CONVERSANT® System

Version 8.0

System Description

Copyright and Legal Notices

Copyright	Copyright 2001, Avaya Inc. All rights reserved. Printed in U.S.A.
Notice	Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.
Avaya Web Page	The world wide web home page for Avaya is: **http://www.avaya.com**
Preventing Toll Fraud	"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your telecommunications system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.
Avaya Fraud Intervention	If you suspect you are being victimized by toll fraud and you need technical support or assistance, call the appropriate BCS National Customer Care Center telephone number. Users of the MERLIN®, PARTNER®, and System 25 products should call 1 800 628-2888. Users of the System 75, System 85, DEFINITY® Generic 1, 2 and 3, and DEFINITY® ECS products should call 1 800 643-2353.
Providing Telecommunication Security	Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of your company's telecommunications equipment) by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

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).

Your Responsibility for Your Company's Telecommunication Security

The final responsibility for securing both this system and its networked equipment rests with you – an Avaya customer's system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- 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:

- Avaya-provided telecommunications systems and their interfaces

- Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces

- Any other equipment networked to your Avaya products

Avaya does not warrant that this product or any of its networked equipment is either immune from or will prevent either unauthorized or malicious intrusions. Avaya will not be responsible for any charges, losses, or damages that result from such intrusions.

Product Safety Standards

This product complies with and conforms to the following international Product Safety standards as applicable:

- Safety of Information Technology Equipment, IEC 60950, 3rd Edition, including all relevant national deviations as listed in Compliance with IEC for Electrical Equipment (IECEE) CB-96A.

- Safety of Information Technology Equipment, CAN/CSA-C22.2 No. 60950-00 / UL 60950, 3rd Edition

- Safety Requirements for Customer Equipment, ACA Technical Standard (TS) 001 - 1997

One or more of the following Mexican national standards, as.applicable: NOM 001 SCFI 1993, NOM SCFI 016 1993, NOM019 SCFI 1998.

Federal Communications Commission Statement

Part 15: Class A Statement.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

- Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997 and EN55022:1998.

- Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

  - ~ Electrostatic Discharge (ESD) IEC 61000-4-2
  - ~ Radiated Immunity IEC 61000-4-3
  - ~ Electrical Fast Transient IEC 61000-4-4
  - ~ Lightning Effects IEC 61000-4-5
  - ~ Conducted Immunity IEC 61000-4-6
  - ~ Mains Frequency Magnetic Field IEC 61000-4-8
  - ~ Voltage Dips and Variations IEC 61000-4-11
  - ~ Powerline Harmonics IEC 61000-3-2
  - ~ Voltage Fluctuations and Flicker IEC 61000-3-3

Part 68: Network Registration Number.

This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. It is identified by FCC registration numbers located on the faceplates of the CWB21 (formerly CWB2), CYD21 (formerly CYD2), and CWB20 (formerly CWB1)circuit cards.

Part 68: Answer-Supervision Signaling.

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

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Canadian Interference Information

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Union Declaration of Conformity

Avaya, Inc. declares that the equipment specified in this document bearing the "CE" (Conformité Europeénne) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC). This equipment has been certified to meet and CTR4 Primary Rate Interface (PRI) and subsets thereof in CTR12 and CTR13, as applicable.

Copies of the Declaration of Conformity (DoC) can be obtained by contacting your local sales representative and are available on the following Web site:

http://support.avaya.com/elmodocs2/DoC/IDoC/index.jhtml

Telecom New Zealand Ltd Warning Notices

GENERAL WARNING: The grant of a Telepermit for any item of terminal equipment indicates that only Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with other items of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

IMPORTANT NOTICE: Under power failure conditions, this device may not operate. Please ensure that a separate telephone, not dependent on local power, is available for emergency use.

AUTOMATIC RE-ATTEMPTS TO THE SAME NUMBER: Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom specifications:

- There shall be no more than 10 call attempts to the same number within any 30 minute period for any single manual call initiation, and,

- The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempts and the beginning of the next attempt.

AUTOMATIC CALLS TO DIFFERENT NUMBERS: Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. In order to operate within the limits for compliance with Telecom specifications, the associated equipment shall be set to ensure that automatic calls to different numbers are spaced such that there is not less than 5 seconds between the end of one call attempt and the beginning of the next attempt.

USER INSTRUCTIONS (AUTOMATIC CALL SETUP): This equipment shall not be set up to make automatic calls to the Telecom "111" emergency service.

CALL ANSWERING (AUTOMATIC ANSWERING EQUIPMENT): Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. In order to operate within the limits for compliance with Telecom specifications, the associated equipment shall be set to ensure that calls are answered between 3 and 30 seconds of receipt of ringing.

Japan

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

> この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準
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- UNIX System Laboratories, Inc. — Registered trademarks: UNIX

- Xerox Corporation — Trademarks: Ethernet.

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Call or Write

Avaya Publications Center

Voice	1 800 457-1235	International Voice	410-568-3680
FAX	1 800 457-1764	International FAX	410-891-0207

Write: Globalware Solutions
200 Ward Hill Avenue
Haverhill, MA 01835 USA
email: totalware@gwsmail.com

Obtaining Products

Use a web browser to order documents:
http://support.avaya.com/elmodocs2/conversant/index.jhtml

Warranty

Avaya provides a limited warranty on this product. Refer to the "Limited Use Software License Agreement" card provided with your package.

Comments

To comment on this document, return the comment card at the front of the document.

Acknowledgment

This document was prepared by Avaya in Westminster, CO.

Contents

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CONVERSANT System Version 8.0 System Description 585-313-219

About This Book

Overview

This book answers basic questions about the CONVERSANT System Version 8.0 and its usage. It provides an overview of the service the system provides, as well as a technical description of the current system hardware, software, features, and feature packages, including requirements, specifications, and performance information.

Appendix A, Documentation Guide is a V8.0 documentation guide. If you need more detailed system information, you are referred to other documents in the V8.0 system set.

Intended Audience

There are many audiences, both internal and external to Avaya that use this document. The target audience includes anyone associated with the marketing, sales, sales support, technical support, development, or purchase of a system who requires basic information about the functionality or content of the platform.

The primary audiences for this document include sales and sales-support organizations, administrators, product design organizations, and account executives. These primary audiences are most interested in answering questions about the product and its features, such as "What is it?" and "How does it work?"

Secondary audiences for the document include the Technical Service Center (TSC), training, and development. These secondary audiences are most interested in answering questions such as "How would the system best be supported?" and "How would the system best be serviced?"

How To Use This Book

This book is designed to provide you with a detailed description of all aspects of the CONVERSANT system.

For an Overview   Chapter 1, Introduction contains an overview of the V8.0 system, including its functionality, hardware platforms, software, features, and optional feature packages.

For Information on Hardware   Chapter 2, Hardware describes the major hardware components of the system, including standard hardware by platform, optional circuit cards, voice processing circuit cards, asynchronous and synchronous communication circuit cards, and peripheral equipment.

For Information on Software   Chapter 3, Software describes the UnixWare operating system software and the V7.0 base system software and optional software packages.

For Information on Features and Feature Packages	Chapter 4, Features and Chapter 5, Feature Packages describe the base functionality of the system and the optional feature packages available with the system.
For Information on Other CONVERSANT Documentation	Appendix A, Documentation Guide lists and describes each document in the V8.0 CONVERSANT library.
To Locate Specific Topics	Glossary defines the terms, abbreviations, and acronyms used in system documentation. alphabetically lists the principal subjects covered in the book.

Conventions Used in This Book

Understanding the typography and other conventions used is 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) 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 through Figure 5 on page xv).

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 a CONVERSANT Menu


```
        Voice System Administration
Application Package Administration
ASG Security Administration
Backup/Restore
Configuration Management
Feature Packages
SR Server Administration
Reports
Script Builder Applications
Switch Interfaces
System Monitor
UNIX Management
Exit
```
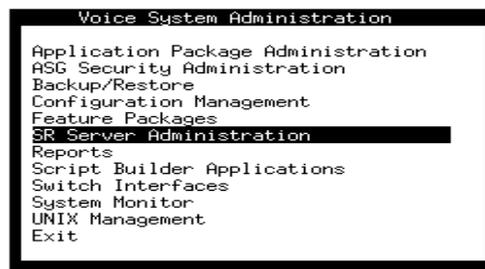
Figure 2.　Example of a CONVERSANT Window Showing Information

```
 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 a CONVERSANT Window Requesting Information

```
      Wait Time
   Seconds: ■
```

Figure 4.　Example of a 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 lease 4200 MBs and labeled
"ACTIVE."

Press 'ENTER' to continue
```

Figure 5.　Example of a CONVERSANT 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:

  ```
  > Reports
  ```

  ```
      > Message Log Report
  ```

  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]**

Safety and Security Alert Labels

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

Training   To obtain training on the CONVERSANT product, contact Avaya at one of the following numbers:

- Organizations within Avaya (904) 636-3261

- Avaya customers and all others (800) 255-8988

You can also view information on CONVERSANT training at the Avaya University web site at the following web link:

http://www.learning2.avaya.com

Click on *TRAINING SEARCH*, *Search Catalog by Keyword*, and search for CONVERSANT.

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

- For technicians doing repairs on CONVERSANT systems

  ~ BTE501W, CONVERSANT Administration for Technicians
  ~ BTE502H, CONVERSANT Installation and Maintenance Voice

- For technicians and administrators

  ~ BTC344M, CONVERSANT 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

This document is designed to supplement all other documents in the V8.0 system set.

Appendix A, Documentation Guide, describes in detail all books included in the CONVERSANT documentation library.

Note: Always refer to the appropriate document for specific information on planning, installing, operating, administering, or maintaining the system.

Additional Suggested Documentation

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

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

It is recommended that you access the following sites for additional information.

- UnixWare 7.1 documentation: http://www.sco.com/documentation/

- Update to CONVERSANT documentation: http://support.avaya.com/elmodocs2/conversant/index.jhtml

Obtaining Printed Versions of the Documentation

See Ordering Information on page viii 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 xx).

Using the CD-ROM Documentation

Avaya 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 select **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 purchasing printed copies of the documents, see Obtaining Printed Versions of the Documentation on page xix.

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-inch 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 an Avaya where you can enter your comments electronically.

1 **Introduction**

Overview

This chapter provides a high-level overview of the CONVERSANT system. Its purpose is to:

- Familiarize you with basic types of voice response transactions

- Summarize how the system can automate caller transactions

- Describe how the terms *hardware, software*, *features*, and *feature packages* are used in relation to the CONVERSANT system

Topics covered include:

- Voice Response Basics on page 1

- A Sample Transaction on page 2

- System Hardware on page 4

- System Software on page 5

- System Features on page 5

- Feature Packages on page 5

Voice Response Basics

This section explains what a system does and demonstrates how an automated transaction can replace a nonautomated transaction.

What the CONVERSANT System Does

The CONVERSANT system is an interactive voice response system for automatic telephone transactions. Using synthesized or prerecorded speech, the system can:

- Respond to (answer) an incoming call

- Request specific information from the caller

- Provide information or services to the caller based on data from the caller

The system allows either full or partial automation of telephone transactions that would otherwise be performed by an operator or attendant. These automated transactions are known as *applications*. Each application is designed and developed to meet a specific customer's need. An application *script* is a set of instructions written for the system that informs it how to carry out the automated transaction. Scripts define the flows of calls and determine what callers hear and how callers respond to the system.

When an incoming call is connected to the system, the system prompts the caller with synthesized or prerecorded speech. The caller responds by entering touchtones or by speaking into the telephone. The dialog between the system and the caller is determined by the particular application and its corresponding script.

The application script can be simple or complex, depending on the purpose of the call. For example, a simple script may accept a caller's request for information, perform a quick search of a local database, and then respond to the caller with that information. A more complex script can accept a caller's request for information, prompt the caller to provide additional touch-tone or spoken format information, and access a remote host computer database to retrieve information related to the caller. The script then forwards the call to an operator/attendant who uses the information previously acquired to respond and interact with the caller.

A Sample Transaction

This section describes a simple, nonautomated transaction between an operator and caller and then describes how the system can automate that same transaction.

Nonautomated Transaction

A bank has several operators whose duties include providing callers with certain information, such as account balances and current interest rates for different types of accounts. The operators also answer a variety of questions. Some of the information, such as interest rates, is located on a sheet of paper in front of the operator. Other information, such as account balances, must be obtained from the bank's computer.

When necessary, these operators can also transfer callers to specialized customer service representatives for further information.

Table 1 represents a typical conversation, or transaction, between a caller and an operator at a bank.

Table 1.   Sample Nonautomated Transaction

Operator:	"Thank you for calling River Bank. How may I help you?"
Caller:	"What is the current interest rate on your automobile loans?"
Operator:	(Refers to a chart of interest rates.) "The interest rate for our auto loans is 7.9%. May I help you with anything else?"
Caller:	"Yes. I'd like to check my savings account balance."
Operator:	"What is your account number?"
Caller:	"My account number is 0653202782."
Operator:	"To verify that this is your account, what are the last four digits of your social security number?"
Caller:	"9087"
Operator:	"One moment, please." (Accesses account balance using a computer terminal.) "Your savings account balance is $2,010.27. May I help you with anything else?"
Caller:	"Yes. I'd like to speak to someone about an auto loan."
Operator:	"I'll transfer you to one of our loan office representatives. One moment, please." (Transfers caller to loan officer, who must then access the computer to gain the customer's credit history.)

Types of Interactions Between Caller and Operator

You can better understand how calls are automated if you break down the nonautomated call transactions into its more basic steps.

In the nonautomated sample call (Table 1 on page 2), you can see the following types of interactions between the caller and the operator:

1 The operator greets the caller.

2 The operator prompts the caller and receives a request for information. In the sample call, this includes interest rate and account balance information.

3 The operator takes the following actions at the caller's request:

   ~ If necessary, the operator prompts the caller for further information (type of rate, type of account, ID number, and so forth).

   ~ The operator looks up the information.

   ~ The operator reports the information.

4 The operator repeats Step 2 and Step 3.

5 The caller requests information that can only be provided by someone other than the operator.

6 The operator transfers the caller.

Virtually all transactions consist of the basic steps listed above. The caller's "request for information" shown in Step 2 above may be as simple as the need to hear a checking account balance or the latest stock market value. More complex requests might include placing a sales order or requesting information on a particular product via a fax.

In the sample banking transaction, when the caller asks for an interest rate, the operator simply looks at a chart and reads the information to the caller. However, when the caller wants to know account balance information, the operator must ask for additional information (the caller's account number and social security number), and then use a computer terminal to enter the caller information and read the balance displayed on the screen.

Finally, when the caller requests information on automobile loans, the operator must transfer the call to a loan officer who has the means to further investigate and service the inquiry.

Automated Transaction Using the System

Think in terms of the application script replacing the operator when you automate a transaction using the system. The transaction steps remain the same, but the caller interacts with the system instead of an operator. The system follows the same basic steps as the nonautomated transaction. It uses the application script for instructions about the setting, what to say during a transaction, and possible options the caller may wish to investigate.

Types of Interactions Between Caller and System

In an automated call, you can see the following types of interactions between the caller and the system:

1 The system greets the caller.

2 The system prompts the caller and receives a request for information. In the sample call, this includes interest rate and account balance information.

3 The system takes the following action on the caller request:

   ~ If necessary, the system prompts the caller for further information (type of rate, type of account, ID number, and so forth). In this sample call, the caller is asked to enter the last four digits of his or her social security number.

   ~ The system looks up the information from the bank database.

   ~ The system reports the information to the caller.

4 The system repeats Step 2 and Step 3.

5 The caller requests information that can only be provided by a nonautomated operation.

6 The system transfers the caller to a loan office representative.

System Hardware

System software operates on one of two hardware systems:

• UCS 1000

• MAP/40P

At the most basic level, these are servers that consist of controlling hardware, a UnixWare operating system, and middleware. They handle call processing and media services, as well as standard operations, administration, and maintenance. The server is designed to support the speech processing hardware and software that is used to develop an automated voice response system.

The UCS 1000 is a deskside or rack mountable platform that accommodates customers with moderate to large amounts of system activity. The MAP/40P is a PC-sized unit in a deskside tower configuration that accommodates customers with small or moderate amounts of system activity.

