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Bell Labs Innovations



CONVERSANT[®] System

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An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

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- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure your:

- Lucent-provided telecommunications systems and their interfaces
- Lucent-provided software applications, as well as their underlying hardware/software platforms and interfaces
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Overview

This book contains information on basic troubleshooting procedures for the most common CONVERSANT system problems, diagnostics procedures, common system procedures, as well as a listing of system alarms and messages.

Intended Audiences

This book is intended primarily for the:

- On-site service technician
- System administrators.

Secondary audiences include field support personnel.

We assume that the primary users of this book have completed the CONVERSANT hardware installation and maintenance training course (see [Training on page xlvi](#)).

How This Book is Organized

This book contains the following sections:

- [Chapter 1, Troubleshooting](#) — Covers some basic troubleshooting procedures for the most common system problems.
- [Chapter 2, Diagnostics](#) — Describes diagnostic procedures for the CONVERSANT system.
- [Chapter 3, Common System Procedures](#) — Describes procedures for cartridge tape and diskette drive operation, backup and restore, voice system administration, and operating system administration.
- [Chapter 4, Alarms and Log Messages](#) — Lists the system alarms and log messages and repair procedures for system troubles.
- [Glossary](#) — Defines the terms, abbreviations, and acronyms used in system documentation.
- [Index](#) — Alphabetically lists the principal subjects covered in the book.

Conventions Used in This Book

Understanding the typography and other conventions used in this book is necessary to interpret the information.

Terminology

- The word “type” means to press the key or sequence of keys specified. For example, an instruction to type the letter “y” is shown as

Type **y** to continue.

- The word “enter” means to type a value and then press the **ENTER** key on the keyboard. For example, an instruction to type the letter “y” and press **ENTER** is shown as

Enter **y** to continue.

- The word “select” means to move the cursor to the desired menu item and then press **ENTER**. For example, an instruction to move the cursor to the start test option on the Network Loop-Around Test screen and then press **ENTER** is shown as

Select **Start Test**.

- The system displays menus, screens, and windows. Menus ([Figure 1 on page xxxviii](#)) present options from which you can choose to view another menu, or a screen or window. Screens and windows both show and request system information ([Figure 2 on page xxxviii](#) through [Figure 5 on page xl](#)).

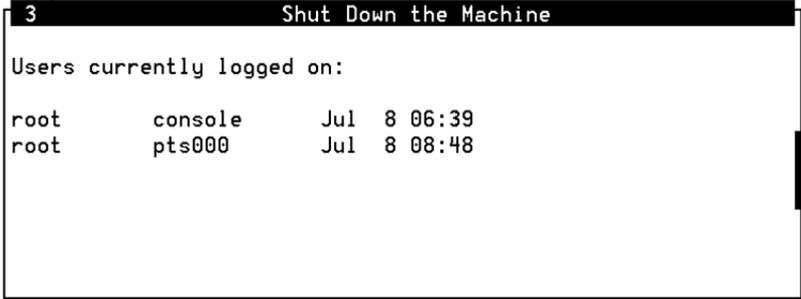
Note: Screens shown in this book are examples only. The screens you see on your machine will be similar, but not exactly the same.

Figure 1. Example of CONVERSANT Menu

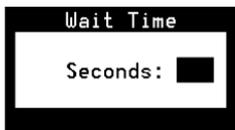
A screenshot of a terminal window titled "Voice System Administration". The menu items are: Application Package Administration (highlighted), Backup/Restore, Configuration Management, Feature Packages, Reports, Script Builder Applications, Software Management, Switch Interfaces, System Monitor, UNIX Management, and Exit.

```
Voice System Administration
Application Package Administration
Backup/Restore
Configuration Management
Feature Packages
Reports
Script Builder Applications
Software Management
Switch Interfaces
System Monitor
UNIX Management
Exit
```

Figure 2. Example of CONVERSANT Window Showing Information

A screenshot of a terminal window titled "3 Shut Down the Machine". The window shows the number of users currently logged on and a list of those users with their session details.

```
3 Shut Down the Machine
Users currently logged on:
root      console   Jul  8 06:39
root      pts000    Jul  8 08:48
```

Figure 3. Example of CONVERSANT Window Requesting Information**Figure 4. Example of CONVERSANT Screen Showing Information**

```
UnixWare Installation           Primary Hard Disk Partitioning

In order to install CONVERSANT, you should reserve a UNIX
system partition (a portion of your hard disk's space)
containing 100% of the space on your primary hard disk. After
you press 'ENTER' you will be shown a screen that will allow
you to create new partitions, delete existing partitions or
change the active partition of your primary hard disk (the
partition that your computer will boot from).

WARNING: All files in any partition(s) you delete will be
destroyed. If you wish to attempt to preserve any files from
an existing UNIX system, do not delete its partitions(s).

The UNIX system partition that you intend to use on the
primary hard disk must be at least 4200 MBs and labeled
"ACTIVE."

Press 'ENTER' to continue
```

Figure 5. Screen Requesting Information

```
UNIX System Installation                               Set Slice Sizes

Please select whether you would like the recommended slice sizes
or would like to customize the slice sizes.

Your choices are:
1. Recommended Slice Sizes
2. Customize Slice Sizes
```

Keyboard and Telephone Keypad Representations

- Keys that you press on your terminal or PC are represented as small capitalized **BOLD** text. For example, an instruction to press the enter key is shown as

Press **ENTER**.

- Two or three keys that you press at the same time on your terminal or PC (that is, you hold down the first key while pressing the second and/or third key) are represented in small capitalized **BOLD** text. For example, an instruction to press and hold the Alt key while typing the letter “d” is shown as

Press **ALT + D**.

- Function keys on your terminal, PC, or system screens, also known as soft keys, are represented as small capitalized **BOLD** text followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 3 is shown as

Press **F3** (Choices).

- Keys that you press on your telephone keypad appear in small capitalized **BOLD** text. For example, an instruction to press the first key on your telephone keypad is shown as

Press **1** to record a message.

Cross References and Hypertext

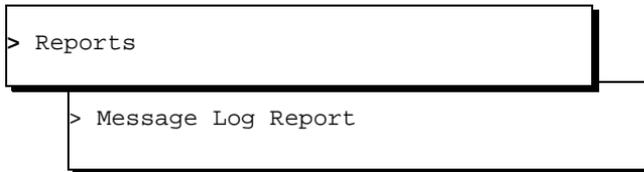
[Blue underlined](#) type indicates a cross reference or hypertext link that takes you to another location in the document when you click on it with your mouse.

Screen Displays

- Values, system messages, field names, prompts that appear on the screen, and simulated screen displays are shown typewriter-style constant width text, as in the following examples:
 - ~ Enter the number of ports to be dedicated to outbound traffic in the `Maximum Simultaneous Ports` field.
 - ~ Enter **y** in the `Message Transfer?` field.
 - ~ The system displays the following message:
`Installation in progress.`

- The sequence of menu options that you must select to display a specific screen or submenu is shown as follows.

Start at the Voice System Administration menu and select:



In this example, you would access the Voice System Administration menu and select the Reports menu. From the Reports menu, you would then select the Message Log Report option.

Other Typography

- Commands and text you type in or enter appear in **bold type**, as in the following examples:
 - Enter **change-switch-time-zone** at the `Enter` command: prompt.
 - Type **high** or **low** in the `Speed`: field.
- Command variables are shown in **bold italic** type when they are part of what you must type in, and in *blue italic type* when they are referred to, for example:
 - Enter **ch ma *machine_name***, where *machine_name* is the name of the call delivery machine you just created.
- Command options are shown inside square brackets, for example:
 - Enter **connect *switchname* [-d] [-b | -w]**

Cross References and Hypertext

[Blue, underlined](#) type indicates a cross reference or hypertext link that will take you to another location in the document when you click on it.

Safety and Security Alert Labels

This book uses the following symbols to call your attention to potential problems that could cause personal injury, damage to equipment, loss of data, service interruptions, or breaches of toll fraud security:

CAUTION:

Indicates the presence of a hazard that if not avoided can or will cause minor personal injury or property damage, including loss of data.

WARNING:

Indicates the presence of a hazard that if not avoided can cause death or severe personal injury.

DANGER:

Indicates the presence of a hazard that if not avoided will cause death or severe personal injury.

SECURITY ALERT:

Indicates the presence of a toll fraud security hazard. Toll fraud is the unauthorized use of a telecommunications system by an unauthorized party.

Getting Help

The CONVERSANT system provides online help to assist you during installation, administration, and application development tasks.

To use the online help:

- Press **F1** (Help) when you are in a menu or window.

The first time you press **F1**, the system displays information about the currently active window or menu.

- ~ When you are in a window, the help explains the purpose of the window and describes its fields.
- ~ When you are in a menu, the help explains how to use menus.

If you press **F1** again, the system displays a General Help screen that explains how to use the online help.

- Press **F2** (Choices) when you are in a field.

The system displays valid field choices either in a pop-up window or on the status line directly above the function keys.

- Press **F6** (Cancel) to exit the online help.

Technical Assistance

Web Site

The following customer support web site contains resources where you can find solutions for technical problems:

<http://support.lucent.com>

Contact Numbers

Technical assistance on the CONVERSANT product is available through the following telephone contacts:

- In the United States, call 1-800-242-2121.
- In Canada, call one of the following numbers, depending on your location:
 - ~ 1-800-363-1882 for assistance in Quebec and eastern Canada
 - ~ 1-800-387-4268 for assistance in Ontario and western Canada
- In any other country, call your local distributor or check with your project manager or systems consultant.

Related Resources

Additional training material and documentation is available for you to learn more about the CONVERSANT product.

Training

To obtain training on the CONVERSANT product, contact the GLS Education and Training Center at one of the following numbers:

- Organizations within Lucent Technologies (904) 636-3261
- Lucent Technologies customers and all others (800) 255-8988

You can also view information on CONVERSANT training at the Global Learning Solutions (GLS) web site at one of the following web links:

- Organizations within Lucent Technologies
<http://training.gls.lucent.com>
- Lucent Technologies customers and all others
<http://training.lucent.com>

The courses listed below are recommended. Other courses are available.

- For technicians doing repairs on CONVERSANT V8.0 systems
 - ~ BTE502H, CONVERSANT Installation and Maintenance
 - ~ BTE501W, CONVERSANT Administration for Technicians

- For technicians and administrators
 - ~ BTC344M, CONVERSANT V8 Administration Overview (CD-ROM)
- For application developers

Note: Courses listed below are instructor-led unless otherwise specified

- ~ BTC128H, Introduction to Script Builder
- ~ BTC166H, Introduction to Voice@Work
- ~ BTC204H, Intermediate Voice@Work,
- ~ BTC204W, Intermediate Voice@Work, interactive distance learning using Bit-Room technology
- ~ BTC301H, Advanced CONVERSANT Programming

Documentation

Appendix A, “Documentation Guide,” in *CONVERSANT System Version 8.0 System Description*, 585-313-219, describes in detail all books included in the CONVERSANT library and referenced in this book.

Note: Always refer to the appropriate book for specific information on planning, installing, administering, or maintaining a CONVERSANT system.

Additional Suggested Documentation

It is suggested that you also obtain and use the following book for information on security and toll fraud issues:

- *GBCS Products Security Handbook*, 555-025-600

It is suggested that you access the following web sites for additional information:

- UnixWare documentation available from the SCO web site:
<http://www.sco.com/documentation/>
- Updates to CONVERSANT documentation: <http://glsdocs.lucent.com>

Obtaining Printed Versions of the Documentation

See [Documentation Ordering Information on page xi](#) of [Copyright and legal notices](#) for information on how to purchase CONVERSANT documentation in printed form. You can also print documentation locally from the CD-ROM (see [Printing the Documentation on page I](#)).

Using the CD-ROM Documentation

Lucent Technologies ships the documentation in electronic form. Using the Adobe Acrobat Reader application, you can read these documents on a Windows PC, on a Sun Solaris workstation, or on an HP-UX workstation. Acrobat Reader displays high-quality, print-like graphics on both UNIX and Windows platforms. It provides scrolling, zoom, and extensive search capabilities, along with online help. A copy of Acrobat Reader is included with the documents.

Note: When viewing documents online, it is recommended that you use a separate platform and not the CONVERSANT system.

Setting the Default Magnification

You can set your default magnification by selecting **File | Preferences | General**. We recommend the **Fit Page** option.

Adjusting the Window Size

On HP and Sun workstations, you can control the size of the reader window by using the **-geometry** argument. For example, the command string **acroread -geometry 900x900 mainmenu.pdf** opens the main menu with a window size of 900 pixels square.

Hiding and Displaying Bookmarks

By default, the document appears with bookmarks displayed on the left side of the screen. The bookmarks serve as a hypertext table of contents for the chapter you are viewing. You can control the appearance of bookmarks by selecting **View | Page Only** or **View | Bookmarks and Page**.

Using the Button Bar

The button bar can take you to the book's Index, table of contents, main menu, and glossary. It also lets you update your documents. Click the corresponding button to jump to the section you want to read.

Using Hypertext Links

Hypertext links appear in [blue underlined](#) text. These links are shortcuts to other sections or books.

Navigating with Double Arrow Keys

The double right and double left arrows ( and ) at the top of the Acrobat Reader window are the go-back and go-forward functions. The go-back button takes you to the last page you visited prior to the current page. Typically, you use  to jump back to the main text from a cross reference or illustration.

Searching for Topics

Acrobat has a sophisticated search capability. From the main menu, select **Tools | Search**. Then choose the **Master Index**.

Displaying Figures

If lines in figures appear broken or absent, increase the magnification. You might also want to print a paper copy of the figure for better resolution.

Printing the Documentation

Note: For information on ordering printed copies of the documents, see [Obtaining Printed Versions of the Documentation on page xlviii](#).

If you would like to read the documentation in paper form rather than on a computer monitor, you can print all or portions of the online screens.

Printing an Entire Document

To print an entire document, do the following:

- 1 From the documentation main menu screen, select one of the print-optimized documents. Print-optimized documents print two-screens to a side, both sides of the sheet on 8.5x11-in or A4 paper.
- 2 Select **File | Print**.
- 3 Enter the page range you want to print, or select **All**. Note that the print page range is different from the page numbers on the documents (they print two to a page).
- 4 The document prints.
- 5 Close the file. Do not leave this file open while viewing the electronic documents.

Printing Part of a Document

To print a single page or a short section, you can print directly from the online version of the document:

- 1 Select **File | Print**.
- 2 Enter the page range you want to print, or select **Current**.

The document prints, one screen per side, two sides per sheet.

How to Comment on This Book

While we have tried to make this document fit your needs, we are interested in your suggestions for improving it and urge you to send your comments to us.

Comment Form

A comment form, available in paper and electronic versions, is available via the documentation CD-ROM. To use the comment form:

- 1 Select **Comments** from the Main Menu of the CD-ROM.
- 2 Follow the instructions provided on the CD-ROM to do one of the following:
 - ~ Print the paper version of the form, complete it, and either fax or mail it to us.
 - ~ Access a Lucent Technologies website where you can enter your comments electronically.

Contact Us Directly If you prefer not to use the comment form, you can contact us directly at the following address or fax number.

Note: Direct your correspondence to the attention of the Lucent Technologies CONVERSANT writing team. Be sure to mention the title of the book on which you are commenting.

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1 Troubleshooting

Overview

This chapter describes some basic troubleshooting procedures for the on-site technician or system administrator with repair procedures for the most common system procedures. These procedures are contained in troubleshooting tables, each of which includes a column describing the trouble indication and a column describing the corrective action.

Note: This information is in addition to the repair procedures provided for system alarms in [Chapter 4, Alarms and Log Messages](#).

Topics covered include:

- [Repairing Power-Up Troubles on page 3](#)
- [Repairing Boot-Up Troubles on page 6](#)
- [Repairing Application-Related Troubles on page 10](#)
- [Repairing Administrative Troubles on page 22](#)
- [Repairing Operational Troubles on page 24](#)
- [Repairing Feature Licensing Troubles on page 26](#)

- [Repairing Other Voice System Troubles on page 27](#)
- [Reducing Load on page 34](#)

The following assumptions are made in this chapter:

- You have checked the Message Log for any relevant messages. See “Message Log Report,” in Chapter 7, “Common Administration” of *CONVERSANT System Version 8.0 Administration*, 585-313-510, for the procedure to run the report.
- The corrective action procedures are intended to provide a starting point to isolate a problem and may not be exhaustive.
- The corrective action procedures assume general editing knowledge and script familiarity, as most of the commands and procedures are performed from the command line.
- You have already performed a visual inspection of the system.

Repairing Power-Up Troubles

Power-up troubles are those that occur when first turn the system on. [Table 1](#) lists the indications related to power-up troubles.

Table 1. Repairing Power-Up Troubles

Indication	Corrective Action
The system does not power up.	<ol style="list-style-type: none"><li>1 Verify that the platform is receiving power.<li>2 Verify all external system connections (power cords and monitor cables) are correct (for example, the blue cable connects to the 3270 card and not to the system parallel port).<li>3 Verify all external system connections are secure.

1 of 3

Table 1. Repairing Power-Up Troubles

Indication	Corrective Action
<p>During start-up, the system displays the following message:</p> <pre>Shared memory is marked as invalid. cvis_menu exiting.</pre>	<ol style="list-style-type: none"><li>1 Stop the voice system. See Stopping the Voice System on page 266 in Chapter 3, Common System Procedures.<li>2 Start the voice system. See Starting the Voice System on page 264 in Chapter 3, Common System Procedures.<li>3 Enter cvis_menu<li>4 If the problem persists, do the following:<ol style="list-style-type: none"><li>a Stop the voice system.<li>b Enter cp /vs/shmem/devtbl vs/shmem/devtbl.old<li>c Enter rm /vs/shmem/devtbl<li>d Start the voice system.

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Table 1. Repairing Power-Up Troubles

Indication	Corrective Action
<p>The start_vs command takes a long time to initialize on a system with many analog lines.</p>	<ol style="list-style-type: none"> Starting at the Switch Administration screen, set Dial-Tone Training to “No.” See Chapter 5, “Switch Interface Administration,” of <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510. <p>Note: If dial-tone training is “no,” you should specify the dial-tone frequency to be used with a particular switch (350 and 440 is the default for the DEFINITY switch).</p> <ol style="list-style-type: none"> Verify that the transfers being performed in the application are still functioning properly.
<p>When the system boots, it displays messages in the message log report or on the console similar to the following:</p> <pre>Unable to attach shared memory, Bad DEVTBL, and/or VROP respawning too rapidly.</pre>	<ol style="list-style-type: none"> Stop the voice system. See Stopping the Voice System on page 266 in Chapter 3, Common System Procedures. Enter cp /vs/shmem/devtbl /vs/shmem/devtbl.old Enter rm /vs/shmem/devtbl Start the voice system. See Starting the Voice System on page 264 in Chapter 3, Common System Procedures.

Repairing Boot-Up Troubles

Boot-up troubles are those that occur when the system crashes and reboots itself or when you reboot the system. [Table 2](#) lists the indications and possible repair procedures related to boot-up troubles.

Table 2. Repairing Boot-Up Troubles

Indication	Corrective Action
Cards are not recognized during boot up.	<ol style="list-style-type: none"><li>1 Enter pkginfo pg<li>2 Make sure the driver software is installed (SSP, Tip/Ring, or T1).<li>3 Check the circuit cards. See Checking the Circuit Cards on page 63 in Chapter 2. Diagnostics.<li>4 Make sure that cards have the proper switch settings.

1 of 5

Table 2. Repairing Boot-Up Troubles

Indication	Corrective Action
<p>When the system boots, it displays messages in the message log report or on the console similar to the following:</p> <p>Unable to attach shared memory, Bad DEVTBL, and/or VROP respawning too rapidly.</p>	<ol style="list-style-type: none"><li>1 Stop the voice system. See Stopping the Voice System on page 266 in Chapter 3, Common System Procedures.<li>2 Enter <code>cp /vs/shmem/devtbl /vs/shmem/devtbl.old</code><li>3 Enter <code>rm /vs/shmem/devtbl</code><li>4 Start the voice system. See Starting the Voice System on page 264 in Chapter 3, Common System Procedures.

2 of 5

Table 2. Repairing Boot-Up Troubles

Indication	Corrective Action
<p>The system displays the following message:</p> <p>Non-system disk or disk error. Replace and hit any key to continue.</p>	<ol style="list-style-type: none">1 Check the diskette drive and confirm that it is empty.2 Check the cartridge tape drive and confirm that it is empty.3 Check the power connections.4 Reboot the system. See Rebooting the UNIX System on page 271 in Chapter 3, Common System Procedures.
<p>The system passes run level four then reboots continuously (rolling reboot).</p>	<ol style="list-style-type: none">1 Power off the platform immediately after the system reboots.2 Remove one optional circuit card (for example, SSP, T1, or Tip/Ring).3 Reboot the system. See Rebooting the UNIX System on page 271 in Chapter 3, Common System Procedures.4 Repeat Step 1 through Step 3 until the system reboots properly.5 Replace the circuit cards.

3 of 5

Table 2. Repairing Boot-Up Troubles

Indication	Corrective Action
A file system check shows a file system with 0 files, 0 blocks, or 0 free.	<ol style="list-style-type: none"><li>1 Verify the disk partition was adequate. See “Recommended Disk Partitions” in Chapter 5, “Installing Base System Software,” the maintenance book for your platform.<li>2 Remove unnecessary data files.<li>3 If the problem persists, restore the system software from the backup tape. See Restoring the System Using mkimage on page 256 in Chapter 3, Common System Procedures. <p>If no backup is available, reload the system software. See the following chapters the maintenance book for your platform:</p> <ul style="list-style-type: none"><li>~ Chapter 5, “Installing Base System Software”<li>~ Chapter 6, “Installing CONVERSANT System Software”<li>~ Chapter 7, “Installing the Optional Feature Software”

4 of 5

Table 2. Repairing Boot-Up Troubles

Indication	Corrective Action
The system hangs after a reboot and the screen is blank.	<ol style="list-style-type: none"><li>1 Check the diskette drive and confirm that it is empty.<li>2 Check the power connections.<li>3 Check the hard disk drive indicator light for activity.<li>4 Reboot the system. See Rebooting the UNIX System on page 271 in Chapter 3, Common System Procedures.

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Repairing Application-Related Troubles

Sometimes the voice system will not take calls or an application does not work as expected. Or there may be trouble with the Script Builder application development tool or the Script Builder FAX Actions Package. [Table 3 on page 11](#) lists the indications and possible repair procedures for these application-related troubles.

Table 3. Repairing Application-Related Troubles

Indication	Corrective Action
The voice system rings but does not answer the telephone or the voice system is busy.	<ol style="list-style-type: none">1 Enter display card all2 Check the status of all the circuit cards.3 Make sure PLAY/CODE, and/or TTS, is assigned to an INSERV SSP card (in service).4 Check if the application is properly assigned to the channel(s).5 Make sure the application contains an action to answer the phone.6 Check the Message Log Report for messages indicating that TSM is respawning due to too many channels in the system. <p>If so, do the following:</p> <ol style="list-style-type: none">a Use /etc/conf/bin/idtune to increase NCHANNELS tunable parameter.b Use /etc/conf/bin/idbuild -B to rebuild the kernel.c Reboot the system.

Table 3. Repairing Application-Related Troubles

Indication	Corrective Action
The voice system answers the call, but does not play any speech.	<ol style="list-style-type: none">1 Scan the Message Log Report for messages related to the trouble.2 Enter display card all3 Verify that the spadm script is not assigned to any channels.4 Check the status of all the circuit cards.5 If spadm is assigned, reassign the channel to the correct script name. See Chapter 3, "Voice System Administration," of <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510.6 Place test calls to determine if this is occurring on every channel.7 If this occurs only on certain channels, it could be a hardware problem. Place the problem channels in a MANOOS state until the card can be replaced.8 Enter trace tsm chan all tee /tmp/trace.out This sends the trace output to the console and to the file /tmp/trace.out9 Review the trace output for failure indications or error messages.

2 of 3

Table 3. Repairing Application-Related Troubles

Indication	Corrective Action
All calls are dropped.	<ol style="list-style-type: none"><li>1 Scan the Message Log Report for messages related to the trouble.<li>2 Enter hstatus all This will allow you to check the status of the host if this feature is being used. If all sessions are recovering or logging in, this could explain the trouble.<li>3 Enter who -rpb<li>4 Search for different time stamps on the processes. A recent date different from most of the others may indicate the process respawned.<li>5 Record the scenario that caused the problem.<li>6 If the process is specific to a feature package, see the trouble table for that feature package in this chapter.

3 of 3

Repairing Script Builder Troubles

[Table 4](#) provides information on troubles related to the Script Builder package.

Table 4. Repairing Script Builder Troubles

Indication	Corrective Action
Messages are cut off.	<p>Add a few seconds of initial silence (0.2 to 0.5 seconds) to the beginning of the message to be played.</p> <p>Another way to avoid missing any segment of a message is to construct a phrase consisting of a few seconds of silence and play that phrase first.</p>
The terminal is locked up.	<p>Use the following key sequence to release your keyboard:</p> <p>CONTROL J stty sane CONTROL J</p>
Host sessions recover repeatedly.	<ol style="list-style-type: none"><li>1 Scan the Message Log Report for messages related to the trouble.<li>2 Make sure a Transaction Base screen has been specified.<li>3 Make sure the Login and Recovery sequences both leave the host session at a Transaction Base screen.

1 of 3

Table 4. Repairing Script Builder Troubles

Indication	Corrective Action
<p>The system displays the following message:</p> <p>No Space On Root File System.</p>	<ol style="list-style-type: none"><li>1 Press EXIT from Script Builder.<li>2 Clean up the root file system. Try to free a minimum of several hundred blocks.<li>3 Re-enter Script Builder with your application. You may find that everything is functioning properly with your application. You may be able to continue right where you left off and just retype any previous changes that were not saved. However, depending on where you were in the application when root ran out of space, some files may be corrupted.<li>4 If Script Builder fails completely with this application, do the following:<ol style="list-style-type: none"><li>a Remove the transaction part of the application by pressing REMOVE in the Script Builder Applications screen.<li>b Restore it from a backup. See <i>CONVERSANT System Version 8.0 Application Development with Script Builder</i>, 585-313-217.

Table 4. Repairing Script Builder Troubles

Indication	Corrective Action
There is no speech output.	<ol style="list-style-type: none"><li>1 Make sure the phrase actually exists. If it does not, record it. See the Speech Administration screen in Chapter 7, "Producing Speech," of <i>CONVERSANT System Version 8.0 Application Development with Script Builder</i>, 585-313-217.<li>2 Make sure the OVOL and IVOL parameters are correctly set in the Switch Interface screen. See Chapter 5, "Switch Interface Administration," of <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510.<li>3 Enter display card sp<li>4 Check the status of the SSP cards.
A ring no answer occurs for an application that has a host interface.	<ol style="list-style-type: none"><li>1 Scan the Message Log Report for messages related to the trouble.<li>2 Check the host timeout value and verify that the host response time is not exceeded.

3 of 3

Repairing FAX Troubles

[Table 5](#) provides information about trouble related to the FAX feature. See this table for appropriate corrective action if a trouble arises.

Note: The most most frequent reasons for a failure to send a fax is that the remote fax machine is busy or out of paper or that there is no fax machine at the remote number.

Table 5. Repairing FAX Troubles

Indication	Corrective Action
FAX001 message reported in the message log	See Chapter 4, Alarms and Log Messages , for the repair procedure.
FAX002 message reported in message log	See Chapter 4, Alarms and Log Messages , for the repair procedure.

1 of 5

Table 5. Repairing FAX Troubles

Indication	Corrective Action
The fax cover page process failed.	<p>The script request to join two files into a single fax file (possibly for use as a cover page) failed. For this operation to be completed, file conversions are performed to get the information into a form suitable for transmission.</p> <p>Most likely, one or both of the files requested are not suitable for transmission. Make sure the files requested are either text files or fax files entered through the FAX Loading and Printing screen.</p>
The execute UNIX command failed.	<p>The script request to execute a UNIX command or shell script failed.</p> <p>Most likely, the problem is with the command or shell script. Check that the command or shell script that was attempted works when executed manually. If it does, make sure that its full path name is provided to the script.</p>

2 of 5

Table 5. Repairing FAX Troubles

Indication	Corrective Action
<p>A negative return value of a Script Builder FAX action indicates that an error has occurred.</p>	<p>Use the following list of return values to determine the cause of the error. These values are found in the fax_tool.h file. For internal errors, check the Message Log for FAX001 and FAX002 or run the following trace command: trace FAXOOC sbFaxProc chan all area all level all and provide output to technical support.</p> <ul style="list-style-type: none">• -1 — Another faxit command going on• -2 — Fax transmission failed (internal)• -3 — Channel denied (internal)• -4 — Can not open file/file does not exist• -5 — No previous queued faxes• -6 — no background file (obsolete)• -7 — No foreground file (obsolete)• -8 — faxit command timeout (internal)• -9 — file linking failed (obsolete)• -10 — Opening file failed (obsolete)• -11 — File queued before (obsolete)

3 of 5

Table 5. Repairing FAX Troubles

Indication	Corrective Action
A negative return value of a Script Builder FAX action indicates that an error has occurred (con't.).	<ul style="list-style-type: none">• -12 — Cannot set timer (internal)• -13 — File not specified• -14 — Unix call failed (internal)• -15 — Destination not supplied• -16 — Mode, for FAX_CNG, not supplied (obsolete)• -17 — Command not supplied• -18 — Return string not supplied• -19 — Cover page merging failed (internal)• -20 — Subprog to sbFaxHpr failed (internal)• -21 — IRAPI call failed (interanl)• -22 — faxmastr file open error (internal)• -23 — Wrong subprog message (internal)• -24 — Max. sbFaxHpr instances reached (internal)• -25 — Fax file is a big endian fax file

Table 5. Repairing FAX Troubles

Indication	Corrective Action
Fax file or text file not found.	<p>The script request to transmit a fax file to the caller failed because the fax file or text file requested could not be found. Verify that the fax file exists either in the Fax Loading and Printing screen or at the full path specified in the script.</p> <p>The caller did not receive the fax requested. Consider manually transmitting the fax message requested by the caller using the delivery number contained in the error message.</p>
The Out of Call Fax Report or output from the faxrpt command indicates that an out of call fax transmission failed.	Follow the repair procedure provided for the FAX001 message in Chapter 4, Alarms and Log Messages .

Repairing Administrative Troubles

Administrative troubles sometimes occur when the system performs a task you have initiated (for example, a trouble arises while performing a backup of the system software). [Table 6](#) contains troubles related to administrative tasks.

Table 6. Repairing Administrative Troubles

Indication	Corrective Action
UNIX commands are failing or the disk reported failures.	Scan the Message Log Report.
Using the vi editor causes a core dump.	To split the file into multiple segments, enter split -n filename name where <i>n</i> is the number of lines in each piece (1000 is the default), <i>filename</i> is the name of the files you want to split, and <i>name</i> is the new segment you are creating.

1 of 2

Table 6. Repairing Administrative Troubles

Indication	Corrective Action
ccasum never finishes its cron job.	<ol style="list-style-type: none">1 Determine if you are transferring to more than 100 numbers. If you are, kill the cron job by doing the following:<ol style="list-style-type: none">a Enter ps -ef grep ccasumb Search for the parent process id (PID) for ccasum (located in the second column from the left).c Enter kill -9 pid# where <i>pid#</i> is the PID number.2 Create an index for ccasum by doing the following:<ol style="list-style-type: none">a Log in to SQL*Plus as sti/stib Enter create index cca_idx on cca(phone_num);c Enter :quit to exit the SQL*Plus Utility.3 When the call traffic is light, enter /vs/bin/util/ccasum4 Enter /vs/bin/util/ccadel when ccasum is finished.

2 of 2

Repairing Operational Troubles

Operational troubles are experienced with the physical components of the voice system, such as a blank monitor or an inoperable modem. These troubles can occur at any time. [Table 7](#) contains troubles related to operational tasks.

Table 7. Repairing Operational Troubles

Indication	Corrective Action
The shutdown and init commands do not bring the system down.	Perform a hard reboot of the system. See Rebooting the UNIX System on page 271 in Chapter 3, Common System Procedures , for the procedure.

1 of 2

Table 7. Repairing Operational Troubles

Indication	Corrective Action
The monitor screen is blank, but the voice system is still taking calls.	<ol style="list-style-type: none"><li>1 Check the power on the voice system. If the power is on, place a test call to the system.<li>2 Check the LED on the monitor. If the LED is on, check the contrast and brightness controls on the monitor.<li>3 Check the monitor connection to the voice system.<li>4 Unplug/plug in the monitor cable to the voice system.<li>5 Check the on/off switch on the monitor.<li>6 Log in remotely to check out the system and see if the voice system is taking calls.<li>7 If the problem persists, replace the monitor and/or the video controller module on the IOB.

2 of 2

Repairing Feature Licensing Troubles

Feature Licensing troubles are those that occur when the user is unable to access certain features of the system. [Table 8](#) contains troubles related to operational tasks.

Table 8. Repairing Feature Licensing Troubles

Indication	Corrective Action
Feature licensing is no longer active.	If the name of your system has been changed, notify field support personnel.

Repairing Other Voice System Troubles

The following tables contain some general trouble areas that do not fall into the other classes listed above. Specifically, these troubles include:

- [Repairing Call-Transfer Troubles on page 28](#)
- [Repairing Performance Troubles on page 30](#)
- [Repairing Diagnostics Troubles on page 30](#)
- [Repairing Touchtone Input Troubles on page 31](#)
- [Identifying Performance Problems on page 34](#)

Repairing Call-Transfer Troubles

[Table 9](#) lists the repair procedures for repairing call-transfer troubles.

Table 9. Repairing Call Transfer Troubles

Indication	Corrective Action
Voice System not transferring calls properly (cont.).	<ol style="list-style-type: none">1 Scan the Message Log Report.2 Verify the values on the Switch Administration screen as described in Chapter 4, "Switch Interface Administration," of <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510. If this screen has changed, do the following:<ol style="list-style-type: none">a Save the values.b Stop the voice system. See Stopping the Voice System on page 266 in Chapter 3, Common System Procedures.c Start the voice system. See Starting the Voice System on page 264 in Chapter 3, Common System Procedures.d Reinstall the application.

1 of 2

Table 9. Repairing Call Transfer Troubles

Indication	Corrective Action
Voice System not transferring calls properly.	<p>3 Try to transfer a call manually, by completing the following steps:</p> <p>Note: You need an analog telephone for this test.</p> <ul style="list-style-type: none"> a Plug the line going into the voice system into the telephone. b Place the call to this telephone. c Answer the call. d Try to transfer to another extension. <p>4 Assign the feature test script to the channel and place test calls.</p> <p>5 Enter trace tsm chan all trip tee /tmp/trace.out</p> <p>6 Check the logic of the application that is doing the transfer.</p>
	<i>2 of 2</i>

Repairing Performance Troubles

[Table 10](#) lists the repair procedure for performance troubles.

Table 10. Repairing Performance Troubles

Indication	Corrective Action
The system is slow or delayed in speaking.	Reduce the load. See Reducing Load on page 34 .
The system performance is degraded. For example: <ul style="list-style-type: none">• Speech breaks are occurring.• There is bad response time to commands.	

Repairing Diagnostics Troubles

[Table 11](#) lists the repair procedures for repairing diagnostics troubles.

Table 11. Repairing Diagnostics Troubles

Indication	Corrective Action
Card diagnostics failed.	Check the circuit cards. See Checking the Circuit Cards on page 63 in Chapter 2, Diagnostics .

Repairing Touchtone Input Troubles

[Table 12](#) lists the repair procedures for repairing touch-tone input troubles.

Table 12. Repairing Touch-Tone Input Troubles

Indication	Corrective Action
User touch-tone input is not being correctly interpreted by the system.	<ol style="list-style-type: none"><li>1 Verify the action to collect data from the caller matches the intended use in the script.<li>2 If this is channel related (that is, the trouble only appears on a particular channel) and you have another card, see if the trouble occurs on the other card. If not, replace the original card. See Chapter 2, "Installing or Replacing Circuit Cards," in the maintenance book for your platform.

Repairing Report Troubles

[Table 13](#) lists the repair procedures for repairing report troubles.

Table 13. Repairing Report Troubles

Indication	Corrective Action
Call data reports are not accurate or they are not complete.	<ol style="list-style-type: none"> 1 Determine if there is any additional free space in the database by entering dbfrag 2 Scan the Message Log Report.

Repairing Channel/Card State Troubles

[Table 14](#) lists the repair procedures for repairing channel/card state troubles.

Table 14. Repairing Channel/Card State Troubles

Indication	Corrective Action
Channel/card is in Manos state.	Restore the channel or card by entering restore channel/card channel#/card# See Appendix A, "Summary of Commands," in <i>CONVERSANT System Version 8.0 Administration</i> , 585-313-510, for more information on the restore command.

1 of 2

Table 14. Repairing Channel/Card State Troubles

Indication	Corrective Action
Channel/card is in FOOS state.	<p>Enter display channel <i>channel_number</i></p> <p>If T1.5, PRIB, or PRID is displayed, check the error log for a message in the range TWIP013–TWIP018. Follow the recommended repair procedure for that message.</p> <p>If VRS6, IVP4, or IVP6 is displayed:</p> <ol style="list-style-type: none"><li>1 Enter diagnose card <i>card_number</i>.<li>2 If the channel remains Foos, check the telephone connection to the card.
Channel/card is in BROKEN state.	<p>Follow the repair procedure for message MTC003 on page 446 in Chapter 4, Alarms and Log Messages.</p>

2 of 2

Reducing Load

This repair procedure is provided to enable application developers and system administrators to troubleshoot the root cause of system problems. Problems related to performance depend on a wide range of variables. Understanding the nature of the problem requires a good understanding of the attributes of the system that affect performance.

Note: Every system must have a minimum of 128 MB of memory.

The information provided in this section is platform related. Rule out application-related performance problems first before proceeding with this procedure.

Identifying Performance Problems

Most performance-related problems become noticeable through either reports of slow response time from end users or performance- or load-related error messages in the alarm log.

Reports of Poor Response Time

If poor response time is reported but no load-related messages are reported to the alarm log, it is likely that the response time delays are a result of:

- Host transactions
- Database transactions

- Delays in custom database interface processes (DIPs) or customer IRAPI processes
- Large, complex applications

An application rarely experiences unacceptable delays because of voice processing (playing and coding phrases and recognizing touch tones) without alarms in the alarm log. Voice processing shows little change in response time as system load increases. Typically, if load increases to a point where the system cannot serve voice processing requests in real time, alarms are logged.

Reports of System Inaccessibility

Typically, if load increases to a point where the system cannot serve voice processing requests in real time, alarms are logged. However, if the system is inaccessible, the alarms logged are also inaccessible. UNIX interprocess communication (IPC) message queues may indicate that the system may be nearing its load threshold.

Load-Related Messages in the Alarm Log

Load-related messages in the alarm log indicate that voice processing cannot be carried out in real time because of excessive system load. Components of the system which affect voice processing include:

- CPU complex
- Memory
- Hard disk drives

Identifying Load Culprits

Before attempting to analyze the application for load liabilities, it is important to remember that processing external to the application may be the cause of load related problems. Check that none of the following occur at times when load-related alarms are reported:

- Use of the CONVERSANT Script Builder application generator on a production machine during peak load hours
- Excessive use of call data event tracking
- Excessive requests to the 3270 host interface
- Reading of large (more than 500 records) database tables that are not indexed
- Reading of and writing to database tables exclusively
- Use of the system monitor program with a fast refresh rate

A fast refresh rate is anything less than the default rate of 5 seconds.

- Requests for call data reports during peak load periods
- Performance of other operation, administration, and maintenance (OA&M) functions (includes backups, speech administration, etc)

- ASCII-to-fax conversions when using Script Builder FAX Actions
- System cron jobs

Note: Every day at 12:15 a.m. all call data is summarized. If this coincides with even low voice processing activity, alarms may be reported. A possible solution is to modify the crontab entry for a time with less load.

If sources of external load have been ruled out, continue with the procedures in [Checking CPU Resources on page 37](#), [Checking Disk Resources on page 39](#), and [Checking Memory Resources on page 40](#).

Checking CPU Resources

To check the CPU resources:

- 1 Enter **sar**

Note: To display current CPU usage every 5 seconds for 50 seconds, enter **sar 5 50**

The system displays the CPU Resources screen ([Figure 6 on page 38](#)).

Figure 6. CPU Resources Screen

00:00:00	%usr	%sys	%wio	%idle
01:00:00	0	0	0	100
02:00:00	0	0	0	100
03:00:00	0	0	0	100
04:00:00	0	0	0	100
05:00:00	0	0	0	100
06:00:00	0	0	0	100
07:00:00	0	0	0	100
08:00:00	0	0	0	100
08:20:00	0	0	0	100
08:40:00	0	0	0	100
09:00:00	0	0	0	99
09:20:00	0	0	0	99
09:40:00	0	4	1	95
10:00:00	9	43	3	45
10:20:00	10	36	2	52
10:40:00	10	23	2	65
11:00:00	9	23	2	65
11:20:00	2	4	1	93
11:40:00	0	0	0	99

If the CPU Resources screen shows CPU usage (the sum of columns 2 and 3, usr + sys) over 60 percent during the busy hour or when alarms are logged, it is likely that alarms are a result of over utilization of CPU resources.

The output of the second command should only be considered during the busy hour and CPU usage should again be below 60 percent. If either of these tests show CPU utilization consistently over 60 percent, it is likely that the CPU is the problem.

See [Reducing Load on the CPU on page 50](#).

Checking Disk Resources

To check the disk resources:

2 Enter `sar -c` or `sar -c 5 50`

The system displays the Disk Resources screen ([Figure 7](#)).

Figure 7. Disk Resources Screen

	scall/s	sread/s	swrit/s	fork/s	lwpcr/s	exec/s	rchar/s	wchar/s
14:23:46								
14:23:51	389	92	12	2.00	0.00	3.40	45977	1011
14:23:56	646	130	99	1.40	0.00	2.20	49849	9142
14:24:01	404	98	16	1.40	0.00	2.20	47136	4298
14:24:06	401	89	13	2.20	0.00	3.60	45524	594
14:24:11	127	27	5	0.00	0.00	0.00	341	1181
14:24:16	92	23	1	0.00	0.00	0.00	320	286
14:24:21	108	21	1	0.00	0.00	0.00	291	1259
14:24:26	245	83	4	0.00	0.00	0.00	789	1281
14:24:31	468	133	34	1.40	0.00	2.20	49135	2470
14:24:36	95	26	4	0.00	0.00	0.00	812	3436
14:24:41	74	21	1	0.00	0.00	0.00	291	1916
14:24:46	226	41	33	0.00	0.00	0.00	1406	2134
14:24:51	100	22	2	0.00	0.00	0.00	297	1926
14:24:56	125	23	1	0.00	0.00	0.00	354	1916

Note: If the sum of the `rchar/s` and `wchar/s` columns is consistently greater than 320000 during the busy hour, then it is likely that the disk is the problem. See [Reducing Load on the CPU on page 50](#) for repair procedures.

Checking Memory Resources

To check the CPU resources, do the following:

- 1 Enter **sar -p** or **sar -p 5 50**

The system displays the Memory Resources screen ([Figure 8](#)).

Figure 8. Memory Resources Screen

	atc/s	atfree/s	atmiss/s	pgin/s	ppgin/s	pflt/s	uflt/s	slack/s
14:27:30								
14:27:35	43.20	21.40	1.40	0.20	0.20	20.40	31.20	0.00
14:27:40	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00
14:27:45	0.00	0.40	1.00	0.40	1.00	0.00	0.40	0.00
14:27:50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:27:55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:28:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:28:05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:28:10	0.40	0.20	0.00	0.00	0.00	0.00	0.20	0.00
14:28:15	25.20	1.20	1.40	0.00	0.00	23.00	18.20	0.00
14:28:20	3.60	0.40	3.60	3.40	3.60	3.20	4.40	0.00
14:28:25	21.00	0.60	1.20	0.00	0.00	20.20	13.00	0.00
14:28:30	68.20	10.00	22.40	14.40	20.00	49.40	67.20	0.00
14:28:35	16.40	12.20	3.20	4.00	11.20	0.00	24.60	0.00
14:28:40	2.60	0.00	0.00	0.00	0.00	0.00	20.00	0.00
14:28:45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:28:50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:28:55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:29:00	0.20	0.00	1.20	1.20	1.20	0.20	1.20	0.00
14:29:05	0.20	0.00	0.60	0.20	0.40	0.20	0.40	0.00
14:29:10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14:29:15	0.00	0.00	0.20	0.00	0.00	0.00	0.20	0.00

- 2 Check the column labeled `vflt/s`. Note if this value is consistently close to or greater than 50.00 and continue with [Step 3](#).

Note: Processes being created and terminated regularly will also cause `vflt/s` to increase. If this is the case, memory may be sufficient, but the creation of processes is forcing the operating system to *page* processes to disk and back into memory. When processes are paged, they respond more slowly and speech processing may be interrupted.

- 3 Enter `sar -g` or `sar -g 5 50`

The system displays the Memory Resources screen ([Figure 9](#)).

Figure 9. Memory Resources Screen

	<code>pgout/s</code>	<code>ppgout/s</code>	<code>ufree/s</code>	<code>pfree/s</code>	<code>uscan/s</code>
14:32:49					
14:32:54	0.00	0.00	0.00	0.00	0.00
14:32:59	0.00	0.00	0.00	0.00	0.00
14:33:04	0.00	0.00	0.00	0.00	0.00
14:33:09	0.00	0.00	0.00	0.00	0.00
14:33:14	0.00	0.00	0.00	0.00	0.00
14:33:19	0.00	0.00	0.00	0.00	0.00
14:33:24	0.00	0.00	0.00	0.00	0.00
14:33:29	0.00	0.00	0.00	0.00	0.00
14:33:34	0.00	0.00	0.00	0.00	0.00
14:33:39	0.00	0.00	0.00	0.00	0.00
14:33:44	0.00	0.00	0.00	0.00	0.00
14:33:49	0.00	0.00	0.00	0.00	0.00
14:33:54	0.00	0.00	0.00	0.00	0.00
14:33:59	0.00	0.00	0.00	0.00	0.00
14:34:04	0.00	0.00	0.00	0.00	0.00
14:34:09	0.00	0.00	0.00	0.00	0.00
14:34:14	0.00	0.00	0.00	0.00	0.00

- 4 Check the column labeled `pgscan/s`. Note if this value is consistently close to or greater than 100 and continue with [Step 5](#).
- 5 Enter `sar -r`

The system displays the Memory Resources screen ([Figure 10](#)).

Figure 10. Memory Resources Screen

	<code>freemem</code>	<code>freeswap</code>
00:00:00		
01:00:00	4783	69125
02:00:00	4889	69155
03:00:00	4889	69155
04:00:01	4888	69155
05:00:01	4887	69136
06:00:00	4885	69135
07:00:00	4886	69136
08:00:00	4887	69155
08:20:00	4884	69136
08:40:00	4890	69193
09:00:00	4887	69136
09:20:00	4884	69135
09:40:00	4671	69121
10:00:00	4518	68978
10:20:00	4502	68958
10:40:00	4501	69027
11:00:00	4177	68797
11:20:00	3988	68660
11:40:01	3648	68580

- 6 Check the column labeled `freemem`. Note if this value is consistently close to or less than 100.

- 7 If two or more values consistently follow the pattern listed below, see [Reducing Memory Usage on page 52](#) for more information.

`vflt/s > 50.00`

`pgscan/s > 100`

`freemem < 100`

Also, make sure that the appropriate number of SSP circuit cards in your system are assigned the VOICE function. See “SSP Functions” in Chapter 3, “Voice System Administration,” of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

Reducing Load for Host

Tune the 3270 host interaction.

The following procedures should be considered for reducing the load for the host.

- Limit the number of screens that must be sent to or retrieved from the host, making the voice system less dependent on host performance.
- The parameters associated with the host can impact system performance. Make sure that time-out periods are long enough for the host to respond but not too long so that the caller must wait unnecessarily. Be aware of how the parameters are used and what is typical for the host

system. Keep track of how many LUs the system has and how many channels are to be used. For example, if a system only has access to 32 host LUs and has 48 calls active each of which needs to access the host, 16 callers are locked out of the host if LUs are not shared (that is, if the LUs are reserved).

- For host systems that are known to be slow at times, one way of hiding the pause from the host is to use an announce statement between the send host screen and the get host screen statements. For example:
- Prompt and Collect (get card number)
 - a Get Host Screen A
 - b Send Host Screen A (send the card number to the host application)
 - c Announce (repeat the card number to the caller)
 - d Get Host Screen (retrieve caller data)

This would cover part of the time that the host is slow in processing the user-input card number with an announce statement that repeats the number back to the user. By the time the announce is completed, the host may have responded. Thus the user does not realize the gap caused by the slow host response.

- Consider checking the speed of the host link. Increasing the speech of the link to 19.2 or 56 Kbps may decrease any delays in host processing.

Reducing Load for Database

The following should be considered to reduce load because of use of the local database.

- For large tables (over 500 records) that are being read by the application, indexing the tables reduces the access time and impact on system performance. However, note that making changes to indexed tables can also impact system performance.
- The insert (add) record operation is a much faster operation than the update (change) operation. One way to replace a change record with an add record is to add records to a table during the normal call hours and write a shell routine using SQL*PLUS to summarize and delete records during nonpeak hours.
- Attempt using SQL*Views to encapsulate common database queries which require multiple accesses on a single table or accesses from multiple tables.
- Keep in mind that each call data event is a unique record in more than one table. Therefore, every time a call data event is accessed, the database table is updated at the end of the call.

Reducing Load for Custom DIPs/IRAPI Processes

Since DIPs can vary widely in size and complexity there is little specific information that can be given about DIP performance. In general, DIPs should:

- Avoid using excessive memory (more than 200 pages)
- Avoid creating new processes (by using **fork(2)** and **exec(2)** or **system(3)**)
- Rely on minimal communication with the script to reduce message sending

Reducing Load for Voice Processing

The information below simply attempts to give a step-by-step approach to reducing speech-processing load.

Voice Play

Voice play performance is affected by the:

- Coding algorithm
- Phrase length
- Speech pool

Coding Algorithm Coding algorithm primarily determines how much data must be transferred to do voice processing. Coding algorithms such as SBC16, ADPCM16, and CELP16 pack 4 seconds of speech in a single 8-Kbyte block and show the best performance. PCM64 is at the other extreme of the spectrum; it packs 1 seconds of speech in a single block, and therefore requires the system to do four times the work in the same time. ADPCM32 is the standard coding rate. ADPCM32 is a middle ground between performance and sound quality. It packs 3 seconds per block. SBC24 packs 3 seconds per block. Sound quality must be considered before moving to the SBC16 or ADPCM16 coding algorithms.

Phrase Length Short phrases (less than 2 seconds for ADPCM32), particularly when played back-to-back (such as through a single action), place more load on the system than a single longer phrase. The load manifests itself as increased CPU usage, memory occupancy and, if the speech pool size (see the following paragraph) is larger than the speech buffer cache, disk accesses.

For optimal performance, phrase length should be as close to the total capacity of its block count as possible. Block count is the number of speech blocks required to contain the phrase. If speech does not use blocks efficiently space is wasted in memory, and since data is copied over from disk in block sized chunks, disk accesses and CPU usage increase. For example, a phrase that uses an odd number of seconds (1, 3, 5, etc.) uses only 50 percent of a block, whereas a 2-second phrase uses the entire block. However, the system utilizes CPU and disk resources more efficiently when speaking a 5-second phrase rather than 5 individual 1-second phrases.

Placing longer phrases into one step is preferable to using separate short phrases.

Speech Pool

The speech pool is the quantity of speech data required by an application. It can be thought of as the working set (for those familiar with virtual memory operating system terminology). The voice system caches speech in main memory. This is called the speech buffer cache, and it allows speech data to be reused without having to constantly retrieve it from disk. If all the active speech data can fit into memory simultaneously, the voice system will not have to continually access the disk for speech data. This results in a substantial savings in both CPU usage and disk accesses. If, however, the speech pool size is larger than the speech buffer cache, then the voice system will have to access the disk more frequently for speech. The larger the speech pool, the more likely speech will have to be read from disk.

Calculating speech pool size requires knowing which phrases are usually played during normal script processing and how many blocks of speech these phrases require. See the paragraph above regarding block capacity for various coding algorithms. Calculating the size of the buffer cache requires a meticulous analysis of the application and an understanding on how users progress through a typical call scenario.

The size of the buffer cache is tunable by adding the *nbufs* parameter in the */vs/data/spchconfig* file. VROP sets this value dynamically based on the number of telephone network connections in the system. The entry in the */vs/data/spchconfig* file overrides the VROP setting. Note that you may not set this value to more than 250. A system showing signs of heavy disk activity, a large speech pool, and no appreciable paging activity may be a candidate for specifying the *nbufs* parameter. Modifying this dynamically assigned value should be done with extreme caution. Making this number too large may result in system paging, which is the worst condition the voice system can get into with respect to performance.

Reducing Load for Voice Play

Reducing load because of voice play requires maximizing speech buffer efficiency, matching the speech pool size to the speech buffer cache, or considering the use of different coding rates which pack more speech into a single block or disk load balancing.

Maximal speech buffer efficiency may be achieved through the concatenation of several small phrases into a single larger phrase. The common practice of trimming silence from the ends of phrases and replacing the silence with short silent phrases is particularly inefficient. Playing silence to introduce delays is also inefficient. Try using the **sleep** instruction as described in Appendix A, "Summary of Script Instructions," of *CONVERSANT System Version 8.0 Application Development with Advanced Methods*, 585-313-216.

Matching the speech pool size with the speech buffer cache may be achieved through increasing speech buffer efficiency as described above, and ensuring that phrases are shared both with and between applications.

Voice Code

Performance because of voice code is affected similar to voice play with respect to phrase length and coding algorithm. Voice coding differs in speech pool size. All coded phrases are *new*; that is, there is no benefit from the speech buffer cache. It is likely that coded phrases will force other phrases to be flushed from the cache. Coding also requires a write to disk for each phrase coded. These two factors combine to increase load on the disk. Increased disk load because of coding may be addressed by switching coding algorithms, reducing channel counts or code times, or balancing the disk load.

Reducing Load on the CPU

Application types making heavy use of CPU resources typically include those with heavy voice processing or local database loads. See [Reducing Load for Voice Processing on page 46](#) and [Reducing Load for Database on page 45](#). If these software components do not appear to be responsible, the following sections suggest other possibilities.

Inefficient DIPs

See [Reducing Load for Custom DIPs/IRAPI Processes on page 46](#).

Runaway Processes

If the **sar(1m)** command consistently shows 0 percent idle time, it is likely that a process is in an infinite loop. The process can be identified with **ps(1m)** by examining the change in its CPU time and run status. If it is a system process, contact a service representative. If it is a user process, repair as required.

Inefficient Scripts

Script developers can write applications that inherently use system resources inefficiently or are extremely large and complex. Since scripts are interpreted, using the script language for anything other than basic call flow control may result in unacceptable inefficiencies. Code segments performing complex lexical or arithmetic calculations should be considered as candidates for DIPs. Also, increase efficiency by creating modular applications that execute sub-applications from a main application. For example, a main application could allow a user to select a language application (that is, a version of an application in a particular language). The user input would then execute the language application from the main application.

Reducing Disk Usage

Applications making heavy use of voice processing or a local database typically place heavy loads on the disk. See [Reducing Load for Voice Processing on page 46](#) and [Reducing Load for Database on page 45](#). If problems persist, consider rechecking paging activity and memory usage. Also, consider adding more disks to your platform.

Reducing Memory Usage

If you have concluded that your system does not have sufficient memory, the first thing to consider is the processes you have running. Be sure to check [Identifying Load Culprits on page 36](#) to rule out the effects of external processing. [Table 15](#) lists the processes that can be terminated if they are not providing a service to the application.

Table 15. Processes That Can Be Terminated

Process	Description
xferdip	This process is used only in bridging applications. Enter xferdip_off to terminate the process.
lpsched	This process is only required if a line printer is being used with the system. The command /usr/lib/lpshut can be used to turn off the lp scheduler. You may also rename the S80lp file from the /etc/rc2.d directory to s80lp . This action prevents the process from being execute during startup, but maintains the file on the system should the scheduler be needed in the future.
Network	Some networking processes such as rwhod and routed may be unnecessary.
sysmon	Do not run sysmon in systems with insufficient memory.

If no processes can be eliminated, be sure that all the packages on your system are being used and are not occupying memory unnecessarily.

Also be aware that script size, both code and data, affects memory usage. Application scripts should be shared across channels whenever possible, and redundant code and data should be eliminated.

Finally, if the *nbufs* parameter has been specified in the `/vs/data/spchconfig` file and a large number is specified (see [Speech Pool on page 48](#)), consider reducing *nbufs*. The effect of reducing *nbufs* may be an increase in disk accesses for speech. However, the voice system is more tolerant of disk accesses for speech than for paging.

Overview

This chapter describes diagnostic procedures for CONVERSANT system troubles.

Topics covered include:

- [Circuit Card Diagnostics on page 55](#)
- [Platform Diagnostics on page 86](#)
- [Extended RAID Diagnostics on page 121](#)
- [Database Diagnostics on page 141](#)
- [Extents Diagnostics on page 142](#)
- [ORACLE Network Diagnostics on page 145](#)
- [Voice Port Loop Around Test on page 151](#)
- [ASAI Trace Utility on page 155](#)
- [LAN Trace Utilities on page 168](#)
- [Simple Network Management Protocol on page 180](#)

Circuit Card Diagnostics

The following diagnostics can be performed on:

- Tip/ring circuit cards
- SSP circuit cards

Checking Cable Connections for Cables Other Than the TDM Bus Cable

To check cable connections:

- 1 Route calls away from the system during this procedure.
- 2 Make sure that you know the type of card to be checked.
- 3 Write down the message text to make note of the card number.
- 4 Shut down the operating system. See [Shutting Down the Operating System on page 271](#), in [Chapter 3, Common System Procedures](#).
- 5 Access the circuit card cage.

