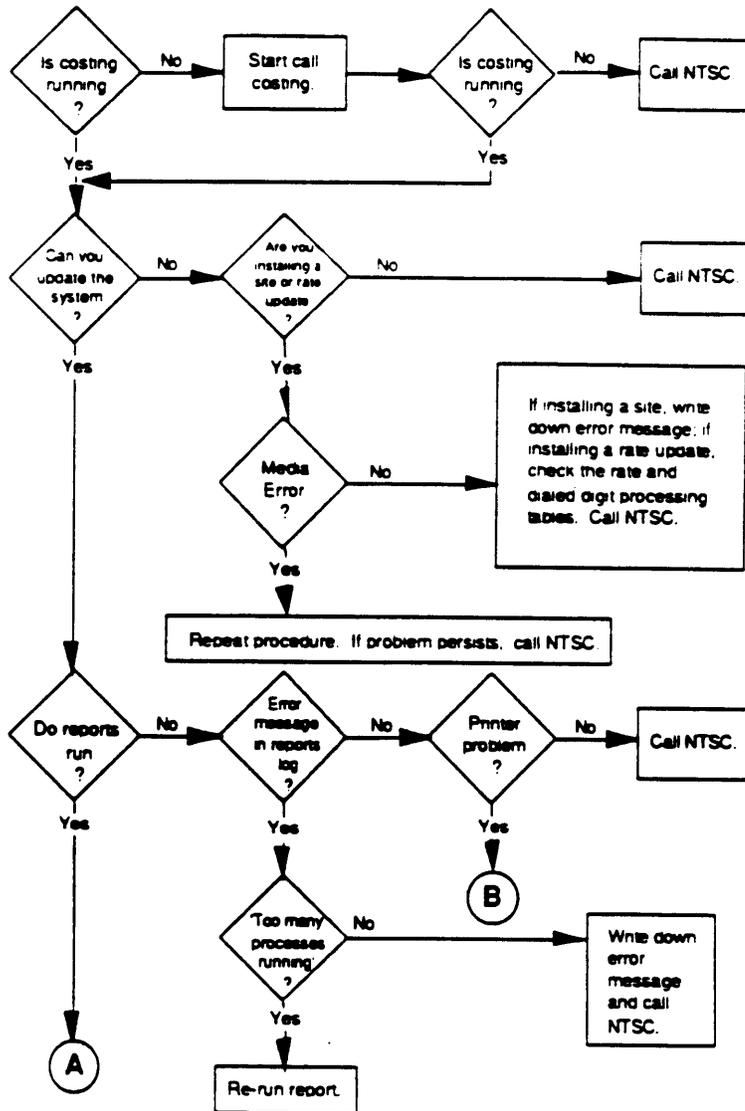
If you cannot correct the problem, call the National Technical Support Center (NTSC) at 1-800-628-2888 or your authorized AT&T dealer. They will assist you by performing remote diagnostics. If it is necessary to replace a defective device or load a software maintenance diskette that corrects the problem, 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.

NOTE:

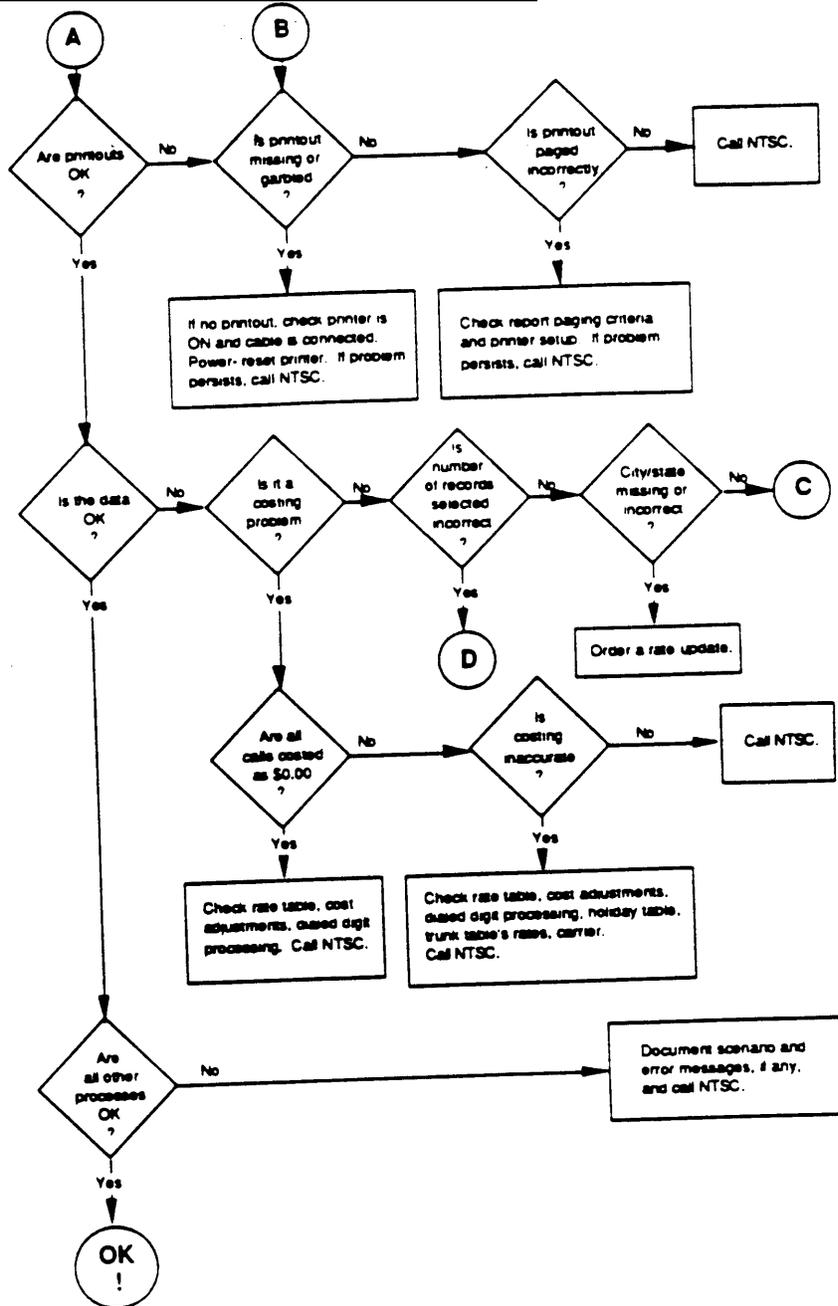
There is a service charge for NTSC involvement and dispatched maintenance if the system is out of warranty, not leased, or not covered by a contract.