Certain applications require multiple systems to provide transaction automation for cases when the maximum number of simultaneous calls is exceeded for a single platform. Multiple platforms then may be necessary to support increased capacity requirements.

For more detailed information, see Chapter 2, Hardware.

System Software

At its most basic level, the system is a computer consisting of controlling and speech processing hardware, a UnixWare operating system, and system application software.

Prerecorded speech files are usually present on the system disks. These speech files are used to construct prompting phrases that the system uses to instruct the caller during the automated transaction. The amount of custom application software and speech present on a particular system is based on your specific needs.

For more information on standard UnixWare operating system software, base software, and optional software, see Chapter 3, Software.

System Features

A *feature* can be either software and/or hardware in nature. It is standard with each system purchase. Some features require nothing additional to be completely functional. However, some features may require the addition of a *feature package* to be more complete or more advanced.

For more detailed information on supported features, see Chapter 4, Features.

Feature Packages

A feature package can be hardware and/or software in nature and provides specific functions that enhance the operation or capacities of the base system. Feature packages are not standard with each system purchase. If you require capabilities beyond what the base system provides, you can purchase one or more feature packages to meet these needs. These optional packages provide enhancements such as data network interfaces or additional basic hardware resources.

For more detailed information on each supported feature package, see Chapter 5, Feature Packages.

Application Solutions

CONVERSANT offers a number of package application solutions developed internally and in cooperations with independent software vendors (ISVs). These application solutions provide "off-the-shelf" solutions that can be customized to your environment. For additional information, see Chapter 5, Feature Packages or contact your ISV.

2 Hardware

Overview

This chapter describes the platform capacities and supported and orderable devices for the following:

- Standard System Hardware — All hardware required for the basic platform to function

- Optional Circuit Cards — Supplemental hardware that generally is not required for the basic platform to run but might be required by your applications. Optional hardware includes the telephony interface and speech processing circuit cards.

See *CONVERSANT System Version 8.0 UCS 1000 Maintenance*, 585-313-150, and *CONVERSANT System Version 8.0 MAP/40P Maintenance*, 585-313-156, for detailed hardware information.

Standard System Hardware

This section describes the standard hardware on the UCS 1000 and the MAP/40P.

Standard System Hardware on the UCS 1000

The UCS 1000 is a CompactPCI chassis that can be mounted in a 19-inch commercial rack or available as a free-standing deskside unit, equipped with four casters that allow you to roll the chassis around, as required. Figure 6 on page 8 shows the front view of the system and Figure 7 on page 8 shows the back view.

Figure 6.   Front View of the UCS 1000

1. Hard disk drive media bay
2. CD-ROM drive media bay
3. Cartridge tape drive media bay
4. Circuit card area
5. CPU complex
   (includes diskette drive)
6. Upper fan tray
7. Lower fan tray with filter panel

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Figure 7.   Back View of the UCS 1000

1. External SCSI terminator
2. 8-port asynchronous connection rear I/O transition card
3. IOB companion rear I/O transition card
4. SBC rear I/O transition card
5. T1/E1 (CYD21, formerly CYD2) rear I/O transition card
6. Power connection block

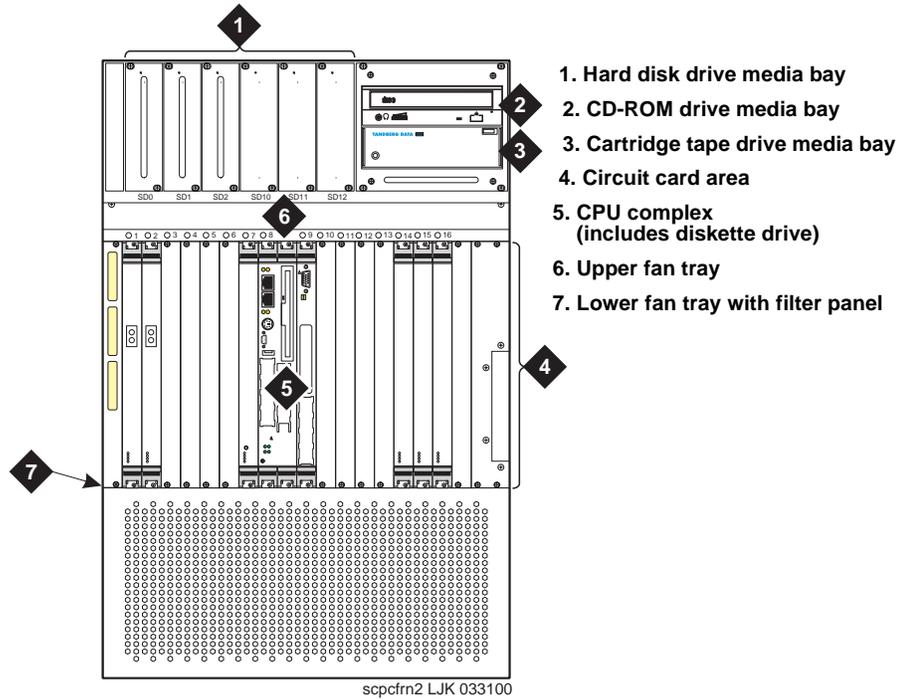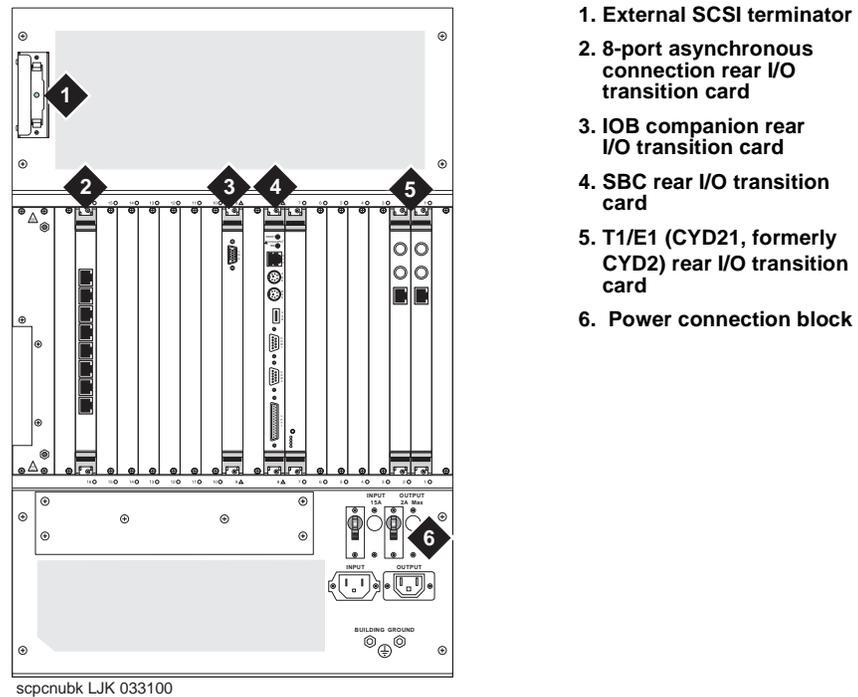scpcnubk LJK 033100

Standard hardware is the hardware that is required for the basic server to operate. It includes the following components, each of which is described in detail in the sections that follow.

- Compact PCI Backplane — Provides 16 slots for circuit cards

- Midplane — Provides for easy transfer between rear input/output (I/O) circuit cards and the central processing unit (CPU) complex and SCA-SCSI backplane, and eliminates need for cables to rear I/O circuit cards

- Media Bay — Six 3.5-inch single connector architecture (SCA) hard-disk drive positions and two 5.25-inch half-height drive positions

- Standard Circuit Cards —CPU complex, remote maintenance circuit card, and associated rear I/O cards.

- Standard Buses — CompactPCI, computer telephony (CT), and SCSI buses

- Standard Peripheral Devices — SCA hard disks (one to six), cartridge tape drive, CD-ROM drive, diskette drive, external SCSI connector

- Cooling Fan Trays — Two trays with a total of eight cooling fans

- Power Supplies — Dual redundant AC input

Compact PCI Backplane

Backplane Slots

The CompactPCI backplane provides circuit-card mounting positions called *slots*. The backplane has 16 CompactPCI slots of 6U[1] height (10.5 inches). Of the 16 CompactPCI slots, slots 8 and 9 are occupied by the CPU board set (see CPU Complex (page 10)). Slot 7 is occupied by the remote maintenance circuit card. The 13 remaining CompactPCI slots are available for telephony-interface cards, speech-processing cards, and an 8-port asynchronous card.

Rear I/O Slots

The rear panel of the CompactPCI backplane contains slots for rear input/output (I/O) transition cards. The slots on the rear of the backplane correspond in number to the slots on the front of the backplane. Circuit cards with rear I/O have an associated rear I/O transition card that plugs into the rear of the backplane. Some circuit cards, such as the E1/T1 telephony cards, have rear I/O. Also, the SSP circuit card does not have a rear I/O requirement and, therefore, has not associated rear I/O transition card.

Buses

The CompactPCI backplane contains the CompactPCI bus segments and the CT bus. See Standard Buses (page 12) for details on these buses and the standard SCSI bus.

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1 A "U" refers to the unit represented by the smallest repeating pattern on a standard front panel mounting rail on a commercial frame. A single U = 1.75 inches, so 6U = 10.5 inches. The actual height of a 6U CompactPCI panel is 10.3 inches to allow for clearance at the top and bottom of the panel.

Midplane   The midplane provides plug-in connections between the rear I/O circuit cards for the CPU complex and the CompactPCI backplane. The rear I/O circuit cards can then communicate with the CPU complex and SCA-SCSI backplane without requiring cables to the rear I/O circuit cards. Without CPU complex-related cabling, rear I/O circuit cards are easier to install or replace.

Media Bay   The media bay is located at the top of the server and contains eight positions:

- Six 3.5-inch single SCA-SCSI hard disk positions — Devices plug into a SCA-SCSI backplane

- Two 5.25-inch half-height drive positions — Devices use discrete SCSI and power cabling

See Standard Peripheral Devices (page 13) for descriptions of the different SCSI-format devices.

Standard Circuit Cards   Standard circuit cards are required for the basic platform to function. The server provides a CPU (a two-card set) and a remote maintenance circuit card, both of which are described below. In the system, all circuit cards are of 6U height (10.5 inches) and are mounted vertically in the card cage area with faceplates on the front. I/O circuit cards can have front I/O but most often use rear I/O transition cards.

To achieve speech processing functionality, your system will need additional circuit cards, such as telephony interface cards and speech processing cards. These cards are described in Optional Circuit Cards (page 18).

CPU Complex

The processor for the system is one unit (the *CPU complex*) consisting of the two connected 6U cards listed below. The CPU complex occupies slots 8 and 9 in the CompactPCI backplane and is inserted or removed as one card.

- Single Board Computing (SBC) circuit card — slot 8, double width

  ~ Processor operating at 500 MHz

  ~ 512 MB of RAM

  ~ 512 KB of level 2 cache

- I/O Companion card (IOB) — slot 9, single width

Figure 8 on page 11 shows the faceplate of the CPU complex.

Figure 8. Faceplate of the CPU Complex

1. LAN activity indicator LED
2. Ethernet 1 connection
3. Ethernet 2 connection
4. LAN activity indicator LED
5. Keyboard/mouse connection
6. COM1 connection
7. USB connection
8. Hard disk drive indicators
9. Reset key
10. Diskette drive
11. VGA monitor connection
12. SCSI indicator LED
13. Optional RAID PMC module
14. PMC1 connection
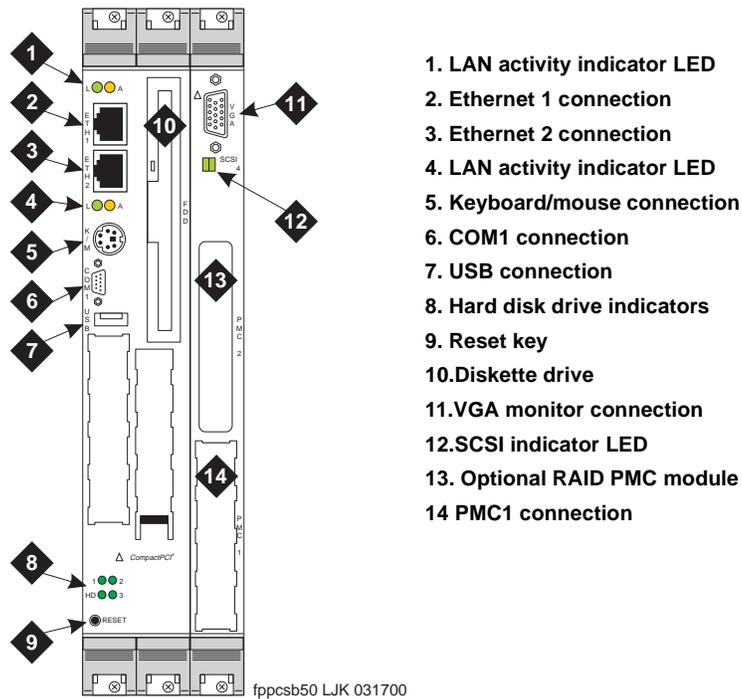
Table 2 describes the main components that reside on the two cards of the CPU complex. All components of the CPU complex have front access. Components that also have rear I/O are indicated.

Table 2. CPU Complex Components

SBC Circuit Card	I/O Companion Card
Diskette drive	SVGA video controller module
Dual 10/100-Mbit Ethernet LAN controllers. One is integrated on the SBC card (rear I/O) and the second on front I/O. See Ethernet LAN Controllers (page 12) for details.	RAID controller PMC (optional)
Keyboard/mouse connector (front I/O – shared connectors; rear I/O – separate connectors).	
USB connector (front or rear I/O).	
LPT1 printer (LPT) port (rear I/O).	
	1 of 2

Table 2.   CPU Complex Components

SBC Circuit Card	I/O Companion Card
COM1 serial port (front or rear I/O); not available for use because it is connected to the remote maintenance circuit card. See Remote Maintenance Circuit Card (page 12) for details.	
COM2 serial port.	

2 of 2

Ethernet LAN Controllers

An Ethernet LAN connection allows for communication with other systems. The system provides dual, integrated Ethernet LAN controllers on the SBC circuit card of the CPU complex (front and rear I/O). These dual, integrated Ethernet LAN controllers have the following characteristics:

•   Integrated on the SBC card of the CPU complex

•   Ethernet 1 rear I/O

•   Ethernet 2 front I/O

•   Autosensing 10/100-Mbps BASE-T

•   RJ-45 twisted pair connector

The Ethernet LAN controllers can be programmed with software and provides the physical interface for the TCP/IP software that is part of the UnixWare operating system. For more information on TCP/IP, see Data Network Interfaces (page 54) in Chapter 4, Features.

Remote Maintenance Circuit Card

The remote maintenance circuit card provides a method of remote monitoring and access for off-site technicians. This circuit card has a built-in modem for all systems in the United States.

Standard Buses

The server has two CompactPCI bus segments, one CT bus, and one SCSI bus.

CompactPCI Bus Segments

The CompactPCI bus segments serve as the interface for the CompactPCI circuit cards. The system has two separate 8-slot, 64-bit CompactPCI bus segments. One segment consists of system slot 8 and the seven peripheral slots to its left. The other segment consists of system slot 9 and the seven peripheral slots to its right. This bus is contained in the backplane.

CT Bus

The CT Bus is a type of TDM bus that is used by the cards involved in speech processing (SSP and E1/T1) when they send digitized speech to other cards in the system. The CT Bus ranges from slots 1 through 16 and is contained in the backplane.

This bus complies with the ECTF (Enterprise Computer Telephony Forum) H.110 standard, the hardware specification for implementing a CT bus for CompactPCI.

SCSI Bus

The SCSI bus is the interface from the RAID controller (if equipped) to the SCSI devices, such as a hard disk drive or tape drive. The system uses an Ultra Wide SCSI bus that runs at the rate of 20 MB per second, for those devices that support it. The six hard disk drives use SCA connectivity and plug into the SCA-SCSI backplane. The cartridge tape and CD-ROM drives connect to a SCSI bus ribbon cable.