See the "Getting Inside the Computer" chapter of the maintenance book for your platform.

- 6 Check the cable connections to be sure they are properly connected to the appropriate cards.

See the "Replacing or Installing Circuit Cards" chapter in the maintenance book for your platform.

- 7 If a cable is not seated properly, reseal the cable and continue with [Step 8](#).

If the cables appear to be inserted properly, do the following before continuing with [Step 8](#).

- a Remove the cables other than the TDM bus cable.

Note: Do not remove the TDM Bus cable at this time.

- b Remove the circuit card from the system. See Chapter 2, "Installing or Removing Circuit Cards," in the maintenance book for your platform.
- c Replace the circuit card. See Chapter 2, "Installing or Replacing Circuit Cards" in the maintenance book for your platform.

Note: Do not reseal the cables on the circuit card.

- 8 Reboot the operating system. See [Rebooting the UNIX System on page 271](#) in [Chapter 3. Common System Procedures](#).

9 Enter **diagnose card *card_number***

where *card_number* is the number of the identified circuit card.

- ~ If the circuit card passes diagnostics, and is on the TDM bus, continue with [Step 10](#).
- ~ If the circuit card passes diagnostics and is not on the TDM bus, replace the cables you removed earlier and restore the system to service.
- ~ If the circuit card fails diagnostics, replace the circuit card and restore the system to service. See Chapter 2, “Installing or Replacing Circuit Cards” in the maintenance book for your platform.

10 Enter **diagnose bus *x***

where *x* is the number of bus.

Note: *x* must be either **1** or **all**.

If the circuit card:

- ~ Passes this diagnostic, replace the cables removed in [Checking Cable Connections for Cables Other Than the TDM Bus Cable on page 55](#).
- ~ Fails this diagnostics, continue with the procedure in [Checking the Terminating Resistors on page 58](#).

Checking the Terminating Resistors

To check the terminating resistors:

- 1 Shut down the operating system. See [Shutting Down the Operating System on page 271](#) in [Chapter 3, Common System Procedures](#).
- 2 Verify that the terminating resistors are inserted correctly. See the “Replacing Other Components” chapter in the maintenance book for your platform.
- 3 If the terminating resistors are inserted correctly, continue with [Step 4](#).

If the terminating resistors have not been inserted correctly:

- a Insert the terminating resistors correctly.
- b Reboot the system. See [Rebooting the UNIX System](#) in [Chapter 3, Common System Procedures](#).
- c Enter **diagnose card *card_number***
where *card_number* is the number of the identified circuit card.
- d If the circuit card :
 - Passes diagnostics, restore the system to service.
 - Does not pass diagnostics, continue with [Step 4](#).

- 4 Verify that terminating resistors for the TDM bus exist only on the circuit cards connected at either end of the TDM bus.

If the other circuit cards do not have terminating resistors, continue with the procedure in [Checking the Switch Settings on page 61](#).

If the other circuit cards have terminating resistors:

- a Remove the terminating resistors.
- b Reboot the system. See [Rebooting the UNIX System on page 271](#) in [Chapter 3, Common System Procedures](#).
- c Enter **diagnose card *card_number***
where *card_number* is the number of the identified circuit card.
- d If the circuit card:
 - Passes diagnostics, restore the system to service.
 - Does not pass the diagnostic, continue with the procedure, [Checking the Backplane Slot on page 60](#).

Checking the Backplane Slot

To check the backplane slot:

- 1 Shut down the system. See [Shutting Down the Operating System on page 271](#) in [Chapter 3, Common System Procedures](#).
- 2 Change the slot in which the circuit card resides.
- 3 Log in as **root**.
- 4 Start the voice system. See [Starting the Voice System on page 264](#), in [Chapter 3, Common System Procedures](#).
- 5 Enter **display card *card number***
where *card number* is number of the affected circuit card.
- 6 If the circuit card state:
 - ~ Has changed to MANOOS, enter **restore card *card number***
where *card number* is the number of the affected circuit card.
 - ~ Has not changed to MANOOS, continue with the procedure in [Checking the Switch Settings on page 61](#).

Checking the Switch Settings

To check the switch settings:

- 1 Check the circuit card for proper switch settings. See Chapter 2, “Installing or Replacing Circuit Cards” in the maintenance book for your platform.
- 2 Check the switches to ensure a clean closure.
- 3 Check the chips on the card. If any are not properly seated, reseal them.
- 4 Reboot the system. See [Rebooting the UNIX System on page 271](#) in [Chapter 3, Common System Procedures](#).
- 5 Log in as **root**.
- 6 Start the voice system. See [Starting the Voice System on page 264](#) in [Chapter 3, Common System Procedures](#).
- 7 Enter **display card *card number***
where *card number* is number of the affected circuit card.
- 8 If the circuit card state:
 - ~ Has changed to MANOOS, enter **restore card *card number***

where *card number* is the number of the affected circuit card.

You have repaired the circuit card.
 - ~ Has not changed to MANOOS, continue with [Step 9](#).

- 9 Shut down the system. See [Shutting Down the Operating System on page 271](#) in [Chapter 3, Common System Procedures](#).
- 10 Reverse the switch settings of the suspect circuit card with a similar circuit card in the system.
- 11 Reboot the system. See [Rebooting the UNIX System on page 271](#) in [Chapter 3, Common System Procedures](#).
- 12 Log in as **root**.
- 13 Start the voice system. See [Starting the Voice System on page 264](#) in [Chapter 3, Common System Procedures](#).
- 14 Enter **display card *card number***
where *card number* is number of the affected circuit card.
 - ~ If the circuit card state has changed to MANOOS, enter **restore card *card number***
where *card number* is the number of the affected circuit card.
 - ~ If the problem migrates with the switch setting, it is attributable to a software problem and not a hardware problem.
 - ~ If the problem remains with the suspect circuit card, replace the suspect circuit card. See Chapter 2, "Installing or Replacing Circuit Cards" in the maintenance book for your platform.

Checking the Circuit Cards

If the procedures in [Checking the Backplane Slot on page 60](#) and [Checking the Switch Settings on page 61](#) have been attempted and the problem still exists, the problem may be attributed to another circuit card in the system.

To determine which card is causing the problem:

- 1 Run diagnostics on all remaining cards in the system by entering:
diagnose card all
- 2 Observe the diagnostics for any failures.

If any circuit card fails diagnostics, perform the [Checking the Backplane Slot on page 60](#) and [Checking the Switch Settings on page 61](#) procedures on that circuit card to determine if it is the source of the problem.

If all cards pass diagnostics, contact your service representative.

Checking a Circuit Card Using the CONVERSANT Windows

The CONVERSANT windows can be used to check the status of tip/ring circuit cards.

Checking a Tip/Ring Circuit Card

It is possible to check:

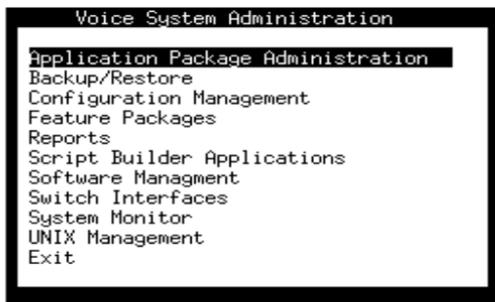
- The entire tip/ring circuit card (see [Checking the Tip/Ring Circuit Card on page 64](#))
- A single channel on the tip/ring circuit card (see [Checking a Tip/Ring Circuit Card Channel on page 67](#))

Checking the Tip/Ring Circuit Card

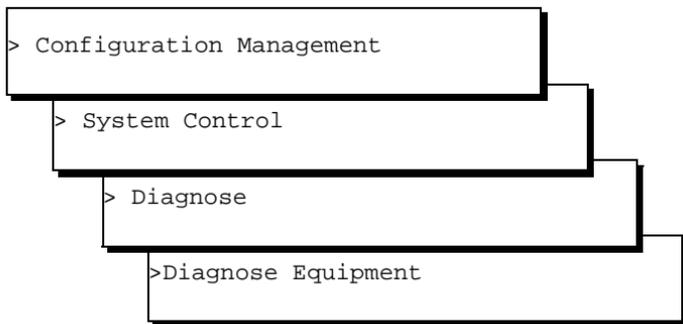
To check a circuit card using the CONVERSANT windows:

- 1 Start at the Voice System Administration menu ([Figure 11](#)).

Figure 11. Voice System Administration Menu

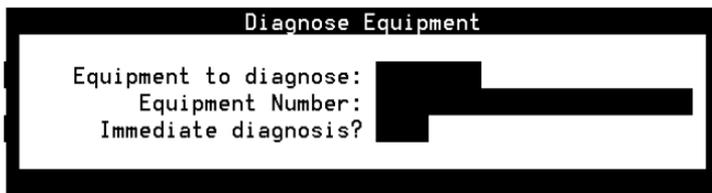


2 Select



The system displays the Diagnose Equipment Window ([Figure 12](#)).

Figure 12. Diagnose Equipment Window



3 Enter **card** in the Equipment to diagnose: field.

4 Enter a card number, valid range, or **all** in the `Equipment Number:` field.

Note: Enter circuit card ranges using one of the following formats:

0,1,2

0 1 2

0-2

5 Choose from the following options:

- ~ If you want to conduct an immediate diagnosis, enter **y** in the `Immediate diagnosis?` field.

Note: Immediate diagnosis takes the specified channels out of service immediately even if a call is in progress.

- ~ If you do not want to conduct an immediate diagnosis, enter **n** in the `Immediate diagnosis?` field.

Note: The system waits until all specified channels are idle before beginning the diagnosis.

6 Press **F3** (Save).

The system removes the circuit card from service and runs the diagnostics. If the circuit card:

- ~ Passes the diagnostics, the system displays the following message before placing the circuit card back in service:

Diag *card*, Passed

- ~ Does not pass the diagnostics, the system displays the following message:

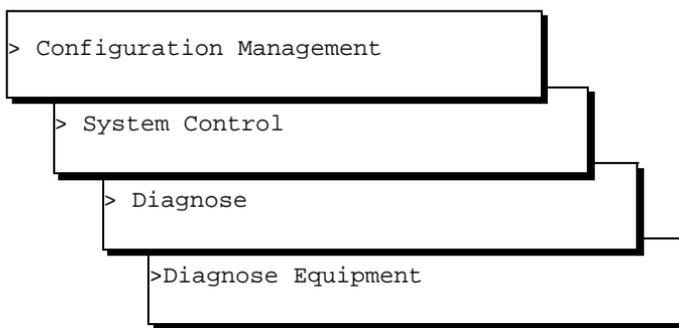
Diag *card*, Failed

Replace the circuit card.

Checking a Tip/Ring Circuit Card Channel

To check a tip/ring circuit card channel using the CONVERSANT windows:

Start at the Voice System Administration menu ([Figure 11 on page 64](#)) and select:



The system displays the Diagnose Equipment Window ([Figure 12 on page 65](#)).

7 Enter **channel** in the `Equipment to diagnose:` field.

8 Enter a channel number, valid range, or **all** in the `Equipment Number:` field.

Note: Enter circuit card ranges using one of the following formats:

0,1,2

0 1 2

0-2

9 Choose from the following options:

~ If you want to conduct an immediate diagnosis, enter **y** in the `Immediate diagnosis?` field.

Note: Immediate diagnosis takes the specified channels out of service immediately even if a call is in progress.

~ If you do not want to conduct an immediate diagnosis, enter **n** in the `Immediate diagnosis?` field.

Note: The system waits until all specified channels are idle before beginning the diagnosis.

10 Press **F3** (Save).

The system removes the channel from service and runs the diagnostics.

- ~ If the channel passes the diagnostics, the system displays the following message:

```
Found loop current on Channel X  
Channel X state changed to INSERTV.  
Request to diagnose Tip/Ring chan X completed
```

- ~ If the circuit card did not pass the diagnostics, replace the circuit card.

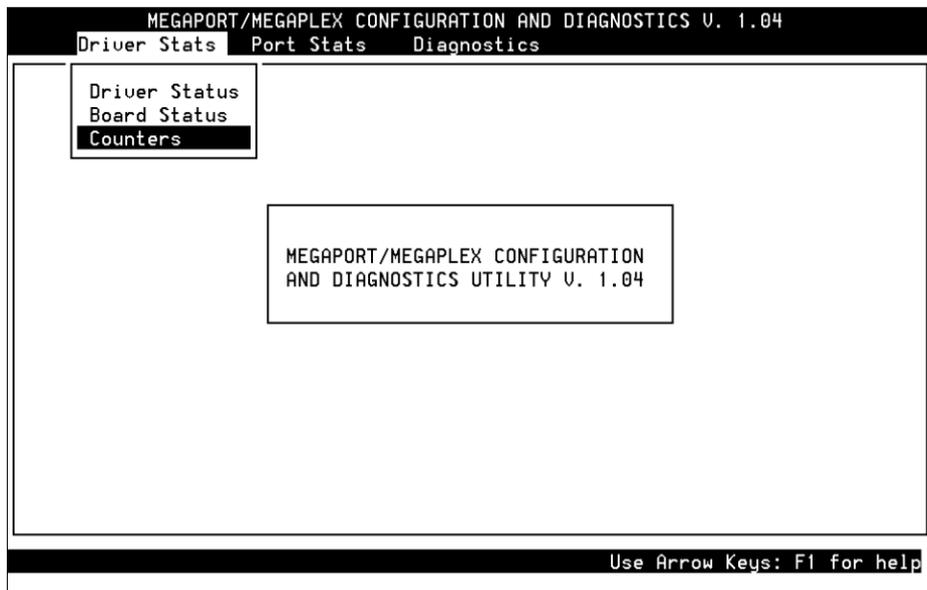
Checking a Multi-Port Serial Circuit Card

To check a multi-port serial circuit card:

1 At the UNIX prompt, enter **/usr/bin/megadiag**

The system displays the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).

Figure 13. Megaport and Megaplex Configuration and Diagnostics Screen



The Megaport and Megaplex Configuration and Diagnostics screen contains a menu bar with the options Driver Stats, Port Stats, and Diagnostics.

Use the right and left arrow keys on the keyboard to move between the menu bar options.

Use the up and down arrow keys to move between menu options.

- Press **ENTER** to select a menu option.

Press **F1** for help.

Press **ESC** to exit.

Displaying Serial Port Driver Stats

The serial port driver stats include:

- Drive Status
- Board Status

The Driver Status option displays the device driver's current configuration including the driver version, number of boards configured, number of boards found, and memory mapping.

To display the drive status:

- 1 Start at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).
- 2 Place the cursor on **Driver Stats**.
- 3 Place the cursor on **Driver Status**.

4 Press **ENTER**.

The system displays the Driver Status window ([Figure 14](#)).

Figure 14. Driver Status Window

```
Driver Status
Equinox Megaport STREAMS Device Driver, Version 2.24a
Currently configured for 1 board(s) (logical).
Number of boards found: 1
Board address      BUFFER          REGISTER
Board # 1         0x000D0000    0x000D2000
```

To display the board status:

- 1 Start at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).
- 2 Place the cursor on **Driver Stats**.
- 3 Place the cursor on **Board Status**.
- 4 Press **ENTER**.

The system displays the Board Status menu ([Figure 15 on page 73](#)).

Figure 15. Board Status Menu



Displaying Port Stats

Three options are available on the Port Stats menu:

- Port Status
- Termio
- Register Dump

These options allow the system to show certain port characteristics.

Port Status

The Port Status selection is a real-time representation of the RS-232 leads. It includes:

- Transmit rate
- Receive rate
- Total characters received
- Total characters transmitted
- Buffered data counts

The Port Status display is useful in troubleshooting wiring problems, chattering lines or devices (modems) and in monitoring load activity over a single line. Activity measurements can be taken by noting the Transmitted and Received counts and comparing them with other serial ports.

To display the port status:

- 1 Start at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).
- 2 Place the cursor on **Port Stats**.
- 3 Place the cursor on **Port Status**.
- 4 Press **ENTER**.

The system displays the Prompt window ([Figure 16 on page 75](#)).

Figure 16. Prompt Window

```
device: /dev/ttySaa
```

- 5 Enter the name of the device to be verified.

The system displays the Port Status window ([Figure 17](#)).

Figure 17. Port Status Window

/dev/ttySaa			
OUTPUT		INPUT	
TD	OFF	RD	OFF
DTR	OFF	DCD	OFF
XON/XOFF	XON'ed		
Status	CLOSED		
CPS	0	CPS	0
Transmitted	0	Received	0
Buffered	0	Buffered	0

Termio

The Termio option displays the general terminal interface data associated with the serial card. It is similar to the “stty” command in that it prints all enabled termio flags.

To display the termio:

- 1 Start at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).
- 2 Place the cursor on **Port Stats**.
- 3 Place the cursor on **Termio**.
- 4 Press **ENTER**.

The system displays the Prompt window ([Figure 16 on page 75](#)).

- 5 Enter the name of the device to be verified.

The system displays the Termio window.

Register Dump

The Register Dump option displays a real-time window of the on-board registers. The data is in raw form and useful to only Equinox technical personnel. It is used to obtain information about the hardware status and various software flags.

To display the Register Dump:

- 1 Start at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).
- 2 Place the cursor on **Port Stats**.

3 Place the cursor on **Register Dump**.

4 Press **ENTER**.

The system displays the Prompt window ([Figure 16 on page 75](#)).

5 Enter the name of the device to be verified.

The system displays the Register Dump window ([Figure 18](#)).

Figure 18. Register Dump Window

```

Reg. dump for /dev/ttyxaa
State: 0 mp_flags: 0
cflag: 0 iflag: 522 oflag: 0 lflag: 0

txbase: 0 txidx: 0 txend: 0
rxbase: 1 rxidx: 0 rxend: 0
txcs: 88 txbaud: FE out_ct 3
rxcs: 88 rxbaud: FE in_ctl FF
txcsr: 2081 rxcsr: 2081 sample 21
mie: 0 cie: 0 cis: C200
rxtdm: CF txtdm: C3
equlz: 0 eqmin: 0 eqmax: 0 linkst: 0
Transmit: 0 Receive: 0

```

System Diagnostics

There are two options on the Diagnostics menu:

- Loopback
- Send

They are intended for the experienced user. The Loopback test is designed to diagnose the card's primary components and their functionalities. There are two types of loopback tests: internal and external. The Send test simply writes a continuous stream of data to the specified port which is helpful in resolving wiring issues.

This section also describes the SSP diagnostics.

Serial Port External Loopback Test

Although the option for the serial port external loopback test appears on the screen, this option is not available. You should use the internal loopback test option.

Serial Port Internal Loopback Test

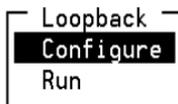
The internal loopback test is the same as the external loopback test except that it does not require that the transmit and receive pins be wired together. Because it does not test the full cabling of the port, the internal loopback test is not as thorough as the external loopback test.

To perform the serial port internal loopback test:

- 1 Start at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 13 on page 70](#)).
- 2 Place the cursor on **Diagnostics**.
- 3 Place the cursor on **Loopback**.
- 4 Press **ENTER**.

The system displays the Loopback menu ([Figure 19](#)).

Figure 19. Loopback Menu



- 5 Place the cursor on **Configure**.

- 6 Press **ENTER**.

The system displays the Configure menu ([Figure 20](#)).

Figure 20. Configure Menu



- 7 Place the cursor on **Board**.

- 8 Press **ENTER**.

The system displays the Board menu ([Figure 15 on page 73](#)).

- 9 Press **ENTER** to select the first group of ports.

- 10 Press **ESC**.

The system displays the Loopback menu ([Figure 19 on page 79](#)).

- 11 Place the cursor on **Run**.

12 Press **ENTER**.

The system displays the Run menu ([Figure 21](#)).

Figure 21. Run Menu

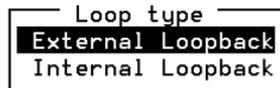


13 Place the cursor on **8 Ports**.

14 Press **ENTER**.

The system displays the Loop Type menu ([Figure 22](#)).

Figure 22. Loop Type Menu



15 Place the cursor on **Internal Loopback**.

16 Press ENTER.

The system displays the Internal Loopback window ([Figure 23](#)).

Figure 23. Internal Loopback Window

Port	Xmit	Rcv	Errors	Rate	Note
saa	156825	151264	0	3874	
sab	156825	151237	0	3874	ESC to exit
sac	156825	151258	0	3875	F2 Reset Errors
sad	156825	151230	0	3876	F3 Reset Test
sae	156825	151219	0	3875	F4 Refresh Screen
saf	156825	151195	0	3870	
sag	156825	151170	0	3861	
sah	156825	151160	0	3857	

Checking a Speech and Signal Processor Circuit Card

To check the SSP circuit card using the **spar** command:

- 1 To create a report showing peak percent usage for the entire circuit card and each of the different algorithms, enter **spar -ap**

The system displays a message similar to the following:

```
Signal Processing Activity Report(Peak Percent Usage By Algorithm)
10/20/1997
```

```
CARD 5    STATE: Inserv          CLASS: Signal_Processor(SP)   O.S.INDEX: 0
          NAME:  AYC2            OPTIONS: slave,tdml
          FUNCTION: play+code
```

	brd	wwr	fwr	echo	cca	tts	dpr	play	code	celp	fax
00:20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
00:40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
01:00	0	0	0	0	0	0	0	0	0	0	0
.
.
.
10:40	69	42	0	10	9	8	0	0	0	0	0
11:00	71	44	0	11	10	9	0	0	0	0	0
11:20	66	42	0	4	10	11	0	0	0	0	0
11:40	91	58	0	15	8	10	0	0	0	0	0
12:00	80	47	0	12	16	5	0	0	0	0	0
12:20	77	39	0	10	15	13	0	0	0	0	0

Column headings reflect percent usage for the following:

- ~ brd — All algorithms allocated to the board; note that in a given row, the peak percentage for the board may be slightly different than the sum of the algorithm percentages because the peaks may not have occurred during the same interval. For example, if the **spadc** command collects data at 5-minute intervals, and the **spar** report displays the peak percentages for 20-minute periods, the peak percentage for the board and for each of the algorithms may have occurred during any of the four different 5-minute **spadc** periods that provide data for the 20-minute **spar** interval.
 - wwr — WholeWord Recognition
 - fwr— FlexWord Recognition
 - echo — Echo Cancellation
 - cca — Call Classification Analysis
 - tts — Text to Speech
 - dpr — Dial Pulse Recognition
 - play — Play speech
 - code — Record speech
 - celp — Record speech with CELP algorithm
 - fax — FAX

- 2 To create a report showing the average percent usage for licenses for each of the algorithms, enter **spar -l**

This command creates a report showing average percent usage of licenses for each algorithm. A partial sample output is shown below.

```
RTU Report (Average Percent License Utilization Across System)
10/23/1997
```

tts	dpr	flex	whole	swtts	fax	
00:20	0	0	0	0	0	0
00:40	0	0	0	0	0	0
01:00	0	0	0	0	0	0
.
.
07:00	23	0	0	0	0	2
07:20	23	0	0	0	0	2
07:40	26	0	0	0	0	3
08:00	12	0	21	0	0	0
08:20	NA	NA	NA	NA	NA	NA
08:40	NA	NA	NA	NA	NA	NA
09:00	31	0	14	0	0	0
09:20	32	0	14	0	0	1
09:40	19	0	15	0	0	0
10:00	18	0	12	0	0	3
10:20	13	0	19	0	0	3
10:40	13	0	22	0	0	3

Column headings reflect percent usage for the following:

- ~ tts — Text to Speech
- ~ dpr — Dial Pulse Recognition
- ~ flex — FlexWord recognition
- ~ whole — Whole Word recognition
- ~ swtts — Software Text to Speech
- ~ fax — FAX

Platform Diagnostics

This section describes how to test the platform by using the diagnostic commands on the UCS 1000.

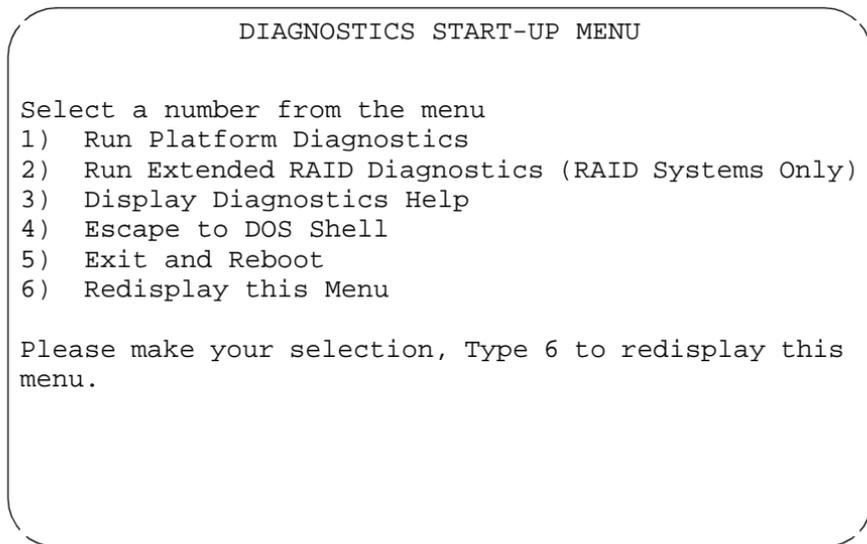
Accessing Platform Diagnostics

To perform platform diagnostics:

- 1 Reboot the system.
- 2 Press F4 when prompted.

The system displays the Diagnostics Start-up Menu ([Figure 24 on page 87](#)).

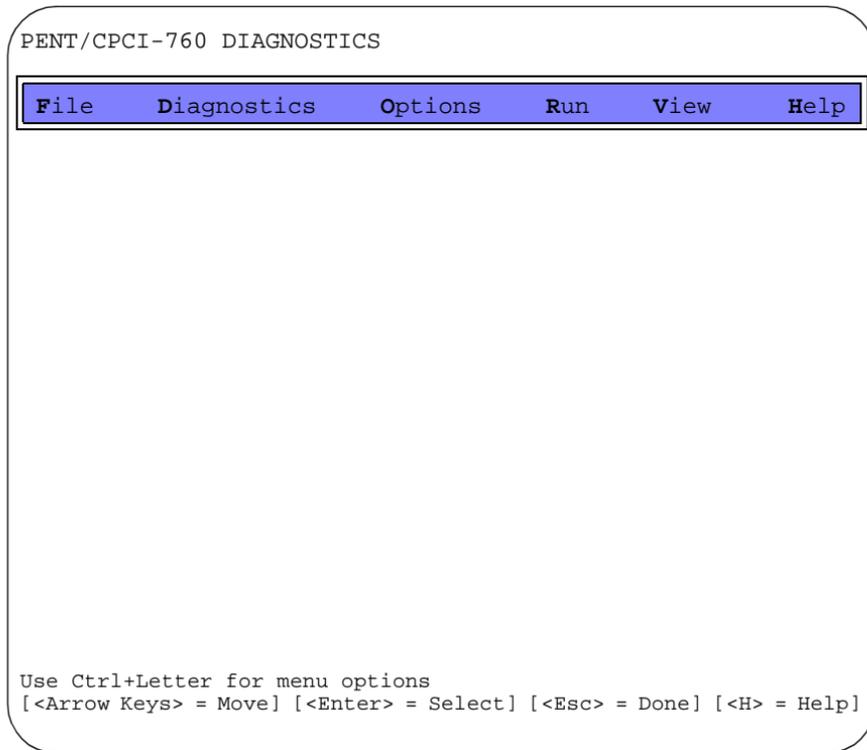
Figure 24. Diagnostics Start-up Menu



3 Enter 1

The system displays the Diagnostics Access Screen ([Figure 25 on page 88](#)).

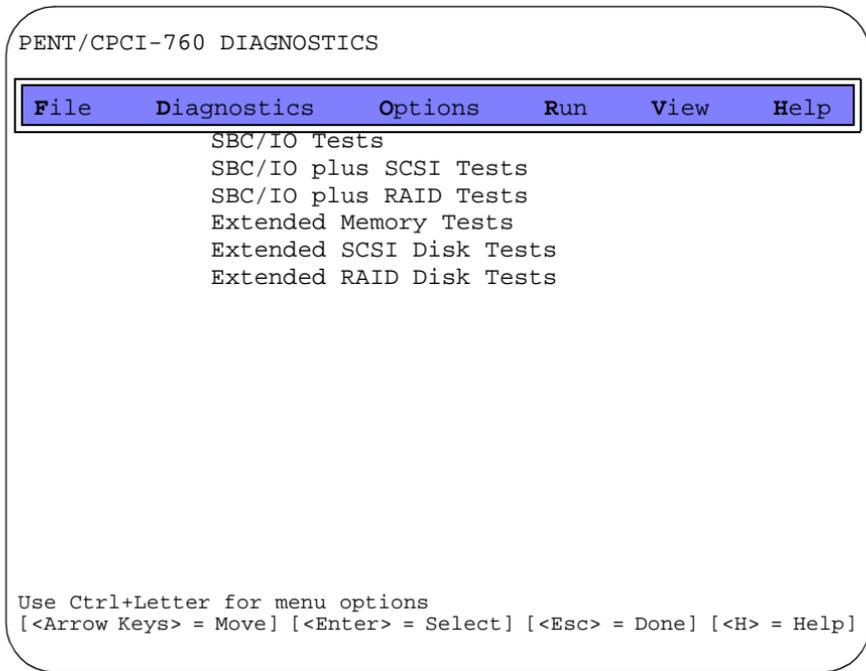
Figure 25. Diagnostics Access Screen



4 Press **CONTROL + D**.

The system displays the Diagnostics Selection Screen ([Figure 26](#)).

Figure 26. Diagnostics Selection Screen



The following options are available:

- ~ The SBC/IO Tests suite runs diagnostics on all sub-functions on the CPU complex including the CPU, Interrupt and IO Controllers, Memory, Cache, PCI Bridge Devices, IDE Controller, Integrated Ethernet Controllers, COM1, COM2, parallel port, VGA Controller, and PMC Devices (for example, PMC LAN if equipped).
- ~ The SBC/IO + SCSI Tests suite runs all tests outlined above, plus non-exhaustive (quick) SCSI disk and SCSI device tests (CD-ROM/Tape Drive).
- ~ The SBC/IO + RAID Tests suite runs all tests outlined in "SBC/IO Tests", plus non-exhaustive RAID controller, RAID disk, CD-ROM and Tape drive tests.
- ~ The Extended Memory Tests suite runs a more exhaustive memory test (only). This test suite is useful for trying to pinpoint potential intermittent memory problems.
- ~ The Extended SCSI Disk Tests suite runs a more exhaustive SCSI disk test (only). This test suite may be useful for trying to determine bad surface media on a SCSI disk; however, this test will take a long time to run.
- ~ The Extended RAID Disk Tests suite runs a more exhaustive RAID disk test (only). This test suite may be useful to determine bad surface media on one of the disk comprising the RAID array; however, this test may take a long time to run.

5 Choose one of the following procedures:

- ~ [Diagnosing the Platform Using a Predetermined Test Configuration](#)
- ~ [Diagnosing the Platform Using a Custom Test Configuration](#)

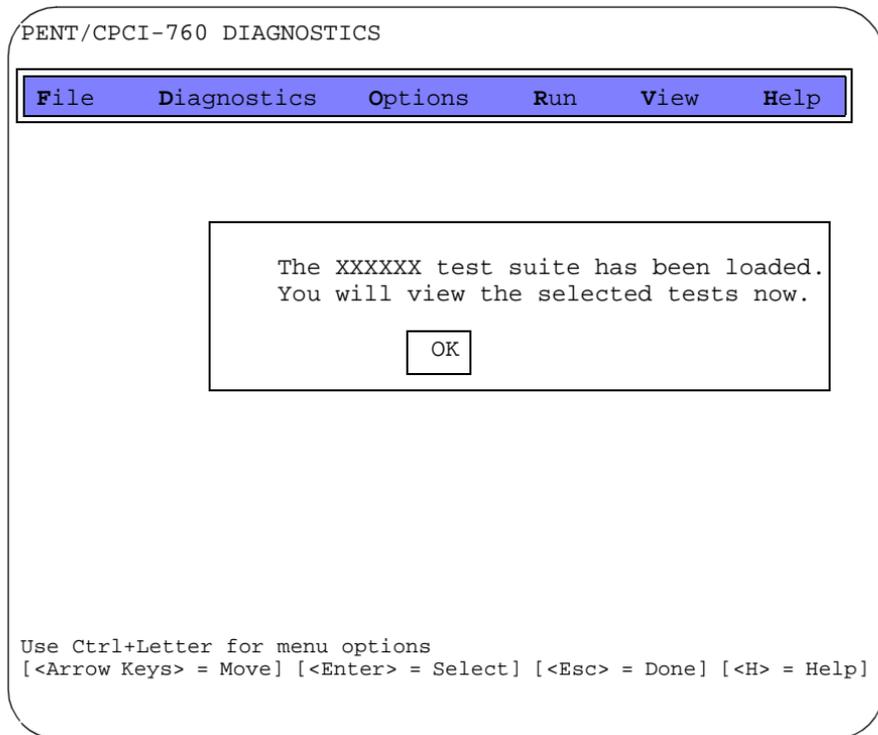
Diagnosing the Platform Using a Predetermined Test Configuration

To diagnose the platform using a predetermined test configuration:

- 1 [Access the platform diagnostics.](#)
- 2 Select the appropriate test configuration.

The system displays the Diagnostics Confirmation screen ([Figure 27 on page 92](#)).

Figure 27. Diagnostics Confirmation Screen

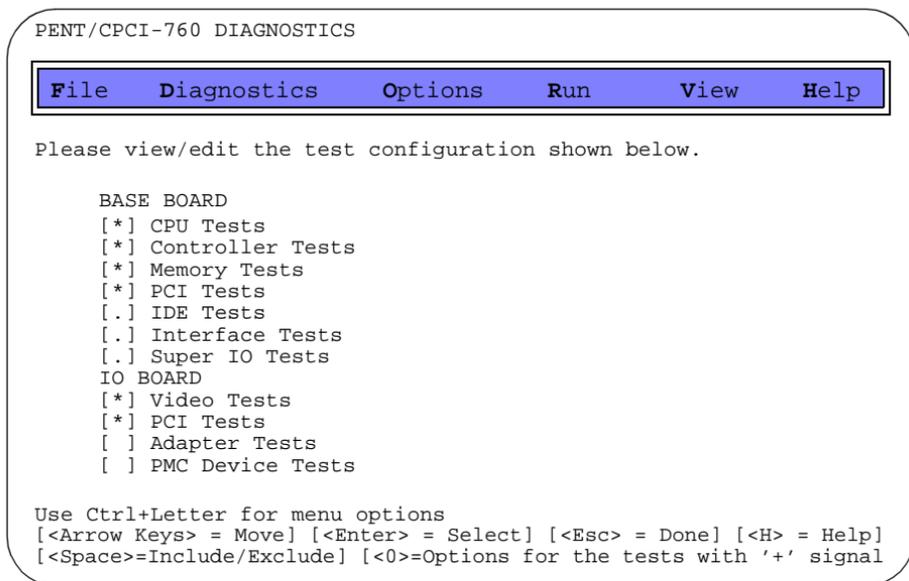


3 Press ENTER.

The system displays the Selected Tests screen ([Figure 28](#)).

Note: Each test configuration uses a sub-set of the available diagnostics. Test configurations can be customized by adding or removing diagnostics.

Figure 28. Selected Tests Screen



The symbols to the left of the test categories indicate how many tests have been selected.

- ~ [*] — This indicates that all available tests in this category will be performed.
- ~ [.] — This indicates that some of the available tests in this category will be performed.
- ~ [] — This indicates that none of the available tests in this category will be performed.

[Table 16](#) provides a list of all the tests that are available.

- 4 Press **ESC** to accept the test configuration.

The system displays the Diagnostics Access screen ([Figure 25 on page 88](#)).

- 5 Go to [“Running the Platform Diagnostics”](#).

Diagnosing the Platform Using a Custom Test Configuration

To diagnose the platform using a custom test configuration:

1 [Access the platform diagnostics.](#)

2 Select the any test configuration.

The system displays the Diagnostics Confirmation screen ([Figure 27 on page 92](#)).

3 Press **ENTER**.

The system displays the Selected Tests screen ([Figure 28 on page 93](#)).

4 Add or delete tests as appropriate as listed in [Table 16 on page 102](#).

~ Use the **ARROW** keys to place the cursor on a test.

~ Use the **SPACEBAR** to select or deselect the test.

5 Press **ESC** to accept the test configuration.

The system displays the Diagnostics Access screen ([Figure 25 on page 88](#)).

6 Go to [“Running the Platform Diagnostics”](#).

Running the Platform Diagnostics

CAUTION:

Perform the [“Accessing Platform Diagnostics”](#) and either the [“Diagnosing the Platform Using a Predetermined Test Configuration”](#) or [“Diagnosing the Platform Using a Custom Test Configuration”](#) procedures before starting this procedure.

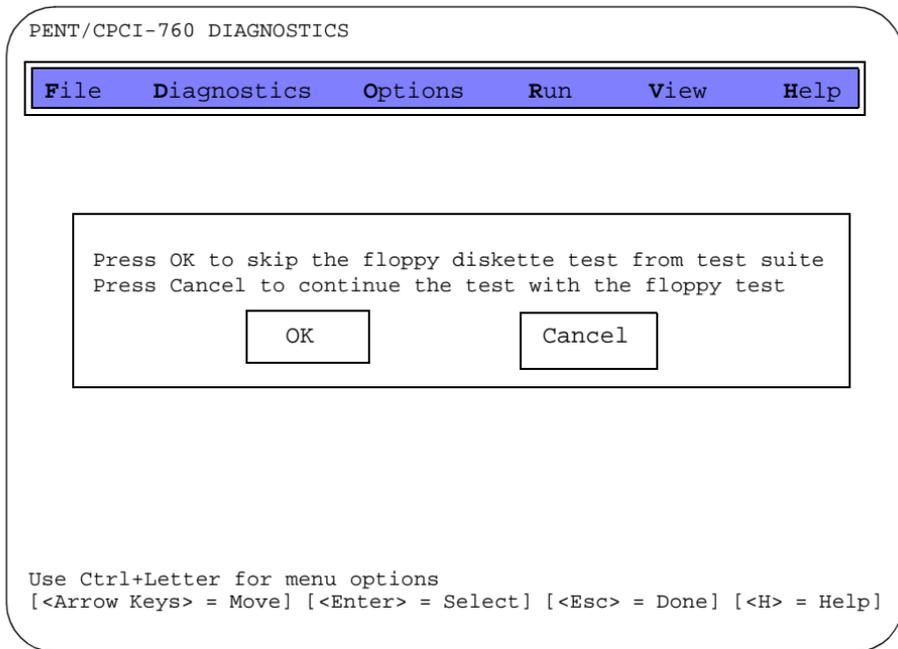
To run the platform diagnostics:

- 1 Start at the Diagnostics Access Screen ([Figure 25 on page 88](#)) and press **CONTROL + R**.
- 2 Select

Start Test

The system displays the Floppy Diskette Test Removal Confirmation screen ([Figure 29 on page 97](#)).

Figure 29. Floppy Diskette Test Removal Confirmation Screen



3 Press ENTER.

The system displays the Global Test Parameters Selection screen ([Figure 30 on page 98](#)).

Figure 30. Global Test Parameters Selection Screen

PENT/CPCI-760 DIAGNOSTICS

F ile	D iagnostics	O ptions	R un	V iew	H elp
--------------	---------------------	-----------------	-------------	--------------	--------------

Global Test Parameters for current test suite

<u>S</u> top on Error	<u>T</u> ime or Count	<u>I</u> nteractive Mode	<u>T</u> est Start Log
Disable	Run for Count	Disable	Disable
Enable	Run for Time	Enable	Enable

Count OR Time in Minutes: 1

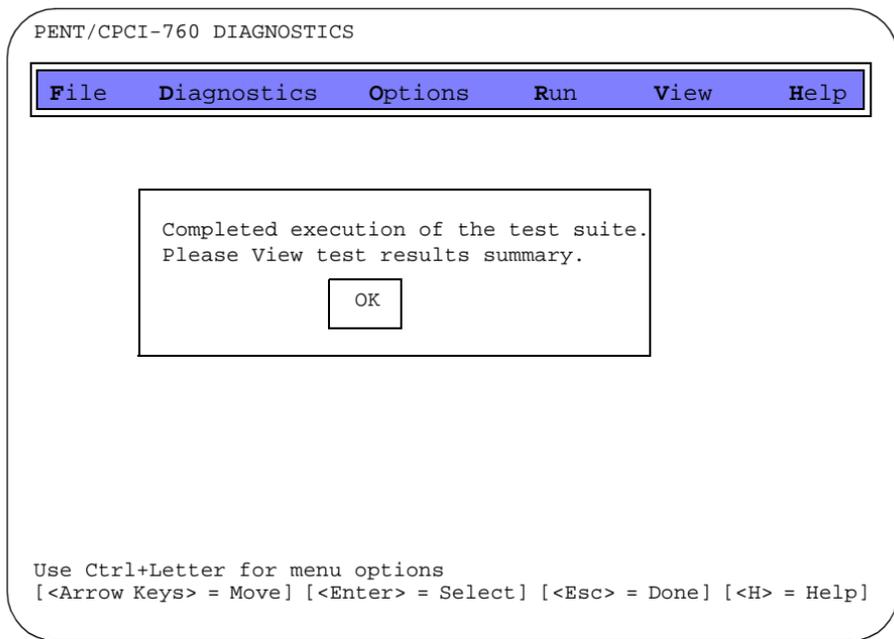
OK CANCEL

Use Ctrl+Letter for menu options
 [<Arrow Keys> = Move] [<Enter> = Select] [<Esc> = Done] [<H> = Help]

4 Press **ENTER**.

The system completes the diagnostics and displays the Tests Completed screen ([Figure 31 on page 99](#)).

Figure 31. Tests Completed Screen



- 5 Go to [“Viewing the Platform Diagnostics Results Summary”](#).

Viewing the Platform Diagnostics Results Summary

To view the platform diagnostics results summary:

- 1 Start at the Diagnostics Access Screen ([Figure 25 on page 88](#)) and press **CONTROL + V**.
- 2 Select:

View Summary

The system displays the test summary for the last time the test suite was run. [Figure 32 on page 101](#) provides an example of this test summary.

Figure 32. Tests Completed Screen

```

PENT/CPCI-760 DIAGNOSTICS

Time: 08: 38: 37                      Date: 03-14-2000

Test Name                               Pass           Fail           Total
-----
CPU Functionality Test                  1               0               1

CPU Protected Mode Test                  1               0               1

CPU Floating Point Unit Test1           0               0               1

DMA Controller Test                      1               0               1

Interrupt Controller Test                1               0               1

Page UP - Previous Page, Page Down, - Next Page, ESC - Quit

```

For information on how to correct a test failure, see [Table 16 on page 102](#).

3 Press **ESC** to exit.

The system displays the Diagnostics Access screen ([Figure 25 on page 88](#)).

Correcting Platform Diagnostics Test Failures

[Table 16](#) lists the platform diagnostics tests and the procedures for correcting failures of those tests.

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
CPU Tests:	
CPU Functionality Test	If any of these tests fail, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
Protected Mode Test	
Floating Point Unit Test	
Controller Tests:	
DMA Controller Test	If any of these tests fail, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
Interrupt Controller Test	
Watch Dog Test	

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Memory Tests:	
Low Address Test (0-1 MB)	If any of these tests fail, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
Parity Test	
Pattern Test	
Walking 1's Test	
Walking 0's Test	
Random Read/Write Test	
Address=Data Test	
Refresh Test	
L2 Cache Test	
BIOS Flash Test	
<i>2 of 18</i>	

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
PCI Tests:	
Host-PCI Bridge Test	If any of these tests fail, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
PCI-ISA Bridge Test	
PCI-PCI Bridge Test	
IDE Tests:	
EIDE Interface Test	If any of these tests fail, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
EIDE Disk Controller Test	
User Flash Test	
3 of 18	

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Interface Tests:	
Ethernet Interface 1 Test	<p>If this test fails, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p> <p>If this test passes but you are unable to get Ethernet 1 to work, check for the following possible problems:</p> <ul style="list-style-type: none">• The Ethernet driver software and TCP/IP configuration has not been completed correctly. First, check the software configuration.• Verify that Ethernet 1 is configured correctly. By default, Ethernet 1 is configured for rear I/O, SWITCH 2-3 ON. If you are trying to connect to the Ethernet 1 connector on the front of the CPU Complex, you will need to set SWITCH 2-3 to OFF.• With your LAN cable plugged in, verify that the green Ethernet 1 Link status LED on the front of the CPU Complex is on. If not, there may be a problem with your facility LAN connection.• It is also possible, but unlikely, that the CPU Rear I/O Board is bad.

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Ethernet Interface 2 Test	<p>If this test fails, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p> <p>If this test passes but you are unable to get Ethernet 2 to work, check for the following possible problem:</p> <ul style="list-style-type: none">• The Ethernet driver software and TCP/IP configuration has not been completed correctly. First, check the software configuration.• The Ethernet 2 connector is on the front of the CPU Complex (only).• With your LAN cable plugged in, verify that the green Ethernet 2 Link status LED on the front of the CPU Complex is on. If not, there may be a problem with your facility LAN connection.
PCMCIA Interface	n/a
USB Interface	<p>If this test fails, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p>

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Super IO Tests:	
Serial Port Test	<p>If either serial port 1 or 2 tests fail when executed in default mode (external loop-around disabled), replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p> <p>If either serial port 1 or 2 tests fail when executed with external loop-around enabled and with the external loop-around device installed, replace either the CPU Rear I/O board or the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p>

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Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Parallel Port Test	<p>If this test fails when executed in default mode (external loop-around disabled), replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p> <p>If this test fails when executed with external loop-around <i>enabled</i> and with the external loop-around device installed, replace either the CPU Rear I/O board or the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.</p>
Mouse Test	<p>If this test fails:</p> <ol style="list-style-type: none"><li>1 Rerun the test with a known good PS/2 mouse before deciding to replace any other components.<li>2 Replace either the CPU Rear I/O board or the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Floppy Test	If this test fails: <ol style="list-style-type: none"><li>1 Rerun the test with a known good formatted diskette.<li>2 If it fails again, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.
RTC Test	If these tests fail, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
NVRAM Test	

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Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Keyboard Controller Test	<p>If these tests fail:</p> <ol style="list-style-type: none"> 1 Rerun the test with a known good PS/2 keyboard before deciding to replace any other components. 2 If the test fails with the keyboard connected through the CPU Rear I/O Board but passes with the keyboard connected to the CPU Complex front I/O, then replace the CPU Rear I/O Board. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure. 3 Otherwise, the CPU Complex needs to be replaced. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.
Keyboard LED Test	
Keyboard Clock Line Test	
Keyboard Data Line Test	
Keyboard Interrupt Test	

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Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Video Tests:	
Video Memory Test	If these tests fail:
SVGA Controller Test	<ol style="list-style-type: none"> <li>1 Replace the video module. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure. <li>2 If the failure continues after replacing the Video Module, the CPU Complex needs to be replaced. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedure.
PCI Tests:	
Terminal Query Test	If this test fails, replace the CPU Complex. See Chapter 2, "Installing or Replacing Circuit Cards," in the <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i> , 585-313-150, for the procedure.
PCI-PCI Bridge Test	
<i>10 of 18</i>	

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
Adaptec Tests:	
SCSI Hard Disk Test	<p>The Adaptec SCSI tests are applicable to non-RAID SCSI systems only. Failure of the Adaptec SCSI Hard Disk Test indicates the need to replace or service the following components, listed in order of probability:</p> <ul style="list-style-type: none">• One of the SCSI hard disk drives (view the diagnostic log file to see which drive failed)• SCSI bus cabling including SCA Backplane• SCSI terminator• CPU Complex <p>See <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedures.</p>

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
SCSI Tape Test	<p>The Adaptec SCSI tests are applicable to non-RAID SCSI systems only. If the Adaptec SCSI Tape Test fails:</p> <ol style="list-style-type: none"><li>1 Rerun the test with a known good tape cartridge.<li>2 If the tape test fails and the Adaptec SCSI Hard Disk Test fails, follow the recommendations above for hard disk test failures.<li>3 If the Adaptec SCSI Hard Disk Test passes, but the Adaptec SCSI Tape Test fails, replace the SCSI Tape Drive. See <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedures.

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Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
SCSI CD-ROM Test	<p>The Adaptec SCSI tests are applicable to non-RAID SCSI systems only. If the Adaptec SCSI CD-ROM Test fails:</p> <ol style="list-style-type: none"> 1 Rerun the test with known good CD media. 2 If the CD-ROM test fails and the Adaptec SCSI Hard Disk Test fails, follow the recommendations above for hard disk test failures. 3 If the Adaptec SCSI Hard Disk Test passes, but the Adaptec SCSI CD-ROM Test fails, replace the SCSI CD-ROM Drive. See <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedures.
SCSI Jaz Drive Test	<p>The Adaptec SCSI tests are applicable to non-RAID SCSI systems only. If the Adaptec SCSI Jaz Test fails:</p> <ol style="list-style-type: none"> 1 Rerun the test with a known good Jaz cartridge. 2 If the Jaz test fails and the Adaptec SCSI Hard Disk Test fails, follow the recommendations above for hard disk test failures. 3 If the Adaptec SCSI Hard Disk Test passes, but the Adaptec SCSI Jaz Test fails, replace the SCSI Jaz Drive. See <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedures.

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
PMC Device Tests:	
PMC RAID Hard Disk Test	<p>The PMC RAID tests are applicable to RAID systems only. Failure of the PMC RAID Hard Disk Test indicates the need to replace or service the following components, listed in order of probability:</p> <ul style="list-style-type: none">• One of the SCSI hard disk drives (view the diagnostic log file to see which drive failed)• SCSI bus cabling including SCA Backplane• SCSI terminator• PMC RAID Module <p>Execute the Extended RAID Diagnostics tests, option 2 from the Diagnostics Startup Menu, before replacing any components. See <i>CONVERSANT System Version 8.0 UCS 1000 Maintenance</i>, 585-313-150, for the procedures.</p>

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
PMC RAID Tape Tests	<p>The PMC RAID tests are applicable to RAID systems only. If the PMC RAID Tape Test fails:</p> <ol style="list-style-type: none"><li>1 Rerun the test with a known good tape cartridge.<li>2 If the tape test fails and the PMC RAID Hard Disk Test fails, follow the recommendations above for hard disk test failures. <p>If the PMC RAID Hard Disk Test passes, but the PMC RAID Tape Test fails, suspect the SCSI Tape Drive.</p> <ol style="list-style-type: none"><li>3 Execute the Extended RAID Diagnostics tests, option 2 from the Diagnostics Startup Menu, before replacing any components.

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Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
PMC RAID CD-ROM Test	<p>The PMC RAID tests are applicable to RAID systems only. If the PMC RAID CD-ROM Test fails:</p> <ol style="list-style-type: none"><li>1 Rerun the test with known good CD media.<li>2 If the CD-ROM test fails and the PMC RAID Hard Disk Test fails, follow the recommendations above for hard disk test failures. <p>If the PMC RAID Hard Disk Test passes, but the PMC RAID CD-ROM Test fails, suspect the SCSI CD-ROM Drive.</p> <ol style="list-style-type: none"><li>3 Execute the Extended RAID Diagnostics tests, option 2 from the Diagnostics Startup Menu, before replacing any components.
PMC RAID Jaz Drive Test	<p>The PMC RAID tests are applicable to RAID systems only. If the PMC RAID Jaz Test fails:</p> <ol style="list-style-type: none"><li>1 Rerun the test with a known good Jaz cartridge.<li>2 If the Jaz test fails and the PMC RAID Hard Disk Test fails, follow the recommendations above for hard disk test failures. <p>If the PMC RAID Hard Disk Test passes, but the PMC RAID Jaz Test fails, replace the SCSI Jaz Drive.</p>

Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
PMC Ethernet 1 Test	<p>This test is applicable to systems equipped with an optional PMC LAN module installed on the CPU Complex. Failure of this test indicates the PMC LAN module will need to be replaced.</p> <p>If this test passes but you are unable to get the associated LAN connection to work, check for the following possible problems:</p> <p>A typical problem is that the Ethernet driver software and TCP/IP configuration has not been completed correctly. The software configuration should be checked first. The LAN connector is on the front of the PMC LAN module. With your LAN cable plugged in, verify that the green Link status LED on the front of the LAN module is on. If not, there may be a problem with your facility LAN connection.</p>

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Table 16. Procedures for Correcting Platform Diagnostics Test Failures

Test	Failure Correction Procedure
PMC Ethernet 2 Test	<p>This test is applicable to systems equipped with an optional PMC LAN module installed on the CPU Complex. Failure of this test indicates the PMC LAN module will need to be replaced.</p> <p>If this test passes but you are unable to get the associated LAN connection to work, check for the following possible problems:</p> <p>A typical problem is that the Ethernet driver software and TCP/IP configuration has not been completed correctly. The software configuration should be checked first. The LAN connector is on the front of the PMC LAN module. With your LAN cable plugged in, verify that the green Link status LED on the front of the LAN module is on. If not, there may be a problem with your facility LAN connection.</p>

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Exiting the Platform Diagnostics

To exit the platform diagnostics:

- 1 Start at the Diagnostics Access Screen ([Figure 25 on page 88](#)) and press **CONTROL + F**.

- 2 Select:

Exit

The system displays the following message:

Do you want to exit diagnostics now?

- 3 Select OK.

The system displays the Diagnostics Start-up Menu ([Figure 24 on page 87](#)).

- 4 Enter **6**

Extended RAID Diagnostics

This section provides the procedures to run extended RAID diagnostics on the UCS 1000.

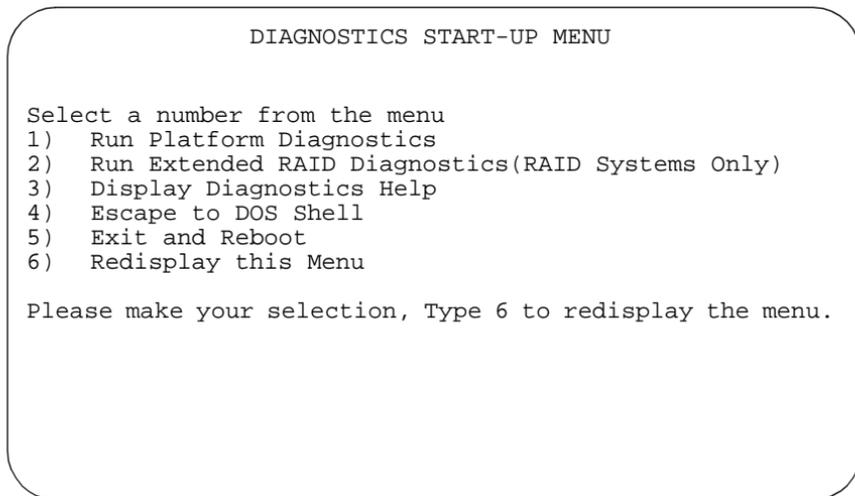
Accessing Extended RAID Diagnostics

To access the extended RAID diagnostics:

- 1 Reboot the system. See [Rebooting the UNIX System on page 271](#) in [Chapter 3. Common System Procedures](#).
- 2 Press F4 when prompted.

The system displays the Diagnostics Start-up Menu ([Figure 33 on page 122](#)).

Figure 33. Diagnostics Start-up Menu



3 Type **2** and press **ENTER**.

Note: If you want to test the CD-ROM Drive or the Tape Drive, you need to insert the CD or scratch TAPE now.

4 Press any key to continue.

The system displays the Extended RAID Diagnostics Menu ([Figure 34 on page 123](#)).

Figure 34. Extended RAID Diagnostics Menu

DIAGNOSTICS MENU
1. Board Diagnostics
2. Device Diagnostics

5 Continue with one of the following diagnostic procedures:

- ~ [Performing RAID Disk Array Controller Hardware Diagnostics](#)
- ~ [Performing SCSI Device Diagnostics on page 126](#)

Performing RAID Disk Array Controller Hardware Diagnostics

RAID disk array controller hardware diagnostics test the following components on the RAID module:

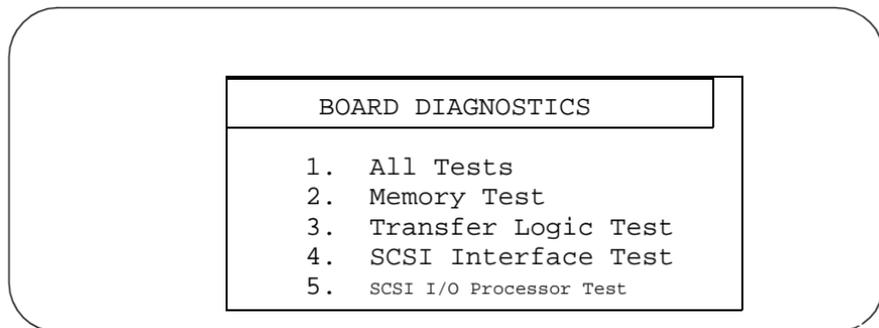
- DRAM
- NVRAM
- SCSI I/O Processor
- System Interface

To perform RAID disk array controller hardware diagnostics:

- 1 Access the Extended RAID Diagnostics Menu ([Figure 34 on page 123](#)). See [Accessing Extended RAID Diagnostics on page 121](#) for more information.
- 2 From the Extended RAID Diagnostics Menu ([Figure 34 on page 123](#)), press the  or  key to select `Board Diagnostics` and press **ENTER**.

The system displays the Board Diagnostics Menu ([Figure 35](#)).

Figure 35. Board Diagnostics Menu



Note: It is possible to perform all Board Diagnostic tests at once or to perform individual tests for each one. This procedure documents the `All Tests` option. [Table 17](#) lists the devices tested for each selection.