Basic Troubleshooting

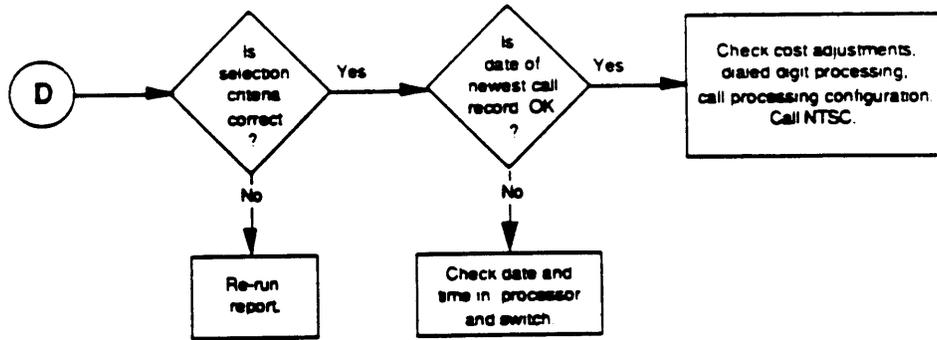
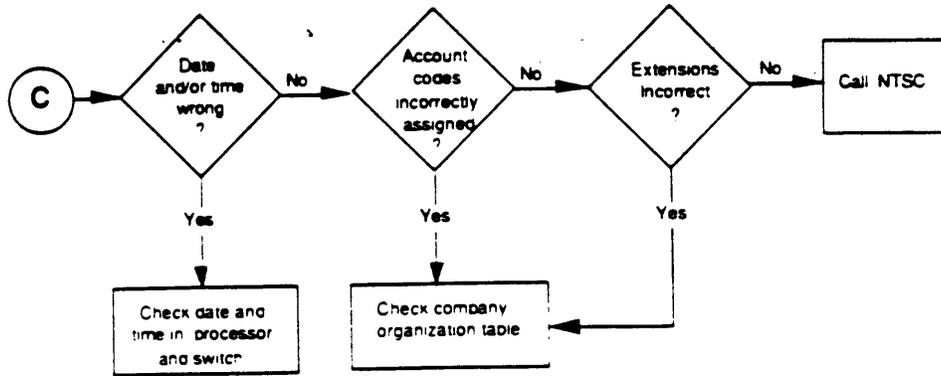
The flowchart below displays the paths to take when a problem manifests itself.



Getting Assistance for Problems



Getting Assistance for Problems



CAS Menu System and Summary of Commands



This appendix shows the CAS menu system as a "tree" diagram; it also describes all CAS database commands.

CAS Menu System

Starting with the CAS main menu, below, this section contains 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 Selection Report		Generate Abandoned Call Selection Report
Organization Reports By Site Menu - - - - -		Generate Organization Detail By Site Report
		Generate Department Summary By Site Report
		Generate Cost Center Summary By Site Report
		Generate Extension Summary By Site Report
		Generate All Summary By Site Report
Account Code Reports Menu - - - - -		Generate Account Code Detail Report
		Generate Account Code Summary Report
CDR Analysis Reports Menu - - - - -		Generate Call Type Report
		Generate Duration Report
		Generate Time of Day Report
		Generate Trunk Group Report
		Generate Site Report
		Generate Date Report
		Generate Busy Day Trunk Utilization Report
		Generate Trunk Group Busy Hour Report
Schedule Reports		Generate All CDR Analysis Reports

SITE CONFIGURATION

Edit Site Information
Edit Telephone System Configuration
Edit Account Code Table
Change Account Code in Call Record
Install a Site | List Site Information
Site Tables Menu - - - - - | List Telephone System Configuration
| List Account Code Table

ORGANIZATION CONFIGURATION

Edit Company Information
Edit Organization Table
Load Organization Table
Move Cost Center Between Departments
Move Extension Between Cost Centers | List Departments
Move Personnel Between Extensions | List Cost Centers
Directory Tables Menu - - - - - | List Personnel
| List All Directory Tables
Organization Tables Menu - - - - - | List Company Information
| List Organization Table
| List All Organization Tables

CDR COLLECTION CONFIGURATION

Edit CDR Collection Information
Edit CDR Port Information
CDR Configuration Tables Menu - - - - - | List CDR Collection Information
| List CDR Port Information