Standard Peripheral Devices

The system comes with the following peripheral devices. Each is described in the sections that follow. For descriptions of peripheral devices that are not required for the platform to run (such as a monitor and keyboard), see Peripheral Equipment for the UCS 1000 and MAP/40P (page 24).

- Hard Disk Drives

- Cartridge Tape Drive

- CD-ROM Drive

- Diskette Drive (located on the CPU complex)

The system has an external SCSI connector for external SCSI devices. For guidelines and restrictions on using the external connector, see Cooling Fan Trays (page 14).

Hard Disk Drives

The hard disk drive provides storage and random access to large amounts of data for the system, including the operating system, application software, speech data, and database tables. The standard system comes with a minimum of one 18-GB SCA-SCSI 3.5-inch hard disk drive and can support up to six SCA-SCSI 3.5-inch hard disk drives. Note that the optional hardware RAID feature requires a minimum of three and maximum of six hard disk drives.

All hard-disk drives connect to the SCSI bus and input-power by plugging into the SCA-SCSI backplane instead of using cables. This makes them easy to install or replace. The hard-disk drives are located in the media bay at the top of the system.

Cartridge Tape Drive

A cartridge tape drive is used to back up and restore files using a tape cartridge, thereby eliminating the need to restore and back up files using diskettes. The cartridge tape drive automatically performs hardware data compression. This typically allows 8-GB of data to be stored on a 4-GB cartridge.

The system has one 5.25-inch, 4-GB SCSI cartridge tape drive. This unit is a half-height peripheral located at the top of the server. It uses cables to connect to the SCSI bus and input power.

CD-ROM Drive

The read-only CD-ROM drive is used to load system software. The system has one 5.25-inch, SCSI CD-ROM drive. The drive speed is 40x. This unit is a half-height peripheral located at the top of the system. It uses cables to connect to the SCSI bus and input power.

Diskette Drive

The diskette drive is used to load and back up system software. The system has a single 3.5-inch diskette drive. This unit is located on the SBC card of the CPU complex (slot 8) and uses standard 3.5-inch, 1.44-MB, high-density diskettes.

Cooling Fan Trays

Standard hardware includes two redundant, hot-swappable cooling fan trays. One tray is located above the card cage and has five fans. The second tray is located below the card cage and has three fans.

Power Supplies

Standard hardware includes dual redundant, hot-swappable power supplies that produce 500 Watts of output power. The AC power supply input voltage range is 90 VAC to 264 VAC, 47 Hz to 63 Hz, autosensing. Each power supply has its own cooling fan.

Adding SCSI Devices

An external SCSI connector provides access to the SCSI bus for an external SCSI device. The external SCSI connector is a standard 68-pin Ultra Wide SCSI connector and is located on the back of the chasis.

Note: If the SCSI connector is not being used, an active termination must be plugged in to terminate the SCSI bus. A SCSI terminator is provided.

The system supports a maximum of 16 internal/external devices on the SCSI bus. The RAID controller, CD-ROM drive, and tape drive use three of the positions, and the hard-disk drives use from three to six of the positions. Therefore, from 9 to 12 positions will be open for SCSI devices supported by UnixWare depending on the number of hard-disk drives installed. Be aware, however, of the following restrictions involved in connecting an external SCSI device:

- External cables must be Wide, and Ultra Wide SCSI restricts cable length to one meter.

- If you use the external SCSI connector, Mylex RAID controller transfer speed settings must be changed to a value slower than 20 MB per second. A suggested speed is 10 MB per second.

- The last device on the SCSI bus must be terminated with a Wide terminator.

Standard System Hardware on the MAP/40P

The MAP/40P platform is a desk-side (tower), PC-sized unit designed for use in a typical office setting. Figure 9 shows the front view of the system and Figure 10 shows the back view.

Figure 9.   Front View of the MAP/40P

1. Cartridge tape drive
2. Diskette drive
3. CD-ROM drive
4. Power indicator
5. Disk activity indicator
6. Reset switch
7. Power switch

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Figure 10.   Back View of the MAP/40P

1. AC power inlet receptacle
2. AC power supply outlet
3. External SCSI I/O connector
4. Parallel port
5. COM2
6. Keyboard connector
7. Power supply fan exhaust
8. Video connector
9. COM1

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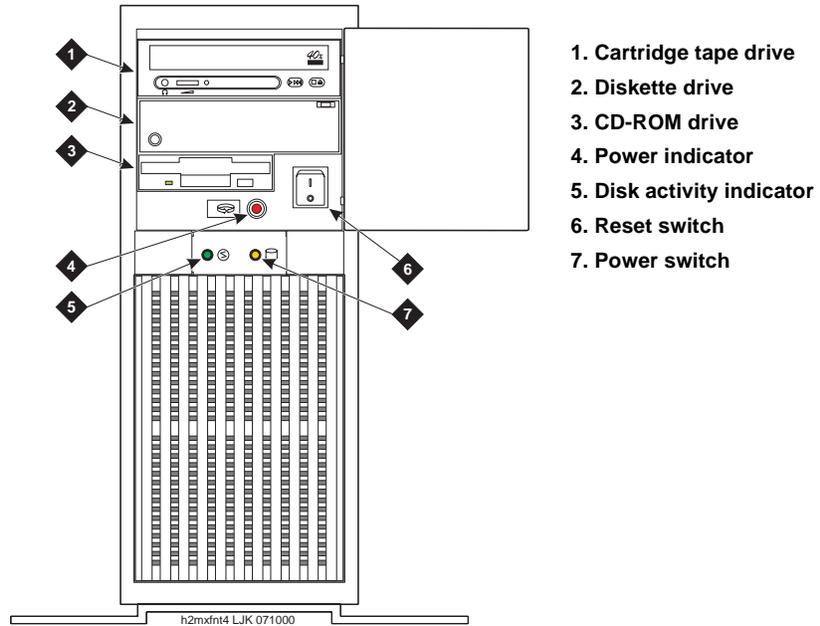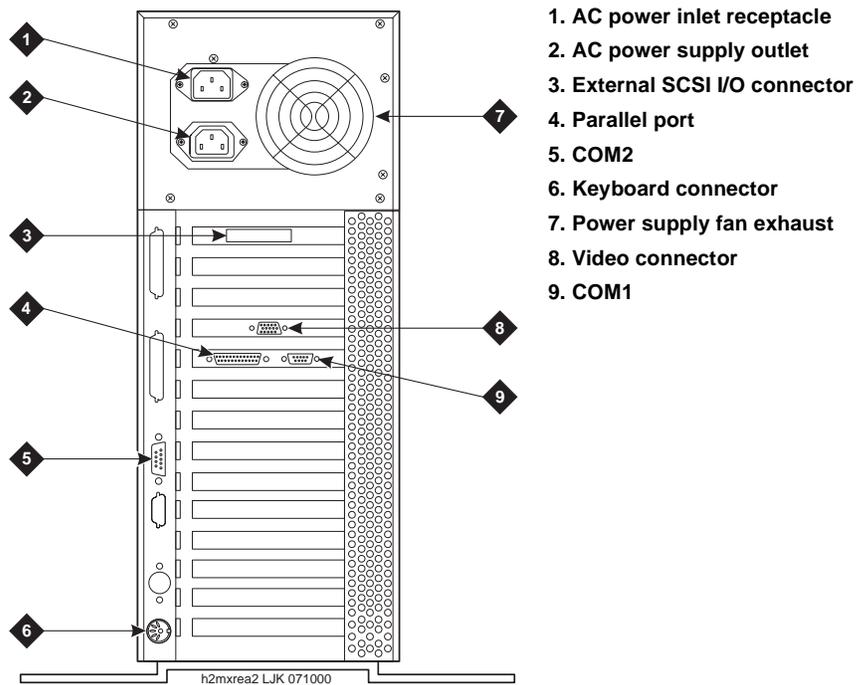
Standard hardware is the hardware that is required for the basic server to operate. It includes the following components, each of which is described in detail in the sections that follow:

- Backplane (page 16)

- Standard Circuit Cards (page 16)

- Standard Bus Cables (page 17)

- Peripheral Devices (page 17)

- Power Supply (page 18)

Backplane

Each platform contains a backplane that provides circuit card mounting positions called *slots*. The MAP/40P has a PCI/ISA backplane that resides inside the left side of the chassis. This backplane is installed in all new V8.0 systems and has a total of 13 slots, consisting of 1 dedicated CPU slot, 9 ISA slots, and 3 PCI slots.

Of the nine ISA slots, one slot is used by the remote maintenance circuit card. The remaining eight slots are available for voice response and voice processing cards as well as cards to support local area networks, host, and so on. The external SCSI connector resides in the rear I/O position 14.

Of the three PCI slots, one slot is dedicated to the video circuit card. The remaining two are available for PCI LAN or other PCI cards.

Standard Circuit Cards

Standard circuit cards provide the standard central processing, video, and peripheral functions, and certain basic communication functions of the system.

In the MAP/40P, all circuit cards are mounted horizontally with the PCI cards to the top and I/O interface cables exiting from the back of the platform. Access to the backplane is provided by removing an exterior dress cover.

For more information about software associated with the standard circuit cards, see Chapter 4, Features and Chapter 5, Feature Packages.

The following standard circuit cards in the MAP/40P are discussed:

- Central Processing Unit Circuit Card (page 16)

- External SCSI Connector (page 16)

- Video Controller Circuit Card (page 17)

- Remote Maintenance Circuit Card (page 17)

Central Processing Unit Circuit Card

The central processing unit (CPU) circuit cards for the MAP/40P for V8.0 is a P5 processor operating at 200 MHz with a minimum of 64 MB of RAM and a maximum of 128 MB of RAM. The CPU includes an on-board SCSI, floppy, and IDE controllers.

External SCSI Connector

The external SCSI connector provides an external SCSI connection. When the SCSI connector is not used for access purposes, an active termination must be plugged on for terminating the SCSI bus. A PS/2 mouse connector is provided but not supported. The CONVERSANT V8.0 system supports a serial mouse only.

Video Controller Circuit Card

The video controller circuit card provides the interface between the system processor and the video monitor. For the MAP/40P, this circuit card is a PCI bus circuit card.

Remote Maintenance Circuit Card

The remote maintenance circuit card provides a method of remote monitoring and access for offsite technicians. This circuit card has a built-in v.34 Hayes compatible 33.6 kbps modem for all systems in the United States.

Standard Bus Cables

The following two types of standard bus cables for the MAP/40P system are discussed:

- SCSI Bus Cable (page 17)

- TDM Bus Cable (page 17)

SCSI Bus Cable

The SCSI bus cable serves as the interface from the SCSI controller to SCSI devices such as a hard disk drive or tape drive.

TDM Bus Cable

The TDM bus cable is used by the voice processing cards (tip/ring, T1/ E1, and SSP) when they send digitized speech to other cards in the system. For example, it is used to connect SSP resources to telephone network connections for speech playback, voice coding, speech recognition, or for bridging one telephone connection to another. A TDM bus cable is supplied with each V8.0 system.

Peripheral Devices

The MAP/40P includes a CD-ROM drive and supports storage devices including hard disk, diskette, and cartridge tape drives. The MAP/40P is supplied with data storage/transfer devices in the Small Computer System Interface (SCSI) format.

For more information on the capabilities and use of SCSI peripherals, see Adding SCSI Devices (page 14) and Chapter 4, Features.

The following peripheral devices supported by the MAP/40P platform are discussed:

- Hard Disk Drive (page 17)

- Diskette Drive (page 18)

- Cartridge Tape Drive (page 18)

- CD-ROM Drive (page 13)

Hard Disk Drive

A hard disk drive is a peripheral device used to provide storage of and random access to large amounts of data within the system. This data can include the operating system, application software, speech data, and database tables.

All new MAP/40P platforms are equipped with at least one 9-GB SCSI hard disk drive. The MAP/40P can support up to two SCSI hard disk drives. These disks are mounted in the peripheral bay behind the front-mounted air filter and in front of the cooling fans.

Diskette Drive

The diskette drive is a peripheral device used to load and back up system software. All new MAP/40Ps include a single diskette drive. This unit uses standard 3.5-inch, 1.44-MB, high-density diskettes. It is located in the front behind the swinging door.

Cartridge Tape Drive

The cartridge tape drive is a peripheral device used to back up and restore files using a tape cartridge, thereby eliminating the need to install and back up files using diskettes. A single cartridge tape can store up to 4-GB of information. The MAP/40P includes a single 4-GB, SCSI-format cartridge tape drive.

CD-ROM Drive

The read-only CD-ROM drive is used to load system software. The system has one 5.25-inch, SCSI CD-ROM drive. The drive speed is 40x. This unit is a half-height peripheral located at the top of the system. It uses cables to connect to the SCSI bus and input power.

Power Supply   The MAP/40P operates from an autoswitching 110/220 VAC power supply.

Adding SCSI Devices   The MAP/40P platform has three SCSI bays. One is occupied by a tape drive and another is occupied by a hard disk drive for the standard configuration. The remaining location can be used for any SCSI device supported by UnixWare with the restriction that the device must not have power dissipation in excess of 14 Watts.

Optional Circuit Cards

The circuit cards that provide network connections and speech-processing capabilities are optional hardware. Optional circuit cards are used to provide interfaces for such features as the public switched telephone network (PSTN), LAN/WAN communications, and speech processing capabilities. For more information on software associated with the following circuit cards, see Chapter 4, Features and Chapter 5, Feature Packages.

Optional Circuit Cards on the UCS 1000   This section describes the following circuit cards for the UCS 1000:

- Telephony Interface Circuit Cards — E1/T1 (CWB21, formerly CWB2) with rear I/O transition card (CYD21, formerly CYD2)

- Speech Processing Circuit Cards — SSP (CWB20, formerly CWB1)

- Asynchronous 8-Port Circuit Card with rear I/O transition card

- RAID Controller

Telephony Interface Circuit Cards

Digital circuit cards provide the telephony interface to the system. All telephony interface circuit cards connect to the CT bus. The server uses the E1/T1 (CWB21, formerly CWB2) circuit card, each of which has a corresponding rear I/O transition card (CYD21, formerly CYD2). CWB21 plugs into the front of the CompactPCI backplane, and CYD21 plugs into the corresponding slot of the rear of the backplane.

The CWB21 circuit card is referred to as an E1/T1 circuit card because it can be used for both T1-rate and E1-rate services. T1 is used for domestic offers.

Maximums and Capacities

The system has 13 CompactPCI slots that can be used for E1/T1 circuit cards. However, at least one speech processing (SSP) card is required to play or code speech for the channels.

Note: If the system is using 144 or more channels, two SSPs are required.

At its T1-rate, the CWB21 provides a 24-channel digital interface between a telephone switch and the system. A T1 digital circuit carries information at a rate of 1.544 Mbps. At its E1 rate, the CWB21 provides a 32-channel digital interface (30 voice channels and 2 signaling and framing channels) between the switch and the system. An E1 digital circuit carries information at a rate of 2.048 Mbps. Using the E1 rate significantly improves system connectivity and reduces the number of circuit cards required to support multiple channels.

Speech Processing Circuit Cards

The SSP (speech and signal processing) circuit card provides high-performance processing power for the various speech technology features. It supports speech coding and playback, WholeWord speech recognition, FlexWord speech recognition, Text-to-Speech (TTS), Proxy Text-to-Speech (PTTS), Dial Pulse Recognition (DPR), FAX, Natural Language Speech Recognition (NLSR), and Call Classification Analysis (CCA).

The SSP card connects to the CT bus. It does not require external I/O. Therefore, there is no corresponding rear I/O transition card. Note that the SSP card does not connect directly to the telephone network and must be used with at least one E1/T1 circuit card.

The UCS 1000 supports up to 10 speech processing circuit cards per system. Table 3 on page 20 shows channel capacities for the SSP circuit card. Many factors influence channel counts at a given time, and the numbers provided here are approximate. Channel counts are also affected by rapidly improving technology. See future release notes for updates.