Table 17. Board Diagnostic Tests

Selection	Tests Performed
All Tests	All tests listed in this table
Memory Tests	DRAM, NVRAM, RAM Fill, RAM Verify
Transfer Logic Tests	System Interface controller, Data Transfer Mechanism, and DMA Transfer
SCSI Interface Tests	SCSI Interface all channels
SCSI I/O Processor Tests	SCSI I/O processors in the controller

- 3 Press the **▲** or **▼** key to select `All tests` and press **ENTER**:
The screen prompts you to enter the number of passes you want to make. Press **ENTER** to select the default number of 1.
The system completes the tests and displays the results.
- 4 After the test is complete, press any key to return to the Board Diagnostics Menu ([Figure 35 on page 124](#)).
- 5 Press **ESC** to return to the Extended RAID Diagnostics Menu ([Figure 34 on page 123](#)).

Correcting RAID Disk Array Controller Hardware Failures

RAID disk array controller hardware diagnostics test the following components on the RAID module:

- DRAM
- NVRAM
- System interface
- SCSI I/O Processor

To correct controller hardware failures:

- 1 Replace the PCM RAID module. See Chapter 2, "Installing or Replacing Circuit Cards," in the *CONVERSANT System Version 8.0 UCS 1000 Maintenance*, 585-313-150, for the procedure.

Performing SCSI Device Diagnostics

The SCSI device diagnostics test the SCSI devices connected to the RAID controller.

To perform SCSI device diagnostics:

- 1 Access the Extended RAID Diagnostics Menu ([Figure 34 on page 123](#)).
- 2 Press the  or  key to select `Device Diagnostics` and press **ENTER**.

The system displays the Device Diagnostics Menu ([Figure 36](#)).

Figure 36. Device Diagnostics Menu

Tgt ID	Channel	Number	Device Diagnostics
		0	
0	<input type="text" value="DSK"/>		1. Device Information
1	<input type="text" value="DSK"/>		2. Device Self Diagnostics
2	<input type="text" value="DSK"/>		3. Hard Disk I/O Test
3	<input type="text" value="TAP"/>		4. CD-ROM I/O Test
4	<input type="text" value="CDR"/>		5. Tape I/O Test

Note: [Figure 36](#) is an example only. Your system configuration may be different.

- 3 To acquire device information, complete the following Step a through Step d.
 - a Press the **▲** or **▼** key to select `Device Information` and press **ENTER**.

The system highlights the top device on the left side of the screen.
 - b Press **ENTER**.

The system displays the device information for the highlighted device.
 - c Using the **▲** or **▼** key select the next device and press **ENTER**.
 - d Repeat Step c for each device.
- 4 To initiate a device self test, complete the following Step a through Step d.
 - a Press the **▲** or **▼** key to select `Device Self Diagnostics` and press **ENTER**.

The system highlights the top device on the left side of the screen.
 - b Use the **▲** or **▼** keys to select all devices by pressing enter for each device.
 - c After all devices are selected press **ESC**.

The system runs the test and displays the results.
 - d After the test is completed, press any key to return to the Device Diagnostics Menu ([Figure 36 on page 127](#)).

- 5 To initiate an I/O test on the hard disk drive, complete the following Step a through Step l.
- a Press the or key to select `Hard Disk I/O Test` and press **ENTER**.

The system displays the I/O Test Screen for the hard disk drive ([Figure 37](#)).

Figure 37. I/O Test Screen

Tgt ID	Channel	Number	
		0	Disk I/O Test
0	<input type="text" value="DSK"/>		1. Quick Test
1	<input type="text" value="DSK"/>		2. Complete Test
2	<input type="text" value="DSK"/>		
3	<input type="text" value="TAP"/>		
4	<input type="text" value="CDR"/>		

- Note:** The title of the I/O Test screen will change depending on the device being tested (for example, CD I/O Test or TAPE I/O Test).
- b** Press the  or  key to select `Quick Test` and press **ENTER**.
The system runs the test and displays the results.
 - c** Press any key to return to the Device Diagnostic Menu ([Figure 36 on page 127](#)).
 - d** From the Device Diagnostic Menu press the  or  key to select the `Hard Disk I/O` again and press **ENTER**.
The system displays the I/O Test Screen ([Figure 37 on page 129](#)) for the hard disk drive.
 - e** Press the  or  key to select `Complete Test` and press **ENTER**.
The system displays the `Non-Destructive` and `Destructive` test options in the I/O Test screen.
 - f** Using the  or  key, select `Non-Destructive` and press **ENTER**.

 **CAUTION:**

If you select and run a Destructive test, you will lose all the data on your disks.

The system highlights the top device on the left side of the screen.

- g** Press **ENTER**.

The system prompts you to select the LBA ranges.

Note: If you except the default LBA range displayed, the test takes approximately 50 hours to complete. The default End LBA is the maximum allowed disk address that can be tested. If you leave the starting LBA at 0 and the ending LBA range at 20,000, the test takes approximately 5 minutes to complete.

- h** Select the default 0 for the Start LBA by pressing **ENTER**.

- i** Depending on how extensive you want the test to be, type in the LBA range End number and press **ENTER**.

The system will automatically return to the next disk device.

- j** Repeat Step g through Step i for each device.

- k** After all devices are highlighted, initiate the test by pressing **ESC**.

The system runs the test and displays the test results. For information on how to correct a test failure, see [Table 18 on page 137](#).

- l** Press any key to return to the Device Diagnostic Menu ([Figure 36 on page 127](#)).

- 6 To initiate an I/O test on the CD-ROM drive, complete the following Step a through Step j.
 - a From the Device Diagnostic Menu, press the **▲** or **▼** key to select `CD-ROM I/O Test` and press **ENTER**.

The system displays the I/O Test Screen ([Figure 37 on page 129](#)) for the CD-ROM.
 - b Press the **▲** or **▼** key to select `Quick Test` and press **ENTER**.

The system runs the test and displays the results.
 - c Press any key to return to the Device Diagnostics Menu ([Figure 36 on page 127](#)).
 - d From the Device Diagnostic Menu, press the **▲** or **▼** key to select the `CD-ROM I/O Test` again and press **ENTER** .

The system displays the I/O Test Screen ([Figure 37 on page 129](#)) for the CD-ROM.
 - e Press the **▲** or **▼** key to select `Complete Test` and press **ENTER**.

The system displays the `Non-Destructive` and `Destructive test` options in the I/O Test screen. You may only select the `Non-Destructive` option.
 - f Press **ENTER**.

The system highlights the CDR on the left side of the screen.

g Press **ENTER**.

The system prompts you to select LBA ranges.

h Press **ENTER** twice to select the default LBA ranges.

i Press **ESC** to initiate the test.

The system runs the test and displays the test results. For information on how to correct a test failure, see [Table 18 on page 137](#).

Note: The test takes approximately 15 minutes.

j After the test is complete, press any key to return to the Device Diagnostics Menu ([Figure 36 on page 127](#)).

7 To initiate an I/O test on the Tape Drive, complete the following Step a through Step q.

Note: All TAPE tests require a tape cartridge. Any data on this cartridge will be lost during the test.

a From the Device Diagnostic Menu, press the  or  key to select **Tape I/O Test** and press **ENTER**.

Note: If the diagnostics report that there is not a tape device to test, exit back to the Diagnostics Start-up Menu ([Figure 33 on page 122](#)), and then access the Extended RAID Diagnostics again. It may be that the tape was inserted too late in the process. For more information on exiting the diagnostics, see [Exiting the RAID Diagnostics on page 140](#).

b The system displays the I/O Test Screen ([Figure 37 on page 129](#)) for the TAPE drive.

c Press the  or  key to select `Quick Test` and press **ENTER**.

The system displays a warning and asks you if you want to proceed with a Destructive test.

d Select `Yes` and press **ENTER**.

The system runs the test.

During the test, the screen displays the following message:

```
The current tape drive doesn't support SCSI ERASE SHORT
command.
```

e Ignore the message and press any key to continue test.

f Select `Yes` and press **ENTER**.

g After the the test is complete, press any key to return to the Device Diagnostics Menu ([Figure 36 on page 127](#)).

h From the Device Diagnostic Menu, press the  or  key to select the `Tape I/O Test` again and press **ENTER**.

The system displays the I/O Test Screen ([Figure 37 on page 129](#)) for the TAPE drive.

- i Press the **▲** or **▼** key to select `Complete Test` and press **ENTER**.

The system displays the `Non-Destructive` and `Destructive test` options in the `I/O Test` screen. You may only select the `Destructive` option.

- j Press **ENTER**.

The system displays a warning and asks you if you want to proceed with the destructive test.

- k Select `Yes`, and press **ENTER**.

The system highlights the `TAP` on the left side of the screen.

- l Press **ENTER**.

The system prompts you to select the number of `BLKS`.

- m Press **ENTER** to select the default number.

- n Press **ESC** to initiate the test.

The system displays a warning and asks you if you want to proceed with the destructive test.

- o Select `Yes` and press **ENTER**.

The system runs the test.

During the test, the screen displays the following message:

```
The current tape drive doesn't support SCSI ERASE SHORT
command.
```

- p** Ignore the message and press any key to continue test.
- q** Select Yes and press **ENTER**.

The system runs the test and displays the test results. For information on how to correct a test failure, see [Table 18 on page 137](#).

Note: The test takes approximately 5 minutes.

- r** After the test is complete, press any key to return to the Device Diagnostics Menu ([Figure 36 on page 127](#)).

Correcting SCSI Device Test Failures

[Table 18](#) lists the SCSI device tests and the procedures for correcting failures of those tests.

Table 18. Procedures for Correcting SCSI Device Test Failures

Test	Failure Correction Procedure
Device Information test	<p>Failure of the Device Information test indicates the need to replace or service the following components, listed in order of probability:</p> <ul style="list-style-type: none">• One of the SCSI hard disk drives• SCSI bus cabling including SCA backplane• SCSI terminator• PMC RAID Module.

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Table 18. Procedures for Correcting SCSI Device Test Failures

Test	Failure Correction Procedure
Device Self Diagnostics	<p>Failure of the Device Self Diagnostics test indicates the need to replace or service the following components, listed in order of probability:</p> <ul style="list-style-type: none"><li>• One of the SCSI hard disk drives<li>• SCSI bus cabling including SCA backplane<li>• SCSI terminator<li>• PMC RAID Module. <p>If the Device Information test passes, but the Device Self Diagnostic test fails, one of the SCSI hard disk drives is probably defective.</p>

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Table 18. Procedures for Correcting SCSI Device Test Failures

Test	Failure Correction Procedure
Hard Disk I/O tests	<p>Failure of the Hard Disk I/O test indicates the need to replace or service the following components, listed in order of probability:</p> <ul style="list-style-type: none"> • One of the SCSI hard disk drives • SCSI bus cabling including SCA backplane • SCSI terminator • PMC RAID Module <p>If the Device Information test passes, but the Hard Disk I/O Diagnostics test fails, one of the SCSI hard disk drives is probably defective.</p>
CD-ROM I/O tests	<p>1 If the CD-ROM I/O test fails, rerun the test with known good CD media.</p> <p>If the CD-ROM test fails and the Hard Disk I/O test fails, follow the recommendations above for Hard Disk I/O test failures.</p> <p>If the Hard Disk I/O test passes, but the CD-ROM I/O test fails, replace the SCSI CD-ROM drive.</p>

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Table 18. Procedures for Correcting SCSI Device Test Failures

Test	Failure Correction Procedure
Tape I/O tests	<ol style="list-style-type: none"><li>1 If the tape I/O test fails, rerun the test with known good tape media. If the tape test fails and the Hard Disk I/O test fails, follow the recommendations above for Hard Disk I/O test failures. If the Hard Disk I/O test passes, but the tape I/O test fails, replace the SCSI tape drive

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Exiting the RAID Diagnostics

- 1 From the Device Diagnostics Menu press **ESC** to return to the Extended RAID Diagnostics Menu ([Figure 34 on page 123](#)).
- 2 Press **ESC** to return to the Diagnostics Start-up Menu ([Figure 33 on page 122](#)).
- 3 Type 5 for `Exit and Reboot` and press **ENTER**.

Database Diagnostics

To check the ORACLE database free space:

- 1 Execute the **dbfrag** command.

The system displays the System Tablespace screen ([Figure 38](#)).

Note: The data in your System Tablespace screen may be different from the data shown in [Figure 38](#).

Figure 38. System Tablespace Screen

SYSTEM Tablespace, Space is in Oracle Blocks (4096 Bytes/Block)								
ALLOCATED	FREE	% FREE	AVG/FRAG	LARGEST	FRAGMENTS	DB_FILES	ROLLBACK	
44800	18533	41,37	18533	18533	1	1	865	
USERS Tablespace, Space is in Oracle Blocks (4096 Bytes/Block)								
ALLOCATED	FREE	% FREE	AVG/FRAG	LARGEST	FRAGMENTS	DB_FILES	ROLLBACK	
25600	21859	85,39	21859	21859	1	1	1480	

See Chapter 6, “Database Administration,” and Appendix A, “Summary of Commands,” in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on the **dbfrag** command.

- 2 If the number in the `%FREE` field is less than 20 in any of the tablespaces, add more space to that tablespace.

See Chapter 6, “Database Administration,” in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on increasing the database size.

Extents Diagnostics

An extent is a user defined unit of storage in the ORACLE “storage” clause when defining an ORACLE object. It is used as `MINEXTENTS` or `MAXEXTENTS` in the storage clause. An ORACLE object (that is, a table, an index, a rollback segment) grows one extent in size each time the object needs to be expanded.

When the maximum allowed number of extents is reached, the object will not be able to grow further. The object needs to be redefined so that either the size of each extent is increased or the initial object size is increased, to reduce the number of extents required for the storage of this object.

The maximum allowed number of extents in an system is 2,147,483,645.

To check the number of extents:

1 Enter **dbused**

The system displays the Space Allocated screen ([Figure 39](#)).

Note: The data in your Space Allocated screen may be different from the data shown in [Figure 39](#).

Figure 39. Space Allocated Screen

Usage for "sti/sti"						
Space allocated to objects, Oracle Blocks (4096 Bytes/Block)						
NAME	TYPE	TBLSPACE	BLOCKS	MBYTES	EXTENTS	MAX_EXTENTS
CALL	TABLE	USERS	260	1.02	1	2147483645
SERVICE	TABLE	USERS	260	1.02	1	2147483645
CDHSUM	TABLE	USERS	15	.06	1	2147483645
EVENTS	TABLE	USERS	515	2.01	1	2147483645
EVSUM	TABLE	USERS	15	.06	1	2147483645
CCA	TABLE	USERS	100	.39	1	2147483645
CCASUM	TABLE	USERS	15	.06	1	2147483645
TRASUM	TABLE	USERS	15	.06	1	2147483645
LDBCOLS	TABLE	USERS	15	.06	1	2147483645
testadb	TABLE	USERS	15	.06	1	2147483645
C1	INDEX	USERS	260	1.02	1	2147483645
S1	INDEX	USERS	260	1.02	1	2147483645
E1	INDEX	USERS	515	2.01	1	2147483645

- 2 Compare the value in the `EXTENTS` column to the value in the `MAX_EXTENTS` column.

If the value in the `EXTENTS` column is greater than or equal to the value in the `MAX_EXTENTS` column, the table has reached its maximum size.

- 3 If needed, redefine the database table storage. See Chapter 6, “Database Administration,” in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on increasing the database size.

ORACLE Network Diagnostics

To check the ORACLE network:

1 Determine the machine name. See Chapter 6, “Database Administration,” in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

2 Enter **telnet *host_name***

where *host_name* is the name of the remote machine to which the database process is connected.

3 If the login prompt:

- ~ Appears on the screen, the network appears to be functioning properly. Continue with [Step 4](#).
- ~ Does not appear on the screen, the network is not functioning properly. Contact the network support personnel for help.

4 Press **CTRL + d** to return to the local machine.

5 Enter **netstat -a**

The system displays output similar to that in [Figure 40 on page 146](#).

Figure 40. Sample Output of netstat -a Command

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	(state)
tcp	0	0	*.*	*.*	CLOSED
tcp	0	0	cpc5.login	cbgbcs.cb.lucent.1020	ESTABLISHED
tcp	0	0	cpc5.telnet	cbgbcs.cb.lucent.58407	ESTABLISHED
tcp	0	0	cpc5.telnet	cbgbcs.cb.lucent.57778	ESTABLISHED
tcp	0	0	cpc5.1063	sigma.1521	ESTABLISHED
tcp	0	0	cpc5.1062	sigma.1521	ESTABLISHED
tcp	0	0	*.1061	*.*	LISTEN
tcp	0	0	*.1060	*.*	LISTEN
tcp	0	0	*.671	*.*	LISTEN
tcp	0	0	*.1058	*.*	LISTEN
tcp	0	0	*.1059	*.*	LISTEN
tcp	0	0	cpc5.login	*.*	CLOSED
tcp	0	0	cpc5.telnet	cbgbcs.cb.lucent.60101	ESTABLISHED
tcp	0	0	*.printer	*.*	LISTEN
tcp	0	0	*.listen	*.*	LISTEN
tcp	0	0	*.chargen	*.*	LISTEN
tcp	0	0	*.daytime	*.*	LISTEN
tcp	0	0	*.discard	*.*	LISTEN
tcp	0	0	*.echo	*.*	LISTEN
tcp	0	0	*.time	*.*	LISTEN

- 6 Verify that the remote machine name appears on the screen under the Foreign Address column and the corresponding state field shows ESTABLISHED.
- 7 If the remote machine name:
 - ~ Does not appear, contact network support personnel for help.
 - ~ Appears on the screen, verify that the ORACLE SQL*Net package is installed on the remote machine.

8 Verify that the network tunable parameters are correct according to the recommendations in *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

9 Verify the database connection by doing the following:

a Invoke the ORACLE utility SQL*PLUS by entering
/oracle/bin/sqlplus sti/sti

The system displays the following message:

```
SQL>
```

b Connect the SQL*PLUS session to the remote database by entering
connect user/password@database_connector

where *user* and *password* are the sqlplus user and password on the remote database and *database_connector* is the connect string defined in the tnsnames.ora file that describes the remote connection.

c If the screen displays the following message the network and remote database are functioning:

```
connected
```

Continue with [Step 10](#).

If `connected` does not appear on the screen, contact the database administrator of the remote machine for help.

10 Exit from the SQL*PLUS utility by entering **quit**

TDM Bus Diagnostics

Note: These diagnostics do not apply to the UCS 1000.

To diagnose the TDM Bus using the command line:

- 1 Confirm that the system associates the suspect card with “tdm1,” by entering **display card *card number***
where ***card number*** is the suspect card.
- 2 If the card is not configured for tdm1, there is a configuration error:
 - a Record the current system configuration and service assignments.
 - b Stop the voice system. See [Stopping the Voice System](#) in [Chapter 3. Common System Procedures](#).
 - c Move the system configuration and service assignments by entering **mv /gendb/shmem/devtbl /gendb/shmem/devtbl.old**
 - d Start the voice system. See [Starting the Voice System](#), in [Chapter 3. Common System Procedures](#).
- 3 To confirm that the TDM master/slave configuration is appropriate, enter **display card all | pg**

Note: The | before pg is a pipe symbol, not a lower case L.

The system displays the Circuit Card Configuration screen ([Figure 41 on page 149](#)).

Note: The data in your Circuit Card Configuration screen may be different from the data shown in [Figure 41](#).

Figure 41. Circuit Card Configuration Screen

```

CARD 0 STATE: Inserv          CLASS: Digital (E1)          O.S.INDEX: 0
      NAME: AYC21             OPTIONS: master1,tdm1,PRI1,DCHAN
      FUNCTION: PRI

CD.PT  CHNSTATE STATE-CHNG-TIME  SERVICE-NAMEPHONE  GROUP  OPTS
TYPE
0.0    0    Manoo Oct 25 17:25:32  - -      4    tdm FRM
0.1    1    Inserv Oct 25 17:32:48  - -      4    tdm PRIB
0.2    2    Inserv Oct 25 17:32:47  - -      4    tdm PRIB
0.3    3    Inserv Oct 25 17:29:46  - -      4    tdm PRIB
0.4    4    Inserv Oct 25 17:32:46  - -      4    tdm PRIB
0.5    5    Inserv Oct 25 17:29:46  - -      4    tdm PRIB
0.6    6    Inserv Oct 25 17:29:46  - -      4    tdm PRIB
0.7    7    Inserv Oct 25 17:29:45  - -      4    tdm PRIB
0.8    8    Inserv Oct 25 17:29:45  - -      4    tdm PRIB
0.9    9    Inserv Oct 25 17:29:44  - -      4    tdm PRIB
0.10   10   Inserv Oct 25 17:29:45  - -      4    tdm PRIB
0.11   11   Inserv Oct 25 17:29:44  - -      6    tdm PRIB
0.12   12   Inserv Oct 25 17:29:44  - -      6    tdm PRIB
0.13   13   Inserv Oct 25 17:29:44  - -      6    tdm PRIB
0.14   14   Inserv Oct 25 17:29:43  - -      6    tdm PRIB

```

- 4 Confirm that there is only one card associated with the following configurations for tdm1:

- ~ master1
- ~ master2
- ~ master3

There can be multiple cards designated slave.

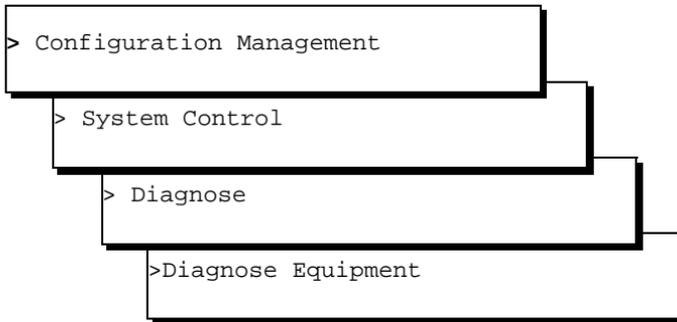
Use **ENTER** to page through the Circuit Card Configuration screen.

- 5 If more than one card is configured as **master1**, **master2**, or **master3**, there is a configuration error:
- a Record the current system configuration and service assignments.
 - b Stop the voice system. See [Stopping the Voice System](#) in [Chapter 3, Common System Procedures](#).
 - c Move the system configuration and service assignments by entering **mv /gendb/shmem/devtbl /gendb/shmem/devtbl.old**
 - d Start the voice system. See [Starting the Voice System](#), in [Chapter 3, Common System Procedures](#).
- 6 Shut down the operating system. See [Shutting Down the Operating System](#) in [Chapter 3, Common System Procedures](#).
- 7 If the problem persists, check the TDM resistors. See [Checking the Terminating Resistors on page 58](#).
- 8 If the problem persists, check the circuit card switch settings. See [Checking the Switch Settings on page 61](#).

Voice Port Loop Around Test

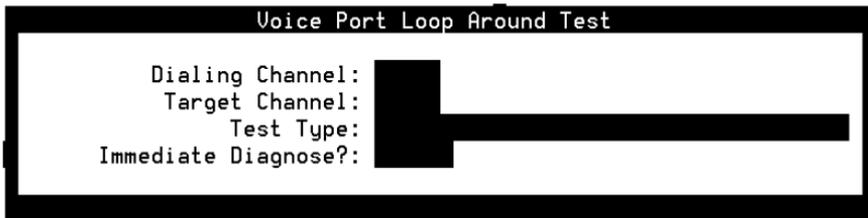
To perform a voice port loop around test:

- 1 Start at the Voice System Administration menu and select:



The system displays the Voice Port Loop Around Test window ([Figure 42 on page 151](#)).

Figure 42. Voice Port Loop Around Test Window



- 2 Enter a channel number in the `Dialing Channel:` field.

The dialing channel is the channel which sends the signal used to diagnose the target channel.

You can enter **AUTO** in this field to allow the system to choose the dialing channel.

- 3 Enter the number of the channel you want to diagnose in the `Target Channel:` field.

- 4 Enter a test type in the `Test Type:` field.

The following tests can be run on the voice port:

- ~ all
- ~ code
- ~ fax receive
- ~ fax transmit
- ~ gain control
- ~ loop current/dial tone detection
- ~ manipulation of hook state
- ~ play
- ~ ring detection

- ~ speed control
- ~ touch tone receive
- ~ touch tone transmit

Note: The gain control, loop current/dial tone detection, manipulation of hook state, ring detection, speed control, touch tone receive, and touch tone transmit test types will be run during a voice port loop around test regardless of the entry in the `Test Type:` field.

5 Enter **no** in the `Immediate Diagnose?` field.

If you enter **yes** in this field the diagnosis will be performed immediately regardless of the current state of the dialing channel.

Note: Immediate diagnosis cannot be done when **AUTO** is entered in the `Dialing Channel:` field.

6 Press F3 (Save).

The system completes the diagnostics and displays the Voice Port Loop Around Test Results screen ([Figure 43](#)).

Figure 43. Voice Port Loop Around Test Results Screen

```
                Voice Port Loop Around Test Results

manipulation of hook state      pass
gain control                   pass
speed control                  pass
ring detection                 pass
touch tone transmit           pass
play                          pass
touch tone receive            pass
record                        pass
fax receive                   pass
fax transmit                  pass
loop current/dial tone detection pass

Press Enter to continue.
```

7 Press Enter.

The system displays the Voice Port Loop Around Test window ([Figure 42 on page 151](#)).

ASAI Trace Utility

To invoke the ASAI trace feature, type `trace dip7` at the system prompt. Additional processes can be monitored by adding arguments to the command (for example, `trace dip7 chan 1`).

Note: All ASAI trace information displayed by `trace` is preceded by `ASAI :`. If `trace` is used to monitor other VIS processes, that information is preceded by other key words.

To cancel a trace command, press the **DELETE** key. The Trace Level parameter in the ASAI Parameters screen controls the amount of detail that is displayed when you use the `trace dip 7` command to monitor messages and events being processed by the ASAI system. The trace feature facilitates the debugging of new applications and is an optional feature that is not required for normal system operations.

Three Trace Levels are available:

- The Low setting displays only ASAI error and warning conditions.
- The Normal setting displays information pertaining to the process of the `A_CallInfo`, `A_Event`, `A_RouteSel`, and `A_Tran` script actions, in addition to the information displayed by the Low setting. Such information is useful when attempting to debug new application scripts which use these actions.

- The High setting provides additional information on ASAI messages that are sent and received between the CONVERSANT system and the DEFINITY Generic 3i PBX, in addition to the information displayed by the Low and Normal settings.

Low Detail

The Low setting displays only ASAI error and warning conditions. This is the default setting. Use this setting when there is live traffic to minimize processing overhead from the trace feature.

Error messages preceded by `ASAI : ERROR :` typically indicate a malfunction in the processing of the ASAI link between the CONVERSANT system and the PBX, an improperly written script, or an incorrect configuration. Error messages are displayed by trace to give additional insight into problems that are reported as system messages and as error codes in the Return Fields of the external actions. If you receive an error messages in the Message Log Report. The ASAI-related system messages are discussed in [Chapter 4. Alarms and Log Messages](#). Follow the instructions provided for the message to remedy the problem.

If you receive error messages in the trace output and no ASAI system messages are reported, you may be experiencing a problem with the `A_Callinfo`, `A_Event`, `A_RouteSel`, or `A_Trans` actions. In this case, one of these actions is probably returning an error code in its Return Field and also in the Cause Value field.

If you receive neither ASAI system message nor error return codes from an ASAI script action but are still receiving error messages in the trace output, you are probably experiencing a system problem and should escalate the problem.

Warning messages indicate a low-severity problem detected by the ASAI system. These messages are preceded by `ASAI: WARNING:` and are usually the result of an incorrectly configured system or a manual out of service (manoo) ACD, VDN, or CTL domain that is receiving messages from the PBX. These messages may also correspond to a system message that appears in the Message Log Report. For example, the following message is displayed if you use `A_Tran` to transfer to an extension for which there is no domain administered in the Domain Administration screen.

```
ASAI: WARNING: Event 'C' Discarded, no CTL Domain for Ext '1234'
```

At the same time, system message number ASAI031 appears in the Message Log Report. Similarly, the following message is displayed if you use `A_Tran` to transfer to an extension or domain which is not in service.

```
ASAI: WARNING: Event 'C' Discarded, Domain 'name' not active
```

In this case no system message appears in the Message Log Report because it is not necessarily considered an error.

Normal Detail

In addition to the information displayed by the Low setting, the Normal setting displays information pertaining to the processing of the A_Callinfo, A_Event, A_RouteSel, and A_Transcript actions. Such information is useful when attempting to debug new application scripts which use these actions. The format is specific to each ASAI action being processed.

A_Callinfo trace information

When A_Callinfo is used in a voice script on a tip/ring or LST1 channel, trace displays the following information. The first line indicates which channel requested the information. The remaining indented lines contain the information that is returned to the A_Callinfo action in the voice script.

```
ASAI: A_Callinfo: Sending Info for chan 1
ASAI: Calling party Number:''
ASAI: Called Party Number: '5100'
ASAI: Switch Data: ''
ASAI: Trunk Group Id: '5', Call Id: '163'
ASAI: Cause Value: '0', Return Field: '0'
```

If an error occurs in the processing of A_Callinfo, a message preceded by ASAI: Error: A_Transcript is displayed along with a description of the problem.

A_Event trace information

When A_Event is used in a monitoring or routing script that is assigned to a domain, the following trace messages are examples of what is displayed when each event is reported.

```
ASAI: A_Event: Reporting Event 'C' to Domain 'name'  
ASAI: Connected Party Number: '5609'  
ASAI: Calling Party Number: ", Trunk Grp Id: '5'  
ASAI: Called Party Number: '5100'  
ASAI: Switch Data:"  
ASAI: Call id: '170', Other Call Id: '160'  
ASAI: LAI Display Info: "  
ASAI: VIS Data: "  
ASAI: Routing Id: '30'  
ASAI: Return Field: '67'
```

The first line indicates the type of event that is reported and the domain to which it is reported. The event type is one of the following:

- A (ABANDON) — The caller was abandoned before the call was answered.
- C (CONNECT) — The call was alerted or connected.
- E (END) — The call has ended after being answered.
- R (ROUTE REQUEST) — PBX is requesting the call be routed.

The indented lines that follow the first line contain information that is returned in the corresponding fields of the A_Event action form.

A_RouteSel trace information

When A_RouteSel is used in a routing script that is assigned to an RTE domain, the following trace messages are examples of what is displayed.

```
ASAI: A_RouteSel: Routing call in Domain 'name'  
      (Route ID 1234)  
ASAI: Destination Number: '5019'  
ASAI: Split Extension: ''  
ASAI: Priority Call? Yes
```

If the Route Select could not be sent to the PBX, a trace message preceded by ASAI: ERROR: A_RouteSel: is displayed along with a description of the problem. In some cases a cause value is also displayed. See Chapter 6 of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for a list of A_RouteSel Cause Values.

A_Tran trace information

When A_Tran is used in a voice script on a T/R or LST1 channel, trace displays messages such as the following indicating a successful transfer.

```
ASAI: A_Tran: requested on chan 1  
ASAI: A_Tran: Taking Control of call on chan 1  
      (CLID 304)  
ASAI: A_Tran: Placing caller on hold, chan 1  
ASAI: A_Tran: Make Call on chan 1 (CLID 308)  
ASAI: Destination Number: '5019'  
ASAI: Split Ext: ''  
ASAI: Priority Call? No  
ASAI: A_Tran: Make Call completed on chan 1
```

```
ASAI: Call State: 'ALERTING'  
ASAI: A_Trان: Merging calls on chan 1
```

The first line indicates which channel requested the transfer.

Note: Each line beginning ASAI: A_Trان: indicates the beginning of the next processing step required to perform the transfer operation and contains the channel number on which the operation is taking place. See Chapter 8 of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-310-217, for an explanation of the steps required to perform a transfer. Processing steps may not be displayed contiguously depending on the amount of activity in the system (that is, other trace statements may appear in between each processing step for A_Trان).

The indented lines contain additional information about the current processing step. The Make Call step is followed by three lines of information which correspond to input fields in the A_Trان action form. The Make Call completed steps is followed by a line indicating the outcome of the call. A successful transfer is indicated by the Merging calls message.

In the following example the outbound call (Make Call completed) was to a busy destination. In this case, the transfer (merge) was not attempted and the caller was reconnected to the voice script.

The sequence ends with the following message:

```
ASAI: A_Tran: requested on chan 1
ASAI: A_Tran: Taking Control of call on chan 1
      (CLID 304)
ASAI: A_Tran: Placing caller on hold, chan1
ASAI: A_Tran: Make Call on chan 1 (CLID 308)
ASAI: Destination Number: '5019'
ASAI: Split Ext: ''
ASAI: Priority Call? No
ASAI: A_Tran: Make Call completed on chan 1
ASAI: Call State: 'BUSY'
ASAI: A_Tran: Dropping call on chan 1
ASAI: A_Tran: Reconnecting caller on chan 1
ASAI: A_Tran: Relinquishing control of chan 1
```

Should an error occur in one of the processing steps, trace displays a message preceded by ASAI: ERROR: A_Tran: with a description of the problem.

Note: If you receive error return codes from the A_Tran action and do not see errors while tracing dip7, the problem is detected by the voice script before making the request to the ASAI subsystem.

High Detail

In addition to the information displayed by the Low and Normal settings, the High setting gives additional information on ASAI messages that are sent and received between the CONVERSANT and the DEFINITY Generic 3i PBX. High detail causes trace to display information concerning call event and routing event messages as well as requests for domain enable/disable, channel login/logout, and heartbeat.

Call events

ASAI messages (call events) received from the PBX contain information about a call on a domain. This information may be useful when attempting to debug an application script which is monitoring the progress of calls on the PBX. The format of the call event message is as follows:

```
ASAI: Received EVENT on Domain "name' (CLID num CID num)
```

The event can be one of the following

- ALERTING — The call is ringing at an extension.
- CALLEND — All parties have dropped from the call causing the call to end.
- CONFERENCED — The call has been conferenced.
- CONNECTED — The call has been answered.
- CUT THROUGH — The call is interworking with a non-ISDN trunk.
- DENIAL — The call has been routed to an invalid number (intercept).

- DROP — A party on the call has dropped from the call.
- OFFERED — The call has entered the specified domain.
- QUEUED — The call has been placed in a queue and is awaiting delivery to an extension.
- 3P CALLEND — A call that was originated by A_Tran has ended.
- TRANSFERRED — The call has been transferred.
- TRUNK SEIZED — The call has been routed to a trunk and the trunk has been seized.

The *name* is the name of domain which receives the event as specified in the Domain Administration screen. See Chapter 4, “Feature Package Administration” of *CONVERSANT System Version 8.0 Administration*, 585-313-510, for additional information.

The name will be null for call events received that are not directly associated with a domain administered in the Domain Administration screen (for example, call events received for an outbound call placed by the A_Tran script action). The CLID *num* is the ASAI Cluster ID that identifies the specified domain. The CID *num* is the Call ID that identifies the call. The PID is the party ID that identifies which Party dropped from the call and is reported with a DROP message only.

Routing Events

There are two ASAI messages received from the PBX which contain routing information. This information may be useful when debugging a routing application script which is assigned to a RTE domain. The following trace message is printed for each route request received. The format of the trace message is as follows:

```
ASAI: Received ROUTE REQUEST on Domain 'name' (Route ID num)
```

Another trace message is printed when the PBX has acknowledged or canceled a previous route request. The format of this message is as follows:

```
ASAI: Received ROUTE END on Domain 'name' (Route ID num)
ASAI: Cause: X
```

Note: The second line indicates the reason why the route requested ended. After the receipt of this message a Route Selection can no longer be made (that is, A_RouteSel fails) for the specified Route ID. The Route ID is a number which identifies a particular route request.

Domain Enable/Disable Requests

When ACD or VDN domains are enabled or disabled, a message must be sent to the PBX requesting to activate or deactivate the sending of call events for the domain. Following are examples of the trace output that appears when these messages are sent.

```
ASAI: Sending ENABLE for domain 'name', ext '4321', type 1
      (CLID 224)
ASAI: Sending DISABLE for domain 'name', ext '5678' type 2
      (CLID 364)
```

The *name* and *ext* displayed correspond to the parameters administered for the domain in the Domain Administration screen. Note that Type 1 domains are ACD domains and Type 2 domains are VDN domains.

If an enable or disable request fails, a message is displayed which is preceded by `ASAI: ERROR: ENABLE Domain:` along with a description of the problem. If a Cause Value is provided in the message, the request was denied by the PBX.

Channel Login/Logout Requests

In order to log a channel in or out, an ASAI message must be sent to the PBX. Following are examples of the trace output that appears when these messages are sent.

```
ASAI: Sending LOGIN for chan 1, ext 1234 (CLID 778)
ASAI: Sending LOGOUT for chan1, ext 1234 (CLID 388)
```

The *chan* and *ext* displayed correspond to the parameters administered for the domain in the Channel Administration screen.

If a login or logout request fails, a message is displayed which is preceded by `ASAI: ERROR: LOGIN CHANNEL:` along with a description of the problem. If a Cause Value is provided in the message, the request was denied by the PBX.

Heartbeat Requests To insure that the PBX and the VIS are in constant communication event when there is no traffic, messages are sent back and forth between the two systems. These messages, called heartbeat messages, typically appear only after periods of idleness of longer than 1 minute.

Generally, these trace messages can be ignored unless you suspect a loss of communication between the PBX and the VIS. The messages should alternate every minute during idle periods. Following are examples of these heartbeat messages:

```
ASAI: Received Heartbeat (CLID 7898 ind 1)
ASIA: Sending Heartbeat (CLID 2345)
```

LAN Trace Utilities

The LAN activity can be traced using the following commands:

- **arp**
- **ndstat**
- **netstat**
- **ping**
- **tracert**
- **tcpdump**

The LAN trace utilities enable the field service personnel to diagnose problems on the customer's LAN. The LAN trace utilities have the following disadvantages:

- Only traffic on the subnet to which the product is attached can be traced.
- In some modes, tcpdump will seriously degrade the performance of the server.
- When traffic on the LAN is very heavy, some packets may be lost because the server cannot keep up with the flow.

Using the arp Command

The **arp** command provides information about Ethernet/IP address translation. The command can be used to detect systems on the LAN that are configured with an incorrect IP address. Use the **arp** command in the following manner:

- To display all of the current ARP entries by reading the table from the file `kmem` (default **/dev/kmem**) based on the kernel file `unix` (default **/kernel/unix**), use the **arp -a [unix[kmem]]** option.
- To delete an entry for the host called `hostname`, use the **arp -d hostname** option.

Note: This option may only be used by the super-user.

- To read the file named `filename` and set multiple entries in the ARP tables, use the **arp -f filename** option.
- To create an ARP entry for the host called `hostname` with the Ethernet address `ether_address`, use the **-s hostname ether_address [temp] [pub] [trail]** option.

For more information on the **arp** command, see Appendix A, “Summary of Commands” in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

Using the ndstat Command

The **ndstat** utility displays statistics for each configured network adapter driver in several views. In addition to the driver name and address, ndstat polls the DLPI (Data Link Provider Interface) module for information on the services it provides, including:

- MAC (Media Access Control) frame transmission information
- Media-specific services for Ethernet and Token Ring, including the Token Ring source routing table.
- SNAP (Sub Network Access Protocol) information, used when Ethernet-oriented stacks (such as TCP/IP) run on non-Ethernet networks.

Note: No statistics are displayed for MDI drivers that are being used as failover backup devices.

Use the **ndstat** command with the following attributes

```
/usr/bin/ndstat [-sSRlC] [device_name]
```

ndstat understands the following options:

- **-s** — Verify the device name only.
- **-S** — Display SAP information.
- **-R** — Display the Token-Ring source routing table.
- **-l** — Display media-specific statistics in long form.

- **-c** — Clear all statistics.
- **-C** — Clear the Token-Ring route table.

The argument *device_name* allows you to specify a single device name. If you do not specify this argument and there is more than one adapter configured, `ndstat` shows you the configuration for all of the devices. For MDI devices, the name is in the form `netn-1`, where `n` is the number of adapters configured in your system. For legacy DLPI and ODI drivers, the name is `HSM_0`.

Examples

`ndstat -l` displays the same basic information but adds information from the DLPI and MDI (MAC Driver Interface) modules, as well as media-specific statistics. Here is an example of the module display:

```
DLPI Module Info: 2 SAPs open, 16 SAPs maximum
                  96687 frames received destined for an unbound SAP
```

```
MAC Driver Info: Media_type: Ethernet
                  Min_SDU: 14, Max_SDU: 1514, Address length: 6
                  Interface speed: 10 Mbits/sec
```

```
Interface Versions: MDI 2
```

```
DLPI Module Info – Information about this instance of the
Data Link Provider Interface.
```

```
SAPs open — Current number of active data link users
SAPs maximum — Maximum number of active data link users
allowed frames received destined for an unbound SAP
```

frames discarded because they are sent to a Service Access Point (SAP) that is not bound by a DCS user.

MAC Driver Info — Information about this Media Access Control (MAC) driver.

Media_type — Ethernet, Token-Ring, FDDI, ISDN

Min_SDU — Minimum send data unit (packet size)

Max_SDU — Maximum send data unit (packet size)

Address length — Number of bytes in the MAC address

Interface speed — Maximum throughput supported on this media interface

Interface Versions — MDI version number

ndstat -R displays the same basic information but adds a listing of the Token-Ring source routing table:

```
Source routing table
=====
0/1 Source Routes in use
Short timer = 1000 ticks
Medium timer = 12000 ticks
Long timer = 90000 ticks
Garbage collector runs every 1500 ticks
```

ndstat -S displays the same basic information but adds a listing of SAP information:

```

FRAMES FOR EACH SERVICE ACCESS POINT (SAP)
Unicast  XID  TEST  Multicast  Broadcast  Error      Octets      Queue Length
-----
"IP"   Ethernet-II  type=0x0800:
In:   1558996  0  0          0  123266      0  494301873      0
Out:  1445365  0  0          3   3          1  0  536324188      0
"ARP"  Ethernet-II  type=0x0806:
In:    13  0  0          0  48388      0  2904256         0
Out:   236  0  0          0   0          15 0  14874           0

```

- Unicast — To/from individual (non-group) MAC address
- XID — exchange identification (LLC frame)
- TEST — Test LLC frame
- LLC — Logical Link Control

Using the netstat Command

The **netstat** command is used to display statistics about each network interface and socket, and statistics about the network routing table.

Use the **netstat** command with the following attributes:

- **-a** — display the state of all sockets and all routing table entries
- **-f *address_family*** — limits the statistics or address control block reports to those of the specified family

Note: The address family can be inet for the AF_INET family or unix for the AF_UNIX family

- **-g** — display the multicast group memberships for all interfaces, use the option.
- **-i** — display the state of the interfaces that are used for TCP/IP traffic
- **-m** — display the STREAMS statistics
- **-n** — display the network addresses as numbers
- **-p** — display the address resolution tables, use the **-p** option.
- **-r** — display the routing tables
- **-s** — display the per-protocol statistics
- **-v** — display additional information for the sockets and the routing table

- **-I *interface*** — display the state of a particular interface
- **-M** — display the multicast routing tables
- **-P *protocol*** — limit the display of statistics or state of all sockets to those applicable to protocol

For more information on the **netstat** command, see Appendix A, “Summary of Commands” in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

Using the ping Command

The **ping** command indicates whether a remote host can be reached. It can also display statistics about packet loss and delivery time. Use the **ping** command with the following attributes:

- **-d** — set the SO_DEBUG socket option
- **-I** — send the packet to the given host and back again
- **-L** — turn off loopback of multicast packets
- **-n** — display the network addresses as numbers
- **-r** — bypass the normal routing tables and send directly to a host on an attached network

- **-R** — set the IP record route option and store the route of the packet inside the IP header
- **-v** — list any ICMP packets, other than ECHO_RESPONSE, that are received
- **-i** — specify the outgoing interface to use for multicast packets
- **-l** — specify the interval between successive transmissions
- **-t ttl** — specify the IP time to live for multicast packets

For more information on the **ping** command, see Appendix A, “Summary of Commands” in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

Using the traceroute Command

The **traceroute** command displays the route packets take going to a remote system. Information about the route is printed. Use the **traceroute** command with the following attributes:

- **-f** — set the initial time-to-live used in the first outgoing probe packet
- **-F** — set the “don’t fragment” bit
- **-d** — enable socket level debugging
- **-g** — specify a loose source route gateway

- **-i** — specify a network interface to obtain the source IP address for outgoing probe packets
- **-I** — use the ICMP ECHO instead of UDP datagrams
- **-m** — set the max time-to-live (max number of hops) used in outgoing probe packets
- **-n** — print hop address numerically rather than symbolically
- **-p** — set the base UDP port number used in probes (default is 33434)
- **-r** — bypass the normal routing tables and send directly to a host on an attached network
- **-s** — use the following IP address (which usually is given as an IP number) as the source address in outgoing probe packets
- **-t** — set the type of service in probe packets to the following value
- **-v** — list the ICMP packets other than TIME_EXCEEDED and UNREACHABLE
- **-w** — set the time (in seconds) to wait for a response to a probe
- **-x** — toggle checksums

For more information on the **tracert** command, see Appendix A, “Summary of Commands” in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

Using the tcpdump Command

The **tcpdump** command prints the headers of packets, that match a boolean expression, on a network interface. The command is used to analyze protocol problems. Use the **tcpdump** command with the following attributes:

- **-a** — convert network and broadcast addresses to names
- **-c** — exit after receiving count packets
- **-d** — dump the compiled packet-matching code in a human readable form to standard output
- **-dd** — dump the packet-matching code as a C program fragment
- **-ddd** — dump the packet-matching code as decimal numbers
- **-e** — print the link-level header on each dump line
- **-f** — print foreign internet addresses numerically rather than symbolically
- **-F** — use the file as input for the filter expression, use the `-x` option.
- **-i** — listen on the interface
- **-l** — make **stdout** line buffered
- **-n** — do not convert addresses to names
- **-N** — do not print domain name qualification of host names
- **-O** — do not run the packet-matching code optimizer

- **-p** — do not put the interface into promiscuous mode
- **-q** — print less protocol information
- **-r** — read packets from a file
- **-s** — remove smaller bytes of data from each packet rather than the default of 68
- **-T** — force packets, selected by “expression,” to be interpreted as the specified type
- **-S** — print absolute, rather than relative, TCP sequence numbers
- **-t** — avoid printing a time stamp on each dump line
- **-tt** — print an unformatted time stamp on each dump line
- **-v** — produce a slightly more verbose output
- **-vv** — produce a more verbose output
- **-w** — write the raw packets to file rather than parse and print files
- **-x** — print each packet in hex without the link level header

Simple Network Management Protocol

SNMP is the current working standard of the TCP/IP protocol suite concerned with network management information. The SNMP feature on the system allows network system administrators to use SNMP to consolidate the monitoring of remote systems from a central location. This remote monitoring takes place over a TCP/IP LAN or WAN. The SNMP feature makes this monitoring possible by providing a means for:

- Remote managed elements (CONVERSANT systems) to send alarm and resolution event notifications to a central management workstation
- The management workstation to get system status information from the remote managed elements

Management Information Bases Available with SNMP

The SNMP agent provides the following:

- Support for the standard Management Information Base (MIB)-II definition
- A private MIB defined by Lucent Technologies

MIB-II Compliance

The SNMP agent is MIB-II compliant; however, not all MIB-II variables are supported.

Private MIB

In addition to MIB-II support, the SNMP agent provides a private (enterprise-specific) MIB for the following system information:

- File system check
- IPC message queue status
- Voice system status
- Voice channels in service
- Software packages installed
- Circuit card information (display card)
- Channel information (includes channel number, card and port, state, service name, assignments, etc.)
- Service and DNIS information
- Hardware information (includes platform type, installed memory, size of the hard disk drive, and whether the RMB or a serial card is installed)
- Disk usage information
- Major, minor, and warning alarms active on the system

See [MIB Definition on page 186](#).

SNMP Configuration

You must configure both HP Openview and the SNMP agent on the system to communicate with each other. See HP Openview documentation for details on how to complete this and to confirm communication between the manager and agent applications.

Customizing SNMP for HP Openview

To customize HP Openview:

Note: The following procedure must be done at least once to configure HP Openview for the system. If you are monitoring multiple systems with a single HP Openview, you must only perform this procedure once.

- 1 Enter `/vs/bin/util/snmp/util/snmpConfig.sh`
- 2 Enter **9 ftp2mrg**
- 3 Enter **1** (Enter `/Change` FTP login information). This allows you to transfer files to the management station (HP Openview).
- 4 Enter the IP address for the management station.
- 5 Enter the user directory as `/tmp/ov`

Note: The `/tmp/ov` directory must be created on the HP Openview prior to this procedure.

- 6 Enter **2** (FTP Intuity MIBs) to transfer Intuity MIBs.

- 7 Enter **3** (FTP HP Openview files) to transfer HP Openview related files.
- 8 Log onto the HP Openview.
If the HP management workstation has been configured to manage a product before, you will need to remove the previous configuration files:
 - a Enter **rm \$OV_SYMBOLS/C/Computer/Intuity100**
 - b Enter **rm \$OV_BITMAPS/C/Computer/Intuity***
 - c Enter **rm \$OV_FIELDS/C/intuity100**
 - d Enter **vi \$OV_CONF/C/iod_to_sym**
Remove the line that specifies the symbol for Intuity 100.
- 9 Enter **cd /tmp/ov**
- 10 Enter **chmod 744 setupIntuity.sh**
- 11 Enter **./setupIntuity.sh**

Changing the Group Variable Names

To change the group variable names contained in the default configuration file:

- 1 Enter **/vs/bin/util/snmp/util/snmpConfig.sh**
- 2 Enter **6** (listAgtConfig) to list the MIB-II group variable values.
 - ~ **SysDescr** — The description of the system (default: Intuity SNMP Agent - Lucent Technologies)
 - ~ **SysLocation** — The location of the system (default: down on the farm)
 - ~ **SysContact** — The owner of the system (default: System Administrator)

- 3 Change SysLocation to a meaningful location.
- 4 Make any other desired changes to the group variables.
- 5 Enter **8** (chgMgrAdd) to change the management station's IP address if desired.

Configuring the System for the HP Openview

To configure the system for the HP Openview:

- 1 Enter **cd /vs/bin/util/snmp/conf**
- 2 Enter **vi mrglist**
- 3 Enter **Mgmtstation_Name public**, where *Mgmtstation_Name* is the name of the HP Openview.
- 4 Enter **mkdir -p /vs/bin/util/snmp/data**
- 5 Enter **/vs/bin/util/snmp/util/snmpstart.sh** to start the SNMP process and register the alarmMon.sh process with inittab.
- 6 Enter **ps -ef**
- 7 Verify the following processes are running:
 - ~ snmpdm
 - ~ mib2agt
 - ~ csagt
 - ~ Alarmon.sh

Guidelines for Using SNMP

This section provides guidelines for using SNMP on the system.

Getting Information from SNMP Agents

Once the MIB definition file is downloaded into HP Openview, you have access to the private (enterprise-specific) SNMP features on the system. See HP Openview documentation for information on how to integrate the SNMP feature with HP Openview.

Setting Polling Intervals

You can set the time intervals at which the HP Openview polls the SNMP agents on the systems. Set the polling interval low enough to give you information when you need it, but high enough that the polling does not slow down operations.

Note: Lucent Technologies strongly recommends that you *not* use a polling interval of less than 15 minutes, as that puts a strain on system resources and slows down operations.

Obtaining MIB variables

Retrieve MIB variables one at a time. If you attempt to retrieve MIB variables all at once, this can cause idle time to fall below normal values.

Setting the Timeout Interval

Set the timeout interval on the HP Openview for more than 60 seconds. This value will allow the system enough time to respond to data requests. If the timeout interval is smaller than 60 seconds, data may not be available within the requested interval, thereby causing timeouts.