COSTING CONFIGURATION

Edit Carrier Information	
Edit Cost Adjustments	
Edit Holiday Table	
Edit Dialed Digit Processing Table	
Edit Rate Tables	List Carrier Information
Costing Tables Menu -----	List Cost Adjustments
	List Holiday Table
	List Dialed Digit Processing Table
	List All Costing Tables

SYSTEM CONFIGURATION

Delete Call Records	
Edit Call Reporting Configuration	
View Logs	Start Call Costing
Change Passwords	Stop Call Costing
Diagnostics & Monitoring Menu -----	Monitor PBX/KTS SMDR
	Check System
Install PBX/KTS Interfaces	Backup CAS Data
Install Updates	Restore CAS Data
System Tables Menu -----	List Call Reporting Configuration
	List Selection Reports
	List Scheduled Reports
	List Organization Selection Reports
	List All System Tables

Summary of Commands

Q = <Q>uery

<Q>uery searches for records that match a given field value.

Not all functions allow queries. Where enabled, press <Q>uery and enter a value on a key field for your search. <ESC> completes the query. CAS generates a list of matching records and displays the first record from the list.

N = <N>ext or **P** = <P>revious

<N>ext and <P>revious display the next or the previous sequential record in a file. See also <D>etail and <M>aster below.

Figure A-1 illustrates the use of these commands to move through a file.

D = <D>etail or **M** = <M>aster

In a hierarchical file, <D>etail and <M>aster move from the "master" record on display, to its "detail" records, or vice versa.

For example, CAS structures the Company Organization file as a hierarchy of site, department, cost center, extension, and personnel records. Figure A-1 illustrates how to move from "SITE" to "DEPARTMENT3," to "COST CENTER 2," to "EXTENSION 3" and back.

See also <N>ext and <P>revious above.

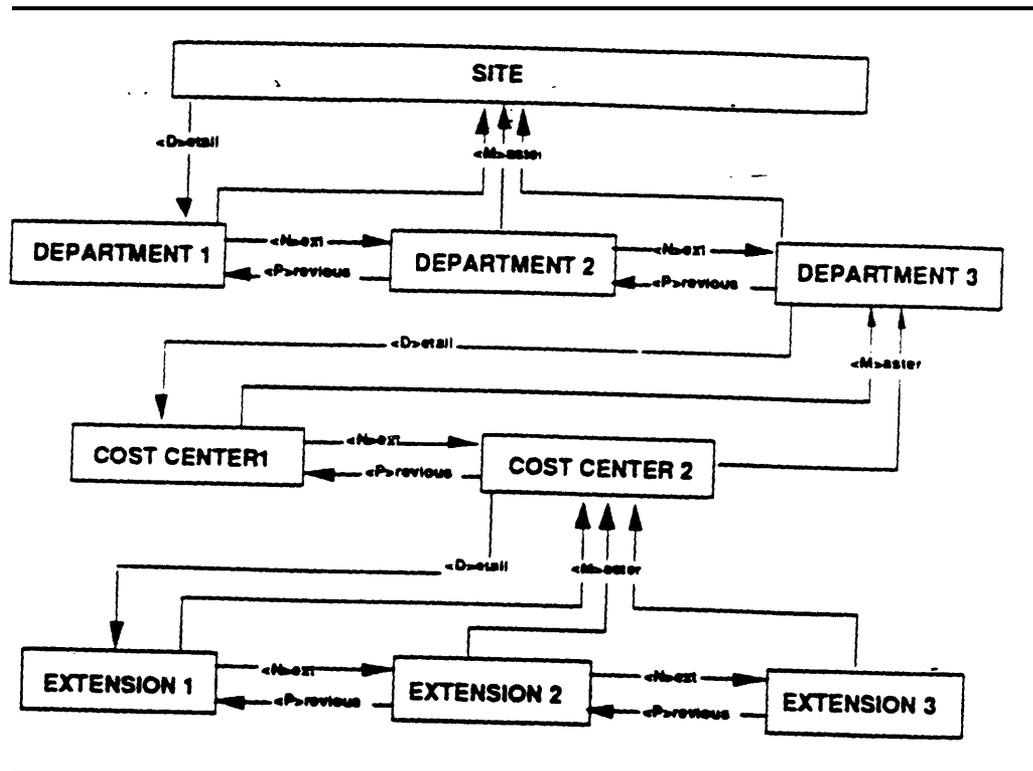


Figure A-1. Hierarchical Level Navigation

A = <A>dd

<A>dd creates a new database record.

Not all function allow additions. Where enabled, press <A>dd and enter the appropriate values on the screen. <ESC> completes the command; <Ctrl-C> aborts it.

U = <U>pdate

<U>pdate changes the database record that appears on the screen.

To do so, press <U>pdate and type over the field(s) that require changes. <ESC> completes the command; <Ctrl-C> aborts it.

Ctrl W = <Ctrl-W>

<Ctrl-W> displays a window that lists acceptable values for input into the current data entry field. For example, baud rate choices may appear as:

Choose	Item
	300
	600
	1200
	2400
	4800
	9600

Not all fields have help windows. Where enabled, press <Ctrl-W> and choose a value with the highlighted bar (use the arrow keys to move the bar up and down). <ENTER> returns the value — 1200 in the sample — to the data entry screen; <Ctrl-C> returns without a value.

R = <R>emove

<R>emove deletes the record appearing on the screen.

Not all functions allow removals. Where enabled, press <R>emove. <ESC> completes the command; <Ctrl-C> aborts it.