Unless otherwise indicated, the channel counts shown below are based on the condition that the entire circuit card is dedicated to the specified feature. The size of wordlists also affects channel counts. Numbers for the SSP circuit card reflect wordlists containing a combined total of up to 2,000 words. See *CONVERSANT System Version 8 Speech Development, Processing, and Recognition*, 585-313-218, for more information.

Table 3.   Speech Processing Circuit Card Channel Capacities on the UCS 1000

Feature	SSP Capacities
FlexWord speech recognition	15 without barge-in; 12 with play and barge-in in use.
WholeWord speech recognition	15 without barge-in; 12 with play and barge-in in use.
Echo cancellation (barge-in)	60 — Reduces the capacities of other functions.
Playback/record in 64-Kbps PCM	120/120 — The level of one affects the other inversely. The combined maximum cannot exceed 120.
Playback/record in 16-Kpbs or 32-Kbps ADPCM	120/120 — The level of one affects the other inversely. The combined maximum cannot exceed 120.
Playback/record in 16-Kbps CELP	120/60 — The level of one affects the other inversely. The combined maximum cannot exceed 180.
Text-to-Speech (TTS)	60
Dial pulse recognition (DPR)	60
Call Classification Analysis (CCA)	24
FAX	90

Asynchronous 8-Port Circuit Card

The asynchronous 8-port circuit card provides eight additional serial data connections on the system. These connections can be used to support asynchronous host computer links, multiple serial printers, onsite and remote monitoring systems, or extra modems.

RAID Controller

The system provides a RAID PMC (PCI Mezzanine Card) to ensure that system services are not lost when a hard disk drive fails. This feature is implemented at level 5 and supports "hot swapping," which means you can replace a failed drive and restore data to the new drive while the system remains in full operation. For more information, see Hardware RAID (UCS 1000 Only) (page 54).

Optional Circuit Cards for the MAP/40P

This section describes the following circuit cards for the MAP/40P:

- Analog Circuit Cards (page 21)

- Digital Circuit Cards (page 22)

- Speech and Signal Processor Circuit Cards (page 22)

- Data Communications Circuit Cards (page 23)

Analog Circuit Cards

Analog circuit cards provide an analog telephony interface to the system. This section describes the tip/ring analog circuit card.

Tip/ring circuit cards provide an analog interface to the system over a telephone line. All tip/ring circuit cards installed in a system can be used to process incoming calls and outgoing calls, bridge incoming calls to outgoing calls, or any combination of both. All tip/ring circuit cards may be connected to the TDM bus. There are six ports per card.

A maximum of eight tip/ring slots are available for the MAP/40P platform.

CONVERSANT V8.0 supports the following tip/ring circuit cards:

- IVC6 (AYC10 and AYC29) – The tip/ring circuit cards support coding, playback, intelligent call classification analysis (CCA), and CELP coding.

- Next Generation Tip/Ring (NGTR - AYC30) – This is the latest version tip/ring circuit card. It is functionally equivalent to the IVC6 tip/ring circuit card and, in addition, can be tuned to match the varying impedances encountered internationally.

You can use all tip/ring circuit cards of the same type on a system, or you can have any combination of NGTR and IVC6. The number of simultaneous incoming calls and maximum number of incoming and bridging outgoing telephone network connections depends on the number of tip/ring circuit cards used, as well as your platform.

The type of tip/ring circuit card you can use also depends upon what country you want to use it in. For more information on suitable tip/ring circuit cards, consult your Avaya account representative.

All supported tip/ring circuit cards provide six channels per card.

Note: Optional tip/ring distribution hardware is mounted external to the MAP/40P chassis.

In addition to their analog interface, the tip/ring circuit cards also offer the following features:

- Speech play/code formats

- Volume change

- Simple CCA

- Audio jacks

- Interface for basic fax capabilities

For more information on fax capabilities on the tip/ring circuit card, see FAX Actions (page 73) in Chapter 5, Feature Packages.

Digital Circuit Cards

Digital circuit cards provide a digital telephony interface to the system. All digital circuit cards connect to the TDM bus cable.

Note: An SSP circuit card, described later, must be used to support one or more digital circuit cards being used in coding and playback situations.

CONVERSANT V8.0 suppports the E1/T1 (AYC21) circuit card. The AYC21 circuit card is referred to as an E1/T1 circuit card because it can be used globally for E1-rate services and also in the United States for T1-rate services. The platform maximum for E1/T1 circuit cards running at the E1-rate is three. The platform maximum for E1/T1 circuit cards running at the T1-rate is five.

At its E1-rate, the AYC21 provides a 32-channel digital interface (30 voice channels and 2 signaling and framing channels) between a telephone switch and the system. An E1 digital circuit carries information at a rate of 2.048 Mbps. It significantly improves system connectivity and reduces the number of circuit cards required to support multiple channels.

Note: All platforms can support up to three E1 circuit cards, for a maximum of 90 telephone network connections.

At its T1-rate, the AYC21 provides a 24-channel digital interface between the switch and the system. A T1 digital circuit carries information at a rate of 1.544 Mbps.

Speech and Signal Processor Circuit Cards

The speech and signal processor circuit card (SSP) is a high-performance signal processor that is capable of simultaneous support for various speech technologies. The SSP circuit card does not connect directly to the telephone network and must be used with at least one tip/ring circuit card. AYC43 is the first version of the SSP circuit card. See *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition*, 585-313-218, for additional information on the use of speech processor circuit cards.

The SSP does all the work previously done by the SP and Companion circuit card set (1 SP + 2 CMPs). The SSP provides processing power to accommodate all of the V8.0 system speech technology features including Text-to-Speech, speech recognition, voice code and play back, dial pulse recognition, and full call classification analysis simultaneously.

One SSP circuit card can support any two WholeWord speech recognition languages and one FlexWord speech recognition language. The SSP circuit card provides the CELP speech encoding algorithm for playback and coding.

The SSP circuit card also provides basic fax capabilities. For more information on fax capabilities on the SSP circuit card, see FAX Actions (page 73) in Chapter 5, Feature Packages.

The MAP/40P supports up to seven SSP circuit cards. Table 4 on page 23 shows SSP circuit card channel capacities.

Note: Channel counts are based on the assumption that the entire SSP circuit card is dedicated to the specified feature.

Table 4.   SSP Card Channel Capacities on the MAP/40P

Feature	Number of Simultaneous Transactions Supported
Full call classification analysis (available in the U.S. only)	42
Text-to-speech	60
FlexWord speech recognition	15
WholeWord speech recognition without barge-in	15
Voice or background music recorded in 64-Kbps PCM format with automatic gain control (AGC)	120
Voice or background music recorded in 24-Kbps or 16-Kbps SBC format with automatic gain control (AGC)	100
Voice or background music recorded in 32-Kbps or 15-Kbps ADPCM format	120
16-Kbps CELP for coding	60
16-KBPS CELP for single-speed playback	120
Dial pulse recognition	60
Echo cancellation (used to support barge-in)	32
Fax	32
Note: Speech recognition simultaneous transaction counts are independent of language and country.	

Data Communications Circuit Cards

The following types of data communications circuit cards are discussed:

- Asynchronous 8-Port Circuit Cards (page 23)
- Token Ring Circuit Card (page 24)
- Ethernet LAN Circuit Card (page 24)

Asynchronous 8-Port Circuit Cards

The asynchronous circuit cards provide additional serial data connections on the system. These connections can be used to support asynchronous host computer links, multiple serial printers, onsite and remote monitoring systems, or extra modems.

The asynchronous 8-port serial circuit card that is installed in new V8.0 systems uses the latest integrated circuits and provides greater reliability and system immunity from externally induced voltages that are potentially damaging. Modular (RJ45) connectivity is maintained, but the receptacles are at the end of a three-foot long octopus cable assembly. The full compliment of eight physical connections per port provides better control over modems.

For more information about the use of these circuit cards and the feature packages they support, see Multi-Port Asynchronous Communications Interface (page 78) in Chapter 5, Feature Packages.

Token Ring Circuit Card

The token ring circuit card provides an open interface to remote system connectivity. The goal of this open interface is to allow the V8.0 system to be compatible with many different network environments. This token ring circuit card provides hardware support for a token ring LAN that enables TCP/IP and 3270 SNA networking protocols.

Ethernet LAN Circuit Card

The Ethernet LAN circuit card provides an interface for communication with other systems connected to a LAN using 10BASE-T (RJ-45 twisted pair connector), or 100BASE-TX (category 5 cabling).

The Ethernet LAN circuit card is software programmable. The Ethernet LAN circuit card takes advantage of the TCP/IP software that is part of the UnixWare operating system.

Peripheral Equipment for the UCS 1000 and MAP/40P

The peripheral equipment described in this section applies to both the UCS 1000 and the MAP/40P, but it is not an exhaustive list of all devices that can be used. If you have equipment that you want to use, discuss its compatibility with an Avaya sales representative.

For details on peripheral connections to your system, see *CONVERSANT System Version 8.0 New System Installation,* 585-313-149.

In some cases, Avaya does not provide or recommend a particular model or brand of each device when ordering. Customers must inform their sales representative about the desired peripheral equipment during the planning of a new system. This section describes the following types of optional peripheral equipment for both the UCS 1000 and the MAP/40P:

- Monitor, Keyboard, and Mouse

- Printer

- Modem

Monitor, Keyboard, and Mouse

You can connect a color monitor to the system if you want a visual user interface. When you purchase a monitor, a standard 104-key keyboard and a PS2 mouse are provided. This is a PS2 mouse for the UCS 1000 and a serial mouse for the MAP/40P. A serial mouse is optional for the UCS 1000 for use with some capabilities of Agent Assist Suites of Solutions.

Note: Both the UCS 1000 and the MAP/40P can be operated and administered without a mouse.

Printer

An optional printer can be used to print paper copies of system screens and reports. Printers must have UnixWare drivers and use parallel ports.

Table 5 on page 25 lists the printers recommended for use by country. Note that some countries have more than one recommended printer.

Note: If a country is not listed, refer to Appendix C, "Pinouts" of *CONVERSANT System Version 8.0 New System Installation*, 585-313-149, to verify the minimum printer connection specifications.

Table 5.   Recommended Printers by Country

Printer	Country
220V Okidata OL810E	Argentina, Australia, Belgium, Brazil, France, Germany, Hong Kong, Luxembourg, Netherlands, New Zealand, Singapore, Spain, Thailand, United Kingdom
110V Okidata OL810E (Laser printer)	Brazil, Canada, Columbia, Mexico, United States
110V Epson VP1800	Japan
110V Okidata OL810E Microline 320 (Dot matrix)	United States

Modem

An external modem can be connected to the system. This modem makes it possible for administrators, operators, or remotely located technical support personnel to initiate commands and remotely monitor the system for installation and maintenance purposes. A modem is also used if asynchronous communication with another machine or device is needed. In such cases, a modem is only used if the device is located too far away from the system to use a null modem.

Modems must have UnixWare drivers and use standard ports. For new V8.0 systems in the United States, an internal modem is dedicated to the remote maintenance circuit card. It is required for the use of Avaya technical support personnel. Customers may also choose to supply an additional modem for their own use, for example, for file transfer.

Table 6 lists the modems recommended by country.

Table 6.   Recommended Modems by Country

Paradyne Modem (Model No.)	Country
3810	Japan, Thailand, United Kingdom, Brazil
3820	Argentina, Canada, Columbia, Germany, Mexico
3910	Belgium, France, Luxembourg, Netherlands

1 of 2

Table 6.   Recommended Modems by Country

Paradyne Modem (Model No.)	Country
3911	Australia, New Zealand, Spain
US Robotics Sportster 33.6	United States
US Robotics Sportster 56K	United States
	2 of 2

Resource Allocation Limitations and Maximums

The following hardware reference information is provided:

- Resource Allocation (page 26)

- Resource Assignments for Hardware Components (page 28)

- Adding SCSI Devices (page 14)

- Circuit Card Maximums for the UCS 1000 and MAP/40P (page 30)

Resource Allocation

On the UCS 1000   The UCS 1000 is a cPCI system that uses the Plug 'N' Play standard. This standard allows for circuit cards to be configured automatically when the system is started. There is no additional software to install.

On the MAP/40P   The MAP/40P uses a separate hardware resource allocator to help you determine the allocation of resources for all devices to be included in your configuration. The resource allocator contains the software program, all associated commands, and a "CONFIGURATION DATA" diskette on which you store the system's existing configuration. The resource allocator is installed with the base system software. The following sections provide more information.

How the Resource Allocator Works

The hardware allocator does not have a direct interface with your system. Making assignments on the allocator does not assign the configurations to your system. It is a menu-driven planning tool that gives you an automated solution to the problem of allocating a finite set of consumable CPU resources to a given set of devices.

After determining the solution with the resource allocator, you must transfer the configurations to your system in a separate step. The allocator also includes some feature-related checking regarding maximum numbers of devices and prerequisites for devices.

The hardware resource allocator is used to create a new configuration. Factory installers also use the hardware resource allocator to determine the initial hardware configuration and resource assignments.

⚠ CAUTION:
Only persons familiar with the configurations and hardware platforms should run the hardware resource allocator.

Specifically, the hardware resource allocator helps you select the following resource allocation information for your software and hardware applications:

- System platform

- System memory

- System devices and their attributes including

    ~ Slot number

    ~ Interrupt number (IRQ)

    ~ DMA channel

    ~ I/O address

    ~ RAM address

    ~ Serial port usage

    ~ Parallel port usage

Note: The hardware resource allocator ensures only that no conflicts exist between selected hardware devices for the parameters listed above.

Configuration Data Diskette

A diskette labeled "CONFIGURATION DATA" accompanies the hardware platform when it is shipped from the factory. This diskette contains the initial hardware configuration information, which you must load into the system.

Whenever you make a change to the current configuration, you must store that information on the "CONFIGURATION DATA" diskette so that the diskette always contains the latest configuration information. By using the "CONFIGURATION DATA" diskette in this manner, you will always have the correct configuration data on which to base subsequent changes to the system.

Note: Be sure to store the "CONFIGURATION DATA" diskette in a safe place.

Configuration Data Files

The following data files are associated with the hardware resource allocator. These files reside in the **/vs/data** directory. Any reference to data files assumes this prefix.

⚠ CAUTION:
Do not alter the contents of any of the data files below.

- The **confData** file represents a successful configuration. This file is also stored on the "CONFIGURATION DATA" disk after it is read into the system.

- The **failData** file represents an unsuccessful configuration.

- The **conf_MMDDYY** file contains a copy of the current configuration file (**confData**) saved by the hardware resource allocator before it creates a new configuration. The most recent **confData** file is saved per day. This allows for an historical reference of previous configurations by month (MM), day (DD), and year (YY).

- The **deviceData** file stores all devices and their associated resource requirements that are available for use in updating or creating new configurations.

- The **platData** file contains all platforms, the devices that each supports, and all available resources.

- The **devSetData** file contains rules about device conflicts, dependencies, and so forth.

For more information on the configuration commands you need to retrieve and save configuration information using the "CONFIGURATION DATA" diskette, see "Summary of Commands," in Appendix A of *CONVERSANT System Version 8.0 Administration*, 585-313-508.

For more information on how to operate the hardware resource allocator, see "System Configuration" in *CONVERSANT System Version 8.0 MAP/40P Maintenance*, 585-310-156.

Resource Assignments for Hardware Components

Table 7 lists the resource assignments for each standard and optional hardware component supported in V8.0. Values appear for each resource in descending order of preference (first choice, followed by second choice, third choice, and so on).

Note: This list is included for reference only. Only the values supported by the V8.0 system, not the values supported by each hardware component, are listed. The hardware resource allocator program described in Resource Allocation (page 26) has the complete set of values and determines appropriate settings based on the system configuration.