MIB Definition

```

CORNERSTONE-MIB DEFINITIONS ::= BEGIN
IMPORTS
    enterprises, OBJECT-TYPE, MODULE-IDENTITY
        FROM SNMPv2-SMI
    DisplayString, IPAddress, TimeTicks
        FROM SNMPv2-TC;
lucent
    OBJECT IDENTIFIER ::= { enterprises 1751 }
lucentProducts
    OBJECT IDENTIFIER ::= { lucent 1 }
lucentMibs
    OBJECT IDENTIFIER ::= { lucent 2 }
intuityProducts
    OBJECT IDENTIFIER ::= { lucentProducts 10 }
intuityMibs
    OBJECT IDENTIFIER ::= { lucentMibs 10 }
platformMIB MODULE-IDENTITY
    LAST-UPDATED      "9705010000Z"
    ORGANIZATION      "Lucent Technologies, Bell Labs"
    CONTACT-INFO      ""
    DESCRIPTION
        "MIB Module for Cornerstone Platform Entities"
        ::= { intuityMibs 2 }
csSystemStatus
    OBJECT IDENTIFIER ::= { platformMIB 1 }
csSsMtce
    OBJECT IDENTIFIER ::= { csSystemStatus 1 }
csSsVs
    OBJECT IDENTIFIER ::= { csSystemStatus 2 }
csSwInst
    OBJECT IDENTIFIER ::= { platformMIB 2 }
csHwInst
    OBJECT IDENTIFIER ::= { platformMIB 3 }
ssMtceFsChk
    OBJECT-TYPE
        SYNTAX          DisplayString
        MAX-ACCESS      read-only
        STATUS          current
        DESCRIPTION     "file system check.This variable

```

```

                                returns a string stating whether
                                the check passed or failed."
    ::= { csSsMtce 1 }
ssMtceIpcQChk OBJECT-TYPE
    SYNTAX          DisplayString
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "Ipc Queue Check. This variable
                    returns a string stating whether
                    the check passed or failed."
    ::= { csSsMtce 2 }
ssVsStat          OBJECT-TYPE
    SYNTAX          DisplayString
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "Status of Voice System. Returns
                    a string saying whether it is up
                    or down depending on the run
                    level being 4 and some processes
                    in the running state"
    ::= { csSsVs 1 }
ssVsPurchvcprt OBJECT-TYPE
    SYNTAX          INTEGER(0..64)
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION     "Number of purchased voice
                    ports."
    ::= { csSsVs 2 }
ssVsSvcvcprt     OBJECT-TYPE
    SYNTAX          INTEGER(0..64)

```

```

MAX-ACCESS      read-only
STATUS          current
DESCRIPTION     "number of voice ports in service"
 ::= { csSsVs 3 }
ssVsPurchrspch OBJECT-TYPE
SYNTAX         INTEGER(0..2000)
MAX-ACCESS     read-only
STATUS        current
DESCRIPTION    "purchased hours of speech"
 ::= { csSsVs 4 }
ssVsUsedhrspch OBJECT-TYPE
SYNTAX         INTEGER(0..2000)
MAX-ACCESS     read-only
STATUS        current
DESCRIPTION    "used hours of speech"
 ::= { csSsVs 5 }
ssVsPothrspch  OBJECT-TYPE
SYNTAX         INTEGER(0..2000)
MAX-ACCESS     read-only
STATUS        current
DESCRIPTION    "potential hours of speech"
 ::= { csSsVs 6 }
swInstPkg      OBJECT-TYPE
SYNTAX SEQUENCE OF PkgInfo
MAX-ACCESS     not-accessible
STATUS        current
DESCRIPTION    "Info on intuition packages installed.
               This output is the same as pkginfo
               on unix provides with the -l -c
               options i.e. long and the category

```

```

                                intuition"
                                ::= { csSwInst 1 }
pkgInfo      OBJECT-TYPE
    SYNTAX      PkgInfo
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Info on package"
    INDEX       { pkgNumber }
    ::= { swInstPkg 1 }

PkgInfo ::=
    SEQUENCE {
        pkgNumber INTEGER,
        pkgDescr  DisplayString
    }

pkgNumber    OBJECT-TYP
    SYNTAX    INTEGER(0..50)
    MAX-ACCESS not-accessible
    STATUS    current
    DESCRIPTION "Index for package description"
    ::= { pkgInfo 1 }
pkgDescr     OBJECT-TYPE
    SYNTAX    DisplayString
    MAX-ACCESS read-only
    STATUS    current
    DESCRIPTION "package description"
    ::= { pkgInfo 2 }
displayCard  OBJECT-TYPE
    SYNTAX SEQUENCE OF CardStatus
    MAX-ACCESS not-accessible

```

```

STATUS      current
DESCRIPTION"table of entries with each entry
             corresponding to description of each
             card on the system. Info is same as
             output of display card all except for
             channel info. Output includes card
             number, state, class, os index, name,
             options, and function"
 ::= { csHwInst 1 }
cardStatus  OBJECT-TYPE
SYNTAX      CardStatus
MAX-ACCESSnot-accessible
STATUS      current
DESCRIPTION "entry for each card"
INDEX       { dsplCardNum }
 ::= { displayCard 1 }
CardStatus ::=
SEQUENCE {
    dsplCardNumINTEGER,
    dsplInfoDisplayString
}
dsplCardNum OBJECT-TYPE
SYNTAX      INTEGER(0..24)
MAX-ACCESSnot-accessible
STATUS      current
DESCRIPTION"card number"
 ::= { cardStatus 1 }
dsplInfo    OBJECT-TYPE
SYNTAX      DisplayString
MAX-ACCESSread-only

```

```

        STATUS      current
        DESCRIPTION "card information"
        ::= { cardStatus 2 }
displayChan      OBJECT-TYPE
        SYNTAX      SEQUENCE OF ChanStatus
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION "table of entries with each entry
                    corresponding to one channel. Info
                    includes channel number card and port,
                    state, state change time, service name,
                    phone, group, opts and type"
        ::= { csHwInst 2 }
chanStatus       OBJECT-TYPE
        SYNTAX      ChanStatus
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION "entry for each channel"
        INDEX       { dsplCsChanNum }
        ::= { displayChan 1 }
ChanStatus ::=
        SEQUENCE {
            dsplCsChanNum INTEGER,
            dsplCsChanInfoDisplayString
        }
dsplCsChanNum    OBJECT-TYPE
        SYNTAX      INTEGER(0..96)
        MAX-ACCESS  not-accessible
        STATUS      current

```

```

        DESCRIPTION"chan number"
        ::= { chanStatus 1 }
dsplCsChanInfo OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESSread-only
    STATUS      current
    DESCRIPTION"chan info"
    ::= { chanStatus 2 }
displaySvcs OBJECT-TYPE
    SYNTAX SEQUENCE OF Svcs
    MAX-ACCESSnot-accessible
    STATUS      current
    DESCRIPTION"List of services provided on the
                system.Info includes serial number and
                service name"
    ::= { csHwInst 3 }
svcs OBJECT-TYPE
    SYNTAX      Svcs
    MAX-ACCESSnot-accessible
    STATUS      current
    DESCRIPTION"
    INDEX      { svcNum }
    ::= { displaySvcs 1 }
Svcs ::= SEQUENCE {
    svcNumINTEGER,
    svcNameDisplayString
}
svcNum OBJECT-TYPE
    SYNTAX      INTEGER(0..50)
    MAX-ACCESSnot-accessible

```

```

        STATUS      current
        DESCRIPTION "Service Name"
        ::= { svcs 1 }
svcName      OBJECT-TYPE
        SYNTAX      DisplayString
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION "Service Name"
        ::= { svcs 2 }
displayDnis  OBJECT-TYPE
        SYNTAX      SEQUENCE OF DnisAniSvcGp
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION "display dnis an ani service groups"
        ::= { csHwInst 4 }
dnisAniSvcGp OBJECT-TYPE
        SYNTAX      DnisAniSvcGp
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION "One row corresponding to one service
                    with info on called from and to numbers
                    and calling from and to numbers"
        INDEX       { dnisIdx }
        ::= { displayDnis 1 }
DnisAniSvcGp ::=
    SEQUENCE {
        dnisIdx INTEGER,
        dnisEntry DisplayString
    }

```

```

dnisIdx          OBJECT-TYPE
    SYNTAX      INTEGER(0..100)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Index for entries displayed"
    ::= { dnisAniSvcGp 1 }
dnisEntry        OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "Display dnis entry"
    ::= { dnisAniSvcGp 2 }
dsplAssgn        OBJECT-TYPE
    SYNTAX      SEQUENCE OF AssgnEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Table of assignments to channels with
                channel number, service name and startup
                service"
    ::= { csHwInst 5 }
assgnEntry        OBJECT-TYPE
    SYNTAX      AssgnEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Entry for one channel "
    INDEX       { dspChanNum }
    ::= { dsplAssgn 1 }
AssgnEntry ::=
    SEQUENCE {
        dspChanNum INTEGER,

```

```

        dspAssgnEntryDisplayString
    }
dspChanNum      OBJECT-TYPE
    SYNTAX      INTEGER(0..96)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Channel Number"
    ::= { assgnEntry 1 }
dspAssgnEntry  OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "Entry for Services assigned"
    ::= { assgnEntry 2 }
hwMtce         OBJECT-TYPE
    SYNTAX      SEQUENCE OF HwInfo
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "A sequence of items regarding the
                hardware installed on the system. This
                info includes chassis type, installed
                memory, hard drive
                info, rmb and serial card installed"
    ::= { csHwInst 6 }
hwInfo        OBJECT-TYPE
    SYNTAX      HwInfo
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION ""

```

```

        INDEX          { dummyidx }
        ::= { hwMtce 1 }
HwInfo ::=
    SEQUENCE {
        dummyidx      INTEGER,
        hwChassis     DisplayString,
        hwInstMem     DisplayString,
        hwHd          DisplayString,
        hwRmb         DisplayString,
        hwSerial      DisplayString
    }
dummyidx      OBJECT-TYPE
    SYNTAX      INTEGER(0..1)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Dummy index since hwinfo is only one
                row"
    ::= { hwInfo 1 }
hwChassis     OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "Chassis type - map40, map100 etc"
    ::= { hwInfo 2 }
hwInstMem     OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "Installed memory"
    ::= { hwInfo 3 }

```

```
hwHd          OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "Hard Drive Size and scsi id"
    ::= { hwInfo 4 }

hwRmb         OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "RMB installed or not"
    ::= { hwInfo 5 }

hwSerial      OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION "Serial Card Installed or not"
    ::= { hwInfo 6 }

hwVs          OBJECT-TYPE
    SYNTAX SEQUENCE OF VsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "table of vs hardware installed on
                system with one row per card"
    ::= { csHwInst 7 }

vsEntry       OBJECT-TYPE
    SYNTAX      VsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "row with entries for one card"
```

```

        INDEX          { vsCard }
        ::= { hwVs 1 }
VsEntry ::=
    SEQUENCE {
        vsCard          INTEGER,
        vsCardInfo     DisplayString
    }
vsCard      OBJECT-TYPE
    SYNTAX      INTEGER(0..24)
    MAX-ACCESSnot-accessible
    STATUS      current
    DESCRIPTION"Card number"
    ::= { vsEntry 1 }
vsCardInfo  OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESSread-only
    STATUS      current
    DESCRIPTION"OS Index"
    ::= { vsEntry 2 }
hwDiskUsage OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESSread-only
    STATUS      current
    DESCRIPTION"Percentage of disk used on the system"
    ::= { csHwInst 8 }
csAlarms    OBJECT IDENTIFIER ::= { platformMIB 4 }

csMajAlarms OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    MAX-ACCESS read-only

```

```

        STATUS      current
        DESCRIPTION"Number of active major alarms on the system"
        ::= { csAlarms 1 }
csMinAlarms      OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTIONNumber of active minor alarms on the system"
        ::= { csAlarms 2 }
csWrnAlarms      OBJECT-TYPE
        SYNTAX      INTEGER (0..255)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION"Number of active warning alarms on the
                    system"
        ::= { csAlarms 3 }
csAlarmsCurrLvl OBJECT-TYPE
        SYNTAX      INTEGER { normal(0), warning(1), minor(2),
                               major (3) }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION"Highest level/severity of the active alarms.
                    This is used by the alarm trap events to
                    determine the color of the Interchange
                    object."
        ::= { csAlarms 4 }
-- the alarm table contains a list of all the active alarms in
-- the system.
-- the columns available are: application id, alarm code, alarm

```

```

level and
-- a text string with the remaining fields.
csAlarmTable OBJECT-TYPE
    SYNTAX SEQUENCE OF CsAlarmEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION "A table of all the active alarms in the
                system"
    ::= { csAlarms 5 }
csAlarmEntry OBJECT-TYPE
    SYNTAX CsAlarmEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION "alarm entry - uniquely identified by
                the application/module code and alarm
                code"
    INDEX { csAlarmApp, csAlarmCode }
    ::= { csAlarmTable 1 }
CsAlarmEntry ::= SEQUENCE {
    csAlarmIndex INTEGER (0..255),
    csAlarmApp OCTET STRING,
    csAlarmCode INTEGER (0..65535),
    csAlarmLvl INTEGER,
    csAlarmText DisplayString,
    csAlarmEvnInfo DisplayString
}
csAlarmIndex OBJECT-TYPE
    SYNTAX INTEGER (0..255)
    MAX-ACCESS read-only
    STATUS current

```

```

        DESCRIPTION      "Index into the active alarms table"
 ::= { csAlarmEntry 1 }
csAlarmApp      OBJECT-TYPE
    SYNTAX        DisplayString (SIZE (0..3))
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION   "Two letter application code of the
                  module raising the alarm. Typical
                  modules - MT: maintenance, VP: platform
                  etc"
 ::= { csAlarmEntry 2 }
csAlarmCode     OBJECT-TYPE
    SYNTAX        INTEGER (0..65535)
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION   "Application/module specific code of
                  the alarm."
 ::= { csAlarmEntry 3 }
csAlarmLvl     OBJECT-TYPE
    SYNTAX        INTEGER    normal(0), warning(1), minor(2), major(3)
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION   "Severity/level of the alarm, can take the
                  following values normal, major, minor,
                  warning. The normal value
                  indicates a resolution event and is only
                  used by the alarm traps."
 ::= { csAlarmEntry 4 }
csAlarmText     OBJECT-TYPE
    SYNTAX        DisplayString

```

```
MAX-ACCESS      read-only
STATUS          current
DESCRIPTION     "Text string of the other fields in the
                alarm. This may be subdivided into each
                individual field if required in later
                versions."
 ::= { csAlarmEntry 5 }
csAlarmEvnInfo  OBJECT-TYPE
SYNTAX         DisplayString
MAX-ACCESS     read-only
STATUS        current
DESCRIPTION    "maintenance log - contains the event-id,
                type and description"
 ::= { csAlarmEntry 6 }
csTraps         OBJECT IDENTIFIER ::= { platformMIB 5 }
csTrapAlarms   NOTIFICATION-TYPE
OBJECTS        {csAlarmText, csAlarmEvnInfo,
                csAlarmsCurrLvl }
STATUS        current
DESCRIPTION    "Traps sent by the agent for alarm and resolution
                events."
 ::= { csTraps 1 }
END
```

3 Common System Procedures

Overview

This chapter describes procedures for

- Cartridge tape and diskette drive operation
- Backup and restore
- Voice system administration
- Operating system administration

About Cartridge Drives and Tapes

Cartridge tapes provide for the storage of information used by the CONVERSANT system. The system reads information from and writes information to cartridge tapes through the tape drive.

When to Change Cartridge Tapes

The manufacturers of the cartridge tapes recommend that you replace a tape after approximately 30 full-capacity write or read operations. For example, if two tapes are being alternated for the unattended nightly backup, replace both tapes every two months.

Inserting and Removing Cartridge Tapes

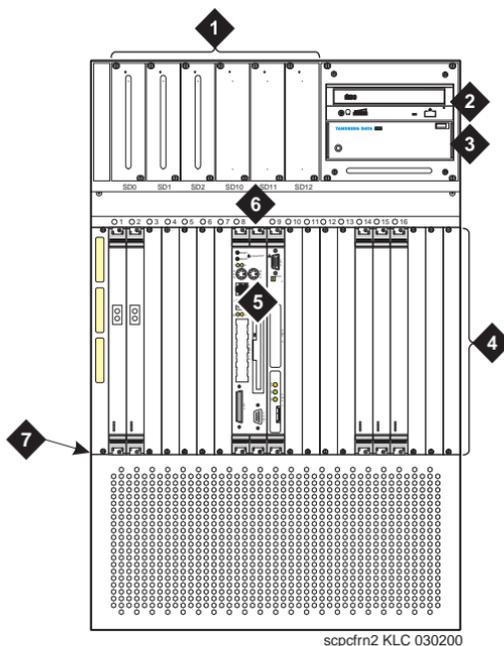
This section details the procedures for inserting and removing cartridge tapes from a 4-GB tape drive.

Inserting the Cartridge Tape

To insert a 4-GB cartridge tape:

- 1 Locate the tape drive on the front of the platform ([Figure 44 on page 205](#)).

Figure 44. Front View of the Platform

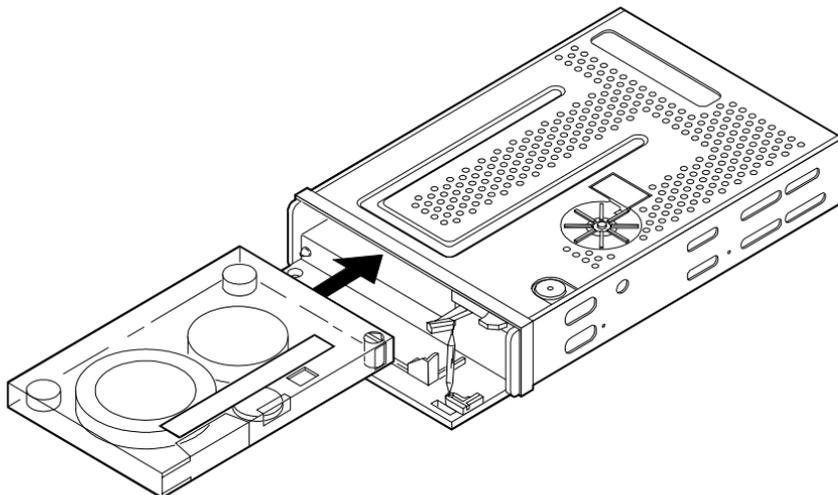


1. Hard disk drives
2. CD-Rom drive
3. Cartridge tape drive
4. Circuit card area
5. CPU complex
6. Upper fan tray
7. Filter panel

- 2 Check the read/write dial to make sure that the tape is not write-protected. The small dial on the front of the tape should be in the horizontal position.

- 3 To insert the tape in the drive:
 - a Press the button on the upper right corner of the drive to open the drive door.
 - b Insert the tape ([Figure 45](#)).
 - c Close the door to push in the tape.

Figure 45. Tape Insertion with a 4-GB Tape Drive



Note: The light on the drive will blink when the drive is in use. If the light is lit and not blinking, the tape drive is idle.

Removing the Cartridge Tape

CAUTION:

You can only remove the tape when the drive is idle, that is, when the light is not blinking.

To remove a cartridge tape from the tape drive:

- 1 Press the button on the upper right corner of the drive to reveal part of the tape.
- 2 Pull out the tape.

Formatting Cartridge Tapes

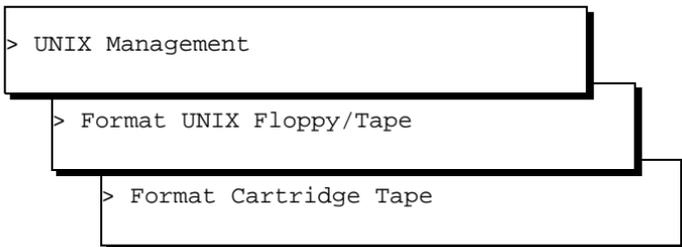
To format a cartridge tape:

- 1 Start at the Voice System Administration Menu ([Figure 46 on page 208](#))

Figure 46. Voice System Administration Menu

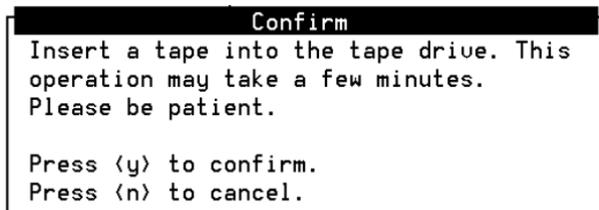


2 Select:



The system displays a Confirm window ([Figure 47 on page 209](#)).

Figure 47. Confirm Window



- 3 Verify that the tape is not write-protected and insert the tape into the cartridge tape drive.
- 4 Press **y**
The system displays a screen stating that the tape has been formatted.
- 5 Remove the tape from the cartridge tape drive.
- 6 Press **ENTER** to continue.

About Diskette Drives and Diskettes

Diskettes can provide for the storage of information used by the CONVERSANT system. If information must be transferred from a CONVERSANT system without a LAN card, diskettes must be used.

Types of Diskettes

The CONVERSANT system is not shipped with disks. If you need disks, obtain unformatted 3.5-inch disks. The disks can be either:

- High density (1.44-MB)
- Low density (720-KB)

Inserting and Removing Diskettes

Inserting the Diskette

To insert a diskette:

- 1 Locate the diskette drive on the front of the system ([Figure 44 on page 205](#)).
- 2 Check the read/write switch to make sure that the diskette is not write-protected.
- 3 Insert the diskette in the drive.

Note: The light on the diskette drive is on when the drive is in use. If the light is not on, the diskette drive is idle.

Removing the Diskette

You can only remove the diskette when the drive is idle, that is, when the light is not on.

To remove a diskette:

- 1 Press the button on the lower right corner of the diskette drive to reveal part of the diskette.
- 2 Pull out the diskette.

Formatting Diskettes

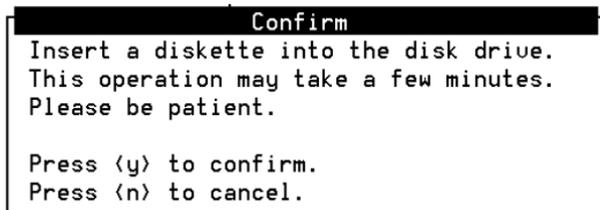
To format a diskette:

- 1 Start at the Voice System Administration Menu ([Figure 46 on page 208](#)) and select:

```
> UNIX Management
> Format UNIX Floppy/Tape
> Format 3.5 inch 1.44 Mbyte (High Density)
```

The system displays a Confirm window ([Figure 48 on page 212](#)).

Figure 48. Confirm Window



- 2 Verify that the diskette is not write-protected and insert the diskette into the disk drive.
- 3 Press **y**
The system displays a screen stating that the diskette has been formatted.
- 4 Remove the diskette from the disk drive.
- 5 Press **ENTER** to continue.

Backing Up the CONVERSANT System

Lucent Technologies suggests performing a full backup to baseline your system. See [Table 19 on page 214](#) for recommended procedures for your system.

CAUTION:

Use the backup procedures described here to back up and restore files on the same machine only.

The utilities and procedures available to back up and restore the system are:

- [Backing Up the System Using QuickStart on page 215](#) — Backup/restore utility that copies the contents of a disk to cartridge tape (available for RAID and non-RAID systems)
- [Backing Up the System Using BRU on page 224](#) — Backup/restore utility for full and differential backups on cartridge tape
- [Backing Up the System Using mkimage on page 232](#) — Backup/restore utility that writes the UnixWare operating system and CONVERSANT system software to cartridge tape

Always clearly label your backup tapes and include the following information:

- Date the backup tape was made
- Disk that was backed up, for systems with multiple disks
- Utility used to create the backup tape

Recommendations [Table 19](#) contains information to help guide you to the type of backups to perform on your system. The best course of action is to use all the backup features listed for your system. At the least, a disaster recovery backup should be performed.

Table 19. Backup Recommendations

Any platform and the system is:	Recommendation:
SCSI, single disk	<ul style="list-style-type: none"> • QuickStart for disaster recovery • BRU for full backup • BRU for periodic differential backups
SCSI, two disks (second disk is used for speech)	<ul style="list-style-type: none"> • mkimage for disaster recovery • BRU for full backup • BRU for periodic differential backups
SCSI, two disks (second disk is used for ISV-provided software and data)	<p>Consult the ISV for the recommended backup procedures.</p> <p>Note: If your ISV does not provide a recommendation, use the procedures below for SCSI, three or more disks (not RAID)</p>
	<i>1 of 2</i>

Table 19. Backup Recommendations

Any platform and the system is:	Recommendation:
SCSI or RAID	<ul style="list-style-type: none">• QuickStart for individual disaster recovery images of each disk• mkimage for disaster recovery• BRU for full backup• BRU for periodic differential backups
	<i>2 of 2</i>

In addition, procedures are provided to back up the speech files and ORACLE database tables over a LAN:

- [Backing Up Speech Files on page 246](#)
- [Backing Up Database Tables on page 247](#)

Backing Up the System Using QuickStart

QuickStart provides a simple method on RAID and non-RAID systems to restore a failed disk drive to a working state. The QuickStart utility is used to copy a SCSI disk to cartridge tape to baseline your system and create disk image for disaster recovery. For restoring, QuickStart puts the image from the backup media onto a SCSI disk.

This utility should also be used whenever a change is made to the system configuration, such as the addition or deletion of hardware or the addition of a feature package that may include a driver. A good rule of thumb is to create a disaster recovery tape, using QuickStart, on a monthly basis.

The system does not need to have a functioning operating system for a backup to be performed with QuickStart. The QuickStart utility comes on a diskette from which the machine is booted.

Tape verification can be performed as a step in the backup procedure or deferred until the backup is complete and the system is operational.

Creating a Disaster Recovery Tape with QuickStart

Backup of an entire disk consists of two parts: copying the disk to cartridge tape and checksum verification. Each part takes about 1 hour per GB to complete.

To perform this procedure, you must have the boot diskette labeled “QuickStart.”

To create a disaster recovery tape using the QuickStart utility:

- 1 Log in as **root**.
- 2 Type **shutdown -g0 -y**

The system shuts down.

- 3 Insert the boot diskette labeled “QuickStart” into the diskette drive. See [Inserting and Removing Diskettes on page 210](#).

- 4 Press the **Reset** button.

The system boots from the QuickStart diskette. After a few minutes the system displays the QuickStart main menu ([Figure 49](#)).

Figure 49. QuickStart Main Menu

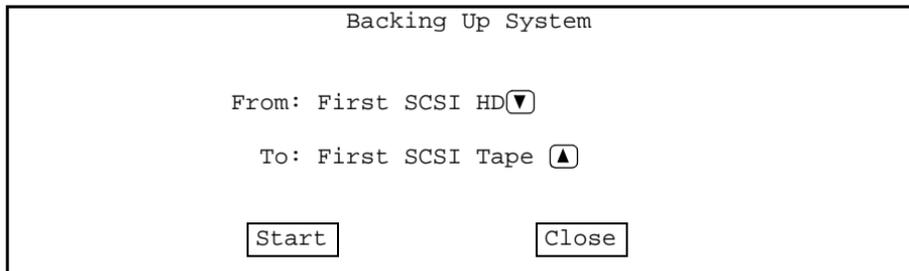


Within the QuickStart menus, use the **TAB** key to highlight the menu options and use the **ENTER** key to select an option.

- 5 Select Backup System and press **ENTER**.

The system displays the Backup System window ([Figure 50](#)).

Figure 50. Backup System Window



The Backup System window ([Figure 50](#)) displays the system's primary hard disk drive and backup device.

- 6 Label the cartridge tape(s) **CONVERSANT Disaster Recovery Tape *x* (QuickStart) *date***, where *x* indicates the insertion sequence, **QuickStart** is the utility used to make this tape, and *date* is the current date.
- 7 Insert the first tape to be used for backup into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).
- 8 In the From: field, select the disk drive from which you want to back up data:
 - ~ Select **SCSI HD** if you are backing up data from a non-RAID system.
 - ~ Select **dac90** if you are backing up data from a RAID system.Use the **TAB** key and the arrow keys to select a disk drive from the list.
- 9 In the To: field, select the backup device. For CONVERSANT, select **First SCSI Tape Drive**.
- 10 Press the **TAB** key to highlight the Start button, and then press **ENTER**.
The system displays a warning that indicates you are about to overwrite ALL data on your backup media.
- 11 Select **Continue**.

The system displays the Perform Auto-Verify dialog box.

Automatically verify archive?

Yes No

- 12 Select **Yes** to automatically verify the backup tape. If you do not verify the QuickStart tape at the time of the backup, see [Verifying a Disaster Recovery Tape Made with QuickStart on page 220](#).

The system displays the Backing Up System status window ([Figure 51](#)).

Figure 51. Backing Up the System Status Window

Backing Up System	
From: First SCSI HD	
To: First SCSI Tape Drive	
%	
Total KB:	KBytes/Sec:
KB Completed:	Remaining:
Time Elapsed:	Remaining:
<input type="button" value="Cancel"/>	

When the procedure is complete, the system displays the following message:

```
Backup Completed
Time Elapsed:
KBytes/Sec:
```

- 13 Press **ENTER**.

The system displays the QuickStart main menu ([Figure 49 on page 217](#)).

- 14 Remove the QuickStart boot diskette from the diskette drive. See [Inserting and Removing Diskettes on page 210](#).
- 15 Select **Exit and Reboot** to reboot the CONVERSANT system.

Verifying a Disaster Recovery Tape Made with QuickStart

To verify a disaster recovery tape made with QuickStart if the auto verification option was skipped at the time the tape was made:

- 1 Log in as **root**.

- 2 Type **shutdown -g0 -y**

The system shuts down.

- 3 Insert the boot diskette labeled “QuickStart” into the diskette drive. See [Inserting and Removing Diskettes on page 210](#).

- 4 Press the **Reset** button.

The system boots from the QuickStart diskette. After a few minutes the system displays the QuickStart main menu ([Figure 52](#)).

Figure 52. QuickStart Main Menu

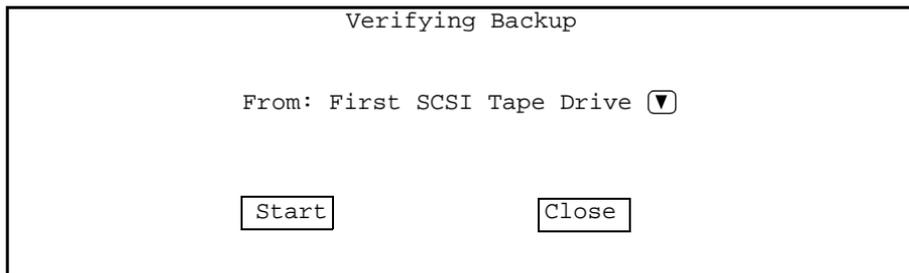


Within the QuickStart menus, use the **TAB** key to highlight the menu options and use the **ENTER** key to select an option.

- 5 Select **Verify Backup** and press **ENTER**.

The system displays the Verifying Backup window.

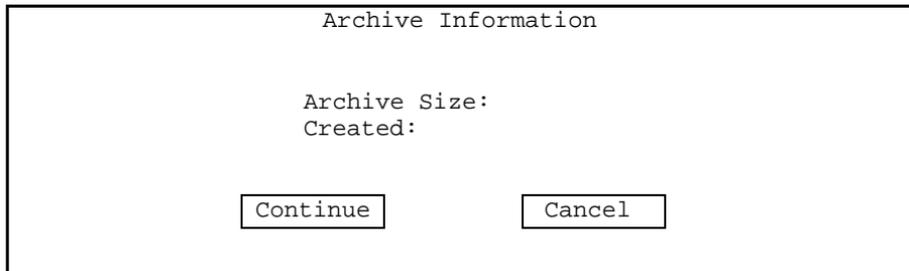
Figure 53. Verifying Backup Window



- 6 In the From: field, use the **TAB** key and the arrow keys to select **First SCSI Tape Drive**.

- 7 Press the **TAB** key to highlight the Start button, and then press **ENTER**.
The system displays the Archive Information window.

Figure 54. Archive Information Window



- 8 Select **Continue** and then press **ENTER**.

The system displays the Verifying Backup status window.

Figure 55. Verifying Backup Status Window

Verifying Backup	
From: First SCSI Tape Drive	
%	
Total KB:	KBytes/Sec:
KB Completed:	Remaining:
Time Elapsed:	Remaining:
<input type="button" value="Cancel"/>	

When the procedure is complete, the system displays the QuickStart main menu ([Figure 49 on page 217](#)).

- 9 Remove the QuickStart boot diskette from the diskette drive. See [Inserting and Removing Diskettes on page 210](#).
- 10 Select **Exit and Reboot** to reboot the CONVERSANT system.

Backing Up the System Using BRU

Note: Use of BRU requires a functioning UnixWare operating system.

BRU is capable of writing a complete backup of all UnixWare files on the system to cartridge tapes. The backup tapes can be verified when the system is in operation on the same CONVERSANT system where the tape was made or another CONVERSANT system that has the BRU feature software loaded.

Once a full backup has been created, invoking BRU again writes only the files that have been changed since the last full backup.

Types of BRU

- Full - A full UnixWare-level backup of the system.
- Differential - A scheduled backup of files that have changed since the last full backup.

Performing a Full BRU Backup

You can perform this procedure while your system is up and running.

A full UnixWare-level backup consists of two components:

- Estimate — Determines how much has changed since the last backup.
- Backup — The actual backup performance

Note: The estimated time required to perform a full backup is 1 GB per hour.

To perform a full UnixWare-level backup using the BRU utility:

- 1 Start at the Voice System Administration Menu ([Figure 46 on page 208](#)) and select:

```
> Backup/Restore
> Full Backup
> Estimate
```

The system displays a message similar to the following:

```
Please be patient, depending on the size of the backup this
could take several minutes

Performing Full Backup estimate...

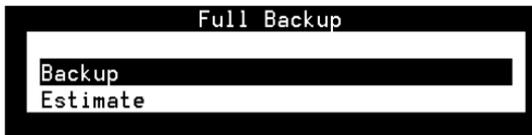
bru:lvolume xxxxx files, xxxxxx archive blocks xxxxxx Kbytes

Please press <ENTER> to return to menu.
```

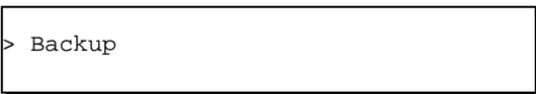
- 2 Make sure you have enough cartridge tapes available to store the system data based on the number of Kbytes stated in the message.

- 3 Label each tape **CONVERSANT Full UNIX Backup Tape x (BRU) *date*** where x indicates the insertion sequence, **BRU** is the utility used to make this tape, and *date* is the current date.
- 4 Press **ENTER**.
The system displays the Full Backup menu ([Figure 56](#)).

Figure 56. Full Backup Menu



- 5 Select:



The system displays the following message:

```
Please put a tape in the drive.
```

```
Press <Enter> to continue or q to quit.
```

- 6 Insert the first tape into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

7 Press ENTER.

The system displays the following message:

```
Performing full Backup (Level 0)
```

```
The output of this backup is being logged to  
"/vs/data/backrest/brulog.o"
```

When the backup is complete, the system displays the following message:

```
The Full UNIX backup is now complete. Please remove the tape  
and label it as "Full UNIX Backup, created [today's date]"
```

8 Verify the backup tape. See [Verifying BRU Backups on page 227](#).**Verifying BRU Backups**

Wait until the system is in operation to verify backup tapes made using BRU. You can perform the verification on the same CONVERSANT system where the tape was made or another CONVERSANT system that has the BRU feature software loaded.

Verifying a Full Backup Tape

To verify a full backup tape:

- 1** Insert the backup tape created using BRU into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

Note: You must insert the backup tape at this point in the procedure.

- 2 Start at the Voice System Administration menu ([Figure 46 on page 208](#)) and select:

```
> Backup/Restore
> Verify Backup
> Differential/Full
```

The system displays the following message:

```
Would you like to verify the tape labeled: xxx created: date
(y/n)
```

where **date** is the date the backup tape was made.

Note: NOTE: The system reads the date from the backup tape.

- 3 Enter **y**

The system displays the following message:

```
Please be patient. Depending on the size of the backup this
could take awhile!
```

```
The output of this verify is being logged to
"/vs/data/backrest/brulog.verify"
```

```
Verifying tape...
```

When the verification is complete, the system displays the following message:

```
Backup Tape Verification is now complete. Please remove the
tape, check that the label reflects whether the tape contains
root, full, or differential backup data, date and time it was
created then store it.
```

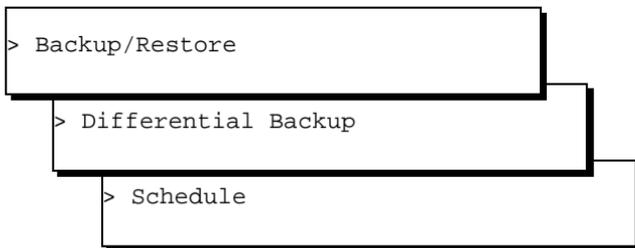
Scheduling a Differential UNIX- Level Backup Using BRU

You can schedule a differential backup to be performed at a particular time on a weekly basis or on selected days during the week.

Note: Be sure to have a tape loaded in the cartridge tape drive for a backup scheduled at a time when no operator is available. The backup waits for a tape to be inserted if there is not one already in the cartridge tape drive. Label the tape **CONVERSANT Differential UNIX Backup Tape *x* (BRU) *date*** where *x* indicates the insertion sequence, **BRU** is the utility used to make this tape, and *date* is the current date.

To schedule a differential UNIX-level backup:

- 1 Start at the Voice System Administration Menu ([Figure 46 on page 208](#)) and select:



The system displays the Differential Backup Schedule window ([Figure 57](#)).

Figure 57. Differential Backup Schedule Window



- 2 Set the hour at which the system backup will occur by doing the following:
 - a Use the left  and right  arrows on your keyboard to move within the `Time:` field.
 - b In the hour portion of the `Time:` field, enter number between 00 and 23.
 - c In the minute portion of the `Time:` field, enter a number between 00 and 59.

For example, entering 02:30 activates the backup process at 2:30 am.

- 3 Press the down  arrow on your keyboard to move to the days of the week.
- 4 Type **YES** next to the day or days that you want the differential backup to be performed.
- 5 Type **NO** next to the days that you do not want the differential backup to be performed.
- 6 Press **F3** (Save).
- 7 Press **F6** (Cancel) repeatedly to return to the main menu.

Backing Up the System Using `mkimage`

Note: Use `mkimage` to back up a RAID system. See [Table 19 on page 214](#) for the recommended backup procedures and utilities for your system.

The `mkimage` utility is a mechanism to capture a system configuration so that a machine can be reloaded. It backs up to cartridge tape only a defined and fixed set of file systems that contain the essential CONVERSANT system files on the system disk.

Any other file systems, such as file systems added on the system disk or to a second or subsequent disks, are not backed up by the `mkimage` utility. For example, the `/unused` file systems on the system disk are not backed up by the `mkimage` utility. Any additional file systems should be backed up manually.

Note: The system creates a new set of the `/unused` file systems during a restore of the system. Any data in these file systems are destroyed. Therefore, a user who renames the file system:

- [1] Manually backup the data.
- [2] Perform a restore of the system.
- [3] Recreate the custom file system by changing the name of an unused filesystem.
- [4] Restore the data .

The **mkimage** utility should also be used whenever a change is made to the system configuration, such as the addition or deletion of hardware or the addition of a feature package that may include a driver.

 **CAUTION:**

The backup procedures described here should be used for backing up and restoring files on the same machine only.

See Appendix A, “Summary of Commands,” in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for additional information about the **mkimage** command.

Performing a mkimage Backup

To conduct a full system backup using **mkimage**:

- 1 Log in as **root**.
- 2 Stop the voice system. See [Stopping the Voice System on page 266](#).
- 3 Enter **mkimage**

The system displays the following message:

```
UX: idbuild: INFO:
    The unix kernel will be rebuilt now.
    This will take some time. Please wait.
UX: idbuild: INFO: The unix kernel has been rebuilt.
CHECKING THE SYSTEM RUN LEVEL: PLEASE WAIT....
*****
**
```

```
**WARNING: This process will put the system in single user mode!!!**
**
*****
```

Do you wish to continue (y/n)?

4 Enter **y**

The system displays the following message:

```
STOPPING THE ORACLE DATABASE: PLEASE WAIT.....
THE SYSTEM WILL NOW BE PUT INTO SINGLE USER MODE.
RE-LOGIN AFTER THE PROMPT AND RE-EXECUTE THIS COMMAND
TO CONTINUE THE MKIMAGE PROCESS.
```

Console Login:

5 Continue with [Backing Up the Root File System on page 234](#).

Backing Up the Root File System

To back up the root file system:

1 Log in as **root**.

2 Enter **mkimage**

The system displays the following message:

```
CHECKING THE SYSTEM RUN LEVEL: PLEASE WAIT.....
THE SYSTEM IS IN SINGLE USER MODE: CONTINUING.....
```

WORKING.....

The total space used in the standard voice filesystems are 1935 MB. The following are approximate tape counts required for this backup for various streaming tape drive sizes:

320Mb drive: X tape(s)
525Mb drive: X tape(s)
1.2Gb drive: X tape(s)
2.0Gb drive: X tape(s)
4.0Gb drive: X tape(s)

Be sure to number the cartridge tapes consecutively in the order they will be inserted.

Label the tape(s) 'Voice System Image Tape x' where x indicates the insertion sequence. Also include the current date.

Note: Very large files, such as database files, take several minutes to back up. During this time you will not see any progress reported to the console. If the tape drive is running and the system disk light is flashing, the operation is progressing.

Please insert the first tape now. Press ENTER to start image creation

The tape will be retensioned before writing.....

- 3 Label the appropriate number of cartridge tapes **CONVERSANT Image Tape *x* date**, where *x* indicates the insertion sequence, **Image** indicates the **mkimage** utility, and *date* is the current date.
- 4 Insert the tape labeled “CONVERSANT Image Tape 1” into the cartridge tape drive (see [Inserting and Removing Cartridge Tapes on page 204](#)).
- 5 Press **ENTER**.

The system takes approximately 30 minutes to load the information onto one tape.

If your system backup requires more than one tape, the system displays the following message:

```
End of medium on output  
Change to part 2 and press RETURN key. (q)
```

- 6 If your backup does not require more than one tape, continue with [Step 7](#).

If your system requires more than one tape:

- a Remove the tape labeled “CONVERSANT Image Tape 1” and insert the tape labeled “CONVERSANT Image Tape 2” into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).
- b Press **ENTER**.
- c Repeat [Step a](#) through [Step b](#) for all necessary tapes.

- 7 When the system displays the following message, remove the last tape from the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

The image tapes will be verified now.

Make sure the tapes are inserted in the order they are made.

Press 'Enter' to start verification.

- 8 Press **ENTER**.

The system displays the following message:

Please insert the first tape now. Press 'Enter' to continue.

- 9 Insert the tape labeled "CONVERSANT Image Tape 1" into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

- 10 Press **ENTER**.

The system takes as long to verify a tape as it did to create it.

The system will prompt for additional tapes if necessary.

- 11 If your system has speech files located on a second disk, perform the procedure in [Backing Up the Speech Files on page 238](#).

If your system has only one disk, continue with the procedure in [Verifying the mkimage Backup on page 241](#).

Backing Up the Speech Files

If your system contains speech files on Hard Disk Drive 2, the system displays the following message:

```
The following are approximate tape counts required for this
backup for various streaming tape drive sizes:
```

```
320Mb drive:      X tape(s)
525Mb drive:      X tape(s)
1.2Gb drive:      X tape(s)
2.0Gb drive:      X tape(s)
4.0Gb drive:      X tape(s)
```

Be sure to number the cartridge tapes consecutively in the order they will be inserted.

Label the tape(s) 'Voice System Image Tape x' where x indicates the insertion sequence. Also include the current date.

Note: Very large files, such as database files, take several minutes to back up. During this time you will not see any progress reported to the console. If the tape drive is running and the system disk light is flashing, the operation is progressing.

Please insert the first tape now. Press ENTER to start image creation

The tape will be retensioned before writing.....

To back up the speech files, using the **mkimage** command:

- 1 Label the appropriate number of tapes **CONVERSANT Speech Image Tape *x* (*date*)** where *x* indicates the insertion sequence and *date* is the current date.
- 2 Insert the tape labeled “CONVERSANT Speech Image Tape 1” into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

- 3 Press **ENTER**.

The system takes approximately 30 minutes to load the information onto one tape.

If your system backup requires more than one tape, the system displays the following message:

```
End of medium on output  
Change to part 2 and press RETURN key. (q)
```

- 4 If your backup does not require more than one tape, continue with [Step 5](#).
If your backup requires more than one tape:
 - a Remove the tape labeled “CONVERSANT Speech Image Tape 1” from the cartridge tape drive and insert the tape labeled “CONVERSANT Speech Image Tape 2” into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).
 - b Press **ENTER**.
 - c Repeat [Step a](#) through [Step b](#) for all necessary tapes.

- 5 When the system displays the following message, remove the last tape from the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

The speech tapes will be verified now.

Make sure the tapes are inserted in the order they are made.

Press 'Enter' to start verification.

- 6 Press **ENTER**.

The system displays the following message:

Please insert the first tape now. Press 'Enter' to continue.

- 7 Insert the tape labeled "CONVERSANT Speech Image Tape 1" into the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

- 8 Press **ENTER**.

The system takes as long to verify a tape as it did to create it.

The system will prompt for additional tapes if necessary.

- 9 Continue with the [Verifying the mkimage Backup on page 241](#) procedure.

Verifying the mkimage Backup

When the system is done verifying a tape, it automatically reboots, returns to multi-user format, and displays the console login. To verify the backup:

- 1 Log in as **root**.
- 2 Enter **vi /SaveVsData/mkimage.log**

If the system displays the following message, the mkimage back up was successful.

```
Creation and verification of the CONVERSANT Image Tape is complete.
```

If the system does not display this message, the mkimage back up was not successful. Repeat the procedure.

Backing Up Speech Files and ORACLE Database Tables Using a LAN

Note: The backup server must have an **ftp** program. Most operating systems have a built-in **ftp** program.

Identifying Speech Files and Database Tables

Before the speech files can be backed up over a LAN, you must perform the following procedures to locate the speech files and identify which talkfiles and database tables are being used:

- [Locating Speech Files on page 242](#)
- [Identifying Talkfiles on page 243](#)
- [Identifying Database Tables on page 244](#)

Locating Speech Files

To locate speech files:

- 1 Enter **grep SPEECHDIR /vs/data/irAPI.rc**

The system displays a message similar to the following:

```
SPEECHDIR=/home2/vfs/talkfiles
```

This is the directory in which all of the speech files are located.

- 2 Enter **cd *directory_name***

Note: Using the example in the previous step, enter
cd /home2/vfs/talkfiles

- 3 Enter **ls**

The system displays a message similar to the following:

```
1  100  102  104  106  108  110  112  201  40  9
10  10  103  105  107  109  111  2   206  41
```

Note: These are the talkfiles used by all applications on the system.

Identifying Talkfiles

To identify the talkfiles being used:

- 1 Enter **cd /speech/talk**
- 2 Enter **ls**

The system displays a message similar to the following:

```
feature_tst.pl transcribe.pl
```

- 3 View the **.pl** file associated with your application.

For example, to view the **.pl** file associated with the feature test application, enter **head feature_tst.pl**

The system displays a message similar to the following:

```
1      Standard Speech for feature_tst
sit.det      1000  Special Information Tone detected
recog.1.3.no  1001  to use recognition type 1-3 and no,
enter 4 to.test  1002  To test
cant.dial.lu  1003  unable to dial into line unit
full.cca.b.1  1004  For full cca call bridge enter 1#
```

- 4 Locate the first field in the first line of the output. This is the talkfile that application uses.

In the example above the feature test application uses talkfile 1.

- 5 Record the number.
- 6 Repeat [Step 3](#) through [Step 5](#) for all appropriate applications.

Identifying Database Tables

To identify the database tables the system uses:

1 Enter **cd /save_directory**

where *save_directory* is the name of the directory you want to use as the intermediate directory during a backup or restore.

2 Enter **sb_table -l application_name**

where *application_name* is the name of the application you are using.

The system displays a message similar to the following:

```
TAB1  
TAB2  
TAB3  
TAB4  
TAB5
```

The tables listed in the message are the tables being used by the application.

3 Record the table names.

4 Enter **tbisav** *application_name tables*

where *application_name* is the name of the application you are using and *tables* are the tables recorded in [Step 3](#).

Note: Table names are case sensitive and must be separated by spaces.

Note: An explanation of the **tbisav** command can be found by entering **tbisav**, without any additional arguments, on the system. See *CONVERSANT System Version 8.0 Administration*, 585-313-510, for more information on system commands.

5 Repeat [Step 2](#) though [Step 4](#) for every application for which you want to save tables.

Backing Up Speech Files and Database Tables

Separate procedures are required to back up the speech files and database tables:

- [Backing Up Speech Files on page 246](#)
- [Backing Up Database Tables on page 247](#)

Note: These procedures apply to Windows NT or Windows 95 servers.

Backing Up Speech Files

To back up speech files:

- 1 On the server, create a directory for each talkfile to be backed up. It is advisable to have the same directory names on your server as on your system. For example, place files from talkfile 1 in a directory called 1.
- 2 From a DOS prompt on the server, enter **cd *backup_directory***
where *backup_directory* is the name of the directory you want to use as the backup directory for the application speech.
- 3 Enter **ftp *machine_address_or_name***
The system asks for the user login.
- 4 Enter an appropriate login id.
The system asks for the user password.
- 5 Enter the user password.
- 6 Enter **cd *directory_name*** using the directory name entered in [Step 2 of Locating Speech Files on page 242](#).
- 7 Enter **prompt**
This command toggles between interactive mode on and interactive mode off. The system should be set to interactive mode off.

8 Enter **bin**

This command indicates binary transfer.

9 Enter **cd *talkfile***

where *talkfile* is the talkfile being used by the application. This is the file *t* identified in [Step 4](#) of [Identifying Talkfiles on page 243](#).

10 Enter **mget ***

This command copies all files in the directory.

11 If there are additional talkfiles which need to be backed up, complete the following Steps a through c for each talkfile.

a Enter **cd *./new_talkfile***

b Enter **lcd *./new_backup_directory***

c Enter **mget ***

12 Exit the **ftp** program.**Backing Up Database Tables**

To back up database tables:

1 From a DOS prompt on the server, enter **cd *backup_directory***

where *backup_directory* is the name of the directory you want to use as the backup directory for the ORACLE tables.

2 Enter **ftp machine_address_or_name**

The system asks for the user login.

3 Enter an appropriate login id.

The system asks for the user password.

4 Enter the user password.**5** Enter **cd /save_directory**

where *save_directory* is the name of the directory in which the database tables were saved in [Step 1](#) of [Identifying Database Tables on page 244](#).

6 Enter **prompt**

This command toggles between interactive mode on and interactive mode off. The system should be set to interactive mode off.

7 Enter **bin**

This command indicates binary transfer.

8 Enter **get application_name** for every file that you created in [Step 4](#) in [Identifying Database Tables on page 244](#), where *application_name* is the name of the application you are using.**9** Exit the **ftp** program.

Restoring the CONVERSANT System

Three utilities are available to restore a system from backup tapes. You must use the same utility to restore as was used to perform each backup. If you followed the recommendations in [Table 19 on page 214](#), you will use three restoration procedures:

- [Restoring the System Using QuickStart on page 250](#) or [Restoring the System Using mkimage on page 256](#) for disaster recovery
- [Performing a Full Restore Using BRU on page 253](#)
- [Performing a Differential Restore using BRU on page 254](#)

The ORACLE database directory is restored with the procedure in [Restore the Database Directory on page 259](#)

Procedures are also provided to restore speech files and the ORACLE database over a LAN:

- [Restoring Speech Files on page 260](#)
- [Restoring Database Tables on page 262](#)

Restoring the System Using QuickStart

To perform this procedure, you must have the “QuickStart” boot diskette.

Note: The CONVERSANT system must be shut down in order to restore an entire disk.

Note: If you have a backup created with any version of QuickStart prior to 1.3, you must recover using the same release that you used to create the backup.

To restore the system using QuickStart:

1 Log in as **root**.

2 Enter **shutdown -g0 -y**

The system shuts down.

3 Insert the boot diskette labeled “QuickStart” into the diskette drive. See [Inserting and Removing Diskettes on page 210](#).

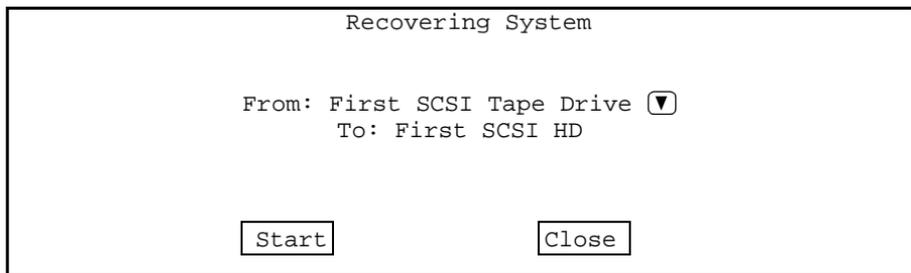
4 Press the reset button on the CONVERSANT platform.

5 The system boots from the diskette. After a few minutes, the system displays the QuickStart main menu ([Figure 49 on page 217](#)).

6 Use the **TAB** key to highlight Recover System and press **ENTER**.

7 The system displays the Recovering a System window ([Figure 58 on page 251](#)).

Figure 58. Recovering a System Window Verifying Backup Window



Recovering System

From: First SCSI Tape Drive ▼

To: First SCSI HD

Start Close

- 8 In the From: field, select the device from which you want to recover data. For CONVERSANT, select **First SCSI Tape Drive**.
- 9 In the To: field, select the disk drive to which you want to restore data:
 - ~ Select **SCSI HD** if you are restoring data to a non-RAID system.
 - ~ Select **dac90** if you are restoring data to a RAID system.Use the **TAB** key and the arrow keys to select a disk drive from the list.
- 10 Insert the tape labeled **CONVERSANT Disaster Recovery Tape x (QuickStart) date** in the cartridge tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).
- 11 Press the **TAB** key to highlight the Start button, and then press **ENTER**.

- 12 The system displays a warning that indicates you are about to overwrite ALL data on your backup media.
- 13 Select **Continue**.
- 14 The system displays the Recovering System status window similar to [Figure 51 on page 219](#).
- 15 When the procedure is complete, the tape rewinds and the system indicates that the restore was successful.
- 16 Select **OK** to return to the QuickStart main menu ([Figure 49 on page 217](#)).
- 17 Remove the QuickStart boot diskette from the diskette drive. See [Inserting and Removing Diskettes on page 210](#).
- 18 Reboot the CONVERSANT system.
- 19 If you have made full a full backup using BRU, continue with [Performing a Full Restore Using BRU on page 253](#).

Performing a Full Restore Using BRU

If you used BRU to perform a full backup, to restore the system:

- 1 Starting at the Voice System Administration Menu ([Figure 46 on page 208](#)), select



The system checks to see if the CONVERSANT voice system is running.

- 2 If the voice system is not running, skip to step [Step 3](#).

If the voice system is running, enter **y**

The system displays the following:

```
The Voice System is running, do you want to stop it for
Restore?
```

- Note:** If you choose N, the voice system is not stopped and the restoration does not continue.

- 3 Insert the tape labeled "CONVERSANT Full UNIX Backup [*latest date available*]." See [Inserting and Removing Cartridge Tapes on page 204](#).

The system displays a message similar to the following:

```
Do you want to recover the following volume:  
Full Backup created on April 3, 1997: 2:30 A. M.  
Enter y to recover (y):
```

- 4 Enter **y**

Note: If more than one tape is required to restore, the system prompts you to insert the additional tapes when they are needed.

- 5 If you have made a differential backup, continue with [Performing a Differential Restore using BRU on page 254](#).

Performing a Differential Restore using BRU

If you used BRU to perform a differential backup, to restore the system:

- 1 Start at the Voice System Administration Menu ([Figure 46 on page 208](#)), and select:

```
> Backup/Restore  
  > Restore
```

The system checks to see if the CONVERSANT voice system is running. If the voice system is running, the system displays the following message: The system responds with the following message:

```
The Voice System is running, do you want to stop it for
Restore?
```

- 2 If the system is not running, skip to [Step 3](#).

If the system is running, enter **y**

Note: If you choose N, the voice system is not stopped and the restoration does not continue.

- 3 Insert the tape labeled "CONVERSANT Differential UNIX Backup [*latest date available*]." See [Inserting and Removing Cartridge Tapes on page 204](#).

The system displays a message similar to the following:

```
Do you want to recover the following volume:
Differential Backup created on April 3,1997: 2:30 A. M.
Enter y to recover (y):
```

- 4 Enter **y**

Note: If more than one tape is required to restore, the system will prompt you to insert the additional tapes when they are needed.

- 5 Press the reset button on the system.

Restoring the System Using mkimage

Note: The system creates a new set of the /unused file systems during a restore of the system. Any data in these file systems are destroyed. Therefore, a user who renames the file system:

- [1] Manually backup the data.
- [2] Perform a restore of the system.
- [3] Recreate the custom file system by changing the name of an unused filesystem.
- [4] Restore the data.

To restore the system using the **mkimage** utility:

- 1 From the “Installing Base System Software” chapter in the maintenance book for your platform, use the following procedures:
 - a “Beginning the UnixWare Installation”
 - b “Setting Up the UnixWare Environment”
 - c “Initializing the Hard Disk Drives”
 - d “Transferring the UnixWare Files”

The system displays the Application Server Media Type screen ([Figure 59 on page 257](#)).

Figure 59. Application Server Media Type Screen

The Application Server software is available on diskette or tape or network server. You must select the source you will use to install the software.

Your choices are:

1. Diskette Drive 1
2. Unixware for Intuity CONVERSANT
3. Network Install Server
4. Intuity Image/Snap Tape

Press a number between '1' and '4' followed by 'ENTER':

- 6 Insert the system backup cartridge tape labeled "CONVERSANT Image Tape 1" into the tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#) for the procedure.
- 7 Enter 4

The system displays the Insert Tape screen ([Figure 60 on page 258](#)).

Figure 60. Insert Tape Screen

Please insert the Intuity Image/Snap cartridge tape into the tape drive and press 'ENTER'.

Your choices are:

1. The tape has been inserted in the tape drive.
2. Go back to previous menu.

Press '1' or '2' followed by 'ENTER':

8 Press ENTER.

This accepts the default of 1 to indicate the tape has been inserted and is ready for access.

The system displays the following message:

Installation in progress. This will take several minutes.
Please do not remove the tape.

The installation process takes 2 to 3 hours to complete. When the system installation is complete the system displays a message prompting you to remove the tape from the drive.

- 9 Remove the tape labeled "CONVERSANT Image Tape 1" from the tape drive. See [Inserting and Removing Cartridge Tapes on page 204](#).

- 10 Press **ENTER**.

The system reboots.

- 11 If your system has more than one hard disk drive, clean the secondary hard disk drives. See the “Replacing a Hard Disk Drive” chapter of your platform maintenance book.

 **CAUTION:**

Do not remove the partition on the root hard disk drive.

- 12 Reboot the system. See [Rebooting the UNIX System on page 271](#).

The system is now ready for you to restore speech files or activate mirroring. To restore the speech files, see “Saving and Restoring,” in Chapter 1, “Overview of Speech,” in *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition*, 585-313-218. To activate mirroring, see the “Replacing a Hard Disk Drive” chapter of your platform maintenance book.

Restore the Database Directory

To restore the database directory:

- 1 If the database system is running, stop it. See [Stopping the Database System on page 274](#).
- 2 Perform the “Selective System Restore” procedure described in the UnixWare documentation available on the following web site (<http://www.sco.com/documentation>). Specify the directory **/oracle/dbs**.

- 3 If there are other database files created outside the **/oracle/dbs** directory, perform the “Selective System Restore” procedure for each of the files. See the UnixWare documentation available on the following web site (<http://www.sco.com/documentation>) for this procedure.
- 4 Start the database. See [Starting the Database System on page 272](#).
- 5 Start the voice system. See [Starting the Voice System on page 264](#).

Restoring Speech Files and ORACLE Database Tables Using a LAN

Note: The backup server must have an **ftp** program. Most operating systems have a built-in **ftp** program.

Use these procedures to restore the speech files or ORACLE database tables over a LAN.

Restoring Speech Files

To restore speech files:

- 1 Using the root login, enter **chmod 777 *directory****

where *directory* is the name of the speech directory as found in [Step 1 of Locating Speech Files on page 242](#).

- 2 On the server, enter **ftp *machine_address_or_name***

The system asks for the user login.

- 3 Enter an appropriate login id.

- 4 Enter the user password.
- 5 Enter **cd *directory_name*** using the directory name entered in [Step 2 of Locating Speech Files on page 242](#).
- 6 Enter **cd *talkfile***

where *talkfile* is the speech file being used by the system. This is the file that was identified in [Step 4 of Identifying Talkfiles on page 243](#).

- 7 Enter **prompt**

This command toggles between interactive mode on and interactive mode off. The system should be set to interactive mode off.

- 8 Enter **lcd *backup_directory***

where *backup_directory* is the directory on the server to which the speech files were backed up.

- 9 Enter **mput ***

This command puts all files in the *talkfile* directory.

- 10 If there are additional talkfiles which need restored in a different server directory than those which were already restored in this procedure do the following for each talkfile:
 - a Enter **cd *./new_talkfile***
 - b Enter **lcd *new_backup_directory***
 - c Enter **mput ***

- 11 Exit the **ftp** program.
- 12 Using the root login, enter **chmod 644 *directory****
where *directory* is the name of the speech directory as found in [Step 1 of Locating Speech Files on page 242](#).

Restoring Database Tables

To restore database tables:

- 1 On the server, enter **ftp *machine_address_or_name***
The system asks for the user login.
- 2 Enter an appropriate login id.
The system asks for the user password.
- 3 Enter the user password.
- 4 Enter **cd /*save_directory***
where *save_directory* is the name of the directory in which the database tables were saved in [Step 1 of Identifying Database Tables on page 244](#).
- 5 Enter **lcd *backup_directory***
where *backup_directory* is the directory on the server to which the database tables were backed up.
- 6 Enter **prompt**
This command toggles between interactive mode on and interactive mode off. The system should be set to interactive mode off.

- 7 Enter **put** *application_name* for every application with tables that need restored.

where *application_name* is the name of the application you are using.

This command will put all files in *backup_directory* on the server.

- 8 Exit the **ftp** program.
- 9 Drop each table to be restored.

 **CAUTION:**

If the existing tables are not dropped, the system appends the existing tables with the restored tables.

- 10 On the system, enter **tblres** *application*

Note: An explanation of the **tblres** command can be found by entering **tblres**, without any additional arguments, on the system.

- 11 Repeat [Step 10](#) for each database table to be restored.

Administering the Voice System

Administering the voice system includes the following procedures:

- [Starting the Voice System on page 264](#)
- [Stopping the Voice System on page 266](#)
- [Shutting Down the Voice System on page 270](#)

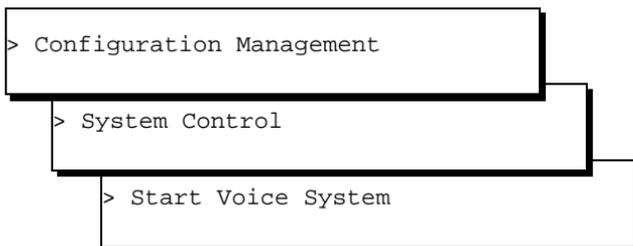
Starting the Voice System

You can stop the voice system from either the windows or the command line.