G = <G>enerate

<G>enerate outputs a report or table listing as specified on the screen.

After pressing <G>enerate, the report compiles. Depending on the output method and device specified, the report is sent to the screen, piped to a UNIX program, redirected to an I/O device, or appended to a text file.

To stop a report while it is compiling, press <Ctrl-Break>.

C = <C>hoose and **T** = <T>ransfer

<C>hoose and <T>ransfer perform a change of "ownership" of key fields, whereby you choose and then transfer the selected data field from a "source" to a "destination" record.

These commands are used only in the *Move Cost Centers/Extensions/Personnel between Departments/Cost Center/Extensions* and the *Change Account Code in Call Record* functions.

S = <S>tart or **F** = <F>inish

Use <S>tart and <F>inish to begin and end a process. <S>tart is used only in the *Delete Call Records* and *Monitor PBX/KTS SMDR* functions; <F>inish, in *Monitor PBX/KTS SMDR*.

E = <E>xit

<E>xit leaves a data entry screen and returns to the prior menu.

Recommended Maintenance

B

This appendix contains recommended maintenance schedules.

Weekly or Bi-weekly Tasks

- Perform a backup of CAS data via `BACK UP CAS DATA`. See page 7-12.
- Change the CAS password every 14 to 28 days via `CHANGE PASSWORDS`. See page 7-8.

Monthly Tasks

- Update non-tariffed rates monthly, based on prior month's usage via `EDIT TELEPHONE SYSTEM CONFIGURATION`; then print the table (accessible from the `SITE TABLES MENU`). See pages 3-4 and 3-14.
- Clear dated call records from storage via `DELETE CALL RECORDS`. See page 7-2.

Quarterly Tasks

Order a rate update; load it via `INSTALL UPDATES`. See page 7-14.

Yearly Tasks

Verify the Holiday Table via `EDIT HOLIDAY TABLE`. See page 6-10.

As Needed

- Adjust report schedules via `SCHEDULE REPORTS`. See page 2-17.
- Update the account code tables via `EDIT ACCOUNT CODE TABLE`; then print the table (accessible from the `SITE TABLES MENU`). See pages 3-10 and 3-14.
- Update the company organization table via `EDIT ORGANIZATION TABLE` or the `MOVE . . . BETWEEN` function; then print the tables (accessible from the `DIRECTORY TABLES MENU` and the `ORGANIZATION TABLES MENU`). See pages 4-3, 4-9, and 4-12.

Sample Reports

C

This appendix provides samples of the following reports:

- Account Code Reports
- ANI/Demographics Reports
 - Abandoned Call Selection Report
 - Area Code Summary Report for Incoming Calls
 - Area Code Summary Report for Outgoing Calls
 - City/State Report for Incoming Calls
 - City/State Report for Outgoing Calls
- CDR Analysis Reports
 - Call Type Report
 - Duration Report
 - Time of Day Report
 - Trunk Group Report
 - Site Report
 - Date Report
 - Trunk Group Busy Hour Report
 - Busy Day Trunk Utilization Report
- Organization by Site Reports
 - Organization Detail by Site Report
 - Department Summary by Site Report
 - Cost Center Summary by Site Report
 - Extension Summary by Site Report
- Selection Report

Sample Reports

09:39 PM Account Code Detail Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989

 Details for - Account Code: 1001
 Account Name: A B C TOYS

DATE	TIME	DURATION	EXT	RATE CENTER	DIALED NUMBER	CALL TYPE	TRUNK	COST
11/04/88	08:06	0:05:16	110	MILTON NC	919-234-5634	PDV OS-OL	001023	\$ 2.11
11/04/88	14:16	0:13:54	111	PROVIDENCE RI	401-224-4583	PDV OS-OL	001023	\$ 3.83
11/04/88	15:57	0:08:29	110	NEW YORK NY	212-283-0001	PDV FX	002012	\$ 0.72
11/04/88	16:02	0:17:28	113	SAN JOSE CA	408-224-3212	PDV WATS5	005013	\$ 0.90
11/05/88	11:03	0:14:31	110	FIJI-ISLANDS	6793432211	PDV IDDD	001034	\$ 18.51
11/05/88	16:30	0:06:31	113	SAN JOSE CA	408-224-3212	PDV WATS5	005013	\$ 0.35
TOTALS:		1:06:09		TOTAL CALLS: 6				\$ 26.41

09:39 PM Account Code Summary Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989

ACCOUNT CODE	NAME	NUMBER	DURATION HH:MM:SS	COST
	UNASSIGNED	392	59:04:19	\$ 401.34
1001	A B C TOYS	6	1:06:09	\$ 26.10
1002	BIG BOYS SHOP	4	0:50:16	\$ 20.45
1003	CRAFTS & GAMES	3	0:38:45	\$ 2.16
1004	KITES UNLIMITED	1	0:07:21	\$ 0.40
1005	TODDLER WORLD	1	0:09:11	\$ 0.45
1006	TRAINCRAFT LTD	0	0:00:00	\$ 0.00
2004	WAGON WHEELS CO	2	0:25:05	\$ 7.96
ORGANIZATION TOTALS:		409	62:21:06	\$ 458.86

End Of Account Code Summary Report__

Sample Reports

Abandoned Call Selection Detail Report

Date: Aug 10 1989 to Aug 10 1989
 Start Time: 10:00 AM to 5:00 PM
 Duration: 0:00:00 to 23:59:00
 Cost: \$ 0:00 to \$ 100,000.00
 Extension: 0 to 9999
 Site: MAIN
 Department: R&D
 Cost Center: R&D-3
 Carrier Type: All
 Call Direction: All
 Source Type: Abandoned
 Call Type Name: All
 Trunk Name: All
 Account Code: All
 Dialed Digits: All