Table 7.   Resource Assignments for V8.0 System Hardware Components on the MAP/40P

Component	IRQ	I/O Ports	RAM	Notes
CPU circuit card	13	00 (256), 370	E0000–FFFFF (128K)	
Diskette drive	6	3F0 (8)		DMA
PCI Video controller	14[1] (non-MAP/5P)	3B0 (48)	A0000 (128K), C0000 (32K)	
Remote maintenance circuit card (RMB V2)	4, 3	180 (8)	D[1–F]000 (4K)	
CPU card parallel port	7	378 (8)		
				1 of 2

Table 7.   Resource Assignments for V8.0 System Hardware Components on the MAP/40P

Component	IRQ	I/O Ports	RAM	Notes
CPU card serial port #1 (COM1)	4	3F8 (8)		
CPU card serial port #2 (COM2)	3	2F8 (8)		
On-board PCI SCSI	14		C8000 (16K)	
IVC6, NGTR circuit card	2, 15, 5, 3	[1–3, 5–7, 9–B, D-F]00 (32/card)		Boards 0-11
SSP circuit card	11	(all are 8/card) D20–D3F 920–93F 520–53F 120–13F		Boards 0–3 4–7 8–11 12–15
E1/T1 circuit card	12	(both are 2/card) 22[0246ACE] 23[0246ACE]		Boards 0-7
8-port asynchronous circuit card			C[8C]000, D[048C]000 (16K)	
Token/ring circuit card	2, 3	A20 (4)	DC000 (8K), [DC][048C]000 (16K)	
PCI LAN circuit card	12,11,10,2	N/A	N/A	
Serial mouse	N/A	N/A	N/A	COM port required

2 of 2

[1] IRQ 14 is shared between video, on-board PCI SCSI, and PCI RAID controller.

Circuit Card Maximums for the UCS 1000 and MAP/40P

Table 8 identifies all of the standard and optional circuit card types and lists how many can be installed in each platform:

Note: The circuit card maximums listed in Table 8 are in many cases logical limits and do not necessarily represent the actual physical limits on the system.

Table 8.   Circuit Card Maximums for the UCS 1000 and the MAP/40P

Circuit Card	UCS 1000	MAP/40P	Notes
CPU complex	1	N/A	
CPU	N/A	1	
LAN	N/A	2	Built into the CPU complex on the UCS 1000.
SSP	10	7	
TI	6	5	
EI	5	3	
Remote maintenance	1	1	
Multiport asynchronous	1	1	
Video	N/A	1	Built into the CPU complex on the UCS 1000.
Tip/ring	N/A	8	An analog interface is available on the MAP/40P only.
Token ring	N/A	1	

3 Software

Overview

Several software packages are included with your purchase of the system. These are referred to here as standard or *base software*. Optional feature packages are also available and can be implemented with some combination of optional hardware and software. This chapter lists the base and optional software available for the server.

Table 9 lists the main software types and shows the delivery media for each. Details for each are given in the sections that follow.

Note: To see a list of what software is installed in your system, use the **pkginfo | pg** command. The **pkginfo** command is described in full in Appendix A, "Summary of Commands," in *CONVERSANT System Version 8.0 Administration,* 585-313-508.

Table 9. Overview of Software

Software	Media	Notes
UnixWare	Three boot diskettes and CD-ROM	See UnixWare Operating System Software (page 32). Additional UnixWare software is included on the Base CD-ROM.
Base System	Base CD-ROM	Includes base software and optional software. See Base System Software (page 32).
Quickstart	One boot diskette	Included as part of the Base software.
ORACLE RDBMS	ORACLE Base CD-ROM	ORACLE Relational Database Management System (RDBMS) 8 for systems needing a database management system. See ORACLE RDBMS 8 (page 36).
	Optional for ORACLE: • ORACLE Developer 2000 CD-ROM	ORACLE development tool packages that you can purchase in addition to the RDBMS.

UnixWare Operating System Software

The UnixWare 7.1 operating system is the software platform upon which all of the system software runs, including feature packages and applications. Use the UnixWare boot diskettes to load the UnixWare operating system.

Additional software relating to the UnixWare operating system is included on the Base CD-ROM, such as files including peripheral and networking utilities, software programming packages, and electronic documentation. The driver for the Ethernet LAN controller is also included.

Base System Software

The Base CD-ROM contains the base and optional software, as well as additional UnixWare software. Base and optional software is listed below.

The base software acts as a foundation for the rest of the system and provides an environment for the execution of the application software running on the platform. It contains all major software utilities and subsystems related to processes, maintenance, and operations and is required for the platform to operate.

Note: All base software packages are licensed on a per-machine basis.

Base software packages are as follows. The Quickstart package is also included with the base software. However, it comes on a separate boot diskette.

* CONVERSANT V8 Set

    ~ Utilities Package

    ~ Runtime Processing Package

    ~ Maintenance Package

    ~ Logger/Alerter Package

    ~ AUDIX Logger Package

    ~ Administration Screens Package

    ~ Unix Management Screens Package

    ~ Backup/Restore Utilities

    ~ Transaction State Machine Package

    ~ Switch Utilities Package

    ~ License Modification Package

    ~ Global Array Manager

    ~ Hardware RAID Integration

    ~ EEPROM Driver

    ~ Call Data Handler Package

    ~ Platform CONVERSANT Tuning

Note: The following packages are included on the Base Software CD-ROM and are installed on the system from the factory. In case of a complete reload, these packages are not automatically installed when the CONVERSANT V8 set is installed and must be loaded separately.

Note: The packages noted with an asterisk (*) require a right-to-use (RTU) license.

- Access Security Gateway Package

- FlexWord Recognition - Base*

- Feature Test Script Package

- Text To Speech Package*

- WholeWord Recognition - Base*

- Data Collection Toolkit

- Dial-Pulse Recognition Package*

- ASP Driver Package

- T1/E1 Board Driver

- Call Bridge Application Package

- Apache WebServer

- SNMP Emanate Agent

- Tip/ring Board Driver

The following packages are also provided separately as part of the CONVERSANT system base V8.0 software:

- Hardware Resource Allocator

- Configuration Data Diskette (created during factory assembly)

Optional Software

Optional software is purchased according to need in addition to the base software. Generally, optional software is not required for the system itself to operate. However, one or more optional packages may be required for your applications to operate.

Optional software packages are listed below. Most of the software packages listed are directly related to a feature package.

- Remote Maintenance Integration Package

- Call Classification Analysis Package

- Equinox SST Loadable STREAMS Device Drive (EISA/ISA/MCA/PCI)

- Service Creation Integration Package

- PRI Feature Software Packages

  ~ ISDN Primary Rate Interface Package
  ~ Advanced PRI Package
  ~ Nortel ISDN PRI Package
  ~ ETSI PRI Extension Library
  ~ National ISDN

- ASAI Feature Software Packages

    ~ Adjunct/Switch Application Interface Package

    ~ AVAYA CALLVISOR C CVLAN CLIENT (UNIX SV x86)

    ~ Universal Call ID

- Computer Telephony Integration Package

- FAX Software Packages

Note: The following packages are applicable to Voice@Work as well as Script Builder.

    ~ Next Generation FAX Package

    ~ CONVERSANT Script Builder Fax Actions

    ~ CONVERSANT FAX Set

- FlexWord Software Packages

    ~ Brazilian Portuguese

    ~ Spanish

    ~ French

    ~ German

    ~ Japanese

    ~ US English

- WholeWord Software Packages

    ~ US English

    ~ Canadian French

    ~ Latin American Spanish

    ~ Brazilian Portuguese

    ~ UK English

    ~ Australian English

    ~ German

    ~ Castilian Spanish

    ~ Japanese

    ~ French

    ~ Dutch

    ~ Italian

- Digital Interface Software Packages

    ~ E1 CAS R2 MFC Interface Package - Argentina

    ~ E1 CAS R2 MFC Interface Package - Brazil

    ~ E1 CAS R2 Interface Package - Australia

    ~ E1 CAS R2 MFC Interface Package - Mexico

    ~ T1 E&M Interface Package

    ~ Loop Start FXS

    ~ Ground Start FXS

- Natural Language Speech Recognition Software Packages

  ~ Natural Language Interpreter

  ~ Natural Language Speech Recognition - Proxy/Client, Release 1.1

- ORACLE Database Software Packages

  ~ ORACLE 8i RDMBS Integration Package

  ~ ORACLE Developer 2000

  ~ ORACLE 8i Server Enterprise Edition

  ~ ORACLE 8i Client NT/95/98

  ~ ORACLE 8i RDBMS Integration Package

- Proxy Text-to-Speech Software Packages

  ~ Proxy Text-to-Speech Package

  ~ CONVERSANT AvayaAvaya U.S. English Language Selection Key

  ~ CONVERSANT Avaya L.A. Spanish Language Selection Key

  ~ CONVERSANT Avaya Castilian Spanish Language Selection Key

  ~ CONVERSANT Avaya French Language Selection Key

  ~ CONVERSANT Avaya German Language Selection Key

- Analog Switch Interface Packages

  ~ Argentina

  ~ Australia

  ~ Belgium

  ~ Brasil

  ~ Canada

  ~ Colombia

  ~ France

  ~ Germany

  ~ Hong Kong

  ~ Ireland

  ~ Italy

  ~ Japan

  ~ Luxembourg

  ~ Mexico

  ~ Netherlands

  ~ New Zeland

  ~ Spain

  ~ Thailand

  ~ UK

  ~ US

- UNIXWare Online Data Manager

Note: This package is delivered on separate media for MAP/40P systems with disk mirroring only.

Optional Database Management Software

Many systems require database management software. One of the following packages must be installed, according to whether the system requires database software:

- ORACLE RDBMS 8 — The supported package for systems that need a database management system.

- CDH — Install this package if you do not install ORACLE RDBMS.

ORACLE RDBMS 8   The ORACLE Relational Database Management System (RDBMS) 8 software package allows a user to establish and maintain a local ORACLE RDBMS on the system.

The base ORACLE software comes on its own CD-ROM. You can also purchase the ORACLE development tools, which is delivered on an additional CD-ROM.

Base ORACLE Software (ORACLE Base CD-ROM)

The base ORACLE software is delivered on the ORACLE 8i Enterprise Edition CD-ROM. (The ORACLE Integration package is delivered on a separate floppy disk.) These packages are required for the operation of the ORACLE database on the CONVERSANT system and thus are licensed for your use by ORACLE provided that they are used only for voice applications on a single CONVERSANT system.

This CD-ROM also includes other ORACLE software packages. These additional packages are not required for the operation of the ORACLE database on the CONVERSANT system and thus are not covered under the same licensing agreement. Customers must purchase additional licenses directly from ORACLE if they want to use these packages. Note also that these packages are not certified for use with the CONVERSANT system and thus are not supported by Avaya. Customers must be aware that the use of these uncertified packages could exceed the resources of the CONVERSANT system or adversely compete with other voice system features for resources.

Table 10 lists the contents of the ORACLE Enterprise CD-ROM and identifies licensing requirements for each package.

Table 10. Contents of the ORACLE 8i Enterprise Edition CD-ROM

Package Name	Licensed for CONVERSANT?
ORACLE 8i Server	
~ ORACLE 8i Enterprise Edition	Yes
ORACLE Utilities	
~ SQL*Plus	Yes
~ ORACLE Jserver Enterprise Edition	No
~ ORACLE interMedia	Yes
~ ORACLE Spatial	No
	1 of 2

Table 10. Contents of the ORACLE 8i Enterprise Edition CD-ROM

Package Name	Licensed for CONVERSANT?
~ ORACLE Time Series	No
~ ORACLE Visual Information Retrieval	No
~ ORACLE Advanced Security Export Edition	No
~ ORACLE Partitioning	No
~ ORACLE Programmer	Yes
ORACLE 8i Client	
~ ORACLE Advanced Security	No
~ ORACLE Programmer	Yes
~ ORACLE interMedia Client	Yes
~ ORACLE Visual Information Retrieval Client	No

2 of 2

ORACLE Development Tools

In addition to the ORACLE RDBMS package, you can purchase the optional ORACLE development tools. These tools are delivered on the following CD-ROMs:

• ORACLE Developer 2000 — Contains the following packages:

> ~ Developer
> ~ Reports
> ~ Procedure Builder

CDH   The Call Data Handling (CDH) software package is installed during the Base Software installation. The CDH software manages the call data that would otherwise be stored in an ORACLE database.

Note: If ORACLE is not installed, the report data is stored in flat files. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for additional information.

4 **Features**

Overview

A *feature* is software and/or hardware that is part of the standard equipment you receive when you purchase the base system. Depending on your needs, you can order additional software and hardware, called *feature packages*, to complete or enhance your system. This chapter explains the following standard features of the UCS 1000 and MAP/40P. See Chapter 5, Feature Packages, for details on feature packages.

- Open Interfaces and Architecture

- User Interfaces

- Application Development Options

- Voice Response Functions

- Speech Capabilities

- System Status and Monitoring

- Access Security Gateway

- Software Management

- Data Network Interfaces

- Hardware RAID (UCS 1000 Only)

- Telephony Interfaces

- Terminal Emulation

- Database Environment

Open Interfaces and Architecture

The move to more open systems in the computer and telecommunications industries is growing as standardization of hardware and software increases. Standardization promotes quicker system engineering and allows new technologies to be more easily incorporated. As used here, the term *open* means adherence to a set of industry standards or specifications that promotes interoperability, which is the ability for diverse platforms, interfaces, and software to work together smoothly. When formal standards do not exist, *open* here means general interoperability.

This section describes some of the main open hardware devices, interfaces, and software found on both the UCS 1000 and the MAP/40P. The UCS 1000 includes some additional devices that are not found on the MAP/40P. These devices are also described.

Open Interfaces and Architecture on the UCS 1000 and MAP/40P

10/100 Base T Ethernet The Ethernet interface is compliant with the Institute of Electrical and Electronic Engineers (IEEE) 802.3 Carrier Sense Multiple Access with Collision Detection (CSMA/CD) standard for LAN protocol, a popular, world-wide networking standard. The transmission rates of 10 Mbps and 100 Mbps are supported.

TCP/IP TCP/IP is one of the most widely accepted networking protocols for communicating across different kinds of hardware and operating systems. This highly reliable protocol is one of the main software networking components of the UnixWare operating system and is used often with Ethernet LANs. TCP/IP is the de facto standard for data communications for the Internet.

T1 E&M T1 E&M is a trunking arrangement where either side can initiate actions. It is a common and reliable connection between switches and networks, computer telephony systems, or other switches. The system uses robbed bit signaling and preserves high voice quality. T1 is a standard digital transmission link in the United States. T1 E&M is an optional feature package. For more information, see T1 E&M Protocol (page 90) in Chapter 5, Feature Packages.

PRI Primary Rate Interface (PRI) is an ISDN configuration that functions like an enhanced T-1 circuit. ISDN is an international telecommunications standard for voice, video, and data transmission over digital lines. The system supports AT&T PRI, National ISDN, ETSI, and Nortel PRI. With PRI, the system can communicate with any PBXs or switches that support the above mentioned protocols. PRI is offered as an optional feature package. For more information, see Primary Rate Interface (page 81) in Chapter 5, Feature Packages.

Foreign eXchange Station The line side digital protocol set has been expanded. The protocol formerly called "Line Side T1 for DEFINITY" is a standard loop start Foreign eXchange Station (FXS) protocol specified in the ANSI generic PBX requirements (ANSI TIA/EIA-464-B-1996, section 6.2.3). In addition to the loop start version of the protocol, a ground start version of the protocol (TIA/EIA-464-B-1996, section 6.2.4) is also provided. These two protocols are widely supported by PBXs, central office switches, and channel banks under names like "line side digital," "FXS," or "off premise station (OPS)." Purchase of the FXS digital feature provides both protocols. These protocols will work over digital cards configured as T1 or E1. Switches known to support either or both of the loop start and ground start FXS protocols include Avaya DEFINITY, Nortel Meridian, and Rockwell Spectrum.

UnixWare UnixWare provides the power and flexibility of the UNIX operating system with its multi-tasking, multiple-user capabilities. Customers and developers can easily customize their system with UnixWare interfaces. At the highest level, it provides system administration capabilities, shell interfaces, programming development environments, and networking interfaces, all of which allow for customization.

Network File System Network File System (NFS), along with TCP/IP, is one of the primary software networking components of UnixWare. It allows data to be shared over a wide variety of computers, operating systems, and networks, and is a good example of interoperability.

IRAPI   The Intuity Response Application Programming Interface (IRAPI) is a C-language
                           interface for developing system applications for speech processing and telephony
                           functions. IRAPI is an AvayaAvaya API that communicates with UnixWare, the
                           ORACLE RDBMS, and other applications. Application developers who know C-
                           language programming can easily develop custom APIs. See Application
                           Development Options (page 43) for more information on IRAPI.