Using the System Windows

To start the voice system:

- 1 Start at the Voice System Administration menu ([Figure 46 on page 208](#)), and select:



The system displays the following messages:

```
running bitmapmgr...
bitmapmgr completed.

ORACLE RDBMS is already started.

The Voice System is starting

The Voice System is initializing cards

The Voice System is still initializing cards
Please wait...

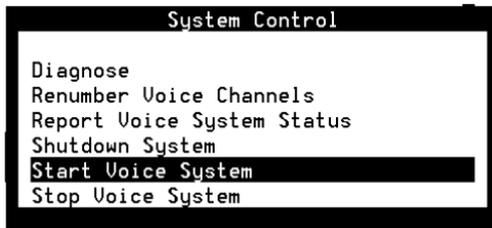
Startup of the Voice system is now complete.

Hit acknowledge key to continue.
```

2 Press F1 (Acknowledge).

The system displays the System Control menu ([Figure 61](#)).

Figure 61. System Control Menu



Using the Command Line

To start the voice system:

1 Enter **start_vs**

The system displays the following messages:

```
running bitmapmgr...
bitmapmgr completed.

ORACLE RDBMS is already started.

The Voice System is starting
The Voice System is initializing cards
The Voice System is still initializing cards
Please wait...

Startup of the Voice system is now complete.
```

Stopping the Voice System

You must stop the voice system to complete the following tasks:

- Replacing a component in the system
- Performing routine backup and restore procedures

When the voice system is stopped, the entire system is placed in the idle state when all lines are free, the internal system tables are saved, and all processes are turned off.

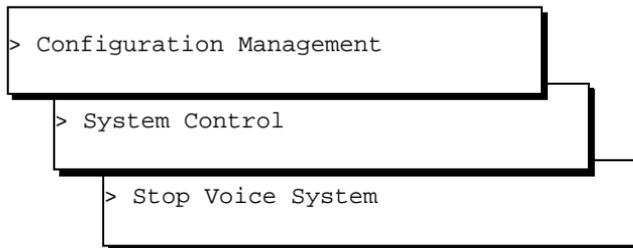
The voice system can be stopped from either the windows or the command line.

Using the System Windows

To stop the voice system:

Note: Have the system administrator route calls away from the system before beginning this procedure.

- 1 Start at the Voice System Administration menu ([Figure 46 on page 208](#)) and select:



The system displays the Wait Time window ([Figure 62](#)).

Figure 62. Wait Time Window



- 2 Enter a number between 60 and 600.

This is the number of seconds you want the system to wait for all calls to clear before stopping the voice system.

- 3 Press **F3** (Save).

The system displays the following messages:

```
The Voice System is now stopping.
```

```
Initiating request to clear all calls in the next X seconds.
```

```
Orderly idling of the system succeeded.
```

```
After the voice system has completely stopped, use the "Start  
Voice System" choice from the system control menu to restart  
the voice system.
```

```
The Voice System has stopped.
```

```
Press Enter to continue.
```

- 4 Press **ENTER**.

The system displays the System Control menu ([Figure 61 on page 265](#)).

**Using the
Command Line**

To stop the voice system:

Note: Have the system administrator route calls away from the system before beginning this procedure.

1 Enter **stop_vs *time***

where *time* is the time (60 to 600 seconds) that you want the system to wait before it begins the shut down procedure. The default wait time is 180 seconds.

The system displays the following message:

```
The Voice System is now stopping.
```

```
Initiating request to clear all calls in the next X seconds.
```

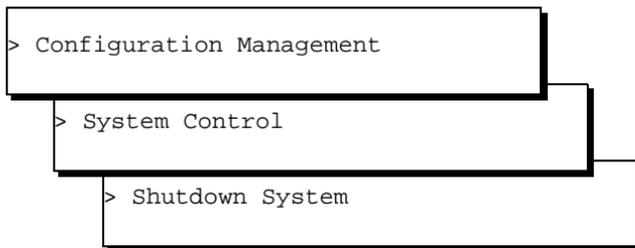
```
Orderly idling of the system succeeded.
```

After the voice system has completely stopped, use the “Start Voice System” choice from the system control menu to restart the voice system.

Shutting Down the Voice System

To shut down the voice system:

- 1 Start at the Voice System Administration menu ([Figure 46 on page 208](#)) and select:



The system displays the Wait Time window ([Figure 62 on page 267](#)).

- 2 Enter a number between 0 and 60.

This is the number of seconds you want the system to wait for all calls to clear before shutting down the voice system.

- 3 Press **F3** (Save).

The system displays the following messages:

```
The Voice System is now stopping.
```

```
Initiating request to clear all calls in the next X seconds.
```

```
Orderly idling of the system succeeded.
```

After the voice system has completely stopped, use the [Starting the Voice System on page 264](#) to restart the voice system.

Administering the Operating System

Administering the operating system includes the following procedures:

- [Shutting Down the Operating System on page 271](#)
- [Rebooting the UNIX System on page 271](#)

Shutting Down the Operating System

Note: The system automatically resets the machine clock for daylight savings time. If your system is down at the time at that daylight savings time is updated (April and October), your machine clock will not indicate the correct time.

To shut down the operating system:

- 1 Stop the voice system. See [Stopping the Voice System on page 266](#).
- 2 Enter **shutdown -i0 -y -g0**

Rebooting the UNIX System

To reboot the UNIX system:

- 1 Stop the voice system. See [Stopping the Voice System on page 266](#).
- 2 Enter **shutdown i6 -y -g0**

Administering the Database System

Administering the database system includes the following procedures:

- [Starting the Database System on page 272](#)
- [Stopping the Database System on page 274](#)
- [Dropping a Database Table on page 275](#)
- [Recreating the System Traffic Tables on page 277](#)

Starting the Database System

To start the database system:

1 Enter `/oracle/bin/orw`

The system displays the following messages followed by the UNIX prompt.

```
ORACLE instance started.  
Total System Global Area          59461008 bytes  
Fixed Size                        64912 bytes  
Variable Size                     55128064 bytes  
Database Buffers                  4096000 bytes  
Redo Buffers                       172032 bytes  
Database mounted.  
Database opened.
```

If the database start-up fails, the system may hang, forcing you to press **DEL**, or the system may provide error information and return the system prompt. If the system returns error information, enter:

/oracle/bin/oerr ora error_num

where *error_num* is the ORACLE error number in the reason field of the error message.

The output will contain a brief explanation of the error, the cause, and the action to take to correct it.

Note: You can also refer to the *ORACLE Error Messages and Codes Manual* for the explanation. If the error is unique to the UNIX environment, you can also see the *ORACLE for UNIX Technical Reference Guide* for detailed information.

Follow the actions suggested to correct the problem.

Stopping the Database System

To stop the database system:

- 1 If the voice system is still running, stop it. See [Stopping the Voice System on page 266](#).
- 2 Enter **/oracle/bin/ior s**

The system displays the following messages followed by the UNIX prompt:

```
Database closed.  
Database dismounted.  
ORACLE instance shut down.  
SQL*DBA complete.
```

If the database shutdown was not successful:

- a Press **DEL**.

The system displays the following message:

```
ORA-01013: user requested cancel of current operation  
SQL*DBA complete.
```

- b Enter **/oracle/bin/ior c**

The system displays the following message:

```
ORACLE instance shut down.  
SQL*DBA complete.
```

Dropping a Database Table

If the table resides in a remote machine, perform the following procedure on that remote machine.

Note: If the table resides on a remote machine, contact the database administrator of the remote machine for assistance.

- 1 Enter **/oracle/bin/orastat** to verify that the database is running.

The system displays either the number 1 or the number 0.

- ~ If “1” is displayed, the database is not running. Start the database. See [Starting the Database System on page 272](#).
- ~ If “0” is displayed, the database is running. Continue with [Step 2](#).

- 2 Enter **/oracle/bin/sqlplus sti/sti**

This will invoke the ORACLE SQL*PLUS utility.

The system displays the following message:

```
SQL*Plus: Release 3.1.1.9.1>
```

3 Enter **drop table *tblname***

where *tblname* is the name of the table to be dropped enclosed in double quotes.

Note: The table name is case sensitive. It must also be enclosed in double quotes appearing exactly as it appears in the system message.

~ If the table is dropped successfully, the system displays the following message:

```
Table dropped.
```

~ If the REASON field is ORA: 00942 table or view does not exist, continue with [Step 4](#).

~ If the table cannot be dropped:

a Enter **quit**

This will exit the SQL*PLUS utility.

b Stop the database. See [Stopping the Database System on page 274](#).

c Start the database. See [Starting the Database System on page 272](#).

d Repeat [Step 3](#) of this procedure.

4 Enter **quit**

This will exit the SQL*PLUS utility.

Recreating the System Traffic Tables

To recreate the system traffic tables:

Note: All current system traffic data is lost after performing this procedure.

- 1 Stop the voice system. See [Stopping the Voice System on page 266](#).
- 2 Enter `/oracle/bin/sqlplus \@/oracle/dist/cdh.sql`
This drops and recreates all system traffic tables.
- 3 Start the voice system. See [Starting the Voice System on page 264](#).

Verifying the Date and Time

Procedures to verify the date and time include:

- [Checking the UNIX Date and Time Window on page 278](#)
- [Changing the UNIX Date and Time Window on page 280](#)

Checking the UNIX Date and Time Window

To check the UNIX Date and Time window:

- 1 Start at the Voice System Administration Menu ([Figure 46 on page 208](#)) and select:

```
> UNIX Management
> UNIX Date and Time
```

The system displays the UNIX Date and Time window ([Figure 63 on page 279](#)).

Figure 63. UNIX Date and Time Window

```
UNIX Date and Time
Date:           May 29, 1997
Time:           3:00
AM/PM:          PM
Timezone:       Eastern
Is Daylight Savings Time used?: YES
```

- 2 Check each of the fields under UNIX Date and Time.
- 3 If all of the fields are correct, press **F6** (Cancel).

If a field contains incorrect information, continue with [Changing the UNIX Date and Time Window on page 280](#).

Changing the UNIX Date and Time Window

The user can change any of the displayed fields. To change one field in the Date and Time window, the user must either change or acknowledge the information in each field.

Changing the Date Field

The date field contains the month, day, and year.

Changing the Month

- 1 Place the cursor on the month portion of the `Date:` field in the UNIX Date and Time window.
- 2 If the month shown is not correct:
 - a Press **F2** (Choices) to display the months of the year ([Figure 64 on page 281](#)).

Figure 64. UNIX Month Choices Menu



- b** Use **▲** or **▼** to move the cursor and highlight the correct month.
- c** Press **ENTER** to place the name of the correct month into the month field.

Note: The user can also select the current month by entering the corresponding alphabetic abbreviation from this list: **Ja, F, Mar, Ap, May, Jun, Jul, Au, S, O, N, D.**

Continue with [Changing the Day on page 282](#).

If the month shown is correct, press **ENTER** for no change and continue with [Changing the Day on page 282](#).

Changing the Day

If the day of the month shown is:

- Not correct, enter the correct day as a number from 1 to 31 and continue with [Changing the Year on page 282](#).
- Correct, press **ENTER** for no change and continue with the next procedure [Changing the Year on page 282](#).

Changing the Year

If the year shown is:

- Not correct, enter the correct year as a number from 1996 to 2038 and continue with [Changing the Time Field on page 282](#).
- Correct, press **ENTER** for no change and continue with [Changing the Time Field on page 282](#).

Changing the Time Field

If the time shown is:

- Not correct, enter the correct time in the form of *hours:minutes* and continue with [Changing the AM/PM Field on page 283](#).

Note: Use a 12-hour a.m./p.m. standard. Do not use the 24-hour military standard.

- Correct, press **ENTER** for no change and continue with [Changing the AM/PM Field on page 283](#).

Changing the AM/PM Field

If AM/PM is:

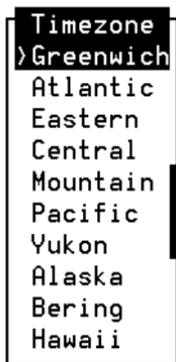
- Not correct as shown, type **a** for a.m. or **p** for p.m. and continue with [Changing the Time Zone Field on page 283](#).
- Correct as shown, press **ENTER** for no change and continue with [Changing the Time Zone Field on page 283](#).

Changing the Time Zone Field

If the time zone shown is not correct, complete Steps 1 through 3 and continue with [Changing the Is Daylight Savings Time Used Field on page 284](#).

- 1 Press **F2** (Choices) to display the list of time zones ([Figure 65](#)).

Figure 65. UNIX Time Zone Choices Menu



- 2 Use **▲** or **▼** to move the cursor and highlight the correct time zone.
- 3 Press **ENTER** to place the name of the correct time zone into the `Timezone:` field.

If the time zone shown is correct, press **ENTER** for no change and continue with [Changing the Is Daylight Savings Time Used Field on page 284](#).

Changing the Is Daylight Savings Time Used Field

- 1 Type **y** for yes or **n** for no depending upon whether or not daylight savings time is used at any time during the year.
- 2 Press **F3** (Save) to save the changes and continue [Acknowledging the Changes to the Date and Time Window on page 285](#).

Acknowledging the Changes to the Date and Time Window

After the changes have been made to the Date and Time window you must ensure that the system recognizes the new information.

To acknowledge the new information:

- 1 Reboot the system. See [Rebooting the UNIX System on page 271](#).

At this time the date and time changes will take effect.

- 2 Start at the Voice System Administration Menu ([Figure 46 on page 208](#)) and select:

```
> UNIX Management
> UNIX Date and Time
```

The system displays the UNIX Date and Time window ([Figure 63 on page 279](#)).

- 3 Check each of the fields under UNIX Date and Time to ensure that the changes have been recorded.

4 Alarms and Log Messages

Introduction

When the CONVERSANT system has problems or errors, it generates a system message. System messages are used to alert you to problems, potential problems, or a change in the state of the system. These messages are collected in the Message Log Report screen under the Reports Administration menu.

The information in this chapter details the actions you must take regarding these system-reported troubles. If the action requires you to contact your "remote maintenance service center," this means one of the following:

- If you are a field technician supporting a customer per a maintenance agreement or a time and material charge basis, you are the remote maintenance service representative. If the problem is more serious than you can handle, contact the next level of support or Lucent Technologies for assistance.
- If you are a support person assisting an end customer, you are the remote maintenance service representative. If you cannot solve the problem, contact the Technical Support Center (TSC) at 1-800-242-2121 for assistance.

ADM Alarms and Log Messages

ADM001

Alarm Level Major.

Description The Administration process encountered a system error while trying to access a file. The value of `errno` indicates the reason for the error.

Repair Procedure Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 Check the file or directory named in the error message; it may be corrupted or missing.
- 2 Ensure that the `/` and `/usr` file systems are not out of free space.
- 3 Possible damaged file system (use **fchk** when the system is at a single user level).
- 4 Possible disk or disk controller problems.

ADM002

Alarm Level	Major.
Description	The Administration process encountered a problem while trying to send or receive an interprocess communication message. The value of errno indicates the reason for the error.
Repair Procedure	Contact your remote maintenance service center for assistance.

ADM003

Alarm Level	Minor.
Description	The hardware configurator checker, hconchk , found a discrepancy between the configuration specified by the Hardware Resource Allocator (HRA) and the system device configuration. The error message describes the nature of the discrepancy. More detailed information about the discrepancy may be included in the output of hconchk . When the voice system is started, hconchk is executed and the output is written to <code>/vs/data/hconchk.out</code> . To resolve the discrepancy, use the HRA command, <code>show_config</code> , to view the HRA device settings or the command, <code>configure</code> , to add or remove devices or to modify the device settings. If necessary, verify that the specified devices are installed in the system and that the hardware device settings are correct. Then execute the command hconchk to verify that the discrepancy has been eliminated.

- Repair Procedure** Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.
- 1 Execute the `show_config` command. See the "System Configuration" appendix in the maintenance book for your platform for more information.
 - 2 If necessary, execute the `configure` command. See the "System Configuration" appendix in the maintenance book for your platform for more information.

ADM004

Alarm Level Minor.

Description The hardware configurator checker, `hconchk`, identified a configured system module that has not been configured by the Hardware Resource Allocator (HRA). This message does not necessarily indicate that there is an error, but it is a warning that there may be a device which has been installed in the system and has not been configured by the HRA. The HRA command, `show_config`, can be used to view all devices configured by the HRA, and the command `configure` can be used to add a device. If a system module is not included in HRA device table, then it cannot be configured by the HRA.

- Repair Procedure** Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.
- 1 Execute the `show_config` command. See the "System Configuration" appendix in the maintenance book for your platform for more information.
 - 2 If necessary, execute the `configure` command. See the "System Configuration" appendix in the maintenance book for your platform for more information.

ALERT Alarms and Log Messages

ALERT001

Alarm Level None.

Description This messages indicates a threshold level change for the included message. The action taken by the Alerter when a threshold change occurs is defined with the System Messages Administration window under `Configuration Management` in the Voice System Administration menu.

Repair Procedure No corrective action is necessary.

ALERT002

Alarm Level None.

Description The Alerter has received a command to reset its statistics.

Repair Procedure No corrective action is necessary.

ALERT003

Alarm Level None.

Description The Alerter has received a command to print or reset an invalid threshold.
An invalid threshold was entered by a user at the Alerter command interface.

Repair Procedure No corrective action is necessary.

ALERT004

Alarm Level None.

Description The Alerter failed to convert the indicated threshold rules file to alerter thresholds for voice system messages. Thresholding for voice system messages will not function.

If no thresholds were specified, this message can be ignored.

Repair Procedure Restore the thresholds rules file indicated using a system backup.

If no valid backup exists, reinstall the system software.

ALERT005

Alarm Level None.

Description The Alerter created the indicated number of message thresholds from the thresholds rules file.

Repair Procedure No corrective action is necessary.

ALERT006

Alarm Level None.

Description The Alerter updated message thresholds from the threshold rules file.

Repair Procedure No corrective action is necessary.

ALERT007

Alarm Level None.

Description The Alerter updated messages thresholds from the threshold rules file.

Repair Procedure No corrective action is necessary.

ASAI Alarms and Log Messages

ASAI001

Alarm Level

Critical.

Description

The ASAI physical link has gone down. All ASAI-provided services will not function until the link has been re-established.

Repair Procedure

Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 If message ASAI025 follows this message, no corrective action is necessary.
- 2 Check the ASAI link wiring between the CONVERSANT system and the PBX for proper connection.
- 3 Check the MAPD administration. Make sure that the proper NODE_ID is set and the CVLAN status is CONNECTED.
- 4 Make sure that another CONVERSANT system is not using the same NODE_ID.

ASAI002

Alarm Level

Critical.

Description

The ASAI physical link is up, but the ASAI environment cannot be set. All ASAI-provided services will not function until the link has been re-established.

Repair Procedure

Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 If message ASAI025 follows this message, no corrective action is necessary.
- 2 Check your PBX administrator to ensure that the ASAI port on the PBX has been administered with Fixed TEI=y and TEI=3.
- 3 Check the MAPD administration. Make sure that the proper NODE_ID is set and the CVLAN status is CONNECTED.
- 4 Make sure that another CONVERSANT system is not using the same NODE_ID.

ASAI006

Alarm Level	None.
Description	The ASAI link should be up and running.
Repair Procedure	No corrective action is necessary.

ASAI008

Alarm Level	Major.
Description	<p>The data only script running on the specified virtual channel has stopped abruptly.</p> <p>This may indicate a problem with the service assigned to the domain.</p> <p>All ASAI messages related to that domain are lost.</p>
Repair Procedure	No immediate action is necessary as the script will restart automatically. To make sure the script restarted, see Chapter 4, "Feature Packages" of <i>CONVERSANT System Version 8.0 Administration</i> , 585-313-510.

ASAI010

Alarm Level Major.

Description The CONVERSANT system agent on the specified channel could not be logged in. As a result, the ACD will not route calls to this channel.

The extension assigned to the channel on the CONVERSANT system is incorrect.

Repair Procedure Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 Correct the extension assigned to the specified channel. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 Consult your PBX administrator to verify that the channel extension is a member of the ACD split.

ASAI011

Alarm Level	Major.
Description	<p>The CONVERSANT system agent on the specified channel could not be logged in. As a result, the ACD will not route calls to this channel.</p> <p>The login request cannot be executed due to lack of switch resources.</p>
Repair Procedure	If message ASAI028 follows this message, no corrective action is necessary. Otherwise, consult your PBX administrator.

ASAI012

Alarm Level	Major.
Description	<p>The CONVERSANT system agent on the specified channel could not be logged in. As a result, the ACD will not route calls to this channel.</p> <p>The extension assigned to the specified channel on the CONVERSANT system is not a member of the ACD split.</p>
Repair Procedure	Have the PBX administrator add the extension to the ACD split.

ASAI013

Alarm Level Major.

Description The CONVERSANT system agent on the specified channel could not be logged in. As a result, the ACD will not route calls to this channel.

The specified extension currently has an active call.

Repair Procedure Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 If message ASAI028 follows this message, no corrective action is necessary.
- 2 Log the channel out. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 3 Retry the login request. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

ASAI015

Alarm Level

Critical.

Description

The CONVERSANT system agent on the specified channel could not be logged in. As a result, the ACD will not route calls to this channel.

Switching equipment congestion exists. The switch is not accepting the request at this time because of processor overload.

Repair Procedure

Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 If message ASAI028 follows this message, no corrective action is necessary.
- 2 Suggest that the adjunct or user retry the request later.
- 3 If the problem persists, consult your PBX administrator.

ASAI016

Alarm Level

Major.

Description

The CONVERSANT system agent on the specified channel could not be logged in due to an unknown error. As a result, the ACD will not route calls to this channel.

Repair Procedure

If message ASAI028 follows this message, no corrective action is necessary.

ASAI017

Alarm Level Critical.

Description The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

Either the virtual channels are unavailable or they are all busy.

Repair Procedure Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 If message ASAI029 follows this message, no corrective action is necessary.
- 2 Stop the voice system `Stop_the_voice_system_stop_vs`.
- 3 Edit the file `/vs/data/irAPI.rc`
 - a If a `VCHANS=32` entry exists, change the number 32 to 40.
 - b If a `VCHANS` entry does not exist, add the line `VCHANS=32`.
- 4 Start the voice system `From_the_command_line`.

ASAI018

Alarm Level Major.

Description The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

The domain is in an initialization state.

Repair Procedure Perform the following procedures to correct the alarm. Contact your remote maintenance service center for assistance.

- 1 If message ASAI029 follows this message, no corrective action is necessary.
- 2 Verify that the correct service has been assigned to the specified domain by completing Steps a and b below.
 - a Disable the domain. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - b Enable the domain. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

ASAI019

Alarm Level

Major.

Description

The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

The extension corresponding to the specified ASAI domain is nonexistent on the PBX.

Repair Procedure

Consult your PBX administrator to add the specified domain to the PBX.

ASAI020

Alarm Level

Major.

Description

The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

The switch limit for the maximum number of monitored domains has been exceeded.

Repair Procedure

If message ASAI029 follows this message the for same domain, no corrective action is necessary. Otherwise, consult your PBX administrator.

ASAI021

Alarm Level

Major.

Description

The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

The specified ASAI domain is already monitored by another adjunct.

Repair Procedure

If message ASAI029 follows this message for the same domain, no corrective action is necessary. Otherwise, the adjunct monitoring this domain has to disable the domain before the voice system can monitor it.

ASAI022

Alarm Level

Major.

Description

The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

The specified ASAI domain may be either an adjunct- or vector-controlled split.

Repair Procedure

If message ASAI029 follows this message for the same domain, no corrective action is necessary. Otherwise, consult your PBX administrator to make sure that the domain extension is neither adjunct- nor vector-controlled split.

ASAI023

Alarm Level

Critical.

Description

The ASAI domain with the specified extension cannot be activated. Information about the call placed to this domain will not be reported to the service assigned to this domain.

Switching equipment congestion exists. The switch is not accepting the request at this time because of processor overload.

Repair Procedure

If message ASAI029 follows this message for the same domain, no corrective action is necessary. Otherwise, consult your PBX administrator.

ASAI024

Alarm Level

Major.

Description

The ASAI domain with the specified extension cannot be activated due to an unknown error.

Information about the call placed to this domain will not be reported to the service assigned to this domain.

Repair Procedure

If message ASAI029 follows this message for the same domain, no corrective action is necessary. Otherwise, see [ASAI Trace Utility on page 155](#).

ASAI025

Alarm Level	None.
Description	The ASAI link has been established. All ASAI-provided services will start to function now.
Repair Procedure	No corrective action is necessary.

ASAI026

Alarm Level	Major.
Description	<p>The service assigned to the voice system agent on the specified channel requested call information from the ASAI feature that was not available.</p> <p>The call information about the call that is terminated to the specified channel has not arrived yet.</p>
Repair Procedure	<ol style="list-style-type: none">1 Verify that the ACD split with service "voice system" has been administered and is in service. See Chapter 4, "Feature Package Administration" of <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510.2 Verify that the PBX extension-to-channel assignments have been correctly administered. See Chapter 4, "Feature Package Administration" of <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510.

ASAI027

Alarm Level Minor.

Description ASAI protocol errors have been detected. An occasional report does not indicate a serious problem.

Repair Procedure 1 Check the integrity of the cabling of the ASAI BRI link. See Chapter 3, "Making Cable Connections," in your new system installation book for link wiring information.

ASAI028

Alarm Level None.

Description The voice system agent on the specified channel has been logged in. The ACD will start routing calls to this channel.

Repair Procedure No corrective action is necessary.

ASAI029

Alarm Level	None.
Description	The ASAI-administered domain with the specific extension is activated now. The events on this domain will now be reported to the service which is assigned to this domain.
Repair Procedure	No corrective action is necessary.

ASAI030

Alarm Level	Major.
Description	Unexpected routing messages have been received over the ASAI link for which there is no administered RTE domain. If an administered domain were available, event messages would have been sent to the assigned service. Since no service is available, the voice system discards the messages. The error message in the log indicates how many messages were discarded over a one minute period.

- Repair Procedure**
- 1 Verify that the PBX has been correctly administered. Consult your PBX administrator.
 - 2 Add an RTE domain with the specified extension. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - 3 Enable the RTE domain. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

ASAI031

Alarm Level Minor.

Description Unknown messages are received over the ASAI link for which there is no administered CTL domain. If an administered domain were available, event messages would have been sent to the assigned service. Since no service is available, the voice system discards the messages. The error message in the log indicates how many messages were discarded over a one minute period. This does not indicate a serious problem.

Repair Procedure No corrective action is necessary.

To prevent these messages from appearing, add a CTL domain with the specified extension. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

ASAI032

Alarm Level

Major.

Description

The voice system has discarded messages that were received over the ASAI link for the specified domain. This is because the messages were not processed fast enough by the specified ASAI application. The ASAI application is not fully functional. Calls are not being processed.

Repair Procedure

- 1 Verify that the correct service has been assigned to the specified domain. See Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 If correct domain administration does not eliminate the problem, there may be an error in the ASAI application specified in the message. Contact the ASAI application developer for further assistance.

BRDG Alarms and Log Messages

BRDG001

Alarm Level

Major.

Description

The Call Bridge feature failed to communicate with the voice system during call processing. The application is unable to bridge calls.

Repair Procedure

Reboot the operating system.

BRDG002

Alarm Level	Major.
Description	The Call Bridge feature failed to communicate with the voice system during call processing. The application is unable to bridge calls.
Repair Procedure	Reboot the operating system.

BRDG003

Alarm Level	Major.
Description	The Call Bridge feature failed to access a shared resource of the voice system during the initialization. The application is unable to bridge calls.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the operating system.

BRDG004

Alarm Level	Major.
Description	The Call Bridge feature failed to access a shared resource of the voice system. The application is unable to bridge calls.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the operating system.

BRDG005

Alarm Level	Minor.
Description	<p>The Call Bridge feature failed to find an available channel in the equipment group specified in the message. The application may not be able to complete the call bridge.</p> <p>The impact may be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:</p> <pre>*C THR004 The first threshold level for BRDG_NOCHAN exceeded. 10 messages have been generated in the last 5 minutes.</pre> <p>The threshold limits and threshold message priority shown above reflect the default values for this thresholded message.</p>

- Repair Procedure**
- 1 Verify that all Tip/Ring channels are assigned to the equipment group specified by the script bridge instruction.
 - 2 Verify that all channels assigned to the equipment group specified are in service.
 - 3 Check if all the channels assigned in the equipment group specified are not busy.

CGEN Alarms and Log Messages

CGEN001

Alarm Level Minor.

Description An internal voice system process received an unexpected message from the process identified in this message. The message has been ignored.

- Repair Procedure**
- 1 Identify the source of the unexpected message.
 - a If the source of the unexpected message is a customer application data interface process (DIP), contact the application developer.
 - b Otherwise, perform the following steps:
 - Stop the voice system.
 - Start the voice system.

- 2 If the problem persists, confirm that all installed system software packages are compatible with the installed version of the CONVERSANT software package. See the "Installing the Optional Feature Software," chapter in the maintenance book for your platform.
- 3 Remove any software package that is incompatible and install the proper version. See the "Installing the Optional Feature Software," chapter in the maintenance book for your platform.

CGEN002

Alarm Level

Major.

Description

The voice system system table named in the message is corrupted or cannot be accessed by the source of the message. System functionality is severely impaired.

Repair Procedure

- 1 Check the system to make sure that the number of cards installed is a legal configuration, that is, there are not too many channels.
- 2 If *table_name* is DEVTBL do the following:



CAUTION:

The following procedure will cause all system configuration information to be lost. This includes switch administration, service assignments, etc. When the

voice system is restarted, the system configuration will use the default settings.

- a Stop the voice system.
 - b Move the devtbl to another area. For example, enter:

```
mv /gendb/shmem/devtbl /gendb/shmem/devtbl.old
```
 - c Start the voice system.
- 3 If *table_name* is other than DEVTBL, do the following:
- a Stop the voice system.
 - b Start the voice system.
 - c If the problem persists, reboot the operating system.

CGEN003

Alarm Level Critical.

Description An internal voice system process cannot communicate with other internal voice system processes. System functionality is severely impaired.

Repair Procedure Reboot the operating system.

CGEN004

Alarm Level	Critical.
Description	An internal voice system process cannot communicate with other internal voice system processes. System functionality is severely impaired.
Repair Procedure	Reboot the operating system.

CGEN005

Alarm Level	Critical.
Description	<p>The voice system cannot communicate with the specified process. System functionality is severely impaired.</p> <p>Note: If the reason given for this message is <code>EAGAIN</code>, an interprocess communication message queue capacity across all processes on the voice system is being exceeded. When this happens, all processes may have trouble communicating with one another. The process listed in the message may or may not be the process which caused the problem. This may affect only the receiving process listed in the message if the receiving process is not handling incoming messages often enough.</p>

Note the receiving process is the process which failed to get the message. If the receiving process listed is a customer application DIP, consult with the programmer to determine why the process is getting behind in reading its message queue. If the receiving process is a voice system process (for example, VROP, MTC, TSM, etc.) then it is more likely that all processes are having trouble communicating, and call handling will be severely impaired until the repair procedure below is followed.

Repair Procedure

- 1 To gather data about this problem for later analysis, complete [step a](#) through [step d](#):

- a Enter **cd /usr/install**
- b Enter **sar > sar.out**
- c Enter **ps -ef > ps.out**
- d Enter **ipcs -qop > ipcs.out**

- 2 Reboot the operating system.

If the reason for this message is `EAGAIN`, and you have recently added hardware to the system, diagnose the circuit card to ensure that the card recently added has a unique index.

For example, make sure that there are not two T1/E1 circuit cards that have the same switch setting for T1-2.

- 3 If the problem persists, follow the trouble escalation procedure and inform personnel that you have collected the data listed in [step 1](#).

CGEN006

Alarm Level

Critical.

Description

The voice system failed to initialize properly. System functionality is severely impaired.

Repair Procedure

Note: If *reason* for this message is `Cannot remove initialization file <filename> <UNIX errno>`, the UNIX operating system was unable to perform a remove request on behalf of an internal voice system process. See INTRO(2) in the UnixWare documentation for more information on the operating system error.

Note: If the *reason* for this message is `Failed to get telephony type of channel`, the systems `rmdb`'s `NCHANNELS` turnable of 121 is exceeded. Increment the `NCHANNELS` and rebuild the kernel

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the system message is printed again, remove the file by entering:
`rm -f filename`
- 4 If the file cannot be removed, consult the UnixWare documentation for more information on the operating system error.
- 5 If the problem persists, reboot the operating system.

CGEN007

Alarm Level	Critical.
Description	The voice system failed to allocate memory internally for data. System functionality is severely impaired.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the operating system.<ul style="list-style-type: none">~ If this message reports that space for a file /vs/trans/script.D could not be allocated, then the following may have occurred:~ There may be a large number of script.D files in /vs/trans. Remove any script.D files that are no longer needed. Check that the script.D files that are needed have not been corrupted.~ If the error message was reported by CDH, enter /vs/bin/newscript. This causes CDH to reread all the /vs/trans/script.D files.~ If the error was reported by one of the reporting programs cddrot or cdrpt, rerun the report. <p>If the error persists, your system may either require more memory to function normally or there may be a process memory leak that requires examination by field support.</p>

CGEN008

Alarm Level

Major.

Description

The voice system failed to open the Tip/Ring card driver. System Tip/Ring cards are unusable.

Repair Procedure

- 1 If this problem occurs because the Tip/Ring driver was purposely removed and you do not wish to reinstall it, renumber the voice channels. See Chapter 3, "Voice System Administration," of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 If the problem persists or if Tip/Ring circuit cards are present in the system, reboot the operating system.
- 3 If the problem persists, reinstall the Tip/Ring circuit card driver. See the "Installing or Replacing Circuit Cards," chapter in the maintenance book for your platform for the procedure.

CGEN009

Alarm Level

Major.

Description

The voice system failed to open or attach the SSP card driver. System SSP cards are unusable.

- Repair Procedure**
- 1 Reboot the operating system.
 - 2 If the problem persists, reinstall the ASP driver. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

CGEN010

Alarm Level Major.

Description The voice system failed to open the T1/E1 card driver. System T1/E1 cards are unusable.

- Repair Procedure**
- 1 If this problem occurs because the T1/E1 driver was purposely removed and you do not wish to reinstall it, renumber the voice channels. See Chapter 3, "Voice System Administration," of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - 2 If the problem persists or if T1/E1 cards are present in the system, reboot the operating system.
 - 3 If the problem persists, reinstall the T1/E1 circuit card driver. See Chapter 2, "Installing or Replacing Circuit Cards," in the maintenance book for your platform.

CGEN011

Alarm Level	Critical.
Description	The voice system failed to perform the indicated function on the Tip/Ring voice channel or card specified. System functionality is severely impaired.
Repair Procedure	<ol style="list-style-type: none">1 Perform the following diagnostics for the failed Tip/Ring card:<ol style="list-style-type: none">a Enter diagnose card <i>card_number</i> where <i>card_number</i> is the card number of the Tip/Ring card from the display card tr command output.b If the card passes diagnostics, place it back in service by entering restore card <i>card_number</i> where <i>card_number</i> is the card number of the Tip/Ring card you want to restore to service.2 If the problem persists, check the circuit card.3 If the problem still persists, reinstall the tip/ring driver. See the "Installing Optional System software" chapter in the maintenance book for your platform.

CGEN012

Alarm Level Major.

Description The voice system failed to perform the indicated function on the Tip/Ring voice channel or card specified. Tip/Ring card functionality is impaired.

- Repair Procedure**
- 1 Perform the following diagnostics for the failed Tip/Ring card:
 - a Enter **diagnose card *card_number*** where *card_number* is the card number of the Tip/Ring card from the display card tr command output.
 - b If the card passes diagnostics, place it back in service by entering **restore card *card_number*** where *card_number* is the card number of the Tip/Ring card you want to restore to service.
 - 2 If the problem persists, check the circuit card.
 - 3 If the problem still persists, reinstall the tip/ring driver. See the "Installing Optional System software" chapter in the maintenance book for your platform.

CGEN013

Alarm Level

Major.

Description

The voice system failed to perform the indicated function on the SSP card specified. System functionality is severely impaired.

Repair Procedure

- 1 If any packages (for example, ISDN PRI, Whole Word, Flex Word, CCA) have been removed from the system recently, verify that any related cards, functions, etc. have been unassigned from the application so that the affected card does not come up in the "Broken" state.
- 2 If the card remains in the BROKEN state, perform the Reducing Load procedure.
- 3 If the card remains in the "Broken" state, check the circuit card.
- 4 If the card remains in the "Broken" state, reinstall the SSP circuit card driver. See the "Installing or Replacing Circuit Cards," chapter in the maintenance book for your platform.

CGEN014

Alarm Level

Major.

Description

The voice system failed to perform the indicated function on the SSP card specified. SSP card functionality is impaired.

- Repair Procedure**
- 1 Perform diagnostics for the failed SSP card.
 - a Enter **diagnose card *card_number***
where *card_number* is the card number of the SSP card from the display card sp command output.
 - b If the card passes diagnostics, place it back in service by entering:
restore card *card_number*
where *card_number* is the card number of the SSP card you want to restore to service.
 - 2 If the problem persists, check the circuit card.
 - 3 If the problem persists, reinstall the ASP driver. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

CGEN015

Alarm Level Critical.

Description The voice system failed to perform the indicated function on the T1/E1 voice channel or card specified. System functionality is severely impaired.

- Repair Procedure**
- 1 Perform diagnostics for the failed T1/E1 card.
 - a Enter **diagnose card *card_number*** where *card_number* is the card number of the T1/E1 card from the display card t1 command output.
 - b If the card passes diagnostics, place it back in service by entering:
restore card *card_number*
where *card_number* is the card number of the T1/E1 card you want to restore to service.
 - 2 If the problem persists, check the circuit card.
 - 3 If the problem still persists, reinstall the T1/E1 card. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

CGEN016

Alarm Level Major.

Description The voice system failed to perform the indicated function on the T1/E1 voice channel or card specified. T1/E1 card functionality is impaired.

- Repair Procedure**
- 1 Perform diagnostics for the failed T1/E1 card.
 - a Enter **diagnose card *card_number*** where *card_number* is the card number of the T1/E1 card.
 - b If the card passes diagnostics, place it back in service by entering:
restore card *card_number*
where *card_number* is the card number of the T1/E1 card you want to restore to service. If the problem persists, check the circuit card.
 - 2 If the problem still persists, reinstall the T1/E1 card. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

CGEN017

Alarm Level Major.

Description The system was unable to save configuration changes made by the user (for example, script assignments to a channel, or card remove/restores) on disk. Shared memory updates will be lost when system is rebooted. Call processing is not affected until then.

- Repair Procedure**
- 1 Reboot the operating system.
 - 2 If the problem persists, restore the system from backup.

CGEN018

Alarm Level	Major.
Description	A hardware failure has been detected on the Tip/Ring voice channel or circuit card specified. Tip/Ring circuit card functionality is impaired.
Repair Procedure	<ol style="list-style-type: none">1 Perform diagnostics for the failed Tip/Ring circuit card.<ol style="list-style-type: none">a Enter diagnose card <i>card_number</i> where <i>card_number</i> is the card number of the Tip/Ring circuit card from the display card tr command output.b If the card passes diagnostics, place it back in service by entering restore card <i>card_number</i> where <i>card_number</i> is the card number of the Tip/Ring circuit card you want to restore to service.2 If the problem persists, check the circuit card.3 If the problem still persists, reinstall the tip/ring driver. See the "Installing Optional System software" chapter in the maintenance book for your platform.

CGEN019

Alarm Level	Critical.
Description	Cannot determine whether the system software is installed.
Repair Procedure	Contact your remote maintenance service center for assistance.

CGEN020

Alarm Level	Critical.
Description	An incoming call has not been processed because no service was assigned to the specified channel or the dialed number identification service (DNIS) and automatic number identification (ANI).
Repair Procedure	<ol style="list-style-type: none">1 Determine how new calls on the channel number indicated by the message should be routed to services. New calls can be routed based on channel number or based on DNIS and/or ANI.

- 2 If new calls on the channel number should be routed based on channel number, enter:

assign service *service* to chan *chan*

where *service* is the name of the service to be assigned and *chan* is the channel number indicated by the message.

- 3 If new calls on the channel number should be routed based on DNIS and/or ANI, enter:

assign service *service* to *dnis* phone list [*ani phone_list*]

where *service* is the name of the service to be assigned and *dnis* is either the DNIS of the new call to be routed, or the word "any", and *phone_list* is either the ANI number of the new call to be routed, or the word *any*.

- 4 See the **assign** command in Appendix A, "Summary of Commands," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

CGEN021

Alarm Level

Critical.

Description

An internal software error occurred when describing channel characteristics to the Resource Manager. The identified channel is unusable.

- Repair Procedure**
- 1 If the error is `EINVAL`, check the system to make sure that the number of cards installed is a legal configuration, that is, there are not too many channels. See *CONVERSANT System Version 8.0 System Description*, 585-313-219, for channel maximums.
 - 2 Renumber the voice channels. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - 3 If the problem persists, or if the error is not `EINVAL`,
 - a Stop the voice system.
 - b Start the voice system.
 - c If the problem persists, reboot the operating system.
 - d If the problem still persists, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for more information about the specific error listed in the reason text.

CGEN022

Alarm Level Minor.

Description The voice system failed to reset the restriction list for a channel. System functionality may be impaired if applications are assigning resource restrictions to channels (`irRestrictResource(3irAPI)`).

- Repair Procedure**
- 1 Make sure AD or the customized default owner is run as root.
 - 2 If AD or the customized default owner is run as root, perform the following Steps a and b:
 - a Stop the voice system.
 - b Start the voice system.
 - 3 If the problem persists, reboot the operating system.
 - 4 If the problem persists, contact your remote maintenance service center.

CGEN023

Alarm Level

Major.

Description

A channel was returned to the default owner because of an abrupt exit of the prior channel owner. This message may indicate an IRAPI application failed to release (`irDeinit(3irAPI)`) prior to exit (2) or an IRAPI application core dump. Any outstanding activities on the channel are cancelled and the channel is made available to take new calls.

If a transient IRAPI process does not wait for an `IRE_DEINIT_DONE` event before exiting, they will generate a CGEN023 alarm. The IRAPI process must call **(void) irSetEvent(cid, IRE_DEINIT_DONE, IRF_NOTIFY);** to the **IRE_DEINIT_DONE** event to be generated.

Repair Procedure

No corrective action is necessary.

CGEN024

Alarm Level	Critical.
Description	The voice system service <i>service</i> provided by process <i>process</i> has failed to startup, therefore an incoming call has not been processed.
Repair Procedure	<ol style="list-style-type: none">1 If the messages indicate that the process is a permanent process, go to step 2, otherwise, complete step a and step b.<ol style="list-style-type: none">a Stop the voice system.b Start the voice system.c If the problem persists, check that the process is correctly entered in the <code>/etc/inittab</code> file. See <i>CONVERSANT System Version 8.0 Application Development with Script Builder</i>, 585-313-217, for more details.2 To determine whether or not the permanent process is running, enter: ps -ef. If the process is running, go to step 3. If the <i>process</i> is not running, make sure that it is correctly entered in the <code>/etc/inittab</code> file. See <i>CONVERSANT System Version 8.0 Application Development with Script Builder</i>, 585-313-217, for more details.

The application developer should try to determine why the process failed before continuing to use the system.

- 3 Check that the process *process* exists and is executable by entering:

ls -l *process*

where *process* is the process indicated in the message.

- a If the process is not executable, enter **chmod +rx *process***
- b If the process is executable, check to make sure the service assigned to the channel is a valid service by entering:

display service

If the service is on the list, it is a valid service.

If the service is not on the list, reassign the service.

CGEN025

Alarm Level

Critical.

Description

A voice system service registration file has a bad format or is the wrong version. The service corresponding to this registration file may be started incorrectly and, therefore, not function properly.

- Repair Procedure**
- 1 If the service indicated in the message (*service*) is a TSM service, using Script Builder, verify and install the service *service*.
 - 2 If the service indicated in the message (*service*) is not a TSM service, the registration file should be rebuilt by entering **defService service** where *service* is the service specified in the message.
- See the **defService** command in Appendix A, "Summary of Commands," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

CGEN026

Alarm Level None.

Description Timeout on attempt to idle channel.

- Repair Procedure** No corrective action is immediately necessary. Automatic recovery occurs within 60 seconds. If this event occurs frequently or if resources are underutilized, which will be reported by other messages, then do the following:
- 1 Stop the voice system.
 - 2 Start the voice system.

CGEN027

Alarm Level	None.
Description	Could not open file.
Repair Procedure	No corrective action is necessary.

CGEN028

Alarm Level	Minor.
Description	Call to third party API failed.
Repair Procedure	No corrective action is necessary.

CGEN029

Alarm Level	Minor.
Description	In-service channels occupancy off high water mark.
Repair Procedure	No corrective action is necessary.

CGEN030

Alarm Level	None.
Description	The voice system detected that the occupancy of the in-service channels is below the high water mark.
Repair Procedure	No corrective action is necessary.

CGEN031

Alarm Level	Major.
Description	An internal software error occurred when describing an equipment group to the Resource Manager. Applications that use the equipment group identified in the message may not function correctly.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the operating system.4 If the problem persists, see <i>CONVERSANT System Version 8.0 Application Development with Script Builder</i>, 585-313-217, for more information about the specific error listed in the reason text.

CGEN032

Alarm Level

Critical.

Description

A voice system system file is corrupted and cannot be accessed by the internal voice system process that describes channel and SSP characteristics to the Resource Manager. SSP resources cannot be accessed. Functions provided by SSP cards, such as Speech Recognition and Text-to-Speech, are not available. Voice coding and playback are not available for systems that require an SSP for these services.

Repair Procedure

- 1 Use the **pkgrm** command to remove any packages installed on the system that are in the following list:
 - ~ Call Classification Analysis
 - ~ ISDN Primary Rate Interface Package
 - ~ Speech Recognition Package - Canadian French
 - ~ Speech Recognition Package - UK English
 - ~ Speech Recognition Package - US English
 - ~ Speech Recognition Package - Mexican Spanish
 - ~ Text-to-Speech Package
 - ~ FlexWord™ Recognition Package
- 2 Use **pkgrm** command to remove the ASP Driver Package.

- 3 If the problem persists, reinstall the ASP driver. See the "Installing Optional Feature Software" chapter in the maintenance book for your platform.
- 4 Reinstall all of the other packages removed in [step 1](#). See the "Installing the Optional Feature Software," chapter in the maintenance book for your platform.

CGEN033

Alarm Level

None.

Description

Some unexpected information was found in a file containing resource characteristic information. This information will be ignored.

Repair Procedure

No corrective action is necessary.

CGEN034

Alarm Level

Major.

Description

A voice system system file is corrupted or cannot be accessed by the internal voice system process that describes channel and SSP characteristics to the Resource Manager. SSP resources cannot be accessed. Functions provided by SSP cards, such as Speech Recognition and Text-to-Speech, are not available. Voice coding and playback are not available for systems that require an SSP card for these services.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, reboot the operating system.

CGEN035

Alarm Level Major.

Description The internal UNIX kernel variable *1bolt* is approaching the maximum possible variable of 248 days since the last reboot. If the system is not rebooted, several problems could occur when *1bolt* reaches the maximum possible value. System timeouts could occur prematurely or fail to occur.

A reboot of the system should be scheduled to occur within the number of days specified or an automatic reboot will occur. By manually performing the reboot, it may be possible to reduce the impact service caused by the reboot.

Repair Procedure Reboot the system at a time of low system activity.

CGEN036

Alarm Level None.

Description The voice system detected the indicated Feature Licensing values for the function not specified.

Repair Procedure No corrective action is necessary.

CGEN037

Alarm Level	Major.
Description	The voice system failed to enable Feature Licensing for some features. Functionality of some features may be impaired.
Repair Procedure	Contact your remote maintenance service center for assistance.

CGEN038

Alarm Level	Critical.
Description	The voice system failed to enable Feature Licensing. Functionality of features is impaired.
Repair Procedure	Contact your remote maintenance service center for assistance.

CGEN039

Alarm Level	Critical.
Description	The voice system failed to enable Feature Licensing. System functionality is impaired.
Repair Procedure	Contact your remote maintenance service center for assistance.

CGEN040

Alarm Level	Critical.
Description	The voice system detected an invalid configuration. System functionality is impaired.
Repair Procedure	Reconfigure the system using the Hardware Resource Allocator. See the "System Configuration," appendix in the maintenance book for your platform for the procedure.

CHRIN Alarms and Log Messages**CHRIN001**

Alarm Level	Critical.
Description	An internal software error occurred when describing channel and SSP characteristics to the Resource Manager. System functionality is severely impaired.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the operating system.

CHRIN002

Alarm Level Major.

Description A voice system system file is corrupted or cannot be accessed by the internal voice system process that describes channel and SSP characteristics to the Resource Manager. The ASAI channels cannot provide ASAI capabilities. ASAI functionality is severely impaired.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, reboot the operating system.
- 4 If the problem still persists, do the following:
 - a Record the ASAI Channel and Domain Administration information. For more information on the ASAI Channel and Domain Administration, See the "ASAI Administration" section in Chapter 4, "Feature Package Administration" of *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - b Stop the voice system.
 - c Remove the CONVERSANT System Version 8.0 Adjunct/Switch Applications Interface package using the **pkgrm** command.

- d Install the CONVERSANT System Version 8.0 Adjunct/Switch Applications Interface package using the pkgadd command.
- e Start the voice system.
- f Administer the ASAI Channel and Domain Administration information from the information recorded earlier.

CIOX Alarms and Log Messages

CIOX001

Alarm Level

Major.

Description

The indicated file can not be accessed for the reason specified in the message. Applications requiring playing from or recording to the file will be incomplete.

Repair Procedure

- 1 Consult the application developer to verify the application. See [CIOX001 — Application Developer Notes](#).
- 2 If the application is correct, restore the speech file(s) from the backup. If the backup is not available, consult the application developer to recreate the speech file.
- 3 If the problem persists, reboot the operating system.

CIOX001 — Application Developer Notes

- 1 Verify that the application refers to the correct speech file.
- 2 Verify that the speech file is in existence with the correct access permission.

CIOX002

Alarm Level

Major.

Description

The indicated file can not be reserved for the reason specified in the message. Applications requiring recording to the file will be incomplete.

Repair Procedure

- 1 Verify that the file system in which the speech file is to be reserved has enough free space by entering **dfspace**
- 2 Verify that the directory or directories in which the speech file is to be reserved has the correct access permission by entering **ls -l** in the directory.

DB Alarms and Log Messages

DB001

Alarm Level Major.

Description An attempt to write a traffic record into the specific database table has failed either during call processing or processing a call data maintenance job.

This message is usually caused by one of several reasons.

If the source is Call Data Handler (CDH), the traffic record is not recorded in the database. If the source is CCA_Summary, the Call Classification (CCA) data report for the date the error was logged will not be correct. If the source is CDH_Summary, the nonCCA traffic data reports for the date the error was logged will not be correct.

There is no impact on call processing.

Repair Procedure 1 If the reason field of the error message is:

```
ORA00942:table or view does not exist
```

Recreate the system traffic tables.

- 2 If the reason field of the error message is:

```
ORA1000: Maximum open cursor exceeded
```

or

```
Can't connect cursor to ORACLE
```

Consult the application developer to reduce the number of database references to the database. This may be done by reducing the number of applications involving database access simultaneously running on the system. See "Database Access Limitations" in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0, Administration*, 585-313-510.

- 3 For other error reasons, do the following:
 - a Stop the voice system.
 - b Stop the database system.
 - c Start the database system.
 - d If the database system failed to start because of database file corruption, the database files must be recovered from a mkimage backup. Restore the database from backup.
 - e Start the voice system.
- 4 If the problem persists, recreate the system traffic tables.

DB002

Alarm Level

Critical.

Description

An attempt to write a database record to an application table has failed during call processing. The record will be lost. Application functionality may be severely impaired.

**Repair
PROCEDURE**

- 1 If the reason field of the error message is:

```
ORA1031 Insufficient privileges
```

give the user **sti** the necessary permissions by doing the following:

- a Login to SQL*PLUS as the original table owner.
- b Enter **grant all** on *table_name* to sti

Note: The original owner must already have the proper permissions for the table.

- 2 If the reason field of the error message is:

```
ORA00942:table or view does not exist
```

consult the application developer to verify the application. See the For Application Developer section.

- 3 If the reason field of the error message includes:

```
Can't find select descriptor for table <table name>
```

this indicates that the application erroneously tried to modify the table before reading it. See [DB002 — Application Developer Notes: on page 351](#).

- 4 If the reason field of the error message is:

```
ORA1000: Maximum open cursor exceeded
```

or

```
Can't connect cursor to ORACLE
```

increase the cursor limit.

You may also consult the application developer to reduce the number of database references to the database. This may be done by reducing the number of applications involving database access simultaneously running on the system. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- 5 For other error reasons, do the following:

- a Stop the voice system.
- b Stop the database system.
- c Start the database system.

DB003

Alarm Level Major.

Description An attempt to read a record from the specified system traffic table has failed. This error message is reported by one of the call data maintenance jobs (that is, CCA_Summary, CCA_Deletion, CDH_Summary, or CDH_Deletion) that are responsible for summarizing and cleaning up the traffic data.

If the source is CCA_Summary or CCA_Deletion, the Call Classification (CCA) data report for the date the error was logged will not be correct. If the source is CDH_Summary or CDH_Deletion, all nonCCA traffic data reports for the date the error was logged will not be correct.

There is no impact on call processing.

- Repair Procedure**
- 1 If the reason field of the error message is
`ORA00942:table or view does not exist`
recreate the system traffic tables.
 - 2 For other error reasons, do the following:
 - a Stop the voice system.
 - b Stop the database system.
 - c Start the database system.

- d If the database system failed to start because of database file corruption, the database files must be recovered from a mkimage backup. Restore the database from backup.
- e Start the voice system.
- f If the problem persists, recreating the system traffic tables.

DB004

Alarm Level

Critical.

Description

An attempt to read a record from the specified application table has failed during call processing. Application functionality may be severely impaired.

Repair Procedure

- 1 If the reason field of the error message is

```
ORA00942:table or view does not exist
```

or

```
Can't find table descriptor for table table_name
```

See [DB004 — Application Developer Notes: on page 354](#).

- 2 For other error reasons, do the following:

- a Stop the voice system.
- b Stop the database system.

- c Start the database system.
 - d If the database system failed to start because of database file corruption, the database files must be recovered from a mkimage backup.
 - e Start the voice system.
- 3 If the database system started successfully but the problem persists, do the following:
- a Stop the voice system.
 - b Drop the database table *table_name*.
 - c Restore the application table from backup.

Note: If the table resides on a remote machine, restore the table to the remote machine.

- d Start the voice system.

**DB004 —
Application
Developer Notes:**

- 1 Check the application and make sure that it refers to the correct table name.
- 2 If the application refers to a wrong table, change the application.
- 3 If the application is correct, restore the application table from the backup. If no backup is available, recreate the application table.

DB005

Alarm Level Major.

Description An attempt to delete records from the specified system traffic table has failed. This error message is reported by one of the call data maintenance jobs, CCA_Deletion or CDH_Deletion, that are responsible for deleting the old traffic data.

If the source is CCA_Deletion, the Call Classification (CCA) data report for the date the error was logged will not be correct. If the source is CDH_Deletion, all nonCCA traffic data reports for the date the error was logged will not be correct.

There is no impact on call processing.

Repair Procedure

- 1 If the reason field of the error message is:

```
ORA00942:table or view does not exist
```

recreate the system traffic tables.

- 2 For the other error reasons, do the following:
 - a Stop the voice system.
 - b Stop the database system.
 - c Start the database system.

- d If the database system failed to start because of database file corruption, the database files must be recovered from a mkimage backup.
- e Start the voice system.
- f If the problem persists, recreate the system traffic tables.

DB006

Alarm Level

Critical.

Description

An attempt to delete one or more records from the application table has failed during call processing. The records to be deleted will remain in the table. Application functionality may be severely impaired.

Repair Procedure

- 1 If the reason field of the error message is:

```
ORA00942:table or view does not exist
```

consult the application developer to verify the application. See [DB006 — Application Developer Notes: on page 357](#).

- 2 For other problems, do the following:
 - a Stop the voice system.
 - b Stop the database system.

- c Start the database system.
 - d If the database system failed to start because of database file corruption, the database files must be recovered from a mkimage backup.
 - e Start the voice system.
- 3 If the database system started successfully but the problem persists, do the following:
- a Stop the voice system.
 - b Drop the database table *table_name*.
 - c Restore the application table from backup.

Note: If the table resides on a remote machine, restore the table to the remote machine.

- d Start the voice system.

**DB006 —
Application
Developer Notes:**

- 1 Check the application and make sure that it refers to the correct table name.
- 2 If the application refers to a wrong table, change the application.
- 3 If the application is correct, restore the application table from the backup. If no backup is available, recreate the application table.

DB007

Alarm Level Major.

Description Either the database is out of space or the system traffic table reached the maximum allowable number of extents. The system traffic table specified (or the rollback segment) cannot grow further to accommodate more data. New traffic data added will be lost.

There is no impact on call processing.

- Repair Procedure**
- 1 Check the maximum number of extents. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - 2 If the maximum number of extents is reached, perform the "Redefining the Database Table Storage" procedure in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - 3 Perform the "Checking the Database Free Space" procedure in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- 4 If the database is running out of free space, do the following:
 - a See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on verifying and reducing the rollback segment size.
 - b If the rollback segment size is normal, add more space to the database. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on increasing the database size.

DB008

Alarm Level

Critical.

Description

Either the database is out of space or the application table reached the maximum allowable number of extents during call processing. The table specified (or the rollback segment) cannot grow further to accommodate more data. The service running on the channel will not be able to add more database records. Application functionality may be severely impaired.

Repair Procedure

- 1 Perform the "Checking the Maximum Number of Extents" procedure in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 If the maximum number of extents is exceeded, perform the "Redefining the Database Table Storage" procedure in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 3 Perform the "Checking the Database Free Space" procedure in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 4 If database is running out of free space, do the following:
 - a See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on verifying and reducing the rollback segment size.
 - b If the rollback segment size is normal, add more space to the database. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on increasing the database size.

DB009

Alarm Level

Major.