Abandoned Call Selection Detail Report
ACME TOY FACTORY

Page 1
Aug 11 1990

02:00 AM

```

-----
DATE    TIME    DURATION    SITE    EXT RATE CENTER    DIALED NUMBER    CALL TYPE TRUNK ACCOUNT CODE    COST
-----
08/10/89 10:00 00:01:00 MAIN      50 LOCAL      385-6440    PDV INCOM 801      $ 0:00
08/10/89 12:00 00:00:48 MAIN      50 LOCAL      851-6200    PDV INCOM 801      $ 0:00
08/10/89 13:00 00:01:36 MAIN      50 LOCAL      223-6446    PDV INCOM 801      $ 0:00
08/10/89 04:00 00:00:22 MAIN      50 LOCAL      442-2499    PDV INCOM 801      $ 0:00
-----
                                00:03:46                                $ 0:00
  
```

Records selected - 4
 Records in Database - 340037
 End of Selection Report...

Sample Reports

09:39 PM Area Code Summary Report for Incoming Calls Page 1
 ACME TELEMARKETING Dec 31 1989
 HEADQUARTERS
 Report Period: Dec 1 1989 to Dec 31 1989

AREA CODE	NUMBER	TOTAL		AVERAGE			% OF TOTAL CALLS
		DURATION HH:MM:SS	COST	DURATION HH:MM:SS	COST	COST/MIN	
212	12	0:26:00	\$ 0:00	0:02:10	\$ 0:00	\$ 0:00	0.9
617	34	1:57:00	\$ 0:00	0:03:26	\$ 0:00	\$ 0:00	2.4
LOCAL	1337	82:36:00	\$ 0:00	0:03:42	\$ 0:00	\$ 0:00	95.6
OTHER	15	0:22:00	\$ 0.00	0:01:28	\$ 0:00	\$ 0:00	1.0
TOTALS:	1398	85:21:00	\$ 0:00				100.0

End Of Area Code Summary Report...

09:39 PM Area Code Summary Report for Outgoing Calls Page 1
 ACME TELEMARKETING Dec 31 1989
 HEADQUARTERS
 Report Period: Dec 1 1989 to Dec 31 1989

AREA CODE	NUMBER	TOTAL		AVERAGE			% OF TOTAL CALLS
		DURATION HH:MM:SS	COST	DURATION HH:MM:SS	COST	COST/MIN	
201	8	0:34:00	\$ 10.19	0:04:15	\$ 1.27	\$ 0.30	0.5
212	12	0:26:00	\$ 5.85	0:02:10	\$ 0.49	\$ 0.23	0.8
303	3	0:12:00	\$ 2.87	0:04:00	\$ 0.96	\$ 0.24	0.2
315	7	1:55:00	\$ 20.90	0:04:00	\$ 2.99	\$ 0.18	0.5
617	34	1:57:00	\$ 21.91	0:03:26	\$ 0.64	\$ 0.19	2.3
LOCAL	1337	82:36:00	\$ 106.96	0:03:42	\$ 0.08	\$ 0.02	90.0
INT	56	3:02:00	\$ 192.12	0:03:15	\$ 3.43	\$ 1.06	3.8
OTHER	15	0:22:00	\$ 5.16	0:01:28	\$ 0.34	\$ 0.23	1.0
TOTALS:	1472	87:04:00	\$ 365.96				100.0

End Of Area Code Summary Report...

Sample Reports

09:39 PM City/State Report for Incoming Calls Page 1
ACME TOY FACTORIES Oct 11, 1990
MAIN
Report Period: Oct 04 1990 to Oct 05 1990

NUMBER	CITY/STATE	AREA CODE	% TOTAL
10	ROCHESTER NY	716	10 %
15	SYRACUSE NY	315	15 %
20	VIRGINIA BEACH VA	804	20 %

Total call records searched = 100
INCLUDES ALL EXCHANGES FOR EACH CITY/STATE
End of City/State Report...

09:39 PM City/State Report for Outgoing Calls Page 1
ACME TOY FACTORIES Oct 11 1990
MAIN
Report Period: Oct 04 1990 to Oct 05 1990

NUMBER	CITY/STATE	AREA CODE	% TOTAL
12	UTICA MI	313	12 %
18	BOSTON MA	617	18 %
19	GENESEEO NY	716	19 %

Total call records searched = 100
INCLUDES ALL EXCHANGES FOR EACH CITY/STATE
End of City/State Report...

Sample Reports

09:39 PM Call Type Report Page 1
ACME TOY FACTORIES Nov 08 1989
MAIN
Report Period: Nov 04 1989 to Nov 05 1989