ORACLE RDBMS   The ORACLE Relational Database Management System (RDBMS) is a popular
                           database system that is supported by a wide variety of platforms. It includes Standard
                           Query Language (SQL) software to take advantage of SQL's extensive querying and
                           processing capabilities. You can also purchase optional ORACLE development tools
                           for producing reports and developing screen-based applications.

                           ORACLE RDBMS is an optional feature package. However, it is the supported
                           feature package if your system uses a database management system. See ORACLE
                           RDBMS (page 79) in Chapter 5, Feature Packages for more information.

                           Note: If ORACLE is not installed, the report data is stored in flat files. See
                                      Chapter 6, "Database Administration," in *CONVERSANT System Version
                                      8.0 Administration*, 585-313-510, for additional information.

HLLAPI   HLLAPI is an IBM-standard interface that allows a user to write a program to
                           communicate with a host computer through an Ethernet LAN connection. The Send
                           and Get Screen Actions in Script Builder are implemented with the HLLAPI
                           interface, and provide most voice system users with a convenient high-level interface
                           to their host computer.

                           A full HLLAPI library is also available for customers who want to create their own
                           custom data interface processes (DIPs). Development of a custom DIP requires
                           CONVERSANT system expertise, as well as detailed knowledge of the host
                           application.

                           Detailed information on the HLLAPI interface can be found in the documentation
                           provided by Interface Systems, Inc. (ISI).

Additional Open Interfaces and Architecture on the UCS 1000

CompactPCI   CompactPCI is a high-performance platform composed of many components based
                           on industry standards. The PCI Industrial Computer Manufacturers Group (PICMG)
                           develops specifications for Peripheral Component Interconnect (PCI)-based systems
                           for industrial and telecommunications applications. This system complies with the
                           following PICMG standards:

                           • PICMG 2.0 CompactPCI Specification R2.1 (for the server and cards)

                           • PICMG 2.5 CompactPCI Computer Telephony Specification R1.0

                           • PICMG 2.1 CompactPCI Hot Swap Specification R1.0

PCI Plug and Play BIOS   The system BIOS supports PCI Plug and Play, which allows for circuit cards to be configured automatically when the system is started. Automatic configuration saves time and helps prevent configuration errors. The BIOS is compliant with the PCI Special Interest Group (SIG) PCI 2.1 specification. This PCI SIG fosters development and sponsors specifications for PCI architecture.

Ultra Wide SCSI   The hard disk drives use Ultra Wide Small Computer System Interface (SCSI), a high-speed hardware interface for connecting peripheral devices. Ultra Wide SCSI provides fast data transfer at the rate of 40 MB per second. The disk drives also use Single Connector Architecture (SCA), in which the drives plug directly into the backplane. This eliminates cables and makes replacement easy. See Chapter 2, Hardware, for specific information on SCSI devices.

ECTF H.110 CT Bus   The Enterprise Computer Telephony Forum (ECTF) is an organization dedicated to fostering Computer Telephony (CT) interoperability and publishing standards and agreements. The CT bus used in the system is compliant with the ECTF H.110 standard, which is a hardware specification for implementing a CT bus for CompactPCI. This version of the CT Bus offers greater fault tolerance and minimizes disruption to speech processing by providing redundant clocking and hot-swap capabilities.

User Interfaces

The CONVERSANT V8.0 system provides a screen user interface and a command-line user interface.

Screen Interfaces   The screen user interface is invoked by using the **cvis_menu** command or **scoadmin** command. These commands take you into a series of menus and screens from which you can perform various system operations, such as adding users, running reports, and so forth.

Command-Line Interfaces   The command-line user interface is initiated from the system's UnixWare prompt. Though most operations can be accomplished through the **cvis_menu** screens, you can also invoke operations from the command line.   Commands are documented in *CONVERSANT System Version 8.0 Administration*, 595-313-510.

UnixWare   A system installed with UnixWare 7 is fully capable of providing a variety of graphical user interface (GUI) environments within which to work. All systems are loaded with UnixWare graphics capabilities necessary to support the built-in UnixWare Desktop GUI, or the native X-windows and Motif GUI. Online documentation is provided through the UnixWare Fingertip Librarian that explains how to make use of these different GUI interfaces.

It is the customer's responsibility to install and configure a mouse to use with UnixWare. See Monitor, Keyboard, and Mouse (page 24) for more information.

Voice@Work	With Voice@Work, you can work within a standard GUI environment and create applications on your Windows-based PC, instead of performing application development on your V8.0 system. See Voice@Work (page 91) in for more information.

> **Note:** Beginning with Release 4.0 of Voice@Work, you can convert existing Script Builder applications to Voice@Work automatically without having to recreate them in Voice@Work. See Voice@Work (page 91) in for more information.

Remote Administration	The Remote Administration applications provides a GUI to perform the following tasks from a client system:

- Assign and unassign channels

- View standard and custom reports

- View host connections

- Get ASAI status

- View the system error log

- Perform common system operations

See Remote Administration (page 63) in Chapter 5, Feature Packages for additional information.

Application Development Options

Automated transactions are known as *applications*. Each application is designed and developed to meet a specific customer's need. An application *script* is a set of instructions written for the system that informs it how to carry out the automated transaction. Scripts define the flow of the call and determine what the caller hears and how the caller responds to the system.

The standard system software provides the following mechanisms for developing applications:

- TAS Script

- IRAPI

- Voice@Work

- Script Builder

TAS Script	TAS (transaction assember), formerly called Native Script, is an assembly-type instruction language. A sequence of instruction calls run within the generic TSM software that manages the low-level interactions required to operate the system. At any time, TAS can be used to assemble, load, change, or replace a script without affecting the other scripts running on TSM or other IRAPI programs running the system.

For more information on TAS, see *CONVERSANT System Version 8.0 Application Development with Advanced Methods*, 585-313-216.

IRAPI

IRAPI is a C-language interface used to develop applications that can be directly integrated with the other features of the UnixWare system. IRAPI gives users the capabilities offered by the system script language from a C-language program. These capabilities include the ability to play and code phrases, collect touchtone digits, answer incoming calls, generate outgoing calls, and so forth.

The Resource Manager (RM) manages the resources. The Application Dispatch (AD) process controls the dispatching of applications with some help from the IRAPI library.

For more information on IRAPI, see *CONVERSANT System Version 8.0 Application Development with Advanced Methods*, 585-313-216.

Voice@Work

Voice@Work is an optional feature package that allows you to design applications in the V8.0 system by specifying every detail of the interaction between the system and its callers. Once you design your application, you can use Voice@Work to test, generate, transfer, and install it. In addition, you have the ability to develop language-independent applications, as well as to work with more than one language.

Beginning with Release 4.0 of Voice@Work, you can convert existing Script Builder applications to Voice@Work automatically, without recreating them in Voice@Work. For more information, see Chapter 5, Feature Packages and *Using Voice@Work*, 585-313-207.

Script Builder

Script Builder is designed to assist in the development of custom voice response applications on the system. It is a menu-driven, screen-oriented tool that can be used by a broad range of customers.

Script Builder is targeted toward designers who are familiar with the specific application and who also have a knowledge of logical programming concepts. Specifically, the designer should be familiar with typical programming methods used in languages such as BASIC, COBOL, Pascal, and C.

Experience with a database application such as ORACLE, dBASE, LOTUS 1-2-3, or ACCESS is also helpful. Although not required, it is helpful to have some basic knowledge of the UnixWare operating system and telephony when working with the system and Script Builder.

For more information, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217.

Voice Response Functions

The system is capable of many voice response functions without the installation of additional software. Although most of these functions can be accomplished through a script instruction in the script language, using the Script Builder and Voice@Work application development tools simplifies the writing of the script.

This section discusses the most common functions used in a voice response application. See *CONVERSANT System Version 8.0 Application Design Guidelines*, 585-313-226, for more information on script instructions. See *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for more information on Script Builder applications. See *Using Voice@Work*, 585-313-207, for more information on Voice@Work.

Announce

The system uses the Announce action step (Script Builder) or Announcement node (Voice@Work) to speak to the caller. Up to 15 phrases, values, and/or lines of text (from Text-to-Speech) may be played in succession in a single Announce action step.

Note: Announce may be referred to as *Whisper* when it is used with the intelligent transfer feature.

Answer

The script instruction called **tic('a')** can answer the line or take the line off-hook. This may also be accomplished by using the Answer Phone action step in Script Builder or the Answer Call node in Voice@Work.

Background

The background function connects a caller to background music or speech that has been prerecorded and installed on the system. The Background action step in Script Builder can play background music or speech.

Call Transfers

Call transfer is used to transfer the caller to another telephone number, which is referred to here as a third party. Three types of call transfers are available: blind transfer, intelligent transfer, and Full Call Classification Analysis (Full CCA).

Note: Blind transfer and intelligent transfer types are standard features of the V8.0 system. Full CCA is available as an optional feature package in the United States only. For more information on Full CCA, see Chapter 5, Feature Packages.

All types of transfers may be used during a single call. All types allow the application to transfer the caller to a third party, using the transfer and/or three-way calling feature of the PBX.

Because the call transfer feature uses the transfer capability of the PBX, you are limited to transferring to telephone numbers within the capacity of the PBX. Consequently, some PBXs are limited in the numbers to which they can transfer.

Transfers are accomplished by using the **tic** script instructions (with several different options), the Transfer Call action step (Script Builder) or node (Voice@Work).

For more information on T1/E1 circuit card call transfer capabilities, see Intelligent Transfer.

Blind Transfer

In a blind transfer, the application dials the third-party number to start the transfer and then relinquishes all call handling responsibilities. In other words,

in a blind transfer, the transfer call is placed and then the caller is released. The caller is left to deal with a busy signal or a no-answer signal. The call is completed as soon as the third-party number is dialed, without waiting to see the outcome.

Intelligent Transfer

In an intelligent transfer, the application dials the third-party number to start the transfer and then listens to the call progress signals to determine if the line is busy, ringing, or has been answered. In other words, in an intelligent transfer, the transfer call is placed and then the system classifies the call. The capabilities provided by intelligent Call Classification Analysis (CCA) are standard with each system purchase, and provide a rudimentary voice-energy detector for identifying answered calls. Intelligent CCA is needed to make call transfers and call bridges, as described in *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-216, and *Using Voice@Work*, 585-313-207.

Applications created with earlier versions of software that use Intelligent CCA are compatible with V8.0 software.

Note: An enhanced level of call classification, Full CCA, is available as an optional feature package in the United States only. It is described in Chapter 5, Feature Packages.

Intelligent CCA on Line Side T1 – DEFINITY ECS and Line Side E1 – DEFINITY ECS on the T1/E1 Circuit Card

Intelligent CCA on Line Side T1 DEFINITY ECS and Line Side E1 DEFINITY ECS on the T1/E1 circuit card recognizes the following call progress tones:

- Answer detected via speech energy detection

- Answer supervision from switch via DTMF Feedback Tones

Note: For this call progress tone to be recognized, the system must be connected to a DEFINITY Enterprise Communications Server and the optional Sending DTMF Feedback Tones to the VRU feature must be administered.

- Dial tone

- Stutter dial tone

- Busy

- Fast busy (reorder)

- Intercept tone for invalid extension

- Ring no answer

- Touchtone entry detected

- Internal hardware or software error, dialing error, or unexpected PBX response

- Timeout

- Illegal dial string

For PBXs that allow outside transfers, the network tones received may vary and may not be recognized correctly by the intelligent transfer feature. This results in some network tones being recognized as an answer and the caller being dropped from the system. Intercept tones used by PBXs for invalid extensions are included in the V8.0 system.

Call Bridge

Call bridge allows an application to place an outbound call to a third party and maintain the connection while the caller interacts with the third party. When the third party hangs up, the application continues. The call bridge feature is used most often when call transfer is not available on the PBX or central office.

This connection to a third party is accomplished through the **hbridge** TAS script instruction, the Call_Bridge action step in Script Builder, or the Call_Bridge external function in Voice@Work.

Disconnect

Disconnect or hang-up, disconnects the system from the caller. It is accomplished through the **tic('h')** script instruction or the Disconnect action step (Script Builder) or node (Voice@Work).

Note: Disconnecting the call does not stop the execution of the application script. An application terminates execution when it reaches a Quit instruction.

Originate

An application may be set up to place or originate calls. Originate is accomplished using the **tic('O')** and **tic('o')** script instructions, the Make Call action step in Script Builder, or the Make_Call external function in Voice@Work. As an example, this application can be used by the system to conduct a survey of all customer numbers stored in a database.

Converse Vector Step

Converse vector step (CVS) is used in DEFINITY ECS private branch exchanges to maintain control of a call while capabilities of the system are being used. The system provides a Script Builder external action called *converse_data* that supports the converse vector step capability on Line Side E1 and Line Side T1 lines. The converse vector step supports the DEFINITY ECS *call vectoring* (routing) feature by enabling the switch to retain control of vector processing in the system environment. It specifically supports the DEFINITY ECS converse vector command.

The Converse Data Return action step facilitates the creation of a two-way routing mechanism between the switch and the CONVERSANT system. This enables data, in the form of touchtones, to be received from the switch at the beginning of a transaction (*data passing*). Applications residing in the system can be accessed and initiated, and data can be collected and sent back to the switch at the end of the transaction (*data return*).

Without the use of the converse vector command, once a call terminates on a system channel, it is no longer under the control of the switch. It is then up to the system to process the transaction further and route the response back to the switch. With the converse vector command, control over call-routing is retained by the switch.

This functionality is provided in Voice@Work by the Conv_data external function.

For detailed information on this feature, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, *Using Voice@Work*, 585-313-207, and *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

CRM Integration

The CONVERSANT IVR - CRM Central interface package provides a communication and control path between the two systems. It allows Process Flow Maps running on CRM Central to control the actions of the CONVERSANT IVR, thus bringing basic IVR capabilities to CRM Central. This package provides an interface to CRM Central that implements the message-exchange protocol and the IVR tasks on the CONVERSANT.

The following are the current characteristics:

- Physical connection through sockets over TCP/IP

- Protocol provided by proprietary message set defined by Avaya (Mosaix)

- Provides basic IVR capabilities such as:

  - Answer telephone
  - Play prerecorded prompts
  - Get touchtone digits
  - Play data values such as date, time, money value, and so on.
  - Dial a telephone number
  - Hangup telephone

- IVR tasks have been defined in CRM Central, and those tasks are included in Process Flow Maps to tell the IVR when to answer, play a prompt, collect data, and so on, and what to play or collect.

- The interface is designed so that it can be implemented on most or all IVR platforms.

- The interface is extensible to new IVR tasks. Work is underway to implement CRM Central IVR tasks for dial-pulse recognition, speech recognition, text-to-speech, and message recording.

- The interface provides the advantages and benefits of IVR system capabilities to CRM Central customers and applications.

- This interface provides the means to integrate CONVERSANT IVR into CRM Central sites and our customers' applications

- The package supports multiple IVR systems that are connected to and controlled by CRM Central.

Speech Capabilities

The speech played during a call is the system's main interaction with the caller. It is an important part of any application. All speech played as part of an application resides as UnixWare files in a mounted UnixWare file system.

There are several methods for developing speech:

- Record a professional speaker.

- Purchase a custom speech package from Avaya or an ISV

- Share or import speech already recorded for another application.

- Use one of the following optional feature packages:

  - Script Builder

  - Enhanced Basic Speech

  - Text-to-Speech

  - Voice@Work

  For more information on any of these packages, see Chapter 5, Feature Packages.

Coding and Storage

Once speech is recorded, it must be encoded and digitized into an acceptable format. There are several methods for digitizing speech. Use one of the following optional feature packages:

- Custom speech packages developed by Avaya or an independent service vendor (ISV)

- Script Builder

- Voice@Work

Digitized speech phrases are stored as digital data. The system then assigns a phrase number and stores the phrases in talkfiles. (Note that certain talkfile numbers are reserved for various optional features.) By default, talkfiles are stored in specific places on the system. Systems that have more than 72 telephone network connections can use a second hard disk drive (non-RAID) for speech storage.