Description

The call data handling process or one of the call data maintenance jobs specified failed to initialize itself. If the source is Call Data Handler (CDH), no traffic data will be logged in the database (including call data events records).

If the source is CCA_Summary or CCA_Deletion, the Call Classification (CCA) data report for the date the error was logged will not be correct. If the source is CDH_Summary or CDH_Deletion, all nonCCA traffic data reports for the date the error was logged will not be correct.

There is no impact on call processing.

Repair Procedure

- 1 Stop the voice system.
- 2 Stop the database system.
- 3 Start the database system.
- 4 If the database system cannot be started, reboot the system.
- 5 If the database failed to start after reboot, restore the database directory from the system backup.
- 6 Start the voice system.
- 7 If the database started successfully but the problem persists, do the following:
 - a Stop the voice system.
 - b Recreate the system traffic tables.

DB010

Alarm Level

Critical.

Description

The ORACLE database interface process (**ORALDB**) failed to initialize itself after the voice system was started. The process will continue to respawn as long as the voice system is running. Services assigned to channels will not be able to access the database being referenced by the Source of this message. The database may be remote or local.

Application functionality may be severely impaired.

Repair Procedure

- 1 Determine whether the database being accessed is a local or a remote database by checking the Source field of the message.

If the database is remote, check the ORACLE network. If the problem persists, proceed to [step 2](#).

- 2 Stop the voice system.
- 3 Stop the database system.
- 4 Start the database system.
- 5 If the database system cannot be started (file corruption), restore the database directory from the system backup.
- 6 Start the voice system.
- 7 If the problem persists, reboot the system.

DB011

Alarm Level

Major.

Description

This is a general database error that is reported by either the call data handling process or one of the call data maintenance jobs.

If the source is Call Data Handler (CDH), the traffic records (including call data events) will not be created. If the source is CCA_Summary or CCA_Deletion, the Call Classification (CCA) data report for the date the error was logged will not be correct. If the source is CDH_Deletion or CDH_Summary, all nonCCA traffic data reports for the date the error was logged will not be correct.

There is no impact on call processing.

Repair Procedure

1 Enter `/oracle/bin/oerr ora error_num`

where `error_num` is the ORACLE error number in the reason field of the error message.

The output will contain a brief explanation of the error, the cause of the error, and the action to take to correct the error.

Note: You should also see the ORACLE Error Messages and Codes Manual for the explanation. Many times the online explanation will not be as complete as the manual explanation. If the error is unique to the UNIX environment, you can also see the ORACLE for UNIX Technical Reference Guide for detailed information.

- 2 Take the actions provided to correct the problem.
- 3 Reboot the system.
- 4 If the database system cannot be started (file corruption), restore the database directory from the system backup.

If no backup is available, remove and reinstall the Oracle Integration package. See the "Installing ORACLE Software" section in the maintenance book for your platform.

Note: All current database data will be lost after the package is reinstalled.

DB012

Alarm Level

Critical.

Description

This is a general database error that is reported by the database interface process (ORALDB) during call processing.

Depending on the error, application functionality may be impaired.

Repair Procedure

- 1 If the reason field of error message is:

```
ORA1000: Maximum open cursor exceeded
```

consult the application developer to reduce the number of database references to the database. This may be done by reducing the number of

applications involving database access simultaneously running on the system. See "Database Access Limitations" in Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- 2 Perform the repair procedure for system message [DB011 on page 363](#).
- 3 If the problem persists and the database is remote, check the ORACLE network.

DB013

Alarm Level

Major.

Description

The connection that this database process was logged onto has been dropped during call processing. The database could be a local or remote database. This may be a result of network congestion, the network going down, the remote machine going down, or other reasons. The negative number in the reason field is the ORACLE error code. See the ORACLE RDBMS Error Messages and Codes Manual for further information about this error. The process will try to respawn and reconnect to the database. However, if the problem is the network or remote machine, the process may not be able to reconnect without manual intervention.

The service running on the channel will not be able to make any database request until the problem is resolved.

Sometimes when the remote database connections are dropped, the dedicated server process on the remote machine may be orphaned. If too many such orphaned processes exist, the ORACLE server on the remote machine will become overloaded with defunct processes. At this point, the machine may not be able to connect to the remote database successfully. If this is the case, you probably need to restart the remote database to remove the defunct server processes. Consult the Database Administrator of the remote database for assistance.

Repair Procedure

If the system stopped to generate this message, the database process has logged onto the database successfully since the error message was recorded. No action needs to be taken. If the error message continues to be generated, do the following:

- 1 Determine whether the database being accessed is a local or a remote database by checking the SOURCE field of the message.
If the database is remote, check the ORACLE network. If the problem persists, proceed to [step 2](#).
- 2 Stop the voice system.
- 3 Stop the database system.
- 4 Start the database system.
- 5 If the database system cannot be started (file corruption), restore the database directory from the system backup.
- 6 Start the voice system.
- 7 If the problem persists, reboot the system.

DB014

Alarm Level

Critical.

Description

The database interface process (ORALDB) has timed out on a database request during call processing. The initial timeout has the default value 45 seconds (defined in `/vs/data/ldbip.rc`). Any of the following reasons can cause this timeout to occur:

- The timeout value set is too small
- The application was searching a huge nonindexed table
- The network was congested
- The network went down
- The remote machine went down

ORALDB will continue to wait for the response from the database (local or remote) until the final timeout occurs (DB015). After the final timeout occurs (default 300 seconds), ORALDB will try to reconnect to the database (remote or local). Messages queued are deleted to prevent the message queue from overflowing.

Application functionality may be severely impaired.

Repair Procedure

- 1 Consult the application developer to verify the application. See [DB014 and DB015 — Application Developer Notes](#).
- 2 Check the ORACLE network.
- 3 Reboot the system.

DB014 and DB015
— Application
Developer Notes:

If the database is remote and the above actions did not resolve the problem, or if the database is local, do the following:

- 1 Determine if the application is searching a nonindexed table. (If the table was created through Script Builder, the table is not indexed.) If the application searches a table containing more than 1000 records, you should index the table. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on creating the indexed table.
- 2 If the searched table is small or the table is indexed, check the **TIMEOUT** values in `/vs/data/ldb dip.rc` file. Make sure the **FIRST_TMOUT** and **SECOND_TMOUT** values are not less than 10 seconds.

See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on modifying the ORALDB timeout values if necessary.

DB015

Alarm Level

Critical.

Description

This error usually follows a few occurrences of DB014 error messages. It indicates that the database interface process (ORALDB) times out on a database request after waiting for a specified interval (defined in /vs/data/ldbip.rc). ORALDB will exit and respawn in order to reconnect to the database (remote or local). It will continue to do so until either the database connection is successfully established or the voice system is stopped. If the reconnection attempt is not successful, no database requests will be processed. Application functionality is severely impaired.

Repair Procedure

- 1 Consult the application developer to verify the application. See [DB014 and DB015 — Application Developer Notes: on page 368](#).
- 2 Check the ORACLE network.
- 3 Reboot the system.

DB016

Alarm Level

Major.

Description

The Call Data Handler (CDH) failed to communicate to the voice system. The traffic data may not be recorded correctly. There is no impact on call processing.

Repair Procedure

Reboot the system.

DIP Alarms and Log Messages

DIP001

There is one alarm message for the data interface process (DIP), as described below.

Alarm Level

None.

Description

Error in software.

Repair Procedure

When this error is logged, the message log contains additional text indicating the nature of the problem. Examples include the following:

DCDIP: VS startup failed

DCDIP: Cannot attach shared memory

This alarm occurs when there is an internal software error. Contact your remote maintenance service center for assistance.

DSKMG Alarms and Log Messages

DSKMG001

Alarm Level Major.

Description The indicated file cannot be accessed for the reason specified in the message. Applications requiring reserving speech files may fail.

- Repair Procedure**
- 1 If the reason field indicates that the file or directory cannot be created, check to see if the speech file system is out of space:
 - a Enter **vd** at the system prompt and note the resulting message.
If the free space is less than three percent, contact your remote maintenance service center.
 - 2 If the reason field indicated a failure on a library call, make sure the irAPI libraries **libirAPI.so** and **libirEXT.so** are in existence in the **/usr/lib** directory.
 - 3 If the reason field indicates a system call failure, reboot the system.

DSKMG002

Alarm Level

Major.

Description

The indicated file cannot be reserved for the reason specified in the message. Applications requiring recording to the file will be incomplete.

Repair Procedure

- 1 If the reason field indicates that the file or directory cannot be created, check to see if the speech file system is out of space.
 - a Enter **vd**f at the system prompt and note the resulting message.

If the free space is less than three percent, contact your remote maintenance service center.
 - b If the **vd**f command shows there is space on the device, the problem may be that there are no inodes left on the system. Remove files to free up the inodes.
- 2 If the reason field indicated a failure on a library call, make sure the irAPI libraries **libirAPI.so** and **libirEXT.so** are in existence in the **/usr/lib** directory.
- 3 If the reason field indicates a system call failure, reboot the system.

DWIP Alarms and Log Messages

DWIP001

There is one message for the DWIP process, as listed below:

Alarm Level

Critical.

Description

The DWIP process is unable to read PRI messages from the T1/E1 cards. PRI calls can not be processed on any T1/E1 cards that have the D-channel.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 Reboot the system.

FAX Alarms and Log Messages

FAX001

Alarm Level

None.

Description

A FAX print operation failed. The information about the FAX print is specified in the message text.

Repair Procedures: Check for the following conditions:

- The remote FAX is busy.
- The remote FAX is out of paper.
- The number dialed may not have been a FAX machine: NOPROTOCOL (never connected to the remote machine).
- The phone line connection may have been abruptly disconnected in the middle of the FAX sessions (FAX_STOPPING).
- Due to mail loop prevention, a FAX may not be transmitted to another line on the same system (FAXLOOPBACK). In this case, forward the message to the other user rather than sending it.
- The phone line conditions (noise in the line) may prevent a FAX from being sent: PROTOCOLTIMEOUT (failure to exchange 300-baud messages) or FTT (failure to train at any/all rates).
- The remote FAX machine may not conform to international FAX standards: PROTOCOLERR (T.30 error) or PROTOCOLTIMEOUT (failure to exchange 300-baud messages).
- A fault in the software has occurred that should be reported: NORESOURCES (out of memory), FILEACCESS (problem reading/writing disk), TIFFFORMAT (unsupported FAX file format), INVALID (bad subroutine argument), SLOTBUSY (time slot not available), UNCLEAN_EXIT (process died), LATEQUEUE (FAX session completed before file queued, or SYSERROR (operating system problem).

FAX002

Alarm Level

None.

Description

A FAX record operation failed. The information about the FAX record is specified in the message text.

Repair Procedure

Check for the following conditions:

- The calling number may not have been a FAX machine: NOPROTOCOL (never connected to the remote machine).
- The phone line connection may have been abruptly disconnected in the middle of the FAX session (FAX_STOPPING).
- Due to mail loop prevention, a FAX may not be received from another line on the same system (PROTOCOLERR). The other user should have forwarded the message, rather than sent it.
- The phone line conditions (noise in the line) can prevent a FAX from being received: PROTOCOLTIMEOUT (failure to exchange 300-baud messages), BADPAGE (FAX ends with unacceptable page errors), and NOPROTOCOL (never connected to the remote machine).
- The remote FAX machine may not conform to international FAX standards: PROTOCOLERR (T.30 error) or PROTOCOLTIMEOUT (failure to exchange 300-baud messages).
- A fault in the software has occurred that should be reported: NORESOURCES (out of memory), FILEACCESS (problem reading/writing disk), TIFFFORMAT (unsupported FAX file format), INVALID (bad subroutine argument), SLOTBUSY (time slot not available), UNCLEAN_EXIT (process died), LATEQUEUE (FAX session completed before file queued, or SYSERROR (operating system problem).

FXAUD Alarms and Log Messages

FXAUD001

Alarm Level None.

Description The fax job database audit has been started.

Repair Procedure No corrective action is necessary.

FXAUD002

Alarm Level None.

Description An error occurred initializing the softFax process. The reason is identified in the message.

The fax operation will not operate.

Repair Procedure Contact your remote maintenance service center for assistance.

FXAUD003

Alarm Level	None.
Description	The fax audit could not establish communication with softFAX.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXAUD004

Alarm Level	None.
Description	The fax audit could not cancel job.
Repair Procedure	No corrective action is necessary.

FXAUD005

Alarm Level	None.
Description	The fax audit cancelled the job successfully.
Repair Procedure	No corrective action is necessary.

FXAUD006

Alarm Level	None.
Description	The number of jobs that were cancelled successfully.
Repair Procedure	No corrective action is necessary.

FXAUD007

Alarm Level	None.
Description	The fax job database audit has been completed.
Repair Procedure	No corrective action is necessary.

FXAUD008

Alarm Level	None.
Description	The spool file has been successfully removed.
Repair Procedure	No corrective action is necessary.

FXAUD009

Alarm Level	None.
Description	The spool file was not successfully removed..
Repair Procedure	No corrective action is necessary.

FXAUD010

Alarm Level	None.
Description	The fax audit could not find the job to cancel.
Repair Procedure	No corrective action is necessary.

FXAUD011

Alarm Level	None.
Description	The fax audit could not find the log for the job to cancel.
Repair Procedure	No corrective action is necessary.

FXAUD012

Alarm Level	None.
Description	The fax audit successfully deleted the log for the job.
Repair Procedure	No corrective action is necessary.

FXAUD013

Alarm Level	None.
Description	The number of log jobs completed successfully.
Repair Procedure	No corrective action is necessary.

FXAUD014

Alarm Level	None.
Description	The spool area cleanup has been started.
Repair Procedure	No corrective action is necessary.

FXAUD015

Alarm Level None.

Description The number of spool files successfully removed.

Repair Procedure No corrective action is necessary.

FXAUD016

Alarm Level None.

Description The spool area cleanup has been completed.

Repair Procedure No corrective action is necessary.

FXAUD017

Alarm Level Minor.

Description The voxem file system is low on space..

Repair Procedure Contact your remote maintenance service center for assistance.

FXAUD018

Alarm Level	None.
Description	The log dump directory not found.
Repair Procedure	No corrective action is necessary.

FXAUD019

Alarm Level	None.
Description	The fax log dump audit has been started.
Repair Procedure	No corrective action is necessary.

FXAUD020

Alarm Level	None.
Description	The log dump files removed.
Repair Procedure	No corrective action is necessary.

FXAUD021

Alarm Level	None.
Description	The number of log dump files successfully removed.
Repair Procedure	No corrective action is necessary.

FXAUD022

Alarm Level	None.
Description	The fax log dump audit completed.
Repair Procedure	No corrective action is necessary.

FXAUD023

Alarm Level	None.
Description	The system could not truncate the sferror file.
Repair Procedure	No corrective action is necessary.

FXAUD024

Alarm Level	None.
Description	The new sferror file size.
Repair Procedure	No corrective action is necessary.

FXMON Alarms and Log Messages**FXMON001**

Alarm Level	None.
Description	The fax maintenance process started.
Repair procedure	No corrective action is necessary.

FXMON002

Alarm Level	Minor.
Description	The fax maintenance process cannot write to a file. The fax subsystem will not log events and future transmission problems may be difficult to diagnose.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON003

Alarm Level	None.
Description	No voice channels have been purchased and no fax channels have been enabled.
Repair Procedure	Confirm that the RTU mechanism was not used to purchase channels.

FXMON004

Alarm Level None.

Description The fax maintenance process could not initialize softFAX.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON005

Alarm Level None.

Description The fax maintenance process could not start the softFAX daemon.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON006

Alarm Level None.

Description The fax platform daemon has been started.

Repair Procedure There is no corrective action necessary.

FXMON007

Alarm Level	None.
Description	The fax maintenance process could not establish communication with softFAX.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON008

Alarm Level	None.
Description	The fax maintenance process could not add a softFAX user vexvm.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON009

Alarm Level	None.
Description	There is no product ID administered. The system is using the default NSF.
Repair Procedure	No corrective action is necessary.

FXMON010

Alarm Level Major.

Description The fax maintenance process could not add a softFAX channel. The channels indicated will not be capable of performing fax operations. This error may be caused by either:

- An attempt to enable more channels than licensed
- A corruption of the softFAX database

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON011

Alarm Level Minor.

Description The fax maintenance process cannot open a file. The fax subsystem will not be able to log FAX events properly. The ability to transmit FAX data should be unaffected.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON012

Alarm Level	Major.
Description	The fax maintenance process could not enable a softFAX channel. The channels indicated will not be capable of performing FAX operations.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON013

Alarm Level	Minor.
Description	The fax maintenance process is continuing to wait for the MTC process to complete.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON014

Alarm Level	Major.
Description	The fax maintenance process could not disable a softFAX channel. The error indicates a possible corruption of the softFAX line database.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON015

Alarm Level	None.
Description	The fax maintenance process successfully disabled a softFAX channel.
Repair Procedure	No corrective action is necessary.

FXMON016

Alarm Level	Major.
Description	The fax maintenance process could not disable a softFAX channel.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON017

Alarm Level	None.
Description	The fax maintenance process successfully deleted the softFAX channels from the database.
Repair Procedure	No corrective action is necessary.

FXMON018

Alarm Level None.

Description The fax maintenance process could not select events to monitor.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON019

Alarm Level None.

Description The fax maintenance process received a softFAX event error.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON020

Alarm Level Major.

Description The fax maintenance process could not hard reset a channel.
This alarm indicates that one or more channels are inoperable for fax transmission.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON021

Alarm Level	None.
Description	The fax maintenance process received a softFAX disable event.
Repair Procedure	No corrective action is necessary.

FXMON022

Alarm Level	None.
Description	The event monitor received an unexpected event.
Repair Procedure	No corrective action is necessary.

FXMON023

Alarm Level	None.
Description	The fax maintenance process could not shutdown the softFAX daemon.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON024

Alarm Level	None.
Description	The fax maintenance process received a softFAX line malfunction event.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON025

Alarm Level	None.
Description	The fax maintenance process could not start DEVICE TABLE.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON026

Alarm Level	None.
Description	The fax maintenance process could not open DEVICE TABLE.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON027

Alarm Level	None.
Description	The fax maintenance process could not read DEVICE TABLE.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON028

Alarm Level	None.
Description	The fax maintenance process could not read BDTBL TABLE.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON029

Alarm Level	None.
Description	The fax maintenance process could not read NITBL TABLE.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXMON030

Alarm Level None.

Description The fax platform daemon shutdown..

Repair Procedure If the reason is "unexpected death," reboot the system.
If the reason is not "unexpected death," no corrective action is necessary.

FXMON031

Alarm Level None.

Description The fax maintenance process could not halt line.

Repair Procedure Contact your remote maintenance service center for assistance.

FXMON032

Alarm Level None.

Description The fax maintenance process could not find job.

Repair Procedure No corrective action is necessary.

FXMON033

Alarm Level	None.
Description	The fax maintenance process job failed.
Repair Procedure	No corrective action is necessary.

FXMON034

Alarm Level	None.
Description	The system was unable to initialize a channel for the reason specified in the message.
Repair Procedure	No corrective action is necessary. If the problem persists, stop and start the voice system

FXMON035

Alarm Level	None.
Description	The system was unable to place a call in a given group for the reason specified in the message.
Repair Procedure	<ol style="list-style-type: none">1 Verify that the group listed in the message exists and has some channels in it.2 If the problem persists, stop and start the voice system.

FXMON036

Alarm Level	None.
Description	The system was unable to handle an incoming fax for the reason specified in the message.
Repair Procedure	If the problem persists, stop and start the voice system.

FXMON037

Alarm Level	None.
Description	The system was unable to get information on a given fax group for the reason specified in the message.
Repair Procedure	<ol style="list-style-type: none">1 Verify that the fax group specified is valid.2 If the problem persists, stop and start the voice system.

FXMON038

Alarm Level None.

Description The fax failed because the given fax group contains a non-fax capable channel.

Repair Procedure Remove non-fax capable channels from the group. See "Voice Equipment: in Chapter 3, Voice system Administration," of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

FXMON039

Alarm Level None.

Description The necessary resources to handle the fax could not be allocated

Repair Procedure 1 Verify that the number of right-to-use fax licenses is sufficient.

 2 Enter **display card ssp** to determine if the SSP circuit cards are in service.

 3 Verify that fax service is assigned to the appropriate number of SSP circuit cards.

FXMON040

Alarm Level None.

Description The system operation is being jeopardized by requests for too much rasterization of text messages for faxing.

Repair Procedure Contact your remote maintenance service center for assistance.

FXNSF Alarms and Log Messages**FXNSF001**

Alarm Level Major.

Description NSF update: Could not initialize softFAX.

Repair Procedure Contact your remote maintenance service center for assistance.

FXNSF002

Alarm Level	Major.
Description	NSF update: Could not start softFAX daemon. This alarm indicates that an attempt to update the NSF identifier failed.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXNSF003

Alarm Level	Major.
Description	NSF update: Could not establish communication with softFAX. This alarm indicates that an attempt to update the NSF identifier failed.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXNSF004

Alarm Level	Major.
Description	NSF update: Update of softFAX channel failed.
Repair Procedure	Contact your remote maintenance service center for assistance.

FXNSF005

Alarm Level	None.
Description	NSF update of softFAX channel passed
Repair Procedure	No corrective action is necessary.

GEN Alarms and Log Messages

GEN001

Alarm Level	None.
Description	An internal voice system process has encountered a general error described in the message text. System functionality is impaired.
Repair Procedure	No corrective action is necessary.

GEN002

Alarm Level	None.
Description	An internal voice system process has logged general status information with this message.
Repair Procedure	No corrective action is necessary.

GEN020

Alarm Level	None.
Description	An internal voice system process has received a command with the incorrect number of arguments. The source of the message is ALERTER, which indicates that a user command was issued with incorrect arguments. The command has been ignored.
Repair Procedure	No corrective action is necessary.

GEN022

Alarm Level	None.
Description	<p>An internal voice system process has received a command which it does not recognize.</p> <p>If the source of the command is ALERTER, the message indicates that a user command was badly formed or unrecognized by the Alerter. The command has been ignored.</p>
Repair Procedure	No corrective action is necessary.

GEN024

Alarm Level	None.
Description	An internal voice system process has attempted to open the specified file and failed.
Repair Procedure	No corrective action is necessary.

GEN050

Alarm Level	None.
Description	An internal voice system process has received a command to change one of its internal parameters. The name of the parameter and its old and new values are printed in the message.
Repair Procedure	No corrective action is necessary.

HOST Alarms and Log Messages

HOST001

Alarm Level	Major.
Description	The application cannot access the host to get data for the call. Either a mismatch exists between the voice system and host configurations, the host has not responded within the Initial Timeout specified in the application for a Send Host Screen action, or the host connection is down.
Repair Procedure	<ol style="list-style-type: none">1 Ensure that the host connection is made and the voice system host configuration agrees with the host configuration.2 Also, a noisy connection may cause the host to retransmit screens excessively, resulting in slow response times from the host.

HOST002

Alarm Level None.

Description The applications cannot get correct data for the call. The host has sent an unexpected screen within the Unrecognized Screen Timeout specified in the application for a Get Host Screen action.

For some applications, unexpected screens are part of the normal flow of the application and can be ignored. However, for other applications, this might show that either the application is not recognizing the screen sent by the host or the host is taking too long to respond with the expected screen.

Repair Procedure For many applications no corrective action is necessary. If the message persists, check the application logic.

HOST003

Alarm Level Critical.

Description The applications cannot access the host to get data for calls. Either the host is down, the application running on the host (for example, CICS or TSO) is down, a mismatch exists between the voice system and host configurations, or a logic problem exists in the voice system application.

Repair Procedure

- 1 Re-establish the connection with the host by using the **stop_hi** and **start_hi** commands.
- 2 Free a session of the card by entering **hfree session_number** where *session_number* is the number of the session you want to free. A message is displayed confirming the success or failure of the hfree command.
- 3 Start the 3270 Terminal Emulation software by entering **sb_te session_numbers**

The Terminal Emulator (TE) displays the current screen of the LU. The 3270 status line appears at the bottom of the screen to inform you whether or not the host is active. See Appendix B, "Status Line Information," of the *Cleo TN3270 User's Guide* or *SNA 3270 User's Guide* for information about the indicators shown in the 3270 status line and what those values mean.

HOST004

Alarm Level

Major.

Description

The application cannot access the host to get data for the call. Either the keyboard is locked, the host connection is down, the session is owned by someone else, or the problem is with the configuration.

Repair Procedure

- 1 If the keyboard is locked or you cannot access the host, complete the following Steps a through c:
 - a Free a session of the card by entering **hfree *session_number*** where *session_number* is the number of the session you want to free. A message is displayed confirming the success or failure of the hfree command.
 - b Enter **sb_te *session_numbers*** where *session_numbers* is one or more session numbers. You are asked to press to display the screen currently displayed by the sessions.
 - c Press the key configured as the 3270 reset key to unlock the keyboard. It is likely that the application assigned to that session at one point sent a screen at an inappropriate time, causing the host to lock the keyboard. See the repair procedure for HOST013 system message to debug the host application section below.
- 2 If you can not access the host, ensure that the connection between the host and the voice system is not broken as described in the repair procedure for HOST006.

- 3 If the session is owned by someone else, enter **ps ef**

This will check if another program, like the terminal emulator or file transfer, is using the session.

If so, terminate those programs and reassign the application to the session by entering **hassign session_number**

where *session_number* is the number of the session to which you want to assign application.

- 4 Make sure that the session has been configured for a host LU.

HOST005

Alarm Level

Major.

Description

The application cannot access the host on the specified session to get data for the call. The host has stopped polling or checking the voice system. Either the host is down, a mismatch exists between the voice and host configurations, or the host connection is down.

Repair Procedure

- 1 If a HOST017 message is not in the message log, enter **hstatus** to determine if the sessions are recovering or logging in.
- 2 If the sessions are recovering or logging in, wait until this process is complete. No additional steps are necessary.

- 3 If the sessions are not recovering or logging in, wait until a HOST017 message appears in the message log, and then reset the host connection by completing the following Steps a through e:
 - a Stop the host interface by using the **stop_hi** command.
 - b Start the host interface by using the **start_hi** command.
 - c If the problem persists, free the specified session of the card by entering **hfree session_number**

where *session_number* is the number of the session you want to free.

A message appears, confirming the success or failure of the hfree command.

- d Enter **sb_te session_numbers**

where *session_numbers* is one or more session numbers.

The Terminal Emulator (TE) displays the current screen of the LU. The 3270 status line appears at the bottom of the screen to inform you whether or not the host is active. See Appendix B, "Status Line Information," of the *Cleo TN3270 User's Guide* or *SNA 3270 User's Guide* for information about the indicators shown in the 3270 status line and what those values mean.

- e If the problem persists, see the repair procedure for system message HOST006 for how to bring up the host connection.

HOST006

Alarm Level

Critical.

Description

The applications cannot access the host to get data for calls. There is no session connection to the host.

Repair Procedure

- 1 Ensure that the connection between the host and the voice system is not broken.
- 2 If the problem persists, ensure that the voice system host configuration is set to agree with the host's configuration.

HOST007

Alarm Level

Major.

Description

The application cannot send a screen of data to the host to get data for the call. The application either tried to send the wrong screen or to write onto a protected field on the screen.

Repair Procedure

- 1 Display the screen currently displayed by the session. Enter
hspy *session_ number*

where *session_number* is the session number you want to display.

You are asked to press **ENTER**. The application may have tried to send a different screen or to write into a protected field.

- 2 Redefine the logic of your host application to either send the correct screen or not write to the protected field, and reverify and reinstall the host application.
- 3 Free the specified session. Enter **hfree *session_number***
where *session_number* is the number of the session you want to free.
A message appears, confirming the success or failure of the hfree command.
- 4 To move from the current screen back to the login base screen using the proper screens and keys, enter *sb_te* ***session_numbers***
where *session_numbers* is one or more session numbers.
You are asked to press **ENTER** to display the screen currently displayed by the sessions.
- 5 If the session does not respond to your input, check the terminal emulator's status line indicator at the bottom of the display.
The Terminal Emulator (TE) displays the current screen of the LU. The 3270 status line appears at the bottom of the screen to inform you whether or not the host is active. See Appendix B, "Status Line Information," of the *Cleo TN3270 User's Guide* or *SNA 3270 User's Guide* for information about the indicators shown in the 3270 status line and what those values mean.

- 6 Reassign the application back to the session. Enter

hassign *application_name* to *session_number*

where *application_name* is the name of the application and *session_number* is the number of the session to which you want to assign the application.

A message appears, confirming the success or failure of the hassign command.

- 7 If the problem persists, use the sb_trace command as described in the "For Application Developer" section of the HOST013 message.

HOST008

Alarm Level

Major.

Description

The application cannot access the host to get data for the call. The application wants to send a screen when the host has not yet responded to a previous send of another screen.

Repair Procedure

Check the logic of the application. See Chapter 12, "Using Advanced Features," of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for information.

HOST009

Alarm Level Major.

Description The application cannot access the host to get data for the call. The application failed to log in. The specified session could not attempt to log in to the host because all the application's login IDs/passwords are being used by other sessions.

Repair Procedure Either add more login IDs/passwords to the application or do not use any more sessions than login IDs/passwords. See Chapter 12, "Using Advanced Features," of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for information.

HOST010

Alarm Level Critical.

Description The application will not run because it is incomplete or improperly defined.

Repair Procedure Check the logic of the application. See Chapter 12, "Using Advanced Features," of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for information.

HOST011

Alarm Level Major.

Description The application cannot access the host to get data for the call. The application depends on the HELPER DIP to identify fields on the screens.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, check the logic of the application. See Chapter 12, "Using Advanced Features," of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for information.

HOST012

Alarm Level Major.

Description The application cannot access the host to get data for the call. Either not enough sessions have been assigned to the application or some sessions assigned to the application are not logged in to take calls.

Repair Procedure

- 1 Verify that there are as many sessions defined as there are voice channels assigned to the application. Enter

hstatus *application_name* or *session_number* or *range* or *all*

where *application_name* is the host application name and *session_number*, *range*, or *all* is the number, range, or all of the sessions for which you want to display status.

If the LUs are in the "not available" state, See Chapter 3, "Voice System Administration," of *CONVERSANT System Version 8.0 Administration*, 585-313-510, to configure the LUs.

- 2 Verify that the application has enough sessions logged in ready to handle calls. Enter

hstatus *application_name* or *session_number* or *range* or *all*

where *application_name* is the host application name and *session_number*, *range*, or *all* is the number, range, or all of the sessions for which you want to display status.

- a If the application is not assigned to this LU, assign as many sessions as needed by entering

hassign *application_name* to *session_number*

where *application_name* is the name of the application and *session_number* is the number of the session to which you want to assign the application.

A message appears, confirming the success or failure of the `hassign` command.

- b** If a LU is assigned to application but in the "logged out" state, enter

`hlogin session_number`

to log in logged out sessions.

- 3** Determine if some sessions are in the recovery state. This could be caused by faulty logic in the application. Enter

`hstatus application_name` or `session number` or `range` or `all`

where *application_name* is the host application name and *session_number*, *range*, or *all* is the number, range, or all of the sessions for which you want to display status.

- 4** If some sessions are in recovery, check the logic of the application. See the repair procedure for system message HOST013 to debug the host application.

HOST013

Alarm Level

Major.

Description

The application cannot access the host to get data for the call. Either the host is down, the application running on the host (for example, CICS or TSO) is down, or a logic problem exists in the application.

This message can also be caused by stopping the voice system before all session were logged out.

Repair Procedure

- 1 Free a session of the card. Enter **hfree *session_number***

where *session_number* is the number of the session you want to free.

A message appears, confirming the success or failure of the hfree command.

- 2 Enter **sb_te *session_numbers***

where *session_numbers* is one or more session numbers.

Check the terminal emulator's status line indicator at the bottom of the display. The Terminal Emulator (TE) displays the current screen of the LU. The 3270 status line appears at the bottom of the screen to inform you whether or not the host is active. See Appendix B, "Status Line Information," of the *Cleo TN3270 User's Guide* or *SNA 3270 User's Guide* for information about the indicators shown in the 3270 status line and what those values mean.

- 3 If this message occurred because a `stop_vs` was performed before all sessions logged out, use the following procedure:
 - a Free all sessions assigned to the application or the card by entering **`hfree application`** or **`session_number`** or **`range`** or **`all`** where *application* is the name of the host application and *session_number*, *range*, or *all* is the number of the session(s) you want to free.

A message appears, confirming the success or failure of the `hfree` command.
 - b Use the terminal emulator on all of the recovering sessions to manually move the sessions to the login base screen using the screens and keys. Enter **`sb_te session_numbers`** where *session_numbers* is one or more session numbers.

The current screen on the sessions is displayed.
 - c Use the `hassign` command to reassign the application to all the sessions and verify that all sessions become logged in.
- Note:** The next time a `stop_vs` is executed, use the **`hlogout`** command prior to `stop_vs` to log out the sessions before stopping the voice system.
- 4 See [HOST013 for Application Developer on page 419](#).

HOST013 for Application Developer

- 1 Determine if some sessions are in the recovery state. This could be caused by faulty logic in the application. Enter **hstatus *application_name* or *session_number* or *range* or *all*** where *application_name* is the host application name and *session_number*, or *range*, or *all* is the number, range, or all of the sessions for which you want to display status.
- 2 Display the screen currently displayed by the session. The application may not recognize or expect the screen sent by the host. Enter **hspy *session_number*** where *session_number* is the session number you want to display.

You are asked to press **ENTER**.

- 3 If the screen is new, changed, or improperly identified in the application, recapture and identify this screen through the Script Builder Define Host Screens menu.
- 4 Assure that the screen is received and sent in the proper places in the application.
- 5 Verify and reinstall the application if changes were made to the application and/or screens.
- 6 If the problem persists, repeat Steps 1-5 until all screens are properly defined.

- 7 If all the screens are properly defined and accounted for in the application, free all sessions assigned to the application or the card, if necessary. Enter **hfree** *application* or *session_number* or *range* or *all* where *application* is the name of the host application and *session_number*, or *range*, or *all* is the number of the session(s) you want to free.

A message appears, confirming the success or failure of the **hfree** command.

- 8 Use the terminal emulator on one of the recovering sessions to determine what current screen the host is displaying. This could help locate the trouble area in the application.
- 9 To move from the current screen back to the login base screen using the proper screens and keys, enter **sb_te** *session_numbers* where *session_numbers* is one or more session numbers. The current screen on the sessions is displayed.
- 10 If the session does not respond to your input, check the terminal emulator's status line indicator at the bottom of the display.

The Terminal Emulator (TE) displays the current screen of the LU. The 3270 status line appears at the bottom of the screen to inform you whether or not the host is active. See Appendix B, "Status Line Information," of the *Cleo TN3270 User's Guide* or *SNA 3270 User's Guide* for information about the indicators shown in the 3270 status line and what those values mean.

- 11 Save all screens sent and received from/to that session. This might show extra screens not accounted for in the application. Enter **sb_trace *session_number*** where *session_number* is the number of the session you want to trace.
A message appears, confirming the success or failure of the sb_trace command.
- 12 Reassign the application back to that session. Enter **hassign *application_name* to *session_number(s)*** where *application_name* is the name of the host application name and *session_number(s)* is the number of the session(s) you want to assign to the specified application.
A message appears, confirming the success or failure of the hassign command.
- 13 Place a call into the application if necessary to make the session go into recovery.
- 14 Verify that the session is recovering. Enter **hstatus *application_name* or *session_number* or *range* or *all*** where *application_name* is the host application name and *session_number*, or *range*, or *all* is the number, range, or all of the sessions for which you want to display status.
- 15 Once recovering, use the hfree command to free the session and look through the screens saved by sb_trace to identify the point where the wrong screen is being sent or received.

- 16 Use the terminal emulator as described in Step 9 to bring this session and all others back to the login base screen.
- 17 Capture or redefine the appropriate screens and fix the logic of the application to reflect the sequence of screens sent and received. See Chapter 4, "Defining the Host Interface," Chapter 5, "Creating Database Tables," Chapter 10, "Application Administration," and Appendix A, "Sample Application," in *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for more help in defining the application.
- 18 Reverify and reinstall the host application.
- 19 Reassign the application on one session by entering **hassign *application_name* to *session_number(s)*** where *application_name* is the name of the host application and *session_number(s)* is the number of the session(s) you want to assign to the specified application.

A message appears, confirming the success or failure of the hassign command.
- 20 Verify that the application logs in and returns to `loggedin` after a call is finished.
- 21 If it does not return to `loggedin`, repeat the debugging steps above.
- 22 Use the hassign command to reassign the application to the rest of the sessions and verify that all sessions become logged in.

HOST014

Alarm Level	None.
Description	At least one session has recovered and is now logged in for the application to take a call.
Repair Procedure	No corrective action is necessary.

HOST015

Alarm Level	Critical.
Description	The applications cannot access the host to get data for calls. The HOST DIP has stopped handling calls. This is normal when the voice system is stopped, and in this case the message can be ignored. If the voice system is still running, the message might indicate internal problems in the HOST DIP.
Repair Procedure	<ol style="list-style-type: none">1 If the voice system is running, determine if the HOST DIP is running. Enter hstatus all2 If all sessions are shown "not available," the HOST DIP is not running. Complete the following Steps a and b:<ol style="list-style-type: none">a Stop the voice system.b Start the voice system.

HOST016

Alarm Level

Critical.

Description

The system cannot communicate with the host. This shows that the HOST DIP cannot open any host LUs. This problem occurs when the host connection is stuck in an inactive state. It is typically caused by an error between the voice system and the host (a dropped host connection, power hit on the voice system, etc).

Repair Procedure

- 1 Shut down the operating system.
- 2 Reboot the operating system.

HOST017

Alarm Level

Major.

Description

The session assigned to the application is not available to handle calls. It will continue to retry the login and/or recover sequences specified in the application. Either the host is down, the application running on the host (for example, CICS or TSO) is down, or a logic problem exists in the application.

Repair Procedure

See the repair procedure for system message HOST013.

HOST018

Alarm Level	None.
Description	The session assigned to the application is now available to handle calls.
Repair Procedure	No corrective action is necessary.

ICK Alarms and Log Messages

ICK001

Alarm Level	Minor.
Description	The integrity checking process has received an invalid request. The request has been ignored.
Repair Procedure	<ol style="list-style-type: none">1 Verify that commands being sent to the integrity checking process are using iCkCmd. See Appendix A, "Summary of Commands," in <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510, for more information.2 Verify that the files /vs/bin/vrs/iCk and /vs/bin/util/iCkCmd have the same date.

ICK002

Alarm Level Minor.

Description The integrity checking process has encountered an internal error.

Repair Procedure 1 If the description is similar to:

```
Activity index <NN> is out of range: <MMM> Current limits: 0  
to <NN>
```

the integrity checking process will automatically correct the problem.

2 If the description is similar to:

```
Time computation failed <XXX>
```

edit the **/vs/etc/ick.rules** file and correct the time description **XXX**.

ICK003

Alarm Level None.

Description The integrity checking process has received a command request.

Repair Procedure No corrective action is necessary.

ICK004

Alarm Level	None.
Description	The integrity checking process has just completed reading its rules file.
Repair Procedure	No corrective action is necessary.

ICK005

Alarm Level	None.
Description	The integrity checking process has changed the state of the UNIX kernel auto-reboot flag to state identified.
Repair Procedure	No corrective action is necessary.

ICK006

Alarm Level	None.
Description	The identified action has been taken by the integrity checking process.
Repair Procedure	No corrective action is necessary.

ICK007

Alarm Level Major.

Description The directory in which the integrity checking process rules file appears is accessible by nonauthorized users. The rules file is insecure and is vulnerable to corruption which may impact system functionality.

Repair Procedure 1 Verify that the directory in which the rules file appears is owned by root and is not writable by any other user. Enter **ls ld /vs/etc**

The output should be similar to:

```
drwxrxxrx 3 root bin 64 Dec 30 12:11 /vs/etc
```

- 2 If the mode is not `drwxrxxrx`, enter **chmod 755 /vs/etc**
- 3 If the owner is not `root`, enter **chown root /vs/etc**
- 4 If the group is not `bin`, enter **chgrp bin /vs/etc**

ICK008

Alarm Level

Major.

Description

The rules file used by the integrity checking process is accessible by nonauthorized users. The rules file is insecure and is vulnerable to corruption which may impact system functionality.

Repair Procedure

- 1 Verify that the rules file is owned by root and is not writable by any other user. Enter **ls ls /vs/etc/iCk.rules**

The output should be similar to:

```
-r--r--r-- 1 root other 6815 Dec 30 12:11 /vs/etc/iCk.rules
```

- 2 If the mode is not `-r--r--r--`, enter **chmod 444 /vs/etc/iCk.rules**
- 3 If the owner is not `root`, enter **chown root /vs/etc/iCk.rules**

ICK009

Alarm Level

None.

Description

The integrity checking process has found the specified file to be larger than allowed by a rule which has been executed, or to not be regular. The specified reduction procedure has been performed.

Repair Procedure

No corrective action is necessary.

ICK010

Alarm Level Minor.

Description The integrity checking process has found a file specified by a rule that does not comply with the requirements of the rule. Depending upon the rule, the integrity checking process may attempt to correct the problem or just report it.

Repair Procedure If the message does not indicate that the problem has been automatically corrected, determine why the specified file is failing the rule test and correct it using one of the following:

- 1 If the message indicates an error with the mode, use the **chmod** command to change the mode.
- 2 If the message indicates an error with the group, use the **chgrp** command to change the group.
- 3 If the message indicates an error with the owner, use the **chown** command to change the owner.
- 4 If the message indicates that the file does not exist, create the file. If the file is a UNIX file, see a UNIX reference manual for additional information. If the file is specific to your application, consult your application developer.

ICK011

Alarm Level	None.
Description	The integrity checking process is changing to the specified run level. A change in run level affects which rules are in force.
Repair Procedure	No corrective action is required.

INIT Alarms and Log Messages

INIT001

Alarm Level	Critical.
Description	<p>The system configuration from the previous operation of the voice system is completely lost. All administered values are set to their default states. Administrative action is required to assign services to channels and put channels in the INSERTV state. Card functionality must be specified in order for the system to operate under any configuration other than the default settings.</p> <p>No calls can be processed until the system has been readministered.</p>
Repair Procedure	This alarm requires remote maintenance center intervention.

INIT002

Alarm Level	Major.
Description	The identified card, previously recognized to be present in the system, cannot be located. Call processing may be impaired.
Repair Procedure	<ol style="list-style-type: none">1 Remove the card from the system and do not replace it. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.2 Renumber the voice channels. See Chapter 3, "Voice System Administration," in <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510.

INIT003

Alarm Level	None.
Description	The identified card has been added to the system. The card is initialized with default values and requires administration before it is operational.
Repair Procedure	No corrective action is necessary.

INIT004

Alarm Level	None.
Description	Channels have been renumbered at the request of a system administrator.
Repair Procedure	No corrective action is necessary.

INIT005

Alarm Level	Major.
Description	Cannot save system configuration data to hard disk.  CAUTION: If the voice system is stopped and started, some or all of the voice system administered values may be lost.
Repair Procedure	This alarm requires remote maintenance center intervention.

INIT006

Alarm Level Critical.

Description Cannot determine type of SSP card.

An error occurred when trying to determine the number for the voice system card. The card is not operational. The resources on the card are not available. Call processing may be impaired.

Repair Procedure 1 Check the circuit card.

2 If the CPU has recently been replaced, verify that the card is set up correctly. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

INIT007

Alarm Level Major.

Description The unassigned protocol has been assigned to the card. The identified card has been re-assigned to the unassigned protocol. The reason for the reassignment is indicated in the reason field of the message. The card should be re-administered.

Repair Procedure

- If the reason is:

```
Packfile <packfile name> does not exist
```

either the protocol that provides this packfile is no longer installed on the system, or the rate of the card has been changed and no such protocol exists for this card. Do the following:

- 1 Log in as root.

- a Determine the protocol assigned to the indicated card and the card rate by entering **display card *card_number***

where *card_number* is the number indicated in the message.

- b Determine if the package that provides that protocol is installed on the system by entering **pgkinfo**

The packages and the protocols provided and card rates supported are shown in [Table 20 on page 436](#).

- c If the package is not installed, it must be installed to use the protocol. See the "Installing the Optional Feature Software" chapter in the maintenance book for your platform for information on installing software. Check that the desired protocol is supported for that card rate.

- If the reason is:

Boards in D-channel group <group number> are not contiguous
the cards in the PRI D-channel group must be made contiguous. See
Chapter 5, "Switch Interface Administration," in *CONVERSANT System
Version 8.0 Administration*, 585-313-510.

Table 20. T1/E1 Protocol Rates

Package	Protocol	Rate
t1em	E&M	T1
pri	PRI	T1/E1
lst1g	LST1G	T1
p2aus	CAS	E1
r2mex	CAS	E1
r2arg	CAS	E1
r2bra	CAS	E1
loop	LS	T1/E1
ground	LS	T1/E1

INIT008

Alarm Level None.

Description IChannels have been renumbered as a result of a change in hardware.

Repair Procedure **Note:** This alarm occurs when a card in the system has been replaced by another card of the same class, but of a different name or running at a different rate. Therefore an automatic renumber of the cards has occurred and the new card has default settings. (For example, a card in the class Analog at osindex 0 with name AYC28 has been replaced by another card as osindex 0, with name AYC30.)

The new circuit card may need to be re-administered if the default settings, protocols, or functions are not appropriate. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

INIT009

Alarm Level Minor.

Description A change in configuration was detected. An automatic renumbering has not occurred because the manual renumber option is set. A renumbering of channels should be done as soon as possible.

Note that this alarm will only appear if your remote maintenance center activates it.

Repair Procedure Renumber the voice channels. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

INIT010

Alarm Level None.

Description Unable to update the T1/E1 configuration file. T1/E1 cards with the unassigned protocol should be re-administered.

Repair Procedure Re-administer all cards that currently have the unassigned protocol assigned to them. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

LOG Alarms and Log Messages

LOG001

Alarm Level None.

Description The voice system logger has started a new message log file.

Repair Procedure No corrective action is necessary.

LOG002

Alarm Level None.

Description The voice system logger has closed one message log file and is starting a new message log file.

Repair Procedure No corrective action is necessary.

LOG006

Alarm Level	Message priority based on the priority of the message ID passed to the Logger.
Description	The voice system logger has been asked to log a message type which is invalid and which it cannot expand into a readable form for the message log.
Repair Procedure	<ol style="list-style-type: none">1 Identify the source of the unexpected message. The name of the source should be part of the compressed message format of the invalid message.2 If the source of the unexpected message is a customer application data interface process (DIP), consult your application developer. Otherwise, confirm that all installed voice system software packages are compatible with the installed version of the system software. Remove any software package that is incompatible and install the proper version.

LOG007

This message can have different values for the `string1` and `string2` fields. The description and effect statement and the corresponding repair procedure differs for each of the values. Use the list of messages below to determine the proper description and effect statement and repair procedure for the LOG007 message you have encountered.

```
LOG007 logDaemon: msgsrc=1, errno NOT EINTR:
```

Alarm Level	Critical.
Description	The voice system message Logger cannot communicate with other internal voice system processes. Logger functionality is severely impaired.
Repair Procedure	Reboot the system.

```
LOG007 logDaemon: PID <pid> <msg>.:
```

Alarm Level	None.
Description	The voice system message Logger has been started or reinitialized. This message will appear in each log file maintained by the Logger.
Repair Procedure	No corrective action is necessary.

```
LOG007 logDaemon: REINITIALIZED.:
```

Alarm Level	None.
Description	The voice system message Logger has received a command to reinitialize.
Repair Procedure	No corrective action is necessary.

```
LOG007 logDaemon: Exiting upon request.:
```

Alarm Level None.

Description The voice system message Logger has received a command to exit.

Repair Procedure No corrective action is necessary.

```
LOG007 logDaemon: Unable to open: <command>.:
```

Alarm Level Critical.

Description The voice system message Logger is unable to execute the UNIX command indicated by the message. Logger functionality is impaired.

Repair Procedure

- 1 Make sure the UNIX command file being executed by the Logger exists and is executable.
- 2 If necessary, restore the missing or corrupted UNIX command file indicated in the message from a system backup.
- 3 If no valid backup copy exists reinstall the CONVERSANT software. See the "Installing the CONVERSANT System Software" chapter in the maintenance book for your platform.

MTC Alarms and Log Messages

MTC001

Alarm Level

Major.

Description

The card identified in the message is unable to provide TDM clock to the system. This may indicate a possible hardware problem with the card. The card state has been changed to BROKEN. Applications dependent on this card will not function.

Repair Procedure

- 1 Diagnose the card by entering:
diagnose card *card_number*
where *card_number* is the number of the card.
- 2 After the diagnose command has completed, display the state of the card by entering:
display card *card_number*
where *card_number* is the number of the card.
- 3 If the card state has changed to MANOOS, restore the card into service by entering:
restore card *card_number*
where *card_number* is the number of the card.
- 4 If the card state remains BROKEN, check the circuit card.

MTC002

Alarm Level None.

Description The identified card has had a state transition. The card state has been changed to `BROKEN`. Applications dependent on this card will not function.

If the identified card is the only SSP card on the system that was providing speech playback functionality for the Tip/Ring cards, the equipment option of the Tip/Ring cards must be manually changed from "tdm" to "talk". See *CONVERSANT System Version 8.0 Administration*, 585-313-510. This option is shown under "OPTS" heading when the "display card" command is invoked.

Changing this option enables the Tip/Ring cards to perform speech playback on their own, in the absence of an SP card, thus maintaining overall system functionality. However, note that this configuration does not support barge-in functionality. Once the SP card is restored to service, the Tip/Ring card options need to be manually changed to "tdm".

Repair Procedure

- 1 Check for any loose cables.
- 2 If the identified card is the only SSP card on the system that was providing speech playback functionality for Tip/Ring cards. See Chapter 3, "Voice System Administration," of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

3 If any packages have been removed from the system recently, verify that any related cards, functions, etc, have been unassigned from the application so that the affected card does not come up in the Broken state. See Chapter 3, "Voice System Administration," of *CONVERSANT System Version 8.0 Administration*, 585-313-510.

4 If the state transition was not initiated by a diagnose command, diagnose the card by entering:

diagnose card *card_number*

where *card_number* is the number of the card.

5 After the diagnose command has completed, display the state of the card by entering:

display card *card_number*

where *card_number* is the number of the affected card.

6 If the card is in the MANOOS state, do the following:

a Diagnose the bus by entering **diagnose bus 1**

b Display the state of the card by entering:

display card *card_number*

where *card_number* is the number of the card.

c If the card is in the BROKEN state, check the circuit card.

- d If the card is in the MANOOS state, restore the card into service by entering:

restore card *card_number*

where *card_number* is the number of the card.

- 7 If the card is in the BROKEN state, check the circuit card.

MTC003

Alarm Level

Major.

Description

The identified card has had a state transition. The card state has been changed to `BROKEN`. Applications dependent on this card will not function.

If the identified card is the only SP card on the system that was providing speech playback functionality for the Tip/Ring cards, the equipment option of the Tip/Ring cards must be manually changed from "tdm" to "talk". See *CONVERSANT System Version 8.0 Administration*, 585-313-510. This option is shown under "OPTS" heading when the display card command is invoked. Changing this option enables the Tip/Ring cards to perform speech playback on their own, in the absence of an SP card, thus maintaining overall system functionality. However, note that this configuration does not support barge-in functionality. Once the SP card is restored to service, the Tip/Ring card options need to be manually changed to "tdm."

Repair Procedure

- 1 Check for any loose cables.
- 2 If the identified card is the only SP card on the system that was providing speech playback functionality for Tip/Ring circuit cards. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 3 If any packages have been removed from the system recently, verify that any related cards, functions, etc, have been unassigned from the application so that the affected card does not come up in the BROKEN state. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- 4 If the state transition was not initiated by a diagnose command, diagnose the card. Enter

diagnose card *card_number*

where *card_number* is the number of the card.

- 5 After the diagnose command has completed, display the state of the card by entering:

display card *card_number*

where *card_number* is the number of the card.

- 6 If the card is in the MANOOS state, do the following:
 - a Diagnose the bus by entering **diagnose bus 1**
 - b Display the state of the card by entering:
display card *card_number*
where *card_number* is the number of the card.
 - c If the card is in the BROKEN state, check the circuit card.
 - d If the card is in the MANOOS state, restore the card into service by entering:
restore card *card_number*
where *card_number* is the number of the card.
- 7 If the card is in the BROKEN state, check the circuit card.

MTC004

Alarm Level	None.
Description	Diagnostic tests have been started on the identified card.
Repair Procedure	No corrective action is necessary.

MTC005

Alarm Level	None.
Description	The identified card has successfully passed all diagnostic tests performed.
Repair Procedure	No corrective action is necessary.

MTC006

Alarm Level	Major.
Description	The identified card has failed one or more diagnostic tests. The card state has been changed to <code>BROKEN</code> . Applications dependent on this card will not function.
Repair Procedure	Check the circuit card.

MTC007

Alarm Level	Critical.
Description	An internal software error occurred when requesting a resource from, or releasing a resource to the Resource Manager. The request could not be processed. The identified card or channel is not available.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the system. <p>Note: If the reason is <code>User requested abort</code>, an abort of a remove or restore request for a card or channel was initiated while the request was still being processed. The state of the card or channel may not be accurate. Check the circuit card.</p>

MTC008

Alarm Level	None.
Description	The clock has been restored on the card identified in the message.
Repair Procedure	No corrective action is necessary.

MTC009

Alarm Level

Major.

Description

An error occurred loading the card in the message. Applications dependent on this card may not function. Call processing may be impaired.

Repair Procedure

- 1 Check to see if an INIT006 message has been logged for this card. If there is, follow the repair procedure for [INIT006 on page 434](#) first.

This message occurs until the problem causing the INIT006 message is cleared. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on the log report.

- 2 Verify that all functions assigned to the card are still installed on the system.

For example, if tts is assigned to the card, verify that the package that provides Text-to-Speech is installed on the system by entering **pgkinfo**

If any function is assigned to the card but not installed on the system, either install the software package, or change the assignment of the card to remove the function. See the "Installing the Optional Feature Software" chapter in the maintenance book for your platform, for information on installing software. See Chapter 3, "Voice System Administration" in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on card assignments.

- Note:** If FlexWord is assigned to the card, a wordlist must be administered. See Chapter 5, "Recognizing FlexWord Speech Input," in *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition*, 585-313-218.
- 3 Change the assignment of the card to the defaults of play+code. See Chapter 3, "Voice System Administration" in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on assigning functions to SSP card.
 - 4 Diagnose the SSP card by doing the following:
 - a Enter **diagnose card *card_number***
where *card_number* is the number of the SSP card.
 - b If the card passes diagnostics, re-administer the original functions on the card. See Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - c Try to place it into service by entering
restore card *card_number*
where *card_number* is the card number of the SSP card you want to restore to service.

MTC010

Alarm Level Major.

Description The identified bus has failed one or more diagnostics tests. One or more cards have been changed to **BROKEN**. Applications dependent on these cards will not function.

Repair Procedure

- 1 Check the bus connections.
- 2 Ensure that the cable is secure on each of the cards.
- 3 If the problem persists, try a new cable.
- 4 If the problem still occurs, a card on the bus is likely causing the problem. Remove cards from the bus, one at a time, until the problem is eliminated. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

MTC011

Alarm Level None.

Description The identified bus has successfully passed all diagnostics tests performed.

Repair Procedure No corrective action is necessary.

MTC012

Alarm Level	None.
Description	Diagnostics tests have been started on the identified bus.
Repair Procedure	No corrective action is necessary.

MTC013

Alarm Level	Major.
Description	The identified card is not receiving clock. The card may not be on the bus. In order to use this card, it must be connected to the bus. The state of this card has been changed to <code>BROKEN</code> . Applications dependent on this card will not function.
Repair Procedure	<ol style="list-style-type: none">1 Check the bus connections.2 Ensure that the cable is secure on each of the cards.3 If the problem persists, try a new cable.

PRI Alarms and Log Messages

PRI001

Alarm Level

Major.

Description

The ISDN D-channel has gone out-of-service and no calls can be placed or received by the associated primary rate interface (PRI) channels. Active calls are unaffected, but customers will not be able to place calls to or from the voice system

This message does not typically indicate a problem with the PRI software; instead it points to either a circuit card problem or a problem with the external equipment that terminates the D-channel (another switch). Repeated or frequent failures followed by subsequent recoveries of a specific voice system D-channel indicate faulty equipment, along the D-channel connection, that should be replaced.

Repair Procedure

- 1 Display the status of the D-channel and the status of the specific card indicated by the *equip #* by entering:

display channel all | grep PRID

The D-channel number appears in the first column, the associated T1/E1 card in the first field of the second column, and the D-channel state in the third column.

If multiple D-channels are configured, it is important to make sure that the line you check is the one that has a card number (in the first field of the second column) that matches the *equip #* value in the alarm message, or that has the same D-channel group ID as the SSP card that reports the alarm.

The D-channel state can be INSERTV (in-service), FOOS (far-end out-of-service), NETOOS (network out-of-service), or HWOOS (hardware out-of-service).

2 Continue as follows according to the state of the D channel:

- ~ If the D channel state is INSERTV, the failure was temporary and the D channel has recovered (PRI002 message has been logged).
 - ~ If the D channel state is FOOS, a T1/E1 failure has occurred. Go to [step a](#).
 - ~ If the D channel is NETOOS, the voice system cannot correctly establish the D-channel with the terminating switch. Go to [step a](#).
 - ~ If the D-channel is HWOOS, the associated SSP card (identified by *equip #* is not in service. Go to [step a](#).
- a** Look for any TWIP messages in the system message log that indicate a T1/E1 failure for associated T1/E1 card (T1/E1 card number was obtained in [step 1](#)).
- b** Follow the recommendations for any of these messages in order to restore the T1/E1 to service.