CALL TYPE	NUMBER	DURATION HH:MM:SS	COST
FX	35	7:13:25	\$ 35.60
DDDD	1	2:22:30	\$ 191.64
INCOM	178	25:14:03	\$ 0.00
IS-11	9	1:24:30	\$ 11.71
IS-11	0	3:10:00	\$ 56.68
WATS1	0	0:00:00	\$ 0.00
WATS2	0	0:00:00	\$ 0.00
WATS3	0	0:00:00	\$ 0.00
WATS4	0	0:00:00	\$ 0.00
WATS5	0	0:00:00	\$ 0.00
WATS6	0	0:00:00	\$ 0.00
LOCAL	21	1:50:20	\$ 4.39
OS-11	0	0:00:00	\$ 0.00
OS-01	36	5:49:05	\$ 115.99
SPL	0	0:00:00	\$ 0.00
WATS0	0	0:00:00	\$ 0.00
WATS1	0	0:00:00	\$ 0.00
WATS2	0	0:00:00	\$ 0.00
WATS3	0	0:00:00	\$ 0.00
WATS4	0	0:00:00	\$ 0.00
WATS5	86	13:45:11	\$ 42.85
WATS6	0	0:00:00	\$ 0.00
ZERO+	0	0:00:00	\$ 0.00
ORGANIZATION TOTALS:	409	62:21:06	\$ 458.86

Sample Reports

09:39 PM	Duration Report ACME TOY FACTORIES MAIN		Page 1 Nov 08 1989
Report Period: Nov 04 1989 to Nov 05 1989			

DURATION		DURATION	
HH:MM:SS - HH:MM:SS	NUMBER	HH:MM:SS	COST
-----	-----	-----	-----
00:00:00 - 00:00:59	0	0:00:00	\$ 0.00
00:01:00 - 00:01:59	47	0:40:33	\$ 11.48
00:03:00 - 00:03:59	93	1:03:08	\$ 21.00
00:05:00 - 00:05:59	207	3:10:17	\$ 77.00
00:06:00 - 00:06:59	40	1:10:11	\$ 31.43
00:08:00 - 00:08:59	11	0:18:17	\$ 5.00
00:09:00 - 00:09:59	0	0:00:00	\$ 0.00
00:00:00 - OVER	0	-----	-----
ORGANIZATION TOTALS:	409	62:21:06	\$ 458.86

Sample Reports

09:39 PM

Time of Day Report
ACME TOY FACTORIES
MAIN

Page 1
Nov 08 1989

Report Period: Nov 04 1989 to Nov 05 1989

TIME	NUMBER	DURATION HH:MM:SS	USAGE	COST
12:00a - 12:59a	0	0:00:00	00.0 %	\$ 0.00
01:00a - 01:59a	0	0:00:00	00.0 %	\$ 0.00
02:00a - 02:59a	0	0:00:00	00.0 %	\$ 0.00
03:00a - 03:59a	0	0:00:00	00.0 %	\$ 0.00
04:00a - 04:59a	0	0:00:00	00.0 %	\$ 0.00
05:00a - 05:59a	0	0:00:00	00.0 %	\$ 0.00
06:00a - 06:59a	0	0:00:00	00.0 %	\$ 0.00
07:00a - 07:59a	0	0:00:00	00.0 %	\$ 0.00
08:00a - 08:59a	45	7:52:51	12.6 %	\$ 120.90
09:00a - 09:59a	67	10:29:15	16.8 %	\$ 128.87
10:00a - 10:59a	70	10:20:26	16.5 %	\$ 48.25
11:00a - 11:59a	66	8:33:21	13.7 %	\$ 19.76
12:00p - 12:59p	8	1:10:20	01.8 %	\$ 17.96
01:00p - 01:59p	41	7:33:43	12.1 %	\$ 28.70
02:00p - 02:59p	42	6:17:36	10.1 %	\$ 16.33
03:00p - 03:59p	38	5:08:04	08.2 %	\$ 66.05
04:00p - 04:59p	30	4:38:10	07.4 %	\$ 11.32
05:00p - 05:59p	2	0:17:20	00.0 %	\$ 0.72
06:00p - 06:59p	0	0:00:00	00.0 %	\$ 0.00
07:00p - 07:59p	0	0:00:00	00.0 %	\$ 0.00
08:00p - 08:59p	0	0:00:00	00.0 %	\$ 0.00
09:00p - 09:59p	0	0:00:00	00.0 %	\$ 0.00
10:00p - 10:59p	0	0:00:00	00.0 %	\$ 0.00
11:00p - 11:59p	0	0:00:00	00.0 %	\$ 0.00
ORGANIZATION TOTALS:	409	62:21:06	100.0 %	\$ 458.86

End Of Time Of Day Report...

Sample Reports

09:39 PM Trunk Group Report Page 1
 Acme Toy Factories Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989

Trunk Group: 1 Facility: CO

TRUNK	NUMBER			DURATION		COST		
	TOTAL	INCOM	ON-NET	TOTAL	AVERAGE	TOTAL	/CALL	/MIN
1023	27	0.0 %	0.0 %	03:42:02	00:08:13	\$ 31.29	\$ 1.16	\$ 0.14
1024	36	0.0 %	0.0 %	05:49:05	00:09:41	\$ 53.77	\$ 1.49	\$ 0.15
1025	86	57.0 %	0.0 %	13:45:11	00:09:30	\$ 74.68	\$ 0.87	\$ 0.09
1026	35	51.4 %	0.0 %	07:13:25	00:12:02	\$ 55.62	\$ 1.62	\$ 0.13
1034	0	0.0 %	0.0 %	00:00:00	00:00:00	\$ 00.00	\$ 0.00	\$ 0.00
0000	1	0.0 %	0.0 %	00:00:00	00:00:00	\$ 00.00	\$ 0.00	\$ 0.00
TOTALS:	184	36.4 %	0.0 %	30:09:43	00:09:08	\$ 214.36	\$ 1.17	\$ 0.12