For more information on developing speech and on talkfiles and their location, see *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition,* 585-313-217.

Speech Channel Capacities

The default coding method used for recording speech for the SSP circuit card is adaptive differential pulse code modulation (ADPCM) with a sampling rate of 32 Kbps.

Table 11 shows the playback and coding channel capacity for each speech processing circuit card for the various code types. All playback numbers are for single-speed playback.

Table 11. Speech Channel Capacities per Speech Processing Circuit Card

Coding Type	SSP Playback/Record Capacities
CELP 16 Kbps	120/60 — The level of one affects the other inversely. The combined maximum cannot exceed 180.
ADPCM 16/32 Kbps (32 is the default for an SSP card)	120/120 — The level of one affects the other inversely. The combined maximum cannot exceed 120.
PCM (Mu-law) 64 Kbps	120/120 — The level of one affects the other inversely. The combined maximum cannot exceed 120.

Speech Storage Capacities

The amount of space allocated for storing speech depends on your needs and your system. One speech block consists of 8 KB. The number of seconds per block depends on the coding rate of the speech-encoding method that you use.

Note: There is wasted space whenever a speech phrase does not fill a block. For example, enhanced basic speech is stored on an SSP circuit card at 32-Kbit ADPCM, with 2 seconds of speech per block. If a phrase is less than 2 seconds, the remaining space within that speech block is not available for other use.

Table 12 shows sample capacities for speech storage. Your system can have space allocated on more than one disk. You can allocate more space on this disk if you have it, or you can allocate additional space on another disk. The table shows samples for the default allocation for speech on the primary disk, which is 3 GB for non-RAID and 5 GB for RAID.

Table 12. Sample Capacities for Speech Storage

Coding Method	3,000-MB Default on Primary Disk (62,500 Speech Blocks)	Each Additional 18-GB Allocated (256,000 Speech Blocks)
16-Kbit CELP/ADPCM (4 seconds per block)	~432 hours	~2560 hours
32-Kbit ADPCM (2 seconds per block) (default for SSP card)	~213 hours	~1280 hours
64-Kbit PCM (Mu-law) (1 second per block)	~106 hours	~640 hours

Speech Administration Capacities   Table 13 illustrates the capacities associated with recording speech from the speech administration screens.

Table 13.   Speech Administration Capacities

Item	Maximum Capacity	Notes
Phrase length when recorded in Script Builder	240 seconds	Playing phrases consecutively eliminates the constraint
Phrase tag length	50 characters	

System Status and Monitoring

The system is set up with several mechanisms to help customers troubleshoot and correct problems. This section describes some of those mechanisms.

For more information on these commands and related menus and screens, see *CONVERSANT System Version 8.0 Administration,* 585-313-510.

Diagnostics   The diagnose procedure is used to perform diagnostics on E1/T1, speech processing circuit cards, or the CT bus. To fully diagnose the system hardware, you must diagnose all the circuit cards and the bus. Use the Configuration Management menu or the **diagnose card** and **diagnose bus** commands to run the diagnose procedures.

Platform diagnostics and extended RAID diagnostics are also available on the UCS 1000. These platform diagnostics are performed on the CPU complex and include tests for the CPU, interrupt and I/O controllers, memory, cache, PCI bridge devices, IDE controller, integrated Ethernet controllers, COM1, COM2, parallel port, VGA controller, and PMC devices. The RAID diagnostics include performing RAID Disk array controller hardware and SCSI device diagnostics. See Chapter 2, "Diagnostics," in *CONVERSANT System Reference*, 585-313-215.

System Monitor   System monitor is used to verify that each incoming telephone trunk and its associated E1/T1 circuit card is functioning properly. You can display the Voice Channel and Host Session Monitors through the System Monitor menus.

Use the System Monitor menus or the **sysmon** command to run the system monitor.

Trace   Trace capability allows you to trace the actions of a specified process or channel. It is one way to view how a call is being handled and therefore is a useful tool when troubleshooting problems in an application.

Use the Command Menu Trace Service menu or the **trace** command to run trace.

Local System Status and Alerting   The system uses messages to alert you to problems, potential problems, or a change in the status of the system. These message are collected in the Message Log Report and can be displayed using the Message Log Report Screen. Through the use of this Message Log Report, a customer or technician can detect, report, and fix problems quickly to minimize disruption to normal service.

For the procedure to run the Message Log Report, see *CONVERSANT System Version 8.0 Administration,* 585-313-510.

Remote Maintenance Circuit Card

The remote maintenance circuit card is included as standard equipment with all V8.0 CONVERSANT systems installed in the United States. Through a built-in modem, a technician or remote system administrator can log in to the system to observe or administer the platform.

Note: Additional feature functionality will be available on the remote maintenance circuit card for the UCS 1000 that was not available at the time of publication.

Reports

Reports offers the ability to create a compiled list of system statistics. This information can include the number of calls made to the system, transfer attempts, or call information for a specific day.

The Reports Administration screen gives access to system reports, including system call classification reports, call data detail reports, call data summary reports, message log reports, and traffic reports. The system enables you to tailor each report to your needs and specifications.

Table 14 illustrates the capacity information regarding system reports.

Table 14. Report Capacities

Report	Maximum Storage Capacity
Call Data Detail Report[1]	7 days of data
Call Classification Report	365 days of data
Report	**Maximum Storage Capacity**
Call Data Summary Report	7 days of data
Traffic Summary Report	7 days of data
Event Log Messages	500–20 Kbps messages (compressed)

1 Data from the current day plus previous 7 days is stored, and then summarized.

Access Security Gateway

The Access Security Gateway (ASG) feature is an optional authentication interface you can use to secure the logins on the CONVERSANT system. Whenever a dial-up port user begins a session on the system for purposes of administration or maintenance, the user must enter a valid login ID. If the ASG interface is activated, the system issues a numerical challenge. In order for the user to access the CONVERSANT administration and maintenance features, the user must enter the correct numerical response. By activating the ASG feature, you can reduce the possibility of unauthorized remote access to the system.

You administer ASG parameters to specify whether access to the system requires ASG authentication. You can assign this protection to all system administration maintenance ports or to a subset of those ports. If the port or login being used is not protected by ASG, the user can enter the system with the standard CONVERSANT login and password.

The following procedure describes how the ASG interface works:

1 At the beginning of a login session, the user is prompted to enter a login ID.

2 Upon receipt of the login ID, ASG generates a number based upon the system ASG secret key number and presents this 7-digit number as a challenge.

3 The user must have a hand-held device, called the ASG Key. The ASG Key must be set with an ASG secret key number that matches that of the user's ASG secret key number in the CONVERSANT system.

Note: For more information on using the ASG Key, see the *Access Security Gateway User's Guide*, 585-212-012.

4 The user enters the PIN and challenge number into the ASG Key.

5 The ASG Key generates and displays a unique, 7-digit numerical response that corresponds to the challenge number.

6 The user enters the response number at the `response:` prompt.

7 If the response supplied by the user corresponds to the numerical response expected by the CONVERSANT system, the authentication is successful and the user is logged in to the system.

8 If the response does not correspond, the user is not authenticated and is denied access to the system. Also, the failed authentication attempt is recorded in the system history log.

Note: The system administrator determines how many login attempts are permitted. If the user is not authenticated after that number of attempts, the system displays the message `INVALID LOGIN` and terminates the session.

Software Management

New to CONVERSANT Version 8.0 is the Software Management menu, which is available from **cvis_menu** to users with administration capabilities. The Software Management menu provides a simple interface for installing CONVERSANT software updates. The update may be a CD-ROM, floppy, or software that is downloaded from the Avaya support web site (found at http://support.avaya.com) Other options available from the Software Management menu include the ability to remove software updates, to display a listing of CONVERSANT software and to view the Software Management logs.

Go to http://support.avaya.com, follow the links for the CONVERSANT product and V8 release to find more information about CONVERSANT electronic updates.

Data Network Interfaces

The system supports the Transmission Control Protocol/Internet Protocol (TCP/IP) data network communication interface, through base software and hardware. TCP/IP is a process-to-process protocol. TCP/IP within the system provides high-speed data transmission over a 10/100 Mbit Ethernet LAN. The Ethernet driver package is part of the CONVERSANT base software. On the UCS 1000, dual integrated Ethernet LAN controllers reside on the CPU complex. The MAP/40P includes a PCI Ethernet LAN card.

Hardware RAID (UCS 1000 Only)

To prevent the data loss and work disruption that can occur when a hard disk drive fails. The UCS 1000 offers Hardware RAID level 5 as an option. RAID is a redundant array of independent disks. Data and parity information are stored across multiple hard disk drives in a process known as *striping*. For example, if there are three hard disk drives in a group, the data is separated into 64 KB blocks with block 1 of the data stored on SCSI drive 1, block 2 on SCSI drive 2, block 3 on SCSI disk drive 3, block 4 on SCSI disk drive 1, and so on. If a hard disk drive fails, data can be reconstructed completely from the remaining drives. Striping provides data redundancy while using much less storage space than that required by disk mirroring.

This feature also provides hot-swap capabilities, which means that system operators can replace a hard disk drive while the system remains in full operation. When a hard disk drive fails, a message is sent to the system operator, who can then remove the failed drive, install a new drive, and rebuild the data on the new drive, all without interrupting the system.

Hardware RAID is implemented with a PCI RAID controller PMC and associated RAID software and requires at least three SCSI hard disk drives.

Telephony Interfaces

The system connects to the public switched telephone network (PSTN) to communicate with external callers. This interface to the PSTN uses an analog or a digital connection to send information to callers. In some system applications, it also connects to private data networks so it can access host computer databases for information to complete certain types of calls.

The system supports asynchronous private data network interfaces. These interfaces provide connections from the system to other computing devices such as remote monitoring systems, as well as host computer databases.

Note: Analog connections are available on the MAP/40P only.

**Analog Telephony
Interfaces (MAP/40P
Only)**

When the right combination of base and optional features is used, analog interfaces can be accomplished through the tip/ring circuit card.

In an analog configuration, the system provides connectivity to private branch exchange and automatic call distribution (ACD) customer-premise equipment. It also supports interfaces to local telephone exchange carriers.

Supported analog connections include:

- Connection to 5ESS® switch

- Connection to the following Avaya private branch exchanges:

    ~ DEFINITY ECS
    ~ DEFINITY G1/G3
    ~ DEFINITY G2
    ~ Dimension
    ~ Merlin Legend
    ~ System 25
    ~ System 75
    ~ System 85

- Connections to other switch facilities that match V8.0 analog requirements

See *CONVERSANT System Version 8.0 Communication Development*, 585-313-220, for more information on analog interfaces relative to your system design.

See Chapter 5, "Switch Interfaces," in *CONVERSANT System Version 8.0 Administration,* 585-313-508, for more information on analog connection switch settings.

**Digital Telephony
Interfaces**

Digital interfaces are established in one of the following ways, depending on the type of server:

- With the E1/T1 (CWB21, formerly CWB2) circuit card and its rear I/O transition card (CYD21, formerly CYD2) on the UCS 1000

- With the E1/T1 (AYC21) circuit card on the MAP/40P

Supported protocols are T1 E&M, E1 CAS, loop start FXS, ground start FXS, and PRI. For descriptions of these packages, see Chapter 5, Feature Packages.

In a digital configuration, the system provides connectivity through an E1/T1 circuit to digital network facilities such as a central office switch. E1/T1 connections also provide dialed number identification service (DNIS) information for automation of incoming calls for customers with multiple 800 or 900 numbers. To have DNIS with FXS, you must use the Adjunct/Switch Application Interface (ASAI) or Converse Vector Step.

Digital E1/T1 interfaces also support a line side connection of a voice system and a PBX through the loop start FXS protocol. ASAI is supported on loop start FXS T1/E1 only when using DEFINITY ECS switches.

See *CONVERSANT System Version 8.0 Communication Development*, 585-313-220, for more information on digital interfaces.

See Chapter 5, "Switch Interfaces," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for more information on digital connection switch settings.

Data Network

The system provides, through base and optional software and hardware, support for several data network communication interfaces including:

- 3270 protocols provided by Interface Systems, Inc. (ISI) (see Speech Recognition Packages in Chapter 5, Feature Packages)

- TCP/IP (see *CONVERSANT System Version 8.0 Communication Development*, 585-313-220)

- SQL*Net (see Database Environment in this chapter)

- Asynchronous (see Multi-Port Asynchronous Communications Interface in Chapter 5, Feature Packages)

Terminal Emulation

The following terminal types are supported for administrative screens under the UnixWare operating system:

- AT386 (console)

- DEFINITY Site Administration (DSA) – Emulates 4410

- 4425 (Exceed)

- 715 BCT, 605

- Sun terminal

- Sun shell tool

- xterm (Exceed)

Database Environment

The system uses the ORACLE Relational Database Management System (RDBMS) 8.1.5 software to provide a database system and management tools. However, because not all systems require database functionality, the ORACLE RDBMS is an optional, rather than standard, feature. ORACLE RDBMS is described in Chapter 5, Feature Packages.

Note: If ORACLE is not installed, the report data is stored in flat files. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for additional information.

5 Feature Packages

Overview

A *feature package* is software and/or hardware used to enhance the operation or capacities of the base system. Feature packages are not required for the basic server and voice system to function and are not supplied with the base system. Feature packages are purchased separately from the base software.

This chapter describes each feature package available with the system and states software and hardware requirements. Note that the software and hardware requirements assume that the base software and hardware required for the platform to run are already installed.

The following feature packages are available on both the UCS 1000 and the MAP/40P:

- Adjunct/Switch Application Interface (page 58)

- Application Solutions (page 59)

- Call Bridge Application (page 59)

- Call Classification Analysis (page 68)

- Computer Telephony Integration (page 69)

- Data Collection Toolkit (page 70)

- Dial Pulse Recognition (page 70)

- E1 CAS Protocol (page 71)

- Enhanced Basic Speech (page 71)

- FAX (page 72)

- Host Interface (page 76)

- Line Side or FXS Digital Protocol (page 77)

- Multi-Port Asynchronous Communications Interface (page 78)

- ORACLE RDBMS (page 79)

- Primary Rate Interface (page 81)

- Script Builder (page 83)

- Speech Recognition Packages (page 85)

- T1 E&M Protocol (page 90)

- Text-to-Speech (page 90)

- Voice@Work (page 91)

Adjunct/Switch Application Interface

The Adjunct/Switch Application Interface (ASAI) provides a local area network interface between DEFINITY® Generic 3 and adjuncts. The ASAI feature package provides a set of predefined capabilities. These capabilities are built on top of the ASAI interface and allow the user to adjust certain application parameters within a prepackaged context.

This digital signaling interface allows the voice system to monitor and route calls on the DEFINITY Generic 3. This interface operates over an Ethernet TCP/IP link connected to MAPD in CVLAN mode. When used in conjunction with digital line side T1 or E1 interfaces, the ASAI interface allows the voice system to monitor and control incoming calls. It also allows access to ANI and DNIS and supports ASAI transfer, which is faster and more reliable than a flash transfer.

The ASAI package now includes the following capabilities:

- Universal Call ID (UCID) — UCID provides a unique identifier (8-byte binary or 20-character ASCII) for every call in a DEFINITY call center customer environment. UCID allows for uniform data-tracking for all call-related data in a call center, regardless of the system. DEFINITY uses the ASAI interface to pass the UCID to adjuncts.

- ANI Information Indicator (ANI-II) — ANI-II provides a number that indicates the class of service of the customer who is calling, such as residential, coin, or wireless.

- User-to-User Information element (UUI) — UUI allows for the customer to specify additional information to be passed in external function arguments, which can contain up to 32 bytes of information.

The full CallVisor CVLAN client of ASAI interface software is also provided with the ASAI feature package to facilitate building ASAI applications in C code. Avaya Professional Services provides development expertise in ASAI and the system, and the Solutions Delivery Organization (SDO) and other independent software vendors can develop custom applications using the ASAI API, thereby providing the optimum solution when you require full ASAI integration with the application.