- c Check the status of the SSP card by entering **display card equip #**
The card can be either MANOOS (Manual out-of-service) or BROKEN.
- d If the SSP card is MANOOS, it has been removed from service. Do the following:
 - Examine the system message log to determine why the SSP card was removed.
 - Resolve any problems that led to the SSP card being removed.
 - When the problems are resolved or if you are unable to determine why the card was removed, then restore the card by entering:
restore card equip #
- e If the SSP card is BROKEN, there has been a communication problem between the SSP card and the voice system. Do the following:
 - Block all calls (at the terminating switch) from coming into the voice system.
 - Diagnose the SSP card.
 - If the SSP card passes diagnostics, stop and then start the voice system.
 - Start again at [step 1](#) to ensure that the D-channel restores correctly, and restore traffic from the terminating switch to the voice system once the D-channel has returned to service.
If diagnostics fail, then check the circuit card.

- f The D-channel status should be checked at the terminating switch and any associated switch problems should be resolved.
- g If you are not able to determine or resolve any switch problems, do the following:
 - Block all calls (at the terminating switch) from coming into the voice system.
 - Stop the voice system.
 - Start the voice system.
 - Start again at [step 1](#) to ensure that the D-channel restores correctly, and restore traffic from the terminating switch to the voice system once the D-channel has returned to service.

PRI002

Alarm Level	None.
Description	The ISDN D-channel has come in-service.
Repair Procedure	No corrective action is necessary.

PRI003

Alarm Level

Major.

Description

The primary rate interface (PRI) software has rejected an incoming call because the B-channel was either out-of-service, already active or unavailable due to an application problem. This could be a single channel, T1/E1 interface, or system wide problem. If this alarm occurs frequently or repeatedly, then it is a T1/E1 interface or system wide problem.

This message indicates that one or more calls has failed. The impact is likely to be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
*C THR004 -- -- --- The first threshold for the PRI_CALLBLK
exceeded. 5 messages have been generated in the last 5
minutes.
```

This threshold message could indicate a serious problem which will cause numerous calls to fail in a very short interval.

Repair Procedure

- 1 Determine the status of the identified channel by entering:

display channel *chan #*

or, if it appears to be a system-wide problem, by entering:

display channel all

- 2 The channel(s) can be either MANOOS (Manual out-of-service) or not MANOOS. If the channel(s) are MANOOS, do the following:
 - a Immediately block all calls (at the terminating switch) from coming into the voice system.
 - b Once all calls have been cleared, stop and then start the voice system.
 - c Restore traffic from the terminating switch to the voice system.

PRI004

Alarm Level

None.

Description

The ISDN D channel has been removed from service because of administrative action. No calls can be placed or received by associated Primary Rate Interface (PRI) channels.

Repair Procedure

No corrective action is necessary.

PRI005

Alarm Level Major.

Description A bad dialed number string was passed to the system. An attempt will be made to use the service assigned to the dialed number "ANY" to handle the call. If this attempt fails, the TSM001 message will be logged.

Repair Procedure This message indicates an ISDN protocol error. It is not likely to be a problem originating within the system. Contact your network service provider to help resolve this problem.

PRI007

Alarm Level Major.

Description A network protocol error, or other internal error, of the type indicated by the message has occurred on the PRI channel specified by this message. The call being handled by that channel has been disconnected as a result. If no specific channel could be identified, the channel is displayed as -1.

Note: This message can result from a timeout from the network or a provisioning type error.

Repair Procedure

This message indicates an ISDN protocol error or an internal PRI error. Contact your network service provider if help is needed to resolve this problem. [Table 21](#) lists possible error types that should help you identify the specific cause.

The PRIERR_STATE and PRIERR_BADCRV errors can occur if there are delays in starting the assigned application and the original caller has hung up before the application answers the incoming call. These alarms can generally be ignored unless they occur frequently or other load-related problems are observed.

Table 21. PRI007 Error Types

Error Type	Error Value	Meaning
CV_NULL	0	No cause value present
CV_UN	1	Unassigned number
CV_NRTSTN	2	No route to specific transit network
CV_CHUN	6	Channel unacceptable
CV_NCC	16	Normal call clearing
CV_UB	17	User busy
CV_NUR	18	No user responding
CV_CR	21	Call rejected

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Table 21. PRI007 Error Types

Error Type	Error Value	Meaning
CV_NC	22	Number changed
CV_INF	28	Invalid number format
CV_FR	29	Facility rejected
CV_RTSE	30	Response to status enquiry
CV_NU	31	Normal; unspecified
CV_NCOCA	34	No circuit or channel available
CV_NETFAIL	38	Network out of order
CV_TFAIL	41	Temporary failure
CV_SEC	42	Switching equipment congestion
CV_UID	43	User information discarded
CV_RCCNA	44	Requested circuit/channel not available
CV_PREEMPT	45	Call preempted
CV_RFNS	50	Requested facility not subscribed
CV_OCB	52	Outgoing calls barred

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Table 21. PRI007 Error Types

Error Type	Error Value	Meaning
CV_ICB	54	Incoming calls barred
CV_BCNP	58	Bearer capability not presently available
CV_SONA	63	Service/option not available
CV_BCNI	65	Bearer capability not implemented
CV_CTNI	66	Channel type not implemented
CV_RFNI	69	Requested facility not implemented
CV_ICR	81	Invalid call reference
CV_ICDNE	82	Identified channel does not exist
CV_ID	88	Incompatible destination
CV_MIEIM	96	Mandatory IE missing
CV_MTNEONI	97	Message type nonexistent or not implemented
CV_MNCWTCS	98	Message incompatible with call state
CV_IIEC	100	Invalid IE contents
CV_ROT	102	Recovery on timer expiry

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Table 21. PRI007 Error Types

Error Type	Error Value	Meaning
CV_IOCU	127	Interworking; or cause unknown
PRIERR_NETWORK	256	Network didn't respond as expected
PRIERR_STATE	257	Request was received in wrong state
PRIERR_OOSVC	258	B-channel is out of service
PRIERR_INMTC	259	B-channel is in maintenance state
PRIERR_GLARE	260	Out going call failed due to glare
PRIERR_BADCMD	261	Bad command, not understood
PRIERR_BADDCHAN	262	Bad D-channel
PRIERR_BADBCHAN	263	Bad B-channel
PRIERR_DCHANDEAD	264	D-channel is dead
PRIERR_DCHANOFF	265	D- channel is turned off
PRIERR_DCHANCONF	266	D-channel configuration error
PRIERR_BUSY	267	B-channel was already busy
PRIERR_OVERFLOW	268	Q931 window resource problems
PRIERR_IEMISS	269	Missing information element

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Table 21. PRI007 Error Types

Error Type	Error Value	Meaning
PRIERR_MSGFAIL	270	Unable to send PRI message
PRIERR_ACTAPPL	271	Application already active
PRIERR_NUMBCH	272	Invalid number of B-channels
PRIERR-WINDOW	273	Q931 window resource problems
PRIERR_NOTAPPL	274	Application does not own channel
PRIERR_DOCHANACT	275	D-channel is active (UP)
PRIERR_CRECMAX	276	Unable to allocate call record
PRIERR_BADCRV	277	CRV does not match CRV for channel
PRIERR_COMPAND	278	Companding error on SETUP
PRIERR_CHTYPE	279	Invalid channel type on SETUP

5 of 5

RAID Alarms and Log Messages

RAID001

Alarm Level

Major.

Description

The physical hard disk drive in the indicated slot has failed and must be replaced.

The physical drive number *phys_drive_no* indicated in this alarm is the same number that corresponds to the labeling for the disk drive bay. (For example, physical disk drive 1 corresponds to the disk in disk bay 1).

The system is placed in a critical/degraded mode. Although the system continues to operate, it will fail if another physical drive fails. If a bad block is encountered on another drive while in critical mode, the data stored in that block will be lost.

Corresponding entry in the log file **/etc/log/gamevlog.log**: (Look for associated entries in the vicinity of this entry.)

SeqNo=sss ctl=0 ch=0 tgt=*phys_drive_no* lun=0 Event=PHYSDEV_DEAD

Repair Procedure

- 1 Replace the failed drive. See the "Replacing Hard Disk Drive" chapter of your platform maintenance book.
- 2 Login as root.
- 3 Enter **cd /mtce/bin/raidqry**.
- 4 Enter **raidqry -s sd:all** to query the system and verify the physical drive indicated is still dead/off line.

RAID002

Alarm Level

Minor.

Description

The logical system drive *sys_drive_no* is no longer protected by RAID. This is probably due to the failure of a physical hard disk drive. The logical system drive indicated is in critical mode.

The system will continue to run normally. However, the system is no longer protected by RAID and data could be lost. This alarm is occurs with RAID001 message and should never occur by itself.

Repair Procedure

CAUTION:

The RAID002 indicates one or more logical system drives are in critical mode. The logical system drive numbers do not correspond to any particular physical (SCSI) device. For example, a typical scenario is that a RAID001 alarm occurs indicating physical device (SCSI disk) 4 is dead. Simultaneous with the RAID001 alarm, a RAID002 alarm is generated and logged that indicates logical system drive 0 is in critical mode. Repair procedures are to replace the physical device (SCSI disk) in drive bay 4. If the information is misinterpreted and SCSI disk 0 is removed, the system will crash.

Corresponding entry in the log file */etc/log/gamevlog.log*: (Look for associated entries in the vicinity of this entry).

`SeqNo=sss ctl=0 ch=0 tgt=0 lun=sys_drive_no Event=SYSDEV_CRITICAL`

Follow the repair procedures for RAID001.

RAID003

Alarm Level None.

Description A rebuild of the logical system drive indicated is taking place. The system will continue to operate.

This rebuild was probably started because a physical hard disk drive was replaced. Even though the system continues to operate as usual during the rebuild, it is not protected by RAID until the rebuild is complete.

Repair Procedure No corrective action is necessary.

RAID004

Alarm Level None.

Description The rebuilding of the logical system drive indicated is complete.

After all logical system drives are rebuilt, the system will again be protected by RAID. The RAID002 alarms can be viewed to see how many system drives were in critical mode. After the last logical system drive is rebuilt, the system returns to normal mode.

Repair Procedure No corrective action is necessary.

RAID005

Alarm Level None.

Description The rebuild of the logical system drive indicated was cancelled.

This normally should not occur. It is possible the rebuild was cancelled by a technician.

- Repair Procedure**
- 1 If the rebuild was not purposely cancelled, perform a second attempt to manually rebuild the drive. See "Installing Base System Software" chapter in your platform maintenance book.
 - 2 If the second attempt at manual rebuild fails, replace the drive with another new/replacement drive. See the "Replacing the Hard Disk Drive" chapter in your platform maintenance book.
 - 3 If the second replacement drive fails, schedule a shutdown of the system.
 - 4 Execute RAID diagnostics to help diagnose the problem. See [Extended RAID Diagnostics on page 121](#) in [Chapter 2, Diagnostics](#).

RAID006

Alarm Level None.

Description The RAID system had an error while rebuilding the system drive indicated.

Repair Procedure No corrective action is necessary. However it may be a good idea to continue monitoring the rebuild:

- 1 Logon as root.
- 2 Enter **raidqry -s sd:all**.
- 3 If the rebuild is still in progress, allow an additional two hours for the rebuild to complete.

RAID007

Alarm Level Minor.

Description The rebuild of the indicated system drive has failed.

Corresponding entry in the log file `/etc/log/gamevlog.log`: (Look for associated entries in the vicinity of this entry).

```
SeqNo=sss ctl=0 ch=0 tgt=0 lun=sys_drive_no  
Event=SYSTEM_REBUILD_NEWDEV_FAILED
```

- Repair Procedure**
- 1 Perform a second attempt to manually rebuild the drive. See "Installing Base System Software" chapter in your platform maintenance book.
 - 2 If the second attempt at manual rebuild fails, replace the drive with another new/replacement drive. See the "Replacing the Hard Disk Drive" chapter in your platform maintenance book.
 - 3 If the second replacement drive fails, schedule a shutdown of the system.
 - 4 Execute RAID diagnostics to help diagnose the problem. See [Extended RAID Diagnostics on page 121](#) in [Chapter 2, Diagnostics](#).

RAID008

Alarm Level None.

Description The RAID system has remapped a bad block on the hard disk drive indicated.

Repair Procedure No corrective action is necessary.

RECOG Alarms and Log Messages

RECOG001

Alarm Level Major.

Description The speech recognition feature failed to communicate with the voice system during call processing. Applications using the speech recognition feature will fail.

Repair Procedure Reboot the system.

RECOG002

Alarm Level Major.

Description The speech recognition feature received an invalid response from the SSP cards or experienced a timeout in communicating with the SSP cards during call processing. Applications using the speech recognition feature will be incomplete.

- Repair Procedure**
- 1 Diagnose the SSP card by doing the following:
 - a Enter **diagnose card *card_number***
where *card_number* is the card number of the SSP card.
 - b If the card passes diagnostics, place it back in service by entering:
restore card *card_number*
where *card_number* is the card number of the SSP card you want to restore to service.
 - 2 Check the circuit card.
 - 3 If the problem persists, complete [step a](#) and [step b](#):
 - a Stop the voice system.
 - b Start the voice system.

RECOG003

Alarm Level Major.

Description The speech recognition feature failed to communicate with the voice system during call processing. Applications using the speech recognition feature will fail.

Repair Procedure Reboot the system.

RECOG004

Alarm Level	Minor.
Description	An invalid wholeword grammar or subword wordlist number was used by the getdig script instruction. Recognition failed.
Repair Procedure	<ol style="list-style-type: none">1 Verify the application to ensure that the getdig() instruction is using a valid wholeword grammar or subword wordlist number.2 If the problem persists, reinstall the speech recognition languages or the subword vocabulary.

SSP Alarms and Log Messages

SP001

Alarm Level	None.
Description	Pack files running on SSP cards can "print" information by having it logged. Such "print" requests appear in the log files as SP001 (LGSP_PRINTF) event messages.
Repair Procedure	No corrective action is necessary.

SP002

Alarm Level None.

Description A pack file running on an SSP card has made an illegal "remote procedure call" (RPC) request. Incidents should be escalated to your support organization.

Repair Procedure No corrective action is necessary.

SP003

Alarm Level None.

Description A pack file running on an SSP card has encountered an error and wishes to log certain information which may help the support personnel in diagnosing the problem.

In addition, an alarm will be logged if manual intervention is required.

Repair Procedure No corrective action is necessary.

SP004

Alarm Level None.

Description A pack file running on an SSP card has encountered an error from which it cannot recover. It is logging some information that may help the support organization in diagnosing the problem.

In addition, an alarm will be logged if manual intervention is required.

Repair Procedure No corrective action is necessary.

SP005

Alarm Level None.

Description A pack file running on an SSP card is logging certain information about the termination of an activity running on the SSP card. These messages will not appear unless the pack file is specifically requested to generate them. They are used by the support organization.

Repair Procedure No corrective action is necessary.

SP006

Alarm Level None.

Description A pack file running on an SSP card is logging certain information about the termination of a process running on the SSP card. These messages will not appear unless the pack file is specifically requested to generate them. They are used by the support organization.

Repair Procedure No corrective action is necessary.

SP007

Alarm Level None.

Description A pack file running on an SSP card is logging certain information about the condition of a process stack on the SSP card. These messages will not appear unless the pack file is specifically requested to generate them. They are used by the support organization.

Repair Procedure No corrective action is necessary.

SPIP Alarms and Log Messages

SPIP001

Alarm Level None.

Description A speech break has been detected during a coding or voice playback session involving an SSP card. The coded voice is incomplete, or inappropriate silence was inserted into the playback session. This condition may be attributed to excessive load either on the system or the SSP card, or the SSP card may be broken. The Cause Code field of the message may be used to further isolate the cause.

The impact of this error is not severe and no action is warranted if the message is reported less frequently than the threshold limit.

The impact may be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
** THR003 -- -- -- The first threshold level for SPIP_SBRK
exceeded. 50 messages have been generated in the last 3
minutes.
```

The threshold limits and threshold message priority shown above reflect the default values for this thresholded message.

- Repair Procedure** **Note:** Perform the following procedure if the thresholded message is reported for SPIP001.
- 1 If the Cause Code in the message is 0, 1, 8, or 9, the problem may be caused either by a broken SSP or an overloaded card.
Do the following:
 - a Check the circuit card.
 - b If the problem persists, reduce the load.
- Note:** Perform the following procedure if you have more than one SSP card and see SPIP001 repeatedly for the same SSP card.
- 2 Diagnose the card by entering:
diagnose card *card_number*
where *card_number* is the card number of the SSP card.
 - 3 If the problem persists, replace the SSP card. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

SPIP002

Alarm Level

Minor.

Description

The output signal level on an SSP timeslot approached the level deemed too loud for a telephone network by the FCC. The output signal was thus interrupted until the signal level dropped below the threshold of noncompliance. The caller will hear inappropriate silence or chopped speech during the speech playback session.

Repair Procedure

- 1 Consult the application developer and check the speech phrases of the application. The speech may have been recorded at too high a volume level. Rerecord the speech following the procedures documented in Chapter 8, "Producing Speech," of *CONVERSANT System Version 7.0 Application Development with Script Builder*, 585-313-218.
- 2 Reduce the current analog or digital OVOL value depending on the channel type if it exceeds the default. See Chapter 5, "Switch Interface Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for information on checking the outgoing speech volume (OVOL). The default OVOL is 1000 for analog and 707 for digital.
- 3 If the problem persists, replace the SSP card. See the "Installing or Replacing Circuit Cards" chapter in the maintenance book for your platform.

SPIP003

Alarm Level None.

Description Unexpected speech recognition behavior occurred on the SSP card. The SSP has automatically recovered. The impact of this error is not severe and no action is warranted if the message is reported less frequently than the threshold limit.

The impact of this error is not severe and no action is warranted if the message is reported less frequently than the threshold limit.

The impact may be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
** THR003       The first threshold level for SPIP_SBRK
          exceeded. 50 messages have been generated in the last 3
          minutes.
```

The threshold limits and threshold message priority shown above reflect the default values for this thresholded message.

- Repair Procedure** **Note:** Perform the following procedure if the thresholded message is reported for SPIP003.
- 1 Enter **diagnose card *card_number***
where *card_number* is the card number of the SSP card.
 - 2 If the card passes diagnostics, place it back in service by entering:
restore card *card_number*
where *card_number* is the card number of the SSP card you want to restore to service.
 - 3 Check the circuit card.

SPIP004

- Alarm Level** Critical.
- Description** An error occurred on the SSP card. The SSP card set was not able to recover from this error. Applications using the SR feature may fail.
- Repair Procedure** Check the circuit card.

SPIP005

Alarm Level	Critical.
Description	An internal UNIX System error has occurred. Application functionality may be severely impaired.
Repair Procedure	Reboot the system.

SPIP009

Alarm Level	None.
Description	<p>VROP is not delivering speech fast enough to the SSP card. A possible effect of this problem is a gap in speech. This condition may be attributed to excessive load either on the system or the SSP card.</p> <p>The impact of this error is not severe and no action is warranted if the message is reported less frequently than the threshold limit.</p> <p>The impact may be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:</p> <pre>**THR003 -- -- --- The first threshold level for SPIP_VSLOW exceeded. 50 messages have been generated in the last 3 minutes.</pre>
Repair Procedure	No corrective action is necessary.

SYS Alarms and Log Messages

SYS001

Explanation: These alarms are for UNIX operating system errors. The description below applies to them all.

Description An internal voice system process has requested that the UNIX operating system perform a function on its behalf. That function has failed. The number of the error corresponds to the UNIX errno (See INTRO(2) of the *UNIX System Programmer's Reference Manual*). The impact and severity of this error on the voice system depends on the context of the error and the process which has encountered the error.

THR Alarms and Log Messages

THR001

Alarm Level None.

Description This is a threshold message. Typically, threshold messages indicate that too many messages of a particular type are being generated. Threshold messages may indicate an escalation of priority.

To find out which message was thresholded, examine the threshold message text. The text will contain the message mnemonic. For example, a typical threshold message may look like:

```
THR001 -- -- -- The first threshold level for LG_MSGNAME
exceeded. 100 messages have been generated in the last 1
hour.
```

The message *mnemonic* in this example is LG_MSGNAME. The message text gives the currently set threshold limits for the thresholded message.

- Repair Procedure**
- 1 Enter **explain *mnemonic***
 - 2 Note the message ID that appears in the header of the explain output.

THR002

Alarm Level Minor.

Description This is a threshold message. Typically, threshold messages indicate that too many messages of a particular type are being generated. Threshold messages may indicate an escalation of priority.

To find out which message was thresholded, examine the threshold message text. The text will contain the message mnemonic. For example, a typical threshold message may look like:

```
* THR002 -- -- -- The first threshold level for LG_MSGNAME
exceeded. 100 messages have been generated in the last 1
hour.
```

The message *mnemonic* in this example is LG_MSGNAME. The message text gives the currently set threshold limits for the thresholded message.

- Repair Procedure**
- 1 Enter **explain *mnemonic***
 - 2 Note the message ID that appears in the header of the explain output.

THR003

Alarm Level Major.

Description This is a threshold message. Typically, threshold messages indicate that too many messages of a particular type are being generated. Threshold messages may indicate an escalation of priority.

To find out which message was thresholded, examine the threshold message text. The text will contain the message mnemonic. For example, a typical threshold message may look like:

```
** THR003 -- -- -- The first threshold level for LG_MSGNAME
exceeded. 100 messages have been generated in the last 1
hour.
```

The message *mnemonic* in this example is LG_MSGNAME. The message text gives the currently set threshold limits for the thresholded message.

- Repair Procedure**
- 1 Enter **explain *mnemonic***
 - 2 Note the message ID that appears in the header of the explain output.

THR004

Alarm Level Major.

Description This is a threshold message. Typically, threshold messages indicate that too many messages of a particular type are being generated. Threshold messages may indicate an escalation of priority.

To find out which message was thresholded, examine the threshold message text. The text will contain the message mnemonic. For example, a typical threshold message may look like:

```
*C THR004 -- -- -- The first threshold level for LG_MSGNAME
exceeded. 100 messages have been generated in the last 1
hour.
```

The message *mnemonic* in this example is LG_MSGNAME. The message text gives the currently set threshold limits for the thresholded message.

- Repair Procedure**
- 1 Enter **explain *mnemonic***
 - 2 Note the message ID that appears in the header of the explain output.

TR Alarms and Log Messages

TR001

Alarm Level	Minor.
Description	The voice system has detected that more than 25 percent of the channels are out of service.
Repair Procedure	No corrective action is necessary.

TR002

Alarm Level	None.
Description	The specified channel has been busied out by removing the channel from service.
Repair Procedure	No corrective action is necessary.

TRIP Alarms and Log Messages

TRIP001

Alarm Level	Critical.
Description	A failure has been detected in the UNIX system. The voice system is unable to process calls on Tip/Ring channels.
Repair Procedure	Reboot the system.

TRIP002

Alarm Level	None.
Description	A parity error has been detected on the indicated timeslot. The voice system may experience an anomaly in speech functionality.
Repair Procedure	No corrective action is necessary.

TRIP003

Alarm Level	Critical.
Description	The voice system received too many simultaneous signals from the network. The voice system is unable to process calls on Tip/Ring cards.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system. <p>The network/PBX administration may be the source of these messages to the voice system Tip/Ring channels. Some network/PBX parameters may need to be tuned differently. For example, some PBXs generate a "howler tone" if a channel is off hook for a certain amount of time without any activity. A howler tone could be made up of a series of touch tones, "*", and "#." Each touch tone results in a separate event in the Tip/Ring channels. The rate at which these events are generated may be beyond what the voice system can handle.</p><p>Consult your network/PBX administrator.</p>2 Check your application for network/PBX interactions. They may cause the network/PBX to respond in a certain way resulting in this error condition. <p>Consult your network/PBX administrator.</p>3 Start the voice system.

TRIP004

Alarm Level Minor.

Description A speech break was detected during a voice coding or playback session. The impact of this error is not severe and no action is warranted if the message is reported less frequently than the threshold limit.

The impact may be significant if this message occurs more than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
** THR003        The first threshold level for TRIP_SBRK
                 exceeded. 50 messages have been generated in the last 3
                 minutes.
```

The threshold limits and threshold Alarm Level shown above reflect the default values for this thresholded message.

Repair Procedure **Note:** Perform the following procedure if the thresholded message is reported for TRIP004.

- 1 Make sure that the system is not configured with channels more than the maximum recommended number of your application. Reduce the number of channels in the system if necessary.

- 2 Check the amount of memory on your system. Enter `/sbin/memsize`

The system displays the following message:

```
12189696
```

```
You must have at least 16 Mbyte of memory.
```

- 3 Check the application. This condition may arise due to playback of very short phrases; that is, phrases shorter than 0.5 seconds. The larger the number of short phrases, the greater the likelihood of the problem's occurrence.
- 4 Determine if the number of speech buffers configured in the system is sufficient to handle the current load. To determine the number of speech buffers currently configured in the system, enter `cat /vs/data/spchconfig`
- 5 The system displays a message similar to the following message:

```
nbufs 240  
max_phrases 32000
```

The `nbufs` parameter should be 3 times the number of channels available in the system. If your application needs more speech buffers than indicated by the number `nbufs`, increase the speech buffers. Edit the file `/vs/data/spchconfig` and change the parameters `nbufs` to the number desired. Stop and Start the voice system.

- 6 Analyze your application. Record frequently grouped phrases as one single phrase to increase efficiency.

TRIP005

Alarm Level

Minor.

Description

The channel indicated in the message has lost loop current. If the loop current is lost during an active transaction on this channel, the transaction will be terminated and the channel will be automatically taken out of service. The channel will be automatically returned to service when loop current returns.

Repair Procedure

- 1 Make sure the line is plugged in the channel indicated and appropriate network/switch connections are made. See Chapter 1, "Getting Started," of your platform installation book for information.
- 2 Examine the line cord for damages. Replace the cord if it is damaged.
- 3 Plug in the line in a telephone and make sure it works by completing the following Steps a through e:
 - a Pick up the handset. Most switches provide dialtone.
 - b Dial the number from another telephone.
 - c Make sure it rings and the connection is established.
 - d Dial another number from this line.
 - e Make sure the connection is established.
- 4 If these tests do not pass, consult your network/switch administrator for help.
- 5 If these tests pass, plug in a known working line into the channel indicated. The channel should come up in service automatically.

TRIP006

Alarm Level None.

Description Loop current has been restored for the channel indicated. The channel is automatically restored to service.

Repair Procedure No corrective action is necessary.

TSM Alarms and Log Messages**TSM001**

Alarm Level Critical.

Description An incoming call has not been processed because no service was assigned to the specified channel or dialed number identification service (DNIS).

Repair Procedure Examine the logged message to determine if it contains the string:

DNIS: *dnis*

where *dnis* is a dialed number string, and do one of the following:

- 1 If there is no dialed number (DNIS) indicated by the message, enter:

assign service *script* to chan *chan*

where *script* is the name of the service to be assigned and *chan* is the channel number indicated by the message.

- 2 If there is a dialed number (DNIS) indicated by the message, enter:

assign service *script* to chan *dnis*

where *script* is the name of the service to be assigned and *dnis* is the DNIS indicated by the message, or enter:

assign service *script* to *dnis* any

to assign the service to "any" DNIS.

Note: The service assigned to "any" DNIS is used if a DNIS provided by a new call has no service specifically assigned to it.

TSM002

Alarm Level

Critical.

Description

The voice system has tried to load a script program file that is missing or corrupted.

If this message contains a channel number of 1, any incoming calls using this script will not be processed. Attempts by a DIP to run the script with a "soft seizure" request will also fail.

If this message contains a channel number greater than 1, an attempt to process a call or "soft seizure" with this script has failed on the channel indicated.

Repair Procedure

- 1 Verify that the script named in the system message is a valid script name.
- 2 If the script name is not valid, then determine if another application is attempting to execute the invalid script using the script **exec** instruction, or an IRAPI application is attempting to use **irExecp ()** to execute an invalid script name.

TSM003

Alarm Level

Minor.

Description

The service running on the indicated channel was unable to perform the specified function because the SSP card was overloaded. This is a temporary condition due to the dynamic nature of SSP resource allocation on the system. This condition will be relieved when the system's demand on SSP resources decreases or the system's SSP capacity increases. Call processing on the channel has been degraded.

The impact may be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
** THR003 -- -- -- The first threshold level for TSM_SPBUSY
exceeded. 10 messages have been generated in the last 1
minute.
```

The threshold limits and threshold message priority shown above reflect the default values for this thresholded message.

Repair Procedure

- 1 Some SSP cards assigned to the indicated function may be out of service, thus putting too much load on the SSP cards that remain in service.

Determine if any SSP cards assigned the indicated function are out of service by entering **display card sp**

- a If any SSP cards with the indicated function are in the Manoos state, enter:

restore card *card_number*

where *card_number* is the card number obtained from the previous display command output to restore the card to service.

- b If any SSP cards are in a state other than Manoos, check the circuit card.
- c If the CMP show Not diag, enter

diagnose card *card_number*

where *card_number* is the number of the SP card that has the CMP(s) that are not Not diagnose associated with it. This places the CMP(s) into service.

- 2 If all SSP cards with the indicated function are in service and the problem persists, determine if the system load is exceeding the total rated capacity for all SSP cards assigned this function.

If this message is being reported under system load conditions that do not exceed the total rated capacity of the SSP card for the indicated function, check the circuit card.

Otherwise, reduce the load.

TSM004

Alarm Level

Critical.

Description

The service running on the indicated channel was unable to perform the specified function. There is not a sufficient number of SSP cards in service that perform this function. Call processing has been degraded or inhibited completely on all channels needing this SSP function.

Note: A TTS error may be logged even if TTS is not installed. If TTS is not installed, the TTS portion of the message can be ignored.

Repair Procedure

There may be no SSP cards assigned to the indicated function, or all SSP cards that are assigned to that function may be out of service.

- 1 Determine if any SSP cards assigned the indicated function are out of service by entering **display card sp**
- 2 If any SSP cards with the indicated function are in the Manoos state, enter:

restore card *card_number*

where *card_number* is the card number obtained from the previous display command output, to restore the card to service.

- 3 If any SSP cards are in a state other than Manoos, enter:

diagnose card *card_number*

where *card_number* is the number of the card you want to diagnose.

- a If the card passes diagnostics, enter:

restore card *card_number*

where *card_number* is the number of the card you want to restore to service.

- b If the card does not pass diagnostics, check the circuit card.

- 4 If there are no SSP cards assigned to the indicated function, you can assign the function to an SSP card by completing the following Steps a through d:

- a If the SSP card is in the Inserv state, remove it from service by entering:

remove card *card_number*

where *card_number* is the card number of the SSP obtained from the display card sp command output.

- b Assign the appropriate function to the SSP card(s). See the "Voice System Administration," chapter in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

c Enter **diagnose card** *card_number*

where *card_number* is the number of the SSP card on which you want to run diagnostics.

d Enter **restore card** *card_number*

where *card_number* is the number of the SSP card that you want to restore to service with the appropriate function.

TSM006

Alarm Level

Minor.

Description

The application script indicated in this message has tried to speak back a field that has a space, asterisk (*), pound sign (#), or some other unrecorded or nonstandard phrase. No speech corresponding to the indicated character is heard by the caller. For example, if the script tried to play the string *123*abc*, the caller would hear "123abc" and this message would be logged for the * character.

Repair Procedure

This revised program has a checklist that requires the input to be all digits. If the event log message is being issued because of speaking back a field that was returned from a host or database lookup, the field to be spoken back must first be stripped of any spaces.

In the case of speaking caller input, or fields from a host or database lookup, this event log message is not a Major message. Rather, it is an informational message telling you that part of the field being spoken back contains some unexpected characters that can not be spoken back; that is, a space, an asterisk, or a pound sign.

Developers using native script language instead of Script Builder, should check fields used with the **tchars()** instruction for invalid characters.

```
start:
Answer Phone
Prompt & Collect
  Prompt
    Speak With Interrupt
      Phrase: "Please enter your 3 or 4 digit PIN"
    Input
      Min Number Of Digits: 03
      Max Number Of Digits: 04
    Checklist
      Case: "Input Ok"
        Continue
      Case: "Initial Timeout"
        Reprompt
      Case: "Too Few Digits"
        Reprompt
      Case: "No More Tries"
        Quit
  End Prompt & Collect
Set Field Value
```

```
Field: pin_num = $CI_VALUE
Announce
  Speak With Interrupt
    Phrase: "The PIN you entered was"
    Field: pin_num As Cmmf
Quit
```

The checklist used in the `getdig` statement allows for any touchtone including the pound sign or an asterisk. If the caller enters "123*," the Announce statement in Step 4 tries to speak back the field "123*." The caller hears only the "123," but a message similar to following TSM message appears in the event log:

```
* TSM006 T1 CH 001 Script <appl>: No phrase for í*í character
```

This appears because the routine that speaks out fields is trying to map the asterisk (*) to a standard phrase in the talkfile. This can also occur when speaking a field from a host or database lookup and the field contains one or more leading or trailing spaces.

To help prevent this event log message from being printed, make sure to check all of your Prompt and Collect statements and change the checklist as appropriate. For this example, the checklist should be changed to allow the digits 0-9 as follows:

```
start:
Answer Phone
Prompt & Collect
  Prompt
    Speak With Interrupt
```

```
        Phrase: "Please enter your 3 or 4 digit PIN"
Input
    Min Number Of Digits: 03
    Max Number Of Digits: 04
Checklist
    Case: "nnn"
        Continue
    Case: "nnnn"
        Continue
    Case: "Not On List"
        Reprompt
    Case: "Initial Timeout"
        Reprompt
    Case: "Too Few Digits"
        Reprompt
    Case: "No More Tries"
        Quit

End Prompt & Collect

Set Field Value
    Field: pin_num = $CI_VALUE
Announce
    Speak With Interrupt
        Phrase: "The PIN you entered was"
        Field: pin_num As Cmmf
Quit
```

TSM008

Alarm Level Minor.

Description The service running on the indicated channel was unable to perform the specified function because a Feature License was overloaded. This is a temporary condition resulting from the dynamic nature of license allocation on the system. This condition will be relieved when the system's demand for this Feature License decreases.

It may be useful to purchase a Feature License for a larger number of simultaneous users of this feature to avoid degraded service.

The impact may be significant is the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
** THR003      The first threshold level for TSM_SPBUSY
exceeded. 10 messages have been generated in the last 1
minute.
```

The threshold limits and threshold message priority shown above reflect the default values for this thresholded message.

Repair Procedure Contact your service representative to purchase more feature licenses.

TSM009

Alarm Level Major.

Description The service running on the indicated channel was unable to perform the specified function because no Feature License has been purchased for an optional feature.

It will be necessary to purchase a Feature License for the optional feature in order for this service to perform as designed.

Repair Procedure Contact your service representative to purchase more feature licenses.

TTS Alarms and Log Messages

TTS001

Alarm Level Major.

Description The Text-To-Speech feature has encountered a system failure during calling processing. Applications using the Text-To-Speech feature to read from a text file will fail.

Repair Procedure Reboot the system.

TTS002

Alarm Level Major.

Description The Text-To-Speech feature failed to access the text file indicated during call processing. Applications requiring access to this file will be incomplete.

Repair Procedure

- 1 Verify that the application refers to the correct text file name.
- 2 Verify that the text file is in existence in the correct directory. Note that if text file is not located in the **/vs/data/tts_files** directory, the text file name must be a full path name.
- 3 If the application is correct, restore the text file(s) from the backup. If the backup is not available, consult the application developer to recreate the text file.
- 4 If the problem persists, reboot the system.

TTS003

Alarm Level Major.

Description The Text-To-Speech feature failed to access a shared resource of the voice system during initialization. Applications using the Text-To-Speech feature to read from a text file will fail.

Repair Procedure  **WARNING:**
The following procedure causes all system configuration information to be lost. This includes switch administration, service assignments. When the voice system is restarted, the system configuration uses the default settings.

- 1 Stop the voice system.
- 2 Move the devtbl to another area. For example, enter:

```
mv /gendb/shmem/devtbl /gendb/shmem/devtbl.old
```
- 3 Start the voice system.

TTS004

Alarm Level Major.

Description The Text-To-Speech feature failed to access a shared resource of the voice system during initialization. Applications using the Text-To-Speech feature to read from a text file will fail.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, reboot the system.

TTS005

Alarm Level Major.

Description The Text-To-Speech feature failed to communicate with the voice system during call processing. Applications using the Text-To-Speech feature to read from a text file will fail.

Repair Procedure Reboot the system.

TTS006

Alarm Level Major.

Description The Text-To-Speech feature failed to communicate with the voice system during call processing. Applications using the Text-To-Speech feature to read from a text file will fail.

Repair Procedure Reboot the system.

TWIP Alarms and Log Messages

TWIP001

Alarm LEVEL Major.

Description An attempt to place a call on the identified T1/E1 channel failed as a result of the network's failure to return a wink. The voice system is expecting the wink once the T1/E1 channel has been taken offhook. This acknowledgment enables the voice system to know when to begin dialing.

Repair Procedure

- 1 The identified T1/E1 trunk is using robbedbit, winkstart, E&M protocol. Contact the network switch administrator to verify that the switch is administered with compatible options.
- 2 If this T1/E1 interface is intended to use ISDN PRI protocol, administer the card for ISDN PRI Layer 1 Protocol as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- 3 If the switch and the voice system interfaces have both been verified as correct and the message occurs infrequently, the problem can be caused by lack of DTMF tone receivers on the switch. If the number of failures is unsatisfactory, reduce the call rate from the voice system to the switch or check with the network switch administrator to increase the number of available DTMF tone receivers. See [TWIP001 — Application Developer Notes: on page 514](#) for additional information.
- 4 If this message is occurring frequently (that is, not a result of the situation described in [step 3](#)) and another T1/E1card exists in the voice system and is functioning properly, complete [step a](#) though [step e](#) to determine if the problem can be attributed to an external factor rather than the card.
 - a Remove the functioning T1/E1card from service by entering:
remove card *card_number*
where *card_number* is the number of the functioning T1/E1card.
 - b Swap the cables to both T1/E1cards.
 - c Restore the previously functioning T1/E1card to service by entering:
restore card *card_number*
where *card_number* is the number of the functioning T1/E1card.
 - d Observe the two T1/E1cards to see if the problem migrates with the cable.
 - e Return the cables to their original cards.

- 5 If, as a result of [step 4](#), the problem is observed to migrate with the cable, or if a second T1/E1 card is not available to perform [step 3](#), check the cable between the 15-pin connector on the back of the T1/E1 card that connects to the switch.
 - a Check cable continuity on pins 1, 3, 9, and 11.
 - b Look for broken wires or a dislodged connector.
- 6 If this is a new installation, verify that the transmit and receive wire pairs are not reversed. See the sections on digital connections "Making Digital Connections," in Chapter 3, "Making Cable Connections and Power-Up," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149.

**TWIP001 —
Application
Developer Notes:**

If you determine this message is occurring due to occasional lack of DTMF tone receivers on the switch and the number of failures is infrequent enough to not warrant adding switch resources or reducing call rates, you should add error checking in the application script to detect this type of failure during call origination (**tic** or Make Call) and reattempt the call.

TWIP002

Alarm Level

Major.

Description

An attempt to place a call on the identified T1/E1 channel failed as a result of unexpected network behavior.

Repair Procedure

This problem is usually due to the use of a T1/E1 configuration option not normally used by the voice system.

This alarm is logged as a result of the indicated T1/E1 channel having encountered an excessively long wink. Typically, this is due to the presence of incoming calls on trunks that have been administered for outbound calls only (glare).

- 1 Verify that this trunk has been administered, via the **`/vs/data/t1_config`** file, with the desired configuration.
- 2 If the desired configuration is not for outbound calls only, edit the file **`/vs/data/t1_config`** for two-way calling.

Note: This is *not* a standard procedure. Information in the file provides a guide to making this change. The card numbering in this file corresponds to the number of the T1/E1 card. To determine the number for the card, enter:

```
display card t1
```

The number displayed is for the T1/E1 card on which the identified channel resides.

- 3 If the desired configuration is for outbound calls only, contact the network switch administrator to verify that the switch is administered to prevent calls from the switch to the voice system.
- 4 Contact the network switch administrator to verify that the length of the wink being returned by the switch to the voice system is always between 150 and 350 msec.

TWIP003

Alarm Level

None.

Description

The network failed to go on-hook within 25 seconds after completion of the previous call on this channel. The T1/E1card was able to automatically recover from this error.

Repair Procedure

No corrective action is necessary.

TWIP004

Alarm Level

Minor.

Description

The identified T1/E1channel, which has been configured for outbound calls only, has received an unexpected inbound call. This call has been ignored by the voice system.

Repair Procedure

This problem is usually due to the use of a T1/E1 configuration option not normally used by the voice system.

This alarm is logged as a result of the indicated T1/E1 channel, configured for outbound calls only, having detected an incoming call.

- 1 Verify that this trunk has been administered, via the `/vs/data/t1_config` file, with the desired configuration.
- 2 If the desired configuration should allow incoming calls, edit the file `/vs/data/t1_config` to enable incoming calls on the desired channels.

Note: This is *not* a standard procedure. Information in the file provides a guide to making this change. The card numbering in this file corresponds to the number of the T1/E1 card. To determine the number for the card, enter:

```
display card t1
```

The number displayed is for the T1/E1 card on which the identified channel resides.

- 3 If the desired configuration is for outbound calls only, contact the network switch administrator to verify that the switch is administered to prevent calls from the switch to the voice system.

TWIP005

Alarm Level	Major.
Description	An outbound call has not completed because the network answered before all digits were dialed.
Repair Procedure	<p>This problem is usually due to a configuration or application error.</p> <p>A script is attempting to outdial on the designated channel using a dialed number which is longer than the network is expecting.</p> <ol style="list-style-type: none">1 Determine which script is attempting to outdial on the indicated channel.2 If the dial string is incorrect, correct it and re-attempt.3 If the problem persists and dial string is correct, contact the network switch administrator to verify that the switch is administered to accept the same number of digits as the application is attempting to dial.

TWIP006

Alarm Level	Major.
Description	The identified T1/E1 channel is configured for inbound calls only. Calls cannot originate on this channel.

Repair Procedure

This problem is usually due to the use of a T1/E1 configuration option not normally used by the voice system.

This alarm is logged as a result of the indicated T1/E1 channel, configured for inbound calls only, having received a request from the system to originate an outbound call.

- 4 Verify that this trunk has been administered, via the **`/vs/data/t1_config`** file, with the desired configuration.
- 5 If the desired configuration is should allow outbound calls, edit the file **`/vs/data/t1_config`** to enable outbound calls on the desired channels.

Note: This is *not* a standard procedure. Information in the file provides a guide to making this change. The card numbering in this file corresponds to the number of the T1/E1 card. To determine the number for the card, enter:

```
display card t1
```

The number displayed is for the T1/E1 card on which the identified channel resides.

- 6 If the desired configuration is for inbound calls only, verify that the switch is administered to allow calls from the voice system to the switch.

TWIP007

Alarm Level	Major.
Description	The identified T1/E1 channel has been administered with an unrecognized or illegal channel option. Calls on this channel may not be processed correctly.
Repair Procedure	<p>This alarm is logged as a result of the indicated T1/E1 channel having been configured with an invalid option. The channel resorts to its default behavior for the affected option.</p> <ol style="list-style-type: none">1 Remove the card from service. Enter: remove card <i>card_number</i> where <i>card_number</i> is the number of the affected card.2 Administer the card as described in Chapter 3, "Voice System Administration," in <i>CONVERSANT System Version 8.0 Administration</i>, 585-313-510.3 Restore the card to service. Enter: restore card <i>card_number</i> where <i>card_number</i> is the number of the affected card.4 If the problem persists, then a channel parameter not normally used by the voice system is incorrect. It must be changed by editing the file <i>/vs/data/t1_config</i>.

Note: This is *not* a standard procedure. Information in the file provides a guide to making this change. The card numbering in this file corresponds to the number of the T1/E1card. To determine the number for the card, enter:

display card t1

The number displayed is for the T1/E1card on which the identified channel resides.

TWIP008

Alarm Level

Critical.

Description

The voice system is unable to communicate with the T1/E1cards in the system. Calls cannot be processed on any T1/E1card.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, reboot the system.
- 4 If the problem persists, reinstall the T1/E1driver. See the "Installing or Replacing Circuit Cards " chapter in the maintenance book for your platform.

TWIP009

Alarm Level

Major.

Description

The identified T1/E1card has been administered with an unrecognized or illegal card option. Calls on this card may not be processed correctly.

Repair Procedure

This alarm is logged as a result of the indicated T1/E1card having been configured with an invalid option. The card resorts to its default behavior for the affected option.

- 1 Remove the card from service. Enter:

remove card *card_number*

where *card_number* is the number of the affected card.

- 2 Administer the card as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- 3 Restore the card to service. Enter:

restore card *card_number*

where *card_number* is the number of the affected card.

- 4 If the problem persists, then a card parameter not normally used by the voice system is incorrect. It must be changed by editing the file **`/vs/data/t1_config`**.

Note: This is not a standard documented procedure. Information in the file provides a guide to making this change. The card numbering in this file corresponds to the number of the T1/E1 card. To determine the number for the card, enter:

display card t1

The number displayed is for the T1/E1 card on which the identified channel resides.

TWIP010

Alarm Level

Critical.

Description

All communication between this and all other cards over the bus has been disrupted, resulting in a loss of all bridging and SSP card functionalities.

If a TWIP011 message for this card has been logged following this message, the problem has corrected itself and no further action is necessary.

Repair Procedure If a TWIP011 message has not been logged for this card indicating the clock has returned, perform the following Steps until the problem is corrected.

Note: TWIP011 is logged as an event and does not appear in the log if you are displaying only alarms.

1 Diagnose the card by entering:

diagnose card *card_number*

where *card_number* is the number of the affected card.

2 If the problem persists, check the bus.

3 If the problem persists, check the circuit card.

TWIP011

Alarm Level None.

Description The communication problem previously reported by a TWIP010 message to be disrupted has been restored. All bridging and SSP functionality previously lost has been restored.

Repair Procedure No corrective action is necessary.

TWIP012

Alarm Level	Critical.
Description	The identified T1/E1channel is experiencing overload. The voice system is unable to process calls on this channel.
Repair Procedure	<ol style="list-style-type: none">1 Stop the voice system.2 Start the voice system.3 If the problem persists, reboot the system.4 If the problem persists, make certain that the problem is not attributed to other parts of the system. (This may be observable as a result of other load related alarms having been logged.)

TWIP013

Alarm Level	Major.
Description	The identified T1/E1card is not receiving a valid signal from the network. The voice system is unable to process calls on this card.

Repair Procedure

- 1 Check the cable between the 15-pin connector on the back of the T1/E1card which connects to the switch and/or CSU.
 - a Check cable continuity on pins 1, 3, 9, and 11.
 - b Look for broken wires or a dislodged connector.
 - c If this is a new installation, verify that the transmit and receive wire pairs are not reversed. See the sections on digital connections in Chapter 3, "Making Cable Connections and Power-Up the System," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149.
- 2 If the cabling/connections appear to be correct and if another T1/E1card exists in the voice system and is functioning properly complete [step a](#) through [step e](#) to determine if the problem can be attributed to an external factor rather than the card.
 - a Remove the functioning T1/E1card from service by entering:
remove card *card_number*
where *card_number* is the number of the functioning T1/E1card.
 - b Swap the cables to both T1/E1cards.
 - c Restore the previously functioning T1/E1card to service by entering:
restore card *card_number*
where *card_number* is the number of the functioning T1/E1card.

- d Observe the two T1/E1 cards to see if the problem migrates with the cable.
 - e Return the cables to their original cards.
 - 3 If the problem is observed to migrate with the cable complete [step a](#) and [step b](#):
 - a Contact the network switch administrator to verify that service is turned on at the switch.
 - b If a CSU is being used, verify that it is operating correctly. If this is a new installation, verify that the CSU has been properly wired and optioned.
 - 4 If the problem is observed to migrate to the card, check the circuit card.

TWIP014

Alarm Level

Major.

Description

The identified T1/E1 card is experiencing an extreme number of bipolar violations in the DS1 signal. The voice system is unable to process calls on this card.

Repair procedure

- 1 Check and administer the framing/line coding option of the card as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 Contact the network switch administrator to verify that the switch is administered with compatible options.
- 3 If another T1/E1card exists in the voice system and is functioning properly, complete [step a](#) through [step e](#) to determine if the problem can be attributed to an external factor rather than the card.
 - a Remove the functioning T1/E1card from service by entering:
remove card *card_number*
where *card_number* is the number of the functioning T1/E1card.
 - b Swap the cables to both T1/E1cards.
 - c Restore the previously functioning T1/E1card to service by entering:
restore card *card_number*
where *card_number* is the number of the functioning T1/E1card.
 - d Observe the two T1/E1cards to see if the problem migrates with the cable.
 - e Return cables to their original cards.

- 4 If, as a result of [step 3](#), the problem is observed to migrate with the cable, or if a second T1/E1 card is not available to perform [step 3](#), check the cable between the 15-pin connector on the back of the T1/E1 card which connects to the switch and/or CSU.
 - a Check cable continuity on pins 1, 3, 9, and 11.
 - b Look for broken wires or a dislodged connector.
- 5 If this is a new installation, verify that the transmit and receive wire pairs are not reversed. See the sections on digital connections in Chapter 3, "Making Cable Connections and Power-Up the System," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149.
- 6 If a CSU is being used, verify that it is operating correctly. If this is a new installation, verify that the CSU has been properly wired and optioned.
- 7 Check that the cable is shielded and that the shield is properly grounded at the switch.

TWIP015

Alarm Level

Major.

Description

The identified T1/E1card is detecting excessive cyclic redundancy check (CRC) errors in the DS1 signal. The voice system is unable to process calls on this card.

Repair Procedure

- 1 Check and administer the framing/line coding option of the card for ESF framing and B8ZS zero suppression, as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 Contact the network switch administrator to verify that the switch is administered with compatible options.
- 3 If another T1/E1card exists in the voice system and is functioning properly, check if the problem can be attributed to an external factor and not the card.
 - a Remove the functioning T1/E1card from service by entering:
remove card *card_number*
where *card_number* is the number of the functioning T1/E1card.
 - b Swap the cables to both T1/E1cards.

TWIP016

Alarm Level

Major.

Description

The identified T1/E1card is not detecting any signal from the network. The voice system is unable to process calls on this card.

Repair Procedure

- 1** If another T1/E1card exists in the voice system and is functioning properly, check if the problem can be attributed to an external factor and not the card.
 - a** Remove the functioning T1/E1card from service by entering:
remove card card_number
where *card_number* is the number of the functioning T1/E1card.
 - b** Swap the cables to both T1/E1cards.
 - c** Restore the previously functioning T1/E1card to service by entering:
restore card card_number
where *card_number* is the number of the functioning T1/E1card.
 - d** Observe the two T1/E1cards to see if the problem migrates with the cable.
 - e** Return cables to their original cards.

- 2 If, as a result of [step 1](#), the problem is observed to migrate with the cable, or if a second T1/E1 card is not available to perform [step 1](#), check the cable between the 15-pin connector on the back of the T1/E1 card which connects to the switch and/or CSU.
 - a Check cable continuity on pins 1, 3, 9, and 11.
 - b Look for broken wires or a dislodged connector.
- 3 If this is a new installation, verify that the transmit and receive wire pairs are not reversed. See "Making Digital Connections," in Chapter 3, "Making Cable Connections and Power-Up the System," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149.
- 4 If a CSU is being used, verify that it is operating correctly. If this is a new installation, verify that the CSU has been properly wired and optioned.
- 5 Check that the cable is shielded and that the shield is properly grounded at the switch.

TWIP017**Alarm Level**

Major.

Description

The identified T1/E1 card is detecting an allones (AIS) condition from the network. This alarm usually indicates that the network is out of service. The voice system is unable to process calls on this card.

Repair Procedure

- 1 Contact the network switch administrator to verify that service is turned on at the switch.
- 2 If a CSU is being used, verify that it is operating correctly. If this is a new installation, verify that the CSU has been properly wired and optioned. Typically, a CSU sends an allones (AIS) signal to the voice system if it is not receiving a signal from the switch.
- 3 Check and administer the framing/line coding option of the card as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 4 Contact the network switch administrator to verify that the switch is administered with compatible options.
- 5 If a CSU is being used, verify that it supports the framing type.

TWIP018

Alarm Level

Major.

Description

The identified T1/E1card is detecting a remote frame alarm (yellow alarm). The network is experiencing problems receiving the DS1 signal sent by the T1/E1card. The voice system is unable to process calls on this card.

Repair Procedure

- 1 Contact the network switch administrator to determine what problem is being noted by the switch.

If the switch is not receiving a signal from the voice system, check the cable between the 15-pin connector on the back of the T1/E1card which connects to the switch and/or CSU. To do so, do the following:

- a Check cable continuity on pins 1, 3, 9, and 11.
 - b Look for broken wires or a dislodged connector.
- 2 If this is a new installation, verify that the transmit and receive wire pairs are not reversed. See "Making Digital Connections," in Chapter 3, "Making Cable Connections," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149.
 - 3 If a CSU is being used, verify that it is operating correctly. If this is a new installation, verify that the CSU has been properly wired and optioned.

- 4 Verify that the voice system, switch, and CSU (if being used) are configured with the same options by doing the following:
 - a Check and administer the framing/line coding option of the card as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - b Contact the network switch administrator to verify that the switch is administered with compatible options.
 - c If a CSU is being used, verify that it supports the framing type.

TWIP019

Alarm Level	None.
Description	The T1/E1 facility previously reported as being out of service has been automatically restored to service.
Repair Procedure	No corrective action is necessary.

TWIP020

Alarm Level	Critical.
Description	A possible problem has been detected in the identified circuit of the T1/E1 card. The voice system is unable to process calls on this card.

Repair Procedure

Occasionally, a poor or miswired T1/E1 cable, switch, or CSU can cause this failure. The following procedure determines if the cause is external or within the card.

- 1 Disconnect the T1/E1 cable from the back of the T1/E1 circuit card.
- 2 Diagnose the card by entering:

diagnose card *card_number*

where *card_number* is the card number specified in the message text.

Note: Additional instructions are provided by the diagnose command.

- 3 With the T1/E1 cable disconnected, if the "T1/E1 link test" indicates NO signal from the switch, a problem could exist with one or more of the following:
 - ~ The T1/E1 cable is poorly or improperly wired. See "Making Digital Connections," in Chapter 3, "Making Cable Connections," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149, for proper T1/E1 cable wiring instructions.
 - ~ The T1/E1 card may not be properly administered. See Chapter 3, "Voice System Administration," and Chapter 4, "Switch Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

- ~ The switch may not be properly administered (provisioned) to work with the voice system T1/E1 card. See Chapter 3, "Voice System Administration," and Chapter 4, "Switch Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
 - ~ If there is a CSU installed between the voice system T1/E1 card and the switch, verify this is properly wired and administered and is functioning properly.
- 4 If the diagnose command's T1/E1 link test continues to indicate `T1/E1 Framing Circuit Failure`, or `T1/E1 Transceiver Failure` while the T1/E1 card is disconnected, the card is faulty. Replace the circuit card. See Chapter 2, "Installing or Replacing Circuit Cards," in the maintenance book for your platform.

TWIP021

Alarm Level

Minor.

Description

The identified T1/E1 card detected the shown number of bipolar violations in the DS1 within the previous minute. The T1/E1 card was able to recover automatically from this error.

Repair Procedure

- 1 Check and administer the framing/line coding option of the card as described in Chapter 3, "Voice System Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.
- 2 Contact the network switch administrator to verify that the switch is administered with compatible options.
- 3 If another T1/E1 card exists in the voice system and is functioning properly, do the following to determine if the problem can be attributed to an external factor rather than the card.
 - a Remove the functioning T1/E1 card from service by entering:
remove card *card_number*
where *card_number* is the number of the functioning T1/E1 card.
 - b Swap the cables to both T1/E1 cards.
 - c Restore the previously functioning T1/E1 card to service by entering:
restore card *card_number*
where *card_number* is the number of the functioning T1/E1 card.
 - d Observe the two T1/E1 cards to see if the problem migrates with the cable.
 - e Return cables to their original cards.

- 4 If, as a result of [step 3](#), the problem is observed to migrate with the cable, or if a second T1/E1 card is not available to perform [step 3](#), check the cable between the 15-pin connector on the back of the T1/E1 card which connects to the switch and/or CSU. To do so, do the following:
 - a Check cable continuity on pins 1, 3, 9, and 11.
 - b Look for broken wires or a dislodged connector.
- 5 If this is a new installation, verify that the transmit and receive wire pairs are not reversed. See the section on digital connections in Chapter 3, "Making Cable Connections," in *CONVERSANT System Version 8.0 New System Installation*, 585-313-149.
- 6 If a CSU is being used, verify that it is operating correctly. If this is a new installation, verify that the CSU has been properly wired and optioned.
- 7 Check that the cable is shielded and that the shield is properly grounded at the switch.

TWIP022

Alarm LEVEL

Critical.

Description

The identified T1/E1 card has stopped operating. The voice system is unable to process calls on this card.

Repair Procedure

Note: This message may result when the **smc_setup** command is used. When **smc_setup** is used, T1/E1 cards may be reset and experience problems. This results in the TWIP022 message that reports that the card is inoperable. The card is usually diagnosed and returned to service in approximately 5 minutes. The **smc_setup** command should not be used when the voice system is active.

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, reboot the system.

TWIP023

Alarm Level

Major.

Description

An attempt to place a call on the identified LST1 or LSE1 channel failed as a result of the failure to detect dialtone. The voice system is expecting the dialtone once the channel has been taken off-hook. This acknowledgement enables the voice system to know when to begin dialing.

Repair Procedure

- If the problem occurs infrequently, and primarily when there is high call activity on the DEFINITYÆ ECS, the DEFINITY ECS may have insufficient dial tone registers for the expected call volume.
Consult your DEFINITY administrator.
- If all outbound calls are failing, there may be incompatible options in the system or DEFINITY ECS administration for LST1/LSE1.
Consult your DEFINITY administrator and check for consistent administration of options.