Trunk Group: 2 Facility: WATS2

TRUNK	NUMBER			DURATION		COST		
	TOTAL	INCOM	ON-NET	TOTAL	AVERAGE	TOTAL	/CALL	/MIN
2010	49	0.0 %	0.0 %	08:25:15	00:10:18	\$ 65.65	\$ 1.34	\$ 0.13
2011	81	0.0 %	0.0 %	11:13:01	00:08:19	\$ 87.49	\$ 1.08	\$ 0.13
2012	63	0.0 %	0.0 %	09:48:06	00:09:20	\$ 76.44	\$ 1.21	\$ 0.13
TOTALS:	193	0.0 %	0.0 %	29:26:22	00:09:09	\$ 229.58	\$ 1.19	\$ 0.13

Trunk Group: 3 Facility: T-NY

TRUNK	NUMBER			DURATION		COST		
	TOTAL	INCOM	ON-NET	TOTAL	AVERAGE	TOTAL	/CALL	/MIN
3051	12	33.3 %	0.0 %	00:45:01	00:03:45	\$ 5.40	\$ 0.45	\$ 0.12
3052	20	10.0 %	0.0 %	01:11:00	00:03:55	\$ 8.52	\$ 0.43	\$ 0.12
TOTALS:	32	18.8 %	0.0 %	01:56:01	00:03:38	\$ 13.92	\$ 0.44	\$ 0.12

Sample Reports

09:39 PM Site Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 Report Period: Nov 04 1989 to Nov 05 1989

SITE	NUMBER	DURATION HH:MM:SS	COST
MAIN	409	62:21:06	\$ 458.86
ORGANIZATION TOTALS:	409	62:21:06	\$ 458.86

End Of Site Report...

09:39 PM Date Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989

DATE	NUMBER	DURATION HH:MM:SS	COST
11/04/89	265	43:02:20	\$ 307.01
11/05/89	144	19:17:46	\$ 151.85
ORGANIZATION TOTALS:	409	62:21:06	\$ 458.86

End Of Date Report...

09:39 PM Trunk Group Busy Hour Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989

TRUNK GROUP	NUMBER OF TRUNKS	BUSY HOUR	DATE	PERCENT UTILIZATION
1	6	09:00a - 09:59a	Nov 04 1989	86%
2	3	13:00a - 13:59a	Nov 05 1989	35%
3	2	09:00a - 09:59a	Nov 04 1989	76%
9999	1	15:00a - 15:59a	Nov 04 1989	155%

End Of Trunk Group Busy Hour Report...

Sample Reports

09:39 PM Busy Day Trunk Utilization Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989

Busy Day: Nov 04 1989

TIME	NUMBER	DURATION HH:MM:SS	TRUNK UTILIZATION
12:00a - 12:59a	0	0:00:00	00.0 %
01:00a - 01:59a	0	0:00:00	00.0 %
02:00a - 02:59a	0	0:00:00	00.0 %
03:00a - 03:59a	0	0:00:00	00.0 %
04:00a - 04:59a	0	0:00:00	00.0 %
05:00a - 05:59a	0	0:00:00	00.0 %
06:00a - 06:59a	0	0:00:00	00.0 %
07:00a - 07:59a	0	0:00:00	00.0 %
08:00a - 08:59a	3 0	3:32:01	60.6 %
09:00a - 09:59a	5 2	9:10:10	81.8 %
10:00a - 10:59a	3 0	7:20:10	80.3 %
11:00a - 11:59a	3 1	7:21:03	80.3 %
12:00p - 12:59p	8	0:10:16	00.2 %
01:00p - 01:59p	2 8	5:29:05	60.5 %
02:00p - 02:59p	3 2	6:07:05	54.6 %
03:00p - 03:59p	2 8	4:12:20	37.9 %
04:00p - 04:59p	2 4	2:31:03	22.7 %
05:00p - 05:59p	2	0:17:07	02.6 %
06:00p - 06:59p	0	0:00:00	00.0 %
07:00p - 07:59p	0	0:00:00	00.0 %
08:00p - 08:59p	0	0:00:00	00.0 %
09:00p - 09:59p	0	0:00:00	00.0 %
10:00p - 10:59p	0	0:00:00	00.0 %
11:00p - 11:59p	0	0:00:00	00.0 %
ORGANIZATION TOTALS:	2 6 5	43:03:20	

End Of Busy Day Trunk Utilization Report...

Sample Reports

Organization Detail by Site Report

Start Time : 0:00 to 23:59
 Duration : 0:00:00 to 23:59:00
 <AND>
 Cost : \$ 0.00 to \$ 1,000.00
 Department : All
 Cost Center : All
 Call Type : All

03:02 PM

Organization Detail by Site Report

Page 14

ACME TOY FACTORIES

Oct 08 1989

MAIN

Report Period: Oct 02 1989 to Oct 02 1989

ALL CALLS

```

-----
Department      MARKETING
Cost Center     CUSTOMER SRVC
Extension:      204      Name: BRENNAN, VINCENT
-----
DURATION
DATE  TIME  HH:MM:SS  RATE  CENTER  DIALED NUMBER  CALL TYPE TRUNK  ACCOUNT CODE  COST
-----
10/02/88 08:15 0:10:32  BANGOR  ME  207-947-0551  PDV OS-OL 9      2004          $ 3.83
10/02/88 09:59 0:02:56  BANGOR  ME  207-947-0551  PDV OS-OL 9      2004          $ 1.22
10/02/88 10:44 0:01:54  SKOKIE  IL  674-1234      PDV IS-OL 9          $ 0.71
10/02/88 11:04 0:04:10          PIV INCOM 801          $ 0.00
10/02/88 11:20 0:01:10          223-1234      LDV LOCAL 9          $ 0.00
10/02/88 11:48 0:00:40          555-1212      PDV SPCL 9          $ 0.50
-----
TOTALS          0:21:22          TOTALS CALLS: 6          $ 6.26
-----
  
```

Sample Reports

Department Summary by Site Report

Start Time : 0:00 to 23:59
Duration : 0:00:00 to 23:59:00
<AND>
Cost : \$ 0.00 to \$ 1,000.00
Department : All
Cost Center : All
Call Type : All

Department Summary by Site Report
ACME TOY FACTORIES
MAIN
Report Period: Nov 04 1989 to Nov 05 1989
ALL CALLS

Page 1
Nov 08 1989

09:39 PM

DEPARTMENT	NUMBER	DURATION HH:MM:SS	COST
ACCOUNTING	40	2:20:06	\$ 58.56
MARKETING	369	60:01:00	\$ 400.30
UNATTACHED	0	0:00:00	\$ 0.00
ORGANIZATION TOTALS:	409	62:21:06	\$ 458.86

Sample Reports

Cost Center Summary by Site Report

Start Time : 0:00 to 23:59
 Duration : 0:00:00 to 23:59:00
 <AND>
 Cost : \$ 0.00 to \$ 1,000.00
 Department : All
 Cost Center : All
 Call Type : All

09:39 PM Cost Center Summary by Site Report Page 1
 ACME TOY FACTORIES Nov 08 1989
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989
 ALL CALLS

```

-----
DEPARTMENT          COST CENTER      NUMBER  DURATION      COST
-----
ACCOUNTING
  ACC                3 0          1:45:56      $    52.06
  ADMIN             1 0          0:34:10      $     6.50
-----
ACCOUNTING TOTALS:    4 0          2:20:06      $    58.56

MARKETING
  CUSTOMER SRVC    1 4 0        20:36:40     $    55.10
  SALES            2 2 9        40:24:20     $   345.20
-----
MARKETING TOTALS:    3 6 9        60:01:00     $   400.30

UNATTACHED
  UNATTACHED       0            0:00:00      $     0.00
-----
UNATTACHED TOTALS:    0            0:00:00      $     0.00

ORGANIZATION TOTALS: 4 0 9        62:21:06     $   458.86
  
```

End Of Cost Center Summary by Site Report...

Sample Reports

Extension Summary by Site Report

Start Time : 0:00 to 23:59
 Duration : 0:00:00 to 23:59:00
 <AND>
 Cost : \$ 0.00 to \$ 1,000.00
 Department : All
 Cost Center : All
 Call Type : All

Extension Summary by Site Report

09:39 PM

ACME TOY FACTORIES
 MAIN
 Report Period: Nov 04 1989 to Nov 05 1989
 ALL CALLS

Page 1
 Nov 08 1989

```

-----
DEPARTMENT
COST CENTER
EXTENSION
-----
ACCOUNTING
ACC
101          5      0:12:05      $    2.60
102         11      0:45:25      $   16.40
103          5      0:20:12      $   13.05
104          6      0:23:04      $   20.01
105          3      0:05:10      $    0.00
ACC TOTALS:      30      1:45:56      $   52.06

ADM
301          4      0:23:16      $    1.25
302          6      0:10:54      $    5.25
ADM TOTALS:      10      0:34:10      $    6.50
ACCOUNTING TOTALS:      40      2:20:06      $   58.56

MARKETING
CUSTOMER SERVICE
201          14      2:03:00      $    5.51
202          10      1:28:12      $    3.94
203          18      2:39:08      $    7.08
204           9      1:19:15      $    3.50
205          19      4:47:01      $    7.80
206          13      1:54:02      $    5.10
207          15      1:12:02      $    6.01
208          14      1:03:31      $    5.10
209          11      1:36:29      $    4.32
210          17      2:34:00      $    6.74
CUSTOMER SERVICE TOTALS:      140      20:36:40      $   55.10
-----
  
```

Sample Reports

Selection Detail Report #1

Date: Aug 10 1989 to Aug 10 1989
Start Time: 10:00 AM to 1:00 PM
Duration: 0:00:00 to 23:59:00
Cost: \$ 0.00 to \$ 100,000.00
Extension: 230 to 230
Site: MAIN
Department: R&D
Cost Center: R&D-3
Carrier Type: All
Call Direction: All
Source Type: All
Call Type Name: All
Trunk Name: All
Account Code: All
Dialed Digits: All

02:00 AM Selection Detail Report #1 Page 1
ACME TOY FACTORY Aug 11 1989

DATE	TIME	DURATION	SITE	EXT	RATE	CENTER	DIALED NUMBER	CALL TYPE	TRUNK	ACCOUNT CODE	COST
08/10/89	10:00	00:15:00	MAIN	23	BROOKLYN	NY	718-851-6200	PDV IS-IL	801		\$ 0.45
08/10/89	12:00	00:14:48	MAIN	23	BROOKLYN	NY	718-851-6200	PDV IS-IL	801		\$ 0.45
08/10/89	13:00	00:14:36	MAIN	23	BROOKLYN	NY	718-051-6200	PDV IS-IL	801		\$ 0.45
08/10/89	04:00	00:14:22	MAIN	23	LOCAL		851-6200	PDV LOCAL	801		\$ 0.00
		00:58:46									\$ 1.24

Records selected - 4

Records in Database - 340037

End of Selection Report...

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, 716-365-6440, identifies the area code (716) and CO exchange (365) 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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