UNIX Alarms and Log Messages

UNIX001

Alarm Level None.

Description The UNIX system kernel has detected an error which has been logged on the system console. The voice system message Logger has put a copy of this message in the message log to keep a more durable record of it. The impact of this error on voice system functionality depends on the content of the specific UNIX message and the severity of the problem. In general, the severity corresponds to the priority of the logged message.

NOTICE (UNIX001) messages generally indicate problems of a less severe nature than WARNING (UNIX002) messages.

Repair Procedure No corrective action is necessary.

UNIX002

Alarm Level Minor.

Description The UNIX system kernel has detected an error which has been logged on the system console. The voice system message Logger has put a copy of this message in the message log to keep a more durable record of it. The impact of this error on voice system functionality depends on the content of the specific UNIX message and the severity of the problem. In general, the severity corresponds to the priority of the logged message.

WARNING (UNIX002) messages may not cause a system halt (PANIC) but usually indicate that system functionality is severely impaired.

Repair Procedure Repair of UNIX system problems require a significant level of expertise on UNIX operating system administration. Some problems (for example, timeout, inode or file table overflows) may be fixed by changing tunable system parameters. Chapter 5 of the *UNIX System Administrator's Guide* gives instructions on changing tunable parameters.

UNIX003

Alarm Level

Major.

Description

The UNIX system kernel has detected an error which has been logged on the system console. The voice system message Logger has put a copy of this message in the message log to keep a more durable record of it. The impact of this error on voice system functionality depends on the content of the specific UNIX message and the severity of the problem. In general, the severity corresponds to the priority of the logged message.

Repair Procedure

Repair of UNIX system problems require a significant level of expertise on UNIX operating system administration. Some problems (for example, timeout, inode or file table overflows) may be fixed by changing tunable system parameters. Chapter 5 of the *UNIX System Administrator's Guide* gives instructions on changing tunable parameters.

UNIX004

Alarm Level

Critical.

Description

The UNIX system kernel has detected an error which has been logged on the system console. The voice system message Logger has put a copy of this message in the message log to keep a more durable record of it. The impact of this error on voice system functionality depends on the content of the specific UNIX message and the severity of the problem. In general, the severity corresponds to the priority of the logged message.

Major (UNIX004) messages correspond to UNIX PANIC messages. The system halts when they are issued.

Repair Procedure

Repair of UNIX system problems require a significant level of expertise on UNIX operating system administration. Some problems (for example, timeout, inode or file table overflows) may be fixed by changing tunable system parameters. Chapter 5 of the *UNIX System Administrator's Guide* gives instructions on changing tunable parameters.

VROP Alarms and Log Messages

VROP001

Alarm Level

Minor.

Description

The user's attempt to run an administrative command (for example, list phrases, add a phrase to the speech file system, copy a phrase from a speech file system to a UNIX file, or erase a phrase) has failed. Call processing is not affected.

Repair Procedure

At a convenient time, do the following:

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists, reboot the system.

VROP002

Alarm Level

Major.

Description

An attempt to record or add a phrase to the system has failed because all of the speech file systems are configured as *read only*. All further attempts will continue to fail, but the system will continue to play existing phrases properly.

Repair Procedure

1 Enter **vdf**

The system displays a message similar to the following message:

```
speechFS /home2/vts/talkfiles
10107 free blocks of 19073 available (52% free)
READWRITE (blocksize=16384)
```

where *talkfiles* is the name of one of the speech file systems.

2 For each of the speech file systems noted above, enter:

ls -ld *speech_file_system_name*

The system displays a message similar to the following message:

```
drwxr-xr-xrootssys409Feb516:57/home2/vfs/talkfiles
```

3 If the mode is not `drwsrwxr-x`, enter:

chmod 775 *speech_file_system_name*

VROP003

Alarm Level Minor.

Description An SSP card was unable to perform a voice coding or playback request made by the system. The code or play request failed. This normally happens when the system is overloaded; that is, the total amount of coding or playback being attempted for all channels on the system is more than the available SSP cards can handle. In this case, most requests will be completed and only those for which a message is generated will fail. Each time a failure occurs, one message is generated.

The impact may be significant if the message occurs more frequently than the currently set threshold limit. In that case, you will see a threshold message similar to the following:

```
** THR003 -- -- -- The first threshold level for VROP_NOSPBUF
exceeded. 20 messages have been generated in the last 1
minute.
```

The threshold limits and threshold message priority shown above reflect the default values for this thresholded message.

Repair Procedure

- 1 Display the state of the cards by entering display card
- 2 Verify that all SSP cards assigned for VOICE function are in INSERTV state.
- 3 If all SSP cards assigned for VOICE function are INSERTV state, reduce the load.
- 4 If a card is in the BROKEN state, diagnose the card by entering:
diagnose card *card_number*
where *card_number* is the number of the affected card.
- 5 If the card is in the MANOOS state, restore the card into service by entering:
restore card *card_number*
where *card_number* is the number of the affected card.
- 6 Display the state of the card by entering:
display card *card_number*
where *card_number* is the number of the affected card.
- 7 If the card is in the BROKEN state, check the circuit card.
- 8 If the card is in the MANOOS state, restore the card into service by entering:
restore card *card_number*
where *card_number* is the number of the affected card.

VROP004

Alarm Level

Major.

Description

A voice function may have failed. The request has been cancelled. The transaction may be hung (that is, the caller will hear nothing and nothing else will happen for the call until the call is terminated by the caller). Each time a failure occurs, one message is generated.

Repair Procedure

Determine the severity level of the message. The default severity level is MAJOR, yet the message may be a MINOR alarm in some cases in the software. If the severity level of the message is:

- MINOR, no corrective action is necessary.
- MAJOR, do the following:
 - 1 Stop the voice system.
 - 2 Start the voice system.

VROP005

Alarm Level

Critical.

Description

Erroneous speech playback or coding may have occurred. The speech that was heard or recorded may have been terminated prematurely or replaced with other speech. Subsequent speech coding or playback may also be affected until the system is restarted.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.

VROP006

Alarm Level

Major.

Description

The speech configuration file, **/vs/data/spchconfig**, is unreadable or has an invalid, duplicate, or missing entry. The system will use default values for missing or invalid entries for the numbers of speech buffers and/or maximum allowable phrases until this is corrected. For duplicate entries, the first value is used. The default numbers may be unsatisfactory for this system and could cause load problems, inability to access some phrases, or other performance problems.

Repair Procedure

- 1 Determine if the number of speech buffers configured in the system is sufficient to handle the current load. Enter:
display chan all
The system displays a channel state table.
- 2 To determine the number of speech buffers currently configured in the system, enter **cat /vs/data/spchconfig**
The system displays an nbufs and max_phrases table.
- 3 Increase the nbufs parameter listed in the nbufs and max_phrases table by completing [step a](#) through [step c](#):
 - a Edit the file **/vs/data/spchconfig** and change the parameter nbufs to the number desired.
 - b Stop the voice system.
 - c Start the voice system.

VROP007**Alarm Level**

Major.

Description

An attempt to add a new phrase to the speech file system failed. This could have impacted administrative commands or the coding of speech spoken by a caller. Additional similar attempts will also fail.

Repair Procedure

- 1 Determine the amount of space available in the speech file system by entering **vdf**
- 2 Write down the free blocks available.
- 3 Stop the voice system.
- 4 Start the voice system.
- 5 Determine the space available in the speech file system by entering **vdf**
- 6 If this does not result in more space, the speech file system must be increased in size, a new speech file system must be added, or existing phrases must be removed from the system.

The system administrator should determine this.
- 7 See [VROP007 — For Application Developer Notes:](#)

VROP007 — For Application Developer Notes:

A common cause of running out of space in the speech file system is that applications that dynamically code speech from callers may not remove this speech when it is no longer needed. If Form Filler Plus is in use, make sure users are deleting messages after reviewing them. If other applications on the system code the speech of callers, make sure the application is deleting speech when no longer needed for that application. Removing phrases safely requires some understanding of the applications that are installed on the system. Some guidelines are as follows:

- 1 Determine which applications are loaded on the machine and consider removing any applications not currently in use. These can be backed up to disk before removing them. The Script Builder Applications menu item in the **cvis_menu** shows all Script Builder applications. The UNIX directory **/speech/talk** contains list files for each application.
- 2 The command list phrase all in talkfile all shows all the phrases and talkfiles on the system. Any phrase that has no "PHRASE_NAME" listed may not be currently used for prompts for applications currently loaded on the system. However, phrases may have been coded from customer input, and should not be removed until it is verified that the phrases are not of this type (see below).
 - ~ Talkfiles numbered less than 200 may be used for customer recorded speech by application packages such as AUDIX Voice Power, Form Filler Plus, or others and generally should not be removed.
 - ~ If any applications developed with Script Builder use the Voice Coding statement to record customer speech, and a talkfile is being used, the developer of that application must be consulted in order for these phrases to be removed.

VROP009

Alarm Level

Major.

Description

An application attempted to play a phrase that has not been recorded or does not currently exist on the system. The system skips that phrase and continues with the rest of the application. The message typically occurs when new applications are being developed or tested on the system. It could happen at a later time if a phrase was never recorded, or if a phrase has been removed inadvertently or corrupted and cleared by an audit. The message can also be caused by an error in the application that causes it to perform a play script instruction (or a Script Builder Announce action using the NX format) with garbage input. (Note that an invalid argument to a **tchar** instruction does not cause this message; a TSM message is generated instead.)

This error may cause the caller to miss important information, but be unaware of this fact. For example, if the unrecorded phrase was a number such as "thousand," then "5205" will be spoken as "fivetwentyfive" instead of "five thousand two hundred five". This can be extremely serious for some applications.

Repair Procedure

- 1 List the phrase by entering:

list phrase *phrase_num* in talkfile *talkfile_num*

where *phrase_num* and *talkfile_num* are the phrase and talkfile number from the error message. This should report `No such phrase exists.`

- 2 Determine which applications or scripts use the phrase.

Each talkfile that was created using Script Builder has an associated phrase list file, a UNIX system file, stored in the directory **/speech/talk** and uses the naming convention of application name.pl. The phrase list file contains the talkfile number and the phrase numbers and tags for every phrase tag used in a Script Builder application.

Applications may have a list file with different naming conventions, such as **list.application_name** (for example, **list.cabnt**). These files must be searched to locate the application that uses the missing phrase. See Chapter 3, "Speech Data," of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for more information on the content of these speech files.

- 3 If the phrase has been recorded, restore the phrase from a backup. See **restore** in Appendix A, "Summary of Commands," in *CONVERSANT System Version 8.0 Administration*, 585-313-510.

If the phrase has not been recorded, record the phrase. See *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for additional information.

VROP010

Alarm Level Major.

Description A failure occurred while performing the indicated action on a phrase. The action was aborted. This is caused by excessive voice activity load on the system.

Repair Procedure

- 1 Stop the voice system.
- 2 Start the voice system.
- 3 If the problem persists and there is heavy load on the system, reduce the load.

VROP011

Alarm Level Major.

Description Insufficient speech buffers are allocated to service the number of channels in the system. Each time the message occurs, an action has failed.

- Repair Procedure**
- 1 Determine if the number of speech buffers configured in the system is sufficient to handle the current load by entering:
cat /vs/data/spchconfig
 - ~ The system displays an nbufs and max_phrases table.
 - ~ The nbufs parameter should be three times the number of channels available in the system.
 - 2 If your application needs more speech buffers than indicated by the number shown for nbufs, increase the nbufs parameter listed above by doing the following:
 - a Edit the file **/vs/data/spchconfig** and change the parameter `nbufs` to the number desired.
 - b Stop the voice system.
 - c Start the voice system.

VROP012

Alarm Level Major.

Description An attempt to add a new phrase to the speech file system failed. This could have impacted administrative commands or the coding of speech spoken by a caller. Other attempts will also fail.

Repair Procedure Either increase the **max_phrases** limit in the speech configuration file **/vs/data/spchconfig** by performing repair procedure for system message [VROP006 on page 552](#) or eliminate unused phrases on the voice system by performing repair procedure for system message [VROP007 on page 553](#).

VROP013

Alarm Level None.

Description The system is not able to service speech playback or coding requests fast enough to guarantee that no speech gaps occur. Gaps may occur between phrases or within a phrase.

Repair Procedure Reduce the load.

VROP014

Alarm Level Critical.

Description **VROP/CIOX** failed to access the speech file indicated during processing. Applications requiring access to this file will be incomplete.

- Repair Procedure**
- 1 Consult the application developer to verify the application. See [VROP014 — Application Developer Notes: on page 561](#).
 - 2 If the application is correct, restore the speech file(s) from the backup. If the backup is not available, consult the application developer to recreate the speech file.
 - 3 If the problem persists, reboot the system.
- VROP014 — Application Developer Notes:**
- 1 Verify that the application refers to the correct speech file name.
 - 2 Verify that the speech file is in existence with the correct access permission.

VROP015

Alarm Level

Major.

Description

A phrase is being added to the speech file system or copied from the speech file system to a UNIX file (typically during speech backups or restores), and the UNIX file cannot be accessed.

Repair Procedure

- If the error message indicates `No space left on device`, remove unnecessary files from the UNIX file system, particularly in `/tmp` directory.
- Any other error message indicates a problem with the UNIX operating system.
Reboot the system.

VROP016

Alarm Level Major.

Description A phrase in the speech file system has been corrupted. The phrase cannot be played or removed until the problem has been corrected. Call processing for other phrases is not affected.

Repair Procedure 1 List the phrase by entering:

list phrase *phrase_num* in talkfile *talkfile_num*

where *phrase_num* and *talkfile_num* are the phrase and talkfile number from the error message.

The system displays a talkfile table.

- 2 If the Coding Type is Unknown, restore the phrase from backup.
- 3 If the phrase is still in error, divide the Size In Bytes by four.

If there is a remainder, the phrase has been corrupted. Rerecord the phrase.

VROP017

Alarm Level

None.

Description

An unexpected event occurred during an action. This action corresponds to a script instruction or administrative request (play a phrase, code a phrase, remove a phrase, fetch, create, or update). The system detected some type of anomaly while performing the action specified. The voice response action may not have completed successfully. The root cause could be either excessive system load or a problem with an SSP or Tip/Ring circuit card reported with another message.

Repair Procedure

- 1 If the message field is `Bad tag, probably time expired` or `Nonoutstanding tag, probably time expired`, check the log for a [VROP019 on page 564](#) message and perform the repair procedure for that message.
- 2 If any other information appears in the message field, this could be due to an error in the system software.

VROP018

Alarm Level

Critical.

Description

The system has failed to play or code a phrase. This is likely to recur until the problem has been resolved.

Repair Procedure

Reboot the system.

VROP019

Alarm Level Major.

Description A timeout failure occurred while performing the indicated action on a phrase. The action was aborted. This could be due to excessive load on the system. The cause could also be a problem with the Tip/Ring or SSP card.

Repair Procedure 1 Determine the value for the event field.

If the event is one of the following, complete [step a](#) through [step c](#).

- BKLAVAIL
- BUFVALID
- NEW_PHRASE_NUM
- READ_DONE
- RELSEBK
- REMOVE_DONE
- RENAME_DONE
- SPWINAVAIL
- UPDATE_DONE
- WRITE_DONE

- a Reduce the load.
- b Stop the voice system.
- c Start the voice system.

If the event is one of the following, complete [step d](#) through [step f](#).

- SPSTAT_COMP
- SP_VCBUF
- TR_VCODE
- TR_VPLAY

- d Diagnose the card by entering:

diagnose card *card_number*

where *card_number* is the number of the affected card.

Display the state of the card by entering **display card**

The card should be in INSERT state.

- e If the card is in the BROKEN state, check the circuit card.
- f If the card is in the MANOOS state, restore the card into service by entering:

restore card *card_number*

where *card_number* is the number of the affected card.

VROP020

Alarm Level

Major.

Description

Erroneous speech processing occurred in the application script. Subsequent speech processing may also be affected until the application script is corrected.

Repair Procedure

- 1 Determine which application is causing the error by entering:

display chan *channel_number*

where *channel_number* is the channel number from the error message.

The system displays a channel table.

- 2 Correct the error in the application.

VROP020, #2

Alarm Level

Major.

Description

The indicated file can not be reserved for the reason specified in the message. Applications requiring recording to the file will be incomplete.

Repair Procedure

- 1 Verify that the file is a speech file.
- 2 Record the speech again using one of the coding algorithms supported by the system.

VROP021

Alarm Level None.

Description The maximum number of Customer Input/Output processes has been reached. The speech playback or coding might be delayed. This condition may be attributed to excessive load on the system. The impact of this event is not severe and no action warranted.

Repair Procedure No corrective action is necessary.

VROP022

Alarm Level Major.

Description The indicated file can not be reserved for the reason specified in the message. Applications requiring recording to the file will be incomplete.

Repair Procedure

- 1 Verify that the file is a speech file.
- 2 Record the speech again using one of the coding algorithms supported by the system.

VROP023

Alarm Level	None.
Description	A speech stutter was detected during a speech playback session.
Repair Procedure	No corrective action is necessary.

VXMDI Alarms and Log Messages**VXMDI001**

Alarm Level	None
Description	The startup of the DI is complete.
Repair Procedure	No corrective action is necessary.

VXMDI002

Alarm Level Major.

Description An in-progress fax process is exiting because of an unrecoverable error, such as an operating system problem, or a phone line problem.

- Repair Procedure**
- 1 Reinitiate the fax transmission.
 - 2 If the problems persists, stop and start the voice system.

VXMDI003

Alarm Level Major.

Description The fax transmission occurring at the time that the error was reported failed. There has been an illegal transition. A fax was being sent to or received from a fax machine that does not meet international fax standards, or the circuit card may be experiencing a hardware problem.

- Repair Procedure**
- 1 Note the brand and model number of the fax machine.
 - 2 Divert fax traffic to another fax machine.

- 3 If the problem cannot be traced to the fax machine:
 - a Diagnose the card by entering
diagnose card *card_number*
where *card_number* is the circuit card on which the channel is located.
 - b If the problem persists, assume a potentially bad hardware platform or an irreparable fault in the system software. If it is happening on the same circuit card in all cases, try replacing or swapping the circuit card.

VXMDI004

Alarm Level Major.

Description There has been an internal assertion failure. The fax transmission occurring at the time that the error was reported failed.

- Repair Procedure**
- 1 Save any **core** files and the contents of **/voxem/sf2.0/logs**.
 - 2 Contact your remote maintenance service center for assistance.

VXMDI005

Alarm LEVEL Major.

Description The driver called failed. The fax transmission occurring at the time that the error was reported failed.

Repair Procedure If the problem persists, stop and start the voice system.

Numerics

23B+D

23 bearer (communication) and 1 data (signaling) channel on a T1 PRI circuit card.

30B+D

30 bearer (communication) and 1 data (signaling) channel (plus framing channel 0) on an E1 PRI circuit card.

3270 interface

A link between one or more CONVERSANT machines and a host mainframe. In CONVERSANT system documentation, the 3270 interface specifically means the link between one or more system machines and an IBM host mainframe.

47B+D

47 bearer (communication) and 1 data (signaling) channel on two T1 PRI circuit cards.

4ESS®

A large Lucent central office switch used to route calls through the telephone network.

A**AC**

alternating current

ACD

[automatic call distributor](#)

AD

application dispatch

AD-API

application dispatch application programming interface

adaptive differential pulse code modulation

A means of encoding analog voice signals into digital signals by adaptively predicting future encoded voice signals. This adaptive modulation method reduces the number of bits required to encode voice. See also "[pulse code modulation](#)."

adjunct products

Products (for example, the Adjunct/Switch Application Interface) that the system administers via cut-through access to the inherent management capabilities of the product itself. This is in opposition to the ability of the system to administer the switch directly.

Adjunct/Switch Application Interface

An optional feature package that provides an Integrated Services Digital Network-based interface between Lucent Technologies PBXs and adjunct processors.

ADPCM

[adaptive differential pulse code modulation](#)

ADU

[asynchronous data unit](#)

advanced speech recognition

A speech recognition ability that allows the system to understand WholeWord, FlexWord, and Natural Language Speech Recognition inputs from callers.

affiliate

A business organization that Lucent controls or with which Lucent is in partnership.

AGL

application generation language

ALERT

System alerter process

alerter

A system process that responds to patterns of events logged by the “logdaemon” process.

American Standard Code for Information Interchange

A standard code for data representation that represents alphanumeric characters as binary numbers. The code includes 128 uppercase and lowercase letters, numerals, and special characters. Each alphanumeric and special character has an ASCII code (binary) equivalent that is 1 byte long.

analog

An analog signal, such as voice or music, that varies in a continuous manner. An analog signal may be contrasted with a digital signal, which represents only discrete states.

ANI

[automatic number identification](#)

announcement

A message the system plays to the caller to provide information. The caller is not asked to give a response. Compare to [prompt](#).

API

Application programming interface

application

The automated transaction (interactions) among the caller, the voice response system, and any databases or host computers required for your business. See also [application script](#).

application administration

The component of the system that provides access to the available applications and helps you manage and administer them.

application installation

A two-step process in which the CONVERSANT system invokes the TSM script assembler for the specific application name and moves files to the appropriate directories.

application script

The computer program that controls the application (the transaction between the caller and the system). The CONVERSANT system provides several methods for creating application scripts, including Voice@Work, Script Builder, Transaction Assembler Script (TAS) language, and the Intuity Response Application Programming Interface (IRAPI).

application simulation

A process in which the system simulates the behavior of an application as it is expected to behave on the CONVERSANT system. It is useful as a debugging tool.

application verification

A process in which the system verifies that all the components needed by an application are complete.

ASCII

[American Standard Code for Information Interchange](#)

ASI

analog switch integration

ASR

[advanced speech recognition](#)

asynchronous communication

A method of data transmission in which bits or characters are sent at irregular intervals and spaced by start and stop bits rather than by time. Compare to [synchronous communication](#).

asynchronous data unit

An electronic communications device that allows computer systems to communicate over asynchronous lines more than 50 feet (15 meters) in length.

asynchronous event

An event detected by the system that disrupts the normal flow of an application that is running. At present, the CONVERSANT system recognizes only one type of asynchronous event—a hang up.

automatic call distributor

That part of a telephone system that recognizes and answers incoming calls and completes these calls based on a set of instructions contained in a database. The ACD can send the call to an operator or group of operators as soon as the operator has completed a previous call or after the system has played a message to the caller.

automatic number identification

A method of identifying the calling party by automatically receiving a string of digits that identifies the calling station of a particular customer.

B**back up**

The preservation of the information in a file in a different location so that the data is not lost in the event of hardware or system failure.

backing up an application

Using a utility that makes an archive copy of a completed application or an interim copy of an application in progress. The backup copy can be restored to the system if the online version is damaged, or if you make revisions and want to go back to the previous version.

bargе-in

A capability provided by WholeWord speech recognition, Dial Pulse Recognition (DPR), and Natural Language Speech Recognition (NLSR) that allows callers to speak or enter their responses during the prompt and have those responses recognized (similar to the Speak with Interrupt capability). See also [echo cancellation](#).

batch file

A file containing one or more lines, each of which is a command executable by the UNIX shell.

BB

bulletin board

binary synchronous communications

A character-oriented synchronous link protocol.

blind transfer protocol

A protocol in which a call is completed as soon as the extension is dialed, without having to wait to see if the telephone is busy or if the caller answered.

bps

bits per second

BRDG

call bridging process

bridging

The process of connecting one telephone network connection to another over the system TDM bus. Bridging decreases the processing load on the system since an active bridge does not require speech processing, database access, host activity, and so on, for the transaction.

BSC

[binary synchronous communications](#)

bundle

In the context of the Enhanced File Transfer package, this term is used to denote a single file, a group of files (package), or a combination of both.

byte

A unit of storage in the computer. On many systems, a byte is 8 bits (binary digits), which is the equivalent of one character of text.

C**call classification analysis**

A process that enables application designers to use information available within the system to classify the disposition of originated and transferred calls. Intelligent CCA is provided with the system. Full CCA is an optional feature package.

call data event

A parameter that specifies a list of variables that are appended to a call data record at the end of each call.

call data handler process

A software process that accumulates generic call statistics and application events.

called party number

The number dialed by the person making a telephone call. Telephone switching equipment can use this number to selectively route an incoming call to a particular department or agent.

caller

The party who calls for a service, gets connected to the system, and interacts with it. Because the system can also make outbound calls for service, the caller can also be the person who responds to those outbound calls.

call flow

See [transaction](#).

call progress tones

Standard telephony sounds that indicate the status of the call. These sounds include busy, fast busy, ringback, reorder, etc.

card cage

An area within a hardware platform that contains and secures all of the standard and optional circuit cards used in the system.

cartridge tape drive

A high-capacity data storage and retrieval device that can be used to transfer large amounts of information onto high-density magnetic cartridge tape based on a predetermined format. This tape can be removed from the system and stored as a backup or used on another system.

CAS

channel associated signalling

caution

An admonishment or advisory statement used in the system documentation to alert the user to the possibility of a service interruption or a loss of data.

CCA

[call classification analysis](#)

CDH

[call data handler process](#)

CELP

[code excited linear prediction](#)

central office

A location in which large telecommunication devices such as telephone switches and network access facilities are maintained. These locations follow strict installation and operation requirements.

central processing unit

See [processor](#).

CGEN

Voice system general message class

channel

See [port](#).

channel associated signaling

A type of signaling that can be used on E1 circuit cards. It occurs on channel 16.

CICS

[Customer Information Control System](#)

circuit card upgrade

A new circuit card that replaces an existing card in the platform. Usually the replacement is an updated version of the original circuit card to replace technology made obsolete by industry trends or a new system release.

cluster controller

A bisynchronous interface that provides a means of handling remote communication processing.

CMS

Call Management System

CO

[central office](#)

code excited linear prediction

A means of encoding analog voice signals into digital signals that provides excellent quality with use of minimum disk space.

command

An instruction or request the user issues to the system software to make the system perform a particular function. An entire command consists of the command name and options.

configuration

The arrangement of the software and hardware of a computer system or network. The system configuration includes either a standard or custom processor, peripheral equipment (for example, printers and modems), and software applications. Configuration also refers to the way in which the switch network is set up; that is, the types of products that are in the network and how those products communicate.

configuration management

The component of the system that allows you to manage the current configuration of voice channels, host sessions, and database connections, assign scripts to run on specific voice channels or host sessions, assign functionality to SSP and E1/T1 circuit cards, and perform various maintenance functions.

connect and disconnect (C and D) tones

DTMF tones that inform the system when the attendant has been connected (C) and when the caller has been disconnected (D).

connected digits

A sequence of digits that the system can process as a group, rather than requiring the caller to enter the digits one at a time.

Converse Data Return (conv_data)

A Voice@Work external function or a Script Builder external action that supports the DEFINITY[®] call vectoring (routing) feature by enabling the switch to retain control of vector processing in the system environment. It supports the DEFINITY “converse” vector command to establish a two-way routing mechanism between the switch and the system to facilitate data passing and return.

controller circuit card

A circuit card used on a computer system that controls its basic functionality and makes the system operational. These circuit cards are used to control magnetic peripherals, video monitors, and basic system communications.

copying an application

A utility in which information from a source application is directed into the destination application.

coresidency

The ability of two products or services to operate and interact with each other on a single hardware platform.

CPE

customer-provided equipment or customer premise equipment

CPN

[called party number](#)

CPT

[call progress tones](#)

CPU

[central processing unit](#)

crash

An interactive utility for examining the operating system core and for determining if system parameters are being exceeded.

CSU

channel service unit

custom grammar

See [custom vocabulary](#).

custom speech

Unique words or phrases to be used in system voice prompts that Lucent Technologies records on a per-customer basis.

custom vocabulary

A specialized package of unique words or phrases created on a per-customer basis and used by WholeWord or FlexWord speech recognition.

Customer Information Control System

Part of the operating system that manages resources for running applications (for example, IND\$FILE). Note that [TSO](#) and CMS provide analogous functionality in other host environments.

CVS

converse vector step

D

danger

An admonishment or advisory statement used in the system documentation to alert the user to the possibility of personal injury or death.

data interface process

A software process that communicates with interactive voice response (IVR) applications.

database

A structured set of files, records, or tables.

database field

A field used to extract values from a local database and form the structure upon which a database is built.

database record

The information in a database for a person, product, event, and so on. The database record is made up of individual fields for each information item.

database table

A structure, made up of columns and rows, that holds information in a database. Database tables provide a means of storing information that changes too often to “hard-code,” or store permanently, in the transaction outline.

dB

decibel

DB

database

DBC

database checking process

DBMS

database management system

DC

direct current

DCE

data communications equipment

DCP

digital communications protocol

debug

The process of locating and correcting errors in computer programs; also referred to as [troubleshooting](#).

default

The way a computer performs a task in the absence of other instructions.

default owner

The owner of a channel when no process takes ownership of that channel. The default owner holds all idle, in-service channels. In terms of the IRAPI, this is typically the Application Dispatch process.

diagnose

The process of performing diagnostics on a bus or on circuit cards.

dial ahead

The ability to collect and process touchtone inputs in sequence, even when they are received before the prompts.

dial pulse recognition

A method of recognizing caller pulse inputs from a rotary telephone.

dialed number identification service

A service that allows incoming calls to contain information about the telephone number for which it is destined.

dial through

A capability provided by touchtone and dial pulse recognition that allows callers to enter their responses during the prompt and have those responses recognized (similar to the Speak with Interrupt capability). See also [barge-in](#) and [echo cancellation](#).

DIMM

dual in-line memory module

DIO

disk input and output process

DIP

[data interface process](#)

directory

A type of file used to group and organize other files or directories.

display errdata

A command that displays system errors sent to the logger.

DMA

direct memory address

DNIS

[dialed number identification service](#)

DPR

[dial pulse recognition](#)

DSP

digital signal processor

DTE

data terminal equipment

DTMF

[dual tone multi-frequency](#)

DTR

data terminal ready

dual 3270 links

A feature that provides an additional physical unit (PU) for a cost-effective means of connecting to two host computers. The customer can connect a system to two separate FEPs or to a single FEP shared by one or more host computers. Each link supports a maximum of 32 LUs.

dual tone multi-frequency

A touchtone sound that is an audio signal including two different frequencies. *DTMF feedback* is the process of the switch providing this information to the system. *DTMF muting* is the process of ignoring these tones (which might be simulated by human speech) when they are not needed for the application.

dump space

An area of the disk that is fixed in size and should equal the amount of RAM on the system. The operating system “dumps” an image of core memory when the system shuts down automatically. The dump can be fetched after rebooting to help in analyzing the cause of the shutdown.

E

E&M

[Ear and Mouth](#)

E1 / T1

Digital telephony interfaces, commonly called *trunks*. E1 is an international standard at 2.048 Mbps. T1 is a North American standard at 1.544 Mbps.

Ear and Mouth

A common T1 trunking protocol for connection between two switches.

EBCDIC

Extended Binary Coded Decimal Interexchange Code

echo cancellation

The process of making the channel quiet enough so that the system can hear and recognize WholeWord, dial pulse, and Natural Language inputs during the prompt. See also [barge-in](#).

ECS

[Enterprise Communications Server](#)

editor system

A system that allows speech phrases to be displayed and edited by a user.

EIA

Electronic Industries Association

EISA

Extended Industry Standard Architecture

EMI

electromagnetic interference

emulator

Software on one operating system that imitates or reproduces the behavior of input and output on a different operating system.

engine

The software used to perform speech recognition or text-to-speech functions. Usually used with reference to proxy software and systems. See also [Proxy Text-to-Speech \(PTTS\)](#) and [Natural Language Speech Recognition \(NLSR\)](#).

enhanced basic speech

Prerecorded speech available from Lucent Technologies in several languages. Sometimes called [standard speech](#).

Enhanced Serial Data Interface

A software-controlled and hardware-controlled method used to store data on magnetic peripherals.

Enterprise Communications Server

The telephony equipment that connects your business to the telephone network. Sometimes called a switch.

error message

A message on the screen indicating that something is wrong with the system, often with a suggestion of how to correct it.

ESD

electrostatic discharge

ESS

electronic switching system

EST

Enhanced Software Technologies, Inc.

ET

error tracker

Ethernet

A name for a local area network that follows IEEE Standard 802.3. Supported implementations are 10Baset and 100Baset.

event

The notification given to an application when some condition occurs that is generally not encountered in normal operation.

EXTA

external alarms feature message class

external actions

Specific predefined (or customer-created) system tasks that Script Builder can call or *invoke* to interact with other products or services. When an external action is invoked, the systems displays a form that provides choices in each field for the application developer to select. Examples are Call_Bridge, Make_Call, SP_Allocate, SR_Prompt, and so on. In Voice@Work, external actions are called [external functions](#).

external functions

Specific predefined (or customer-created) system tasks that Voice@Work can call or *invoke* to interact with other products or services. The function allows the application developer to enter the arguments for the function to act on. Examples are concat, getarg, length, substring, and so on. In Script Builder, external functions are called [external actions](#).

F

FAX Actions

An optional feature package that allows the system to send fax messages.

FCC

Federal Communications Commission

FDD

floppy disk drive

feature

A function or capability of a product or an application within the system.

feature package

An optional package that may contain both hardware and software resources to provide additional functionality to a standard system.

feature_tst script package

A standard system software program that allows a user to perform self-tests of critical hardware and software functionality.

FEP

front end processor

field

See [database field](#).

FIFO

first-in-first-out processing order

file

A collection of data treated as a basic unit of storage.

file transfer

An option that allows you to transfer files interactively or directly to and from UNIX using the file transfer system (FTS).

filename

Alphabetic characters used to identify a particular file.

FlexWord™ speech recognition

A type of speech recognition based on subword technology that recognizes phonemes or parts of words in a specific language. See also [subword technology](#).

foos

facility out-of-service state

FTS

file transfer process message class

Full CCA

A feature package that augments the types of call dispositions that Intelligent CCA can provide.

function key

A key, labeled F1 through F8, on your keyboard to which the system software gives special properties for manipulating the user interface.

G**GEN**

PRISM logger and alerter general message class

grammar

The inputs that a recognizer can match (identify) from a caller.

GUI

graphical user interface

H**hard disk drive**

A high-capacity data storage and retrieval device that is located inside a computer platform. A hard disk drive stores data on nonremovable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware

The physical components of a computer system. The central processing unit, disks, tape and diskette drives, and so on, are all hardware.

Hardware Resource Allocator

A software program that resolves or blocks the allocation of CPU and memory resources for controlling and optional circuit cards.

hardware upgrade

Replacement of one or more fundamental platform hardware components (for example, the CPU or hard disk drive), while the existing platform and other existing optional circuit cards remain.

HDD

[hard disk drive](#)

High Level Language Applications Programming Interface

An application programming interface that allows a user to write custom applications that can communicate with a host computer via an API.

HLLAPI

[High Level Language Applications Programming Interface](#)

HOST

host interface process message class

host computer

A computer linked to a network to provide a range of services, such as database access and computation. The host computer operates in a time-sharing manner with other computers linked to it via the network.

hwoos

hardware out-of-service state

Hz

Hertz

IBM

International Business Machines

iCk or ICK

The system integrity checking process.

ID

identification

IDE

integrated disk electronics

idle channel

A channel that either has no owner or is owned by its default owner and is onhook.

IE

information element

IEEE

Institute of Electrical and Electronic Engineers

IND\$FILE

The standard SNA file transfer utility that runs as an application under CICS, TSO, and CMS. IND\$FILE is independent of link-level protocols such as BISYNC and SDLC.

independent software vendor

A company that has an agreement with Lucent Technologies to develop software to work with the system to provide additional features required by customers.

indexed table

A table that, unlike a nonindexed table, can be searched via a field name that has been indexed.

industry standard architecture

A PC bus standard that allows processors and other circuit cards to communicate with each other.

INIT

voice system initialization message class

initialize

To start up the system for the first time.

inserv

in-service state

Integrated Services Digital Network

A network that provides end-to-end digital connectivity to support a wide range of voice and data services.

intelligent CCA

Monitoring the line after dialing is complete to determine whether a busy, reorder (fast busy), or other failure has been encountered. Intelligent CCA also recognizes when the extension is answered or if the extension is not answered after a specified number of rings. The monitoring capabilities are dependent on the network interface circuit card and protocol used

interface

The access point of a system. The interface is designed to provide you with easy access to the software capabilities of the system.

interrupt

The termination of voice and/or telephony functions when some condition occurs.

Intuity Response Application Programming Interface

A library of commands that provide a standard development interface for voice-telephony applications.

IOB

I/O companion card to the [SBC](#). This is part of the CPU Complex.

IPC

interprocess communication

IRAPI

[Intuity Response Application Programming Interface](#)

IRQ

interrupt request

ISA

[industry standard architecture](#)

ISDN

[Integrated Services Digital Network](#)

ISV

[independent software vendor](#)

ITAC

International Technical Assistance Center

K**Kbps**

kilobytes per second

KB

kilobyte

keyboard mapping

In emulation mode, this feature enables the keyboard to send 3270 keyboard codes to the host according to a configuration table set up during installation.

keyword spotting

A capability provided by WholeWord speech recognition, FlexWord speech recognition, and Natural Language speech recognition that allows the system to recognize a single word in the middle of an entire phrase spoken by a caller in response to a prompt.

L**LAN**

[local area network](#)

LDB

[local database](#)

LED

light-emitting diode

library states

The state information about channel activities maintained by the IRAPI.

LIFO

last-in-first-out processing order

line side E1

A digital method of interfacing a system to a PBX or switch using E1-related hardware and software.

line side T1

A digital method of interfacing a system to a PBX or switch using T1-related hardware and software.

listfile

An ASCII catalog that lists the contents of one or more talkfiles. Each application script is typically associated with a separate listfile. The listfile maps speech phrase strings used by application scripts into speech phrase numbers.

local area network

A data communications network in a limited geographical area. The LAN provides communications between computers and peripherals.

local database

A database residing on the system.

LOG

System logger process message class

logical unit

A type of SNA Network Addressable Unit.

logdaemon

A UNIX system information and error logging process.

logger

See [logdaemon](#).

logging on/off

Entering or exiting the system software.

LSE1

[line side E1](#)

LST1

[line side T1](#)

LU

[logical unit](#)

M**magnetic peripherals**

Data storage devices that use magnetic media to store information. Such devices include hard disk drives, diskette drives, and cartridge tape drives.

main screen

The system screen from which you are able to enter either the System Administration or Voice System Administration menu.

maintenance process

A software process that runs temporary diagnostics and maintains the state of circuit cards and channels.

manooos

manually out-of-service state

MAP/40P

multi application platform 40P

masked event

An event that an application can ignore (that is, the application can request not to be informed of the event).

master

A circuit card that provides clock information to the TDM bus.

Mbps

megabits per second

MB

[megabyte](#)

megabyte

A unit of memory equal to 1,048,576 bytes (1024 x 1024). It is often rounded to one million.

menu

Options presented to a user on a computer screen or with voice prompts.

MF

[multifrequency](#)

MHz

megahertz

mirroring

A method of data backup that allows all of the data transactions to the primary hard disk drive to be copied and maintained on a second identical drive in near real time. If the primary disk drive fails or becomes disabled, all of the data stored on it (up to 1.2 billion bytes of information) is accessible on the second mirrored disk drive.

ms

millisecond

msec

millisecond

MS-DOS

A personal computer disk operating system developed by the Microsoft Corporation.

MTC

[maintenance process](#)

multifrequency

Dual tone digit signaling (similar to DTMF), used for trunk addressing between network switches or by network operators.

multithreaded application

A single process or application that controls several channels. Each thread of the application is managed explicitly. Typically this means state information for each thread is maintained and the state of the application on each channel is tracked.

N**Natural Language Speech Recognition (NLSR)**

An advanced type of speech recognition. Like WholeWord and Flexword speech recognition, NLSR can recognize particular words and phrases, but it can also interpret and assign meaning to those words and phrases. NLSR can also recognize natural numbers and currency amounts. Because of the greater vocabulary and grammar requirements associated with NLSR, it works best with an external speech recognition or "proxy" server.

NCP

Network Control Program

NEBS

Network Equipment Building Standards

NEMA

National Electrical Manufacturers Association

netoos

network out-of-service state

NetView

An optional feature package that transmits high-priority (major or critical) messages to the host as operator-generated alerts (OGAs) over the 3270 host link. The NetView Alarm feature package does not require a dedicated LU.

next generation Tip/Ring (AYC30) circuit card

An analog circuit card with six channels.

NFAS

non-facility associated signaling

NFS

network file sharing

NGTR

[next generation Tip/Ring \(AYC30\) circuit card](#)

NM-API

Network Management - Application Programming Interface

NMVT

network management vector transport

nonex

nonexistent state

nonindexed table

A table that can be searched only in a sequential manner and not via a field name.

nonmasked event

An event that must be sent to the application. Generally, an event is nonmaskable if the application is likely to encounter state transition errors by trying to ignore it.

NRZ

non return to zero

NRZI

non return to zero inverted

null value

An entry containing no value. A field containing a null value is normally displayed as blank and is different from a field containing a value of zero.

O**OEM**

original equipment manufacturer

OGA

[operator-generated alert](#)

online help

Messages or information that appear on the user's screen when a function key (F1 through F8) is pressed or a "Help" menu item or icon is clicked.

operator-generated alert

A system-monitoring message that is transmitted from the CONVERSANT system or other computer system to an IBM host computer and is classified as critical or major.

option

An argument used in a command line to modify program output by modifying the execution of a command. When you do not specify any options, the command executes according to its default options.

ORACLE

A company that produces relational database management software. It is also used as a generic term that identifies a database residing on a local or remote system that is created and maintained using an ORACLE RDBMS product.

P**P&C**

Prompt and Collect Voice@Work node or Script Builder action step

PBX

[private branch exchange](#)

PC

personal computer

PCB

printed circuit board

PCI

[peripheral component interconnect](#)

PCI Mezzanine Card

A PCI module, such as a LAN or RAID controller, that connects to the CPU Complex IOB companion card.

PCM

[pulse code modulation](#)

PEC

price element code

peripheral (device)

Equipment such as printers or terminals that is in addition to the basic processor.

peripheral component interconnect

A newer, higher speed PC bus that is gradually displacing ISA for many components.

permanent process

A process that starts and initializes itself before it is needed by a caller.

phoneme

A single basic sound of a particular spoken language. For example, the English language contains 40 phonemes that represent all basic sounds used with the language. The English word "one" can be represented with three phonemes, "w" - "uh" - "n." Phonemes vary between languages because of guttural and nasal inflections and syllable constructs.

phrase

A set of one or more words used within an application. Examples include "Thank you for calling XZY Business," "One," and "At the tone, press—."

phrase filtering (screening)

The rejection of unrecognized speech. The WholeWord, FlexWord, and Natural Language speech recognition packages can be programmed to reprompt the caller if the system does not recognize a spoken response.

phrase number

An identification number associated with a particular phrase in a speech pool.

phrase tag

A string of up to 50 characters that identifies the contents of a speech phrase used by an application script.

platform migration

See [platform upgrade](#).

platform upgrade

The process of replacing the existing platform with a new platform.

pluggable

A term usually used with speech technologies, in particular standard speech, to indicate that a basic algorithmic technique has been implemented to accept one or more sets of parameters that tailors the algorithm to perform in one or more languages.

PMC

[PCI Mezzanine Card](#)

poll

A message sent from a central controller to an individual station on a multipoint network inviting that station to send if it has any traffic.

polling

A network arrangement whereby a central computer asks each remote location whether it wants to send information. This arrangement enables each user or remote data terminal to transmit and receive information on shared facilities.

port

A connection or link between two devices that allows information to travel to a desired location. See [telephone network connection](#).

PRI

[Primary Rate Interface](#)

Primary Rate Interface

An ISDN term for connections over E1 or T1 facilities that are usually treated as trunks.

private branch exchange

A private switching system, either manual or automatic, usually serving an organization, such as a business or government agency, and usually located on the customer's premises.

processor

In system documentation, the computer on which UnixWare and the system software runs. In general, the part of the computer system that processes the data. Also known as the [central processing unit](#).

prompt

A message played to a caller that gives the caller a choice of selections in a menu and asks for a response. Compare to [announcement](#).

prompt and collect (P and C)

A message played to a caller that gives the caller a choice of selections in a menu and asks for a response. The response is collected and the script progresses based on the caller's response.

proxy server

A server external to the CONVERSANT system used in a client/server configuration to perform processor-intensive functions, such as Natural Language Speech Recognition or text-to-speech beyond the capabilities of the CONVERSANT system. See also [Natural Language Speech Recognition \(NLSR\)](#) and [Proxy Text-to-Speech \(PTTS\)](#).

Proxy Text-to-Speech (PTTS)

The capability to do text-to-speech processing using one or more auxiliary computers that are connected to the CONVERSANT in a client/server configuration. PTTS is an alternative to the standard Text-to-Speech feature for use in applications where the demand is very high or where a language is needed that is not supported on the SSP circuit card. See also [Text-to-Speech](#).

pseudo driver

A driver that does not control any hardware.

PSTN

public switch telephone network

pulse code modulation

A digital modulation method of encoding voice signals into digital signals. See also [adaptive differential pulse code modulation](#).

R**RAID**

redundant array of independent disks

RAID array

An assembly of disk drives configured to provide some level of RAID functionality.

RAM

random access memory

RDMBS

ORACLE relational database management system

RECOG

speech recognition feature message class

recognition type

The type of input the recognizer can understand. Available types include touchtone, dial pulse, and Advanced Speech Recognition (ASR), which includes WholeWord, FlexWord, and Natural Language speech recognition.

recognizer

The part of the system that compares caller input to a grammar to correctly match (identify) the caller input.

record

See [database record](#).

recovery

The process of using copies of the system software to reconstruct files that have been lost or damaged. See also [restore](#).

remote database

Information stored on a system other than your current system that can be accessed by the CONVERSANT system.

remote maintenance circuit card

A CONVERSANT system circuit card, available with a built-in modem, that allows remote personnel (for example, field support) to access all CONVERSANT system machines. This card is standard equipment on all new purchases.

REN

ringer equivalence number

reports administration

The component of the system that provides access to system reports, including call classification, call data detail, call data summary, message log, and traffic reports.

restore

The process of recovering lost or damaged files by retrieving them from available backup tapes or from another disk device. See also [recovery](#).

restore application

A utility that replaces a damaged application or restores an older version of an application.

reuse

The concept of using a component from a source system in a target system after a software upgrade or platform migration.

RFS

remote file sharing

RM

resource manager

RMB

[remote maintenance circuit card](#)

roll back

To cancel changes to a database since the point at which changes were last committed.

rollback segment

A portion of the database that records actions that should be undone under certain circumstances. Rollback segments are used to provide transaction rollback, read consistency, and recovery.

RTS

request to send

S**SBC**

(1) sub-band coding; (2) a single-board computing circuit card that is part of the CPU Complex

SCA

single connector architecture

screen pop

A method of delivering a screen of information to a telephone operator at the same time a telephone call is delivered. This is accomplished by a complex chain of tasks that include identifying the calling party number, using that information to access a local or remote ORACLE database, and pulling a “form” full of information from the database using an ORACLE database utility package.

script

The set of instructions for the CONVERSANT system to follow during a transaction.

Script Builder

An optional software package that provides a menu-oriented interface designed to assist in the development of custom voice response applications on the CONVERSANT system (see also [Voice@Work](#)).

SCSI

[small computer system interface](#)

SDLC

synchronous data link control

SDN

software defined network

shared database table

A database table that is used in more than one application.

shared speech

Speech that is a part of more than one application.

shared speech pools

A parameter that allows the user of a voice application to share speech components with other applications.

SID

station identification

signal processor circuit card (CWB1)

A speech processing circuit card that is an older, lower-capacity version of the speech and signal processor (SSP) circuit card (CWB1).

SIMMs

[single inline memory modules](#)

single inline memory modules

A method of containing random access memory (RAM) chips on narrow circuit card strips that attach directly to sockets on the CPU circuit card. Multiple SIMMs are sometimes installed on a single CPU circuit card.

single-threaded application

An application that runs on a single voice channel.

slave

A circuit card that depends on the TDM bus for clock information.

SLIP

serial line interface protocol

small computer system interface

A disk drive control technology in which a single SCSI adapter circuit card plugged into a PC slot is capable of controlling as many as seven different hard disks, optical disks, tape drives, and so on.

SNA

systems network architecture

SNMP

simple network management protocol

software

The set or sets of programs that instruct the computer hardware to perform a task or series of tasks, for example, UnixWare software and the system software.

software upgrade

The installation of a new version of software in which the existing platform and circuit cards are retained.

source system

The system from which you are upgrading (that is, your system as it exists *before* you upgrade).

speech and signal processor circuit card (CWB1)

A high-performance signal processing circuit card capable of simultaneous support for various speech technologies.

speech energy

The amount of energy in an audio signal. Literally translated, it is the output level of the sound in every phonetic utterance.

speech envelope

The linear representation of voltage on a line. It reflects the sound wave amplitude at different intervals of time. This envelope can be plotted on a graph to represent the oscillation of an audio signal between the positive and negative extremes.

speech file

A file containing an encoded speech phrase.

speech filesystem

A collection of several talkfiles. The filesystem is organized into 16-KB blocks for efficient management and retrieval of talkfiles.

speech modeling

The process of creating WholeWord speech recognition algorithms by collecting thousands of different speech samples of a single word and comparing them all to obtain a statistical average of the word. This average is then used by a WholeWord speech recognition program to recognize a single spoken word.

speech space

An area that contains all digitized speech used for playback in the applications loaded on the system.

speech phrase

A continuous speech segment encoded into a digital string.

speech recognition

The ability of the system to understand input from callers.

speech recognition engine

See [engine](#).

SPIP

signal processor interface process

SPPLIB

speech processing library

SQL

[structured query language](#)

SR

[speech recognition](#)

SSP

[speech and signal processor circuit card \(CWB1\)](#)

standard speech

The speech package available in several languages containing simple words and phrases produced by Lucent Technologies for use with the system. This package includes digits, numbers, days of the week, and months, each spoken with initial, medial, and falling inflection. The speech is in digitized files stored on the hard disk to be used in voice prompts and messages to the caller. This feature is also called enhanced basic speech.

standard vocabulary

A standard package of simple word speech models provided by Lucent Technologies and used for WholeWord speech recognition. These phrases include the digits “zero” through “nine,” “yes,” “no,” and “oh,” or the equivalent words in a specific language.

string

A contiguous sequence of characters treated as a unit. Strings are normally bounded by white spaces, tabs, or a character designated as a separator. A string value is a specified group of characters symbolized by a variable.

structured query language

A standard data programming language used with data storage and data query applications.

subword technology

A method of speech recognition used in FlexWord recognition that recognizes phonemes or parts of words. Compare to [WholeWord speech recognition](#).

switch

A software and hardware device that controls and directs voice and data traffic. A customer-based switch is known as a [private branch exchange](#).

switch hook

The device at the top of most telephones that is depressed when the handset is resting in the cradle (in other words, is *on hook*). The device is raised when the handset is picked up (in other words, when the telephone is *off hook*).

switch hook flash

A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch interface administration

The component of the system that enables you to define the interaction between the system and switches by allowing you to establish and modify switch interface parameters and protocol options.

switch network

Two or more interconnected telephone switching systems.

synchronous communication

A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. Compare to [asynchronous communication](#).

SYS

UNIX system calls message class

sysgen

system generation

System 75

An advanced digital switch supporting up to 800 lines that provides voice and data communications for its users.

System 85

An advanced digital switch supporting up to 3000 lines that provides voice and data communications for its users.

system administrator

The person assigned the responsibility of monitoring all system software processing, performing daily system operations and preventive maintenance, and troubleshooting errors as required.

system architecture

The manner in which the system software is structured.

system message

An event or alarm generated by either the system or an end-user process.

system monitor

A component of the system that tests to verify that each incoming telephone line and its associated circuit card is functional. Through the "System Monitor" component, you are able to see displays of the Voice Channel and Host Session Monitors.

T**T1**

A digital transmission link with a capacity of 1.544 Mbps.

table

See [database table](#).

tag image file format

A format for storing and exchanging digital image data associated with fax modem data transfers and other applications. These files can be identified by the .tif extension.

talkfile

An ASCII file that contains the speech phrase tags and phrase tag numbers for all the phrases of a specific application. The speech phrases are organized and stored in groups. Each talkfile can contain up to 65,535 phrases, and the speech filesystem can contain multiple talkfiles.

talkoff

The process of a caller interrupting a prompt, so the prompt message stops playing.

target system

The system to which you are upgrading (that is, your system as you expect it to exist *after* you upgrade).

TAS

[transaction assembler script](#)

TCC

Technology Control Center

TCP/IP

transmission control protocol/internet protocol

TDM

time division multiplexing

TE

[terminal emulator](#)

telephone network connection

The point at which a telephone network connection terminates on a system. Supported telephone connections are Tip/Ring, T1 and E1.

terminal emulator

Software that allows a PC or UNIX process to look like a specific type of terminal. In particular, it allows the system to temporarily transform itself into a “look alike” of an IBM 3270 terminal. In addition to providing full 3270 functionality, the terminal emulator enables you to transfer files to and from UNIX.

Text-to-Speech

An optional feature that allows an application to play US English speech directly from ASCII text by converting that text to synthesized speech. The text can be used for prompts or for text retrieved from a database or host, and can be spoken in an application with prerecorded speech.

ThickNet

A 10-mm (10BASE5) coaxial cable used to provide interLAN communications.

ThinNet

A 5-mm (10BASE2) coaxial cable used to provide interLAN communications.

TIFF

[tag image file format](#)

time-division multiplex

A method of serving a number of simultaneous channels over a common transmission path by assigning the transmission path sequentially to the channels, with each assignment being for a discrete time interval.

Tip/ring

Analog telecommunications using four-wire media.

token ring

A ring type of local area network that allows any station in the network to communicate with any other station.

trace

A command that can be used to monitor the execution of a script.

traffic

The flow of information or messages through a communications network for voice, data, or audio services.

transaction

The interactions (exchanges) between the caller and the voice response system. A transaction can involve one or more telephone network connections and voice responses from the system. It can also involve one or more of the system optional features, such as speech recognition.

transaction assembler script

The computer program code that controls the application operating on the voice response system. The code can be produced from Voice@Work, Script Builder, or by writing directly in TAS code.

transaction state machine process

A multi-channel IRAPI application that runs applications controlled by TAS script code.

transient process

A process that is created dynamically only when needed.

TRIP

Tip/ring interface process

troubleshooting

The process of locating and correcting errors in computer programs. This process is also referred to as debugging.

TSO

(1) Technical Services Organization; (2) time share operation

TSM

[transaction state machine process](#)

TTS

[Text-to-Speech](#)

TWIP

T1 interface process

U**UK**

United Kingdom

US

United States of America

UNIX operating system

A multiuser, multitasking computer operating system originally developed by Lucent Technologies.

UNIX shell

The command language that provides a user interface to the UNIX operating system.

upgrade scenario

The particular combination of current hardware, software, application and target hardware, software, applications, and so on.

usability

A measurement of how easy an application is for callers to use. The measurement is made by making observations and by asking questions. An application should have high usability to be successful.

USOC

universal service ordering code

UVL

unified voice library

V**VDC**

video display controller

vi editor

A screen editor used to create and change electronic files.

virtual channel

A channel that is not associated with an interface to the telephone network (T1, LSE1/LST1, or PRI). Virtual channels are intended to run “data-only” applications which do not interact with callers but may interact with DIPs. Voice or network functions (for example, coding or playing speech, call answer, origination, or transfer) will not work on a virtual channel. Virtual channel applications can be initiated only by a “virtual seizure” request to TSM from a DIP.

vocabulary

A collection of words that the system is able to recognize using either WholeWord, FlexWord, or Natural Language Speech Recognition.

vocabulary activation

The set of active vocabularies that define the words and wordlists known to the FlexWord recognizer.

vocabulary loading

The process of copying the vocabulary from the system where it was developed and adding it to the target system.

Voice@Work

An optional software package that provides a graphical interface to assist in the development of voice response applications on the system (see also [Script Builder](#)).

voice channel

A channel that is associated with an interface to the telephone network (T1, E1, LSE1/LST1, or PRI). Any system application can run on a voice channel. Voice channel applications can be initiated by being assigned to particular voice channels or dialed numbers to handle incoming calls or by a “soft seizure” request to TSM from a DIP or the **soft_sZR** command.

voice processing co-marketer

A company licensed to purchase voice processing equipment to sell based on their own marketing strategies.

voice response output process

A software process that transfers digitized speech between system hardware (for example, SSP circuit cards) and data storage devices (for example, hard disk, and so on).

voice response unit

A computer connected to a telephone network that can play messages to callers, recognize caller inputs, access and update a databases, and transfer and monitor calls.

voice system administration

The means by which you are able to administer both voice-related and nonvoice-related aspects of the system.

VPC

[voice processing co-marketer](#)

VROP

[voice response output process](#)

VRU

[voice response unit](#)

W**warning**

An admonishment or advisory statement used in the system documentation to alert the user to the possibility of equipment damage.

WholeWord speech recognition

An optional feature, available in several languages, based on whole-word technology that can recognize the numbers one through zero, “yes”, and “no” (the key words). This feature is reliable, regardless of the individual speaker. This feature can identify the key words when spoken in phrases with other words. A string of key words, called *connected digits*, can be recognized. During the prompt announcement, the caller can speak or use touchtones (or dial pulses, if available). See also [whole-word technology](#).

whole-word technology

The ability to recognize an entire word, rather than just the phoneme or a part of a word. Compare to [subword technology](#).

wink signal

An interruption of current to a busy lamp indicating that there is a line on hold.

word

A unique utterance understood by the recognizer.

wordlist

A set of words available for FlexWord recognition by an application during a Prompt & Collect action step.

word spotting

The ability to search through extraneous speech during a recognition.

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