See the following documentation for additional information about CallVisor PC:

- DEFINITY ECS CallVisor PC LAN over MAPD Installation, Administration, and Maintenance, 585-230-113

- *DEFINITY Enterprise Communications Server Release 6 CallVisor ASAI Technical Reference*, 555-230-220

- *DEFINITY Enterprise Communications Server Release 6 CallVisor ASAI Protocol Reference*, 555-230-221

Software and Hardware Requirements

The following software packages must be installed for implementation of the ASAI feature:

- Avaya CALLVISOR PC CVLAN CLIENT

- Adjunct/Switch Application Interface Package

Hardware Requirements

The ASAI feature package requires an Ethernet signaling connection with the DEFINITY Generic 3. The DEFINITY Generic 3 must also have a MAPD in CVLAN mode that connects to the Ethernet LAN.

Table 16 lists ASAI capacities.

Table 16.   ASAI Capacities

Attribute	UCS 1000	MAP/40P
Maximum number of line-side T1 lines between the PBX and the voice system	144	48
Maximum number of line-side E1 lines between the PBX and the voice system	150	96

See the DEFINITY documentation library for information on hardware and software requirements when interfacing the voice system with a DEFINITY system. For more information about MAPD installation see *CallVisor PC LAN over MAPD Installation, Administration, and Maintenance*, 555-230-113.

For more information about the ASAI feature package, see Chapter 3, "Adjunct/Switch Application Interface," in *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

Call Bridge Application

The Call Bridge Application feature package allows an application to place an outbound call to a third party and maintain the connection while the caller interacts with the third party. When the third party hangs up, the script continues with the next action step. The call bridge feature is used most often when call transfer is not available on the PBX or from the central office.

Application Solutions

CONVERSANT application solutions provides a combination of applications for call centers and other business needs. These applications enhance information exchange, provide access to pertinent caller information, and allow routing to help manage call traffic. Through automation, these solutions provide services to callers even when live agents are unavailable. The applications also make the automated approach more appealing for callers who are waiting on hold.

Form Manager

Form Manager, from Centerpoint Solutions, is a "friendly" interface to the CONVERSANT system that allows you to create and activate forms and surveys directly from a Windows PC. Forms or surveys can be created by virtually anyone familiar with Windows, so companies can dramatically reduce their costs to process changes of address, catalog orders, or almost any data collection function not requiring an agent's direct involvement.

Many companies, large and small, need automated telephone information collection methods that are driven by voice response technology. Typical solutions often involve high cost and complexity. One reason for this has been the necessity to program scripts directly on the CONVERSANT system using the Script Builder programming language interface.

Figure 11 shows an example of Form Manager versus the traditional Script Builder user interface.

Figure 11.   Form Manager versus Script Builder
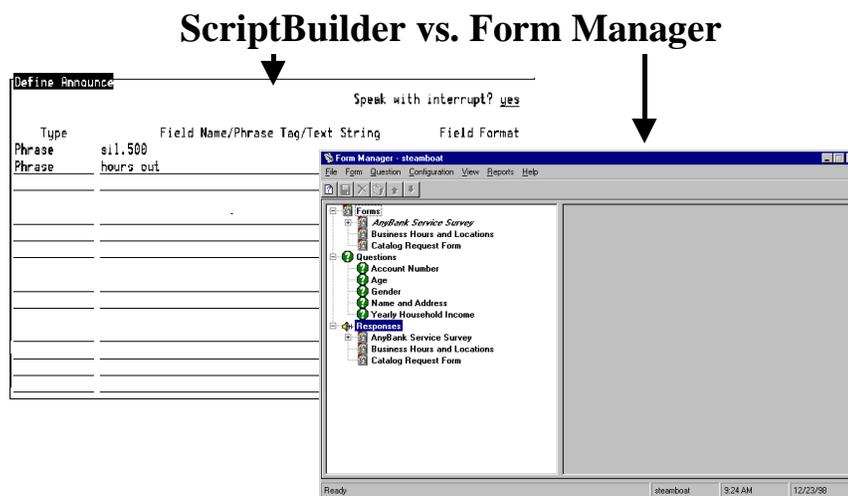
Key Features

- Create simple or complex forms and surveys directly from the Windows user interface where the customer's responses determine what happens next, including whether to transfer or end a call. Sophisticated call flows can be created with no programming skills required.

- View, print, and listen to customers' responses directly from the PC or from the CONVERSANT system.

- Before putting a form into production, confirm its logical flow using Form Manager's seven-point validation feature.

- Use Form Manager's reusable global question pool to save recording time and expense, since each global question you create can be used over and over in new forms.

Hardware Requirements
- Minimum PC hardware requirements:

  - ~ 233-MHz Pentium Processor
  - ~ 128 MB of RAM
  - ~ 48 MB of available hard disk space
  - ~ Ethernet connection
  - ~ Sound card and speakers (recommended)
  - ~ CD-ROM

- Operating system — The Form Manager client software is compatible with the following operating systems:

  - ~ Windows 95/98
  - ~ Windows NT Workstation 4.0
  - ~ Windows NT Server 4.0

Software Requirements
- ODBC & SQL*Net – The Avaya CONVERSANT system utilizes a native Oracle database. ODBC & SQL*Net client must be installed on the client PC and SQL*Net server must be installed on the CONVERSANT system. To communicate with this database, the client PC must be set up and configured with both an ODBC driver and Oracle's SQL*Net software. Form Manager requires that these be installed and running on the CONVERSANT system before installing the Pipeline/Form Manager programs.

- Enhanced Basic Speech – US English - Female

- Pipeline 2.8 or later (two diskettes)

Note: This package must be installed first.
- Form Manager (two diskettes)

CallBack Manager   CallBack Manager, from Centerpoint Solutions, gives you the power to monitor phone queues and manage customer callback requests from a Microsoft Windows– based PC that is linked to a CONVERSANT system. The Windows interface provides point-and-click navigation, easily understandable graphics, and an intuitive system of menus and icons.

With CallBack Manager, incoming callers have the option of waiting for the next available agent or leaving a message requesting a return call. Customers can even schedule a specific time and date for the callback, or request to be called back as soon as an agent is available. CallBack Manager can also tell customers the length of time they can expect to remain on hold until an agent is available.

The callback requests received by CallBack Manager are sent to a callback queue. A priority level is automatically assigned to each message based on the vector directory number (VDN) defined by the administrator. This priority level determines when the callback message is forwarded to an agent and how many callback tries aremade before attempts to reach the customer are discontinued.

When agents become available to return calls, they can listen to the customer's message, hear other information about the call, and act on the call that is, launch, reschedule, or skip it.

Key Features

- CallBack Manager displays all customer messages and their status for a selected CONVERSANT system.

- Callback requests can be examined in detail and customers' messages can be played back right from the supervisor's computer.

- Individual callbacks can be rescheduled, cancelled, or reprioritized. One or all calls in the callback queue can be immediately launched.

- Reports can be arranged in tabular or graphical format with several sorting options, which provides flexible and meaningful information.

Hardware Requirements

- Client requirements

    ~ Hardware — Minimum PC hardware requirements:

        - 90-MHz Pentium processor

        - 32 MB of RAM

        - 30 MB of available hard disk space

        - CD-ROM for loading CallBack Manager client software

        - Network interface card (Ethernet)

        - Sound card and speakers (required for PC playback of files)

    ~ Operating systems — The CallBack Manager client software is compatible with the following operating systems:

        - Windows 95/98

        - Windows NT Workstation 4.0

        - Windows NT Server 4.0

- CONVERSANT system requirements

    ~ Adequate disk storage
    ~ LAN connectivity
    ~ Dedicated voice ports to process calls

Software Requirements

• CenterPoint Solutions CONVERSANT software

   The following packages must be installed on the CONVERSANT for CallBack Manager to function:

   ~ ODBC & SQL*Net - The Avaya CONVERSANT system utilizes a native ORACLE database. ODBC & SQL*Net client must be installed on the client PC and SQL*Net server must be installed on the CONVERSANT. To communicate with this database, the client PC must be setup and configured with both an ODBC driver and ORACLE SQL*Net software. CallBack Manager requires that these be installed and running on the CONVERSANT system before installing the Pipeline/CallBack Manager programs.

   ~ Enhanced Basic Speech - US English - Female

   ~ CenterPoint Solutions Pipeline 2.8 or later (two diskettes)

Note: This package must be installed before CallBack Manager.

   ~ CallBack Manager (three diskettes)

Note: If the CONVERSANT system used for CallBack Manager is also running Agent Assist 2.0, 2.5, or 2.6, it is necessary to upgrade Agent Assist to version 2.7 or later. Contact Avaya for an upgrade.

• Avaya DEFINITY switch

   CallBack Manager requires a Avaya DEFINITY software version that is compatible with the CONVERSE feature found in the call center Call Vectoring suite of software.

Remote Administration   Remote Administration, from eComServer, provides an alternative to the menu-based UNIX user interface for daily administration and maintenance of the CONVERSANT system. The Remote Administration provides a graphical user interface (GUI) to perform the following tasks:

• Assign and unassign channels

• View standard and custom reports

• View host connections

• Get ASAI status

• View the system error log

• Perform common system operations

Hardware Requirements

- CONVERSANT system

  - ~ Adequate disk space to store incoming system messages. The exact amount of disk space required depends on the number and length of messages, and how long the messages will be stored.

  - ~ TCP/IP connectivity

- Client system

  - ~ P100 processor or higher

  - ~ At least 32 MB of memory

  - ~ CD-ROM drive

  - ~ 14-inch monitor

  - ~ Network card (for TCP/IP connectivity through LAN or dial-up connection)

  - ~ Printer (recommended)

Software Requirements

The client system must be running one of the following operating system:

- Windows 95

- Windows 98

- Windows NT 4.0

OneManage

OneManage, from eComServer, provides a GUI interface for managing multiple CONVERSANT systems. It allows customers to:

- ~ Send and assign Script Builder applications to multiple CONVERSANT systems through a local area network connection.

- ~ Maintain multiple versions of applications for disaster-recovery needs

Note: Voice@Work capabilities to use OneManage will be available soon.

OneManage provides the ability to consolidate reports and system error status for any number of CONVERSANT systems that are selected. It is useful for development, provisioning and operations personnel. In addition to a Windows C++ version, this product is also available in Java for cross-platform support.

SNMP Monitor

SNMP Monitor, from eComServer, is a state-of-the-art fault management and monitoring system for CONVERSANT systems. It allows customers to proactively monitor the status of CONVERSANT systems from a desktop and/or SNMP Manager station. With SNMP (real time) monitoring, faults can be identified and corrected before callers are adversely affected.

Companies use SNMP for enterprise-wide systems management. SNMP Monitor extends this ability to CONVERSANT systems.

Agent Assist Solutions   The Agent Assist solutions, from Centerpoint Solutions, are personal productivity tools for call center agents and managers. These tools provide a Windows-based graphical interface to call center PC-based workstations, giving agents and their managers flexible capabilities.

The Agent Assist solutions provide the following applications:

- Agent Observing

  This application allows automatic scheduling, monitoring, and recording of agent conversations. It also allows message playback and storage at any time, which is convenient to both the agent and supervisor. This application includes the Agent Now! application (see below).

- Agent Now!

  This application allows a supervisor to record calls for assigned agents on an on-demand basis. This application is a part of the Agent Observing application.

- Customer Experience Observation (CEO)

  This application records calls from the time that callers enter the call center until they hang up. Everything a caller hears and the buttons they press on the telephone keypad are recorded for later retrieval and management.

The following are available as optional Agent Assist applications:

- Malicious Call Recording

  This optional application provides on-demand recording of caller conversations. You can take notes with an on-screen notepad and store calling party information, such as ANI, extension number, trunk id, or other pertinent information.

- Spontaneous Telephony Agent Recording (STAR)

  This optional application enables agents to turn call recording on and off and to use the on-screen notepad to record details about a particular recording.

For more information on the availability of Agent Assist solutions and its application solutions, contact your Avaya account representative.

Optional Feature Package Enhancements   The following optional feature packages may be purchased to enhance your application solutions. Refer to the information about these feature packages in this chapter.

- Enhanced Basic Speech

- WholeWord speech recognition

- Dial Pulse Recognition (DPR)

- Text-To-Speech (TTS)

- Proxy TTS (PTTS)

- FlexWord speech recognition

- Natural Language speech recognition

- Call classification analysis

Software and Hardware Requirements

All applications require the following to be installed and operational:

- Agent Assist solutions software feature packages

Note: The CONVERSANT system must be running on V8.0 version software for these call center applications.

- One of the following versions of the DEFINITY switches:

  ~ DEFINITY G3V4 or DEFINITY ECS (G3V5) for domestic installations

  ~ DEFINITY ECS (G3V5) for global installations

- TCP/IP connectivity between the clients (PCs) and the CONVERSANT system. You need a standard Ethernet LAN circuit card or token/ring circuit card and a WinSock driver (winsock.dll) installed on your personal computer. These tools also require TCP/IP software and a sound card. TCP/IP software is part of UnixWare 7 and is offered as part of the base system software. However, you must have installed the CONVERSANT SQL*Net TCP/IP package to access the database on a remote system.

PC Hardware Requirements

The hardware listed below is required for the installation and operation of Agent Assist solutions applications:

- VGA monitor (or better)

- Microsoft-compatible mouse

- 486DX 33-MHz personal computer (or higher)

  Your personal computer requires at least 8 MB of RAM and a hard drive with at least 5 MB of available space for the applications to function. For optimal results, 16 MB of RAM and a hard drive with at least 20 MB of available space is recommended.

  The required amount of available disk space depends on the number and complexity of the applications you plan to develop on your personal computer and whether or not you plan to record speech. You will need considerably more disk space if you plan to record speech. For help on determining the hard drive requirements for your application, contact the Technical Support Center.

- 3-1/2-inch diskette drive designed for reading 1.44-MB diskettes

PC Software Requirements

Your personal computer must have the following software installed:

- MS-DOS Version 3.1 or higher

- Microsoft Windows 95, Microsoft Windows NT 3.51 (or higher), or Microsoft Windows Version 3.1

Note: Graphical System Monitor can also run on Microsoft Windows for Workgroups 3.11, but is not recommended for use with Microsoft Windows Version 3.1.

- Microsoft Excel 5.0 (or higher) – required for customer satisfaction survey only

Optional Speech Recording Equipment

This section includes information about equipment for recording speech.

- Sound Blaster compatible card

    A Sound Blaster compatible card is recommended for use with customer satisfaction survey and graphical system monitor.

    The sound card allows you to listen to speech that you record. You can use this speech during simulation, as well as on the system. You can run some call center applications without a sound card; however, you will not be able to record or listen to speech during the simulation mode.

Note: Speech that you record may not have the fidelity of the professionally recorded speech available from Avaya. If you are interested in professionally recorded speech once you have installed your application on your system, contact your local Avaya account team.

- Microphone

    Although any microphone is sufficient for recording speech with Agent Assist solutions, the quality of the microphone you choose dramatically affects the fidelity of your recorded speech.

- Speaker

    Although any speaker is sufficient for listening to recorded speech with Agent Assist solutions, the quality of the speaker you choose affects the fidelity of your recorded speech.

Event Manager

The Agent Assist Event Manager, from Centerpoint Solutions, enables the Agent Assist to schedule recordings of conversations rather than just a time period during which the conversations may occur. Using the Agent Assist Event Manager, you can record entire conversations without also having to record the silence between calls or during agent down-time.

Hardware Requirements

- Client requirements

    ~ Hardware — Minimum PC hardware requirements:

    - 90-MHz Pentium Processor

    - 32 MB of RAM

    - 30 MB of available hard disk space

    - CD-ROM for loading client software

    - Network Interface Card (Ethernet)

    - Sound card and speakers (required for PC playback of files)

    ~ Operating systems — The Event Manager client software is compatible with the following operating systems:

    - Windows 95/98

    - Windows NT Workstation 4.0

    - Windows NT Server 4.0

- CONVERSANT system requirements

    ~ LAN connectivity

Software Requirements
- Centerpoint Solutions CONVERSANT Software

   The following packages must be installed on the CONVERSANT for CallBack Manager to function:

   ~ SQL*Net or NET*
   ~ Centerpoint Solutions Pipeline 2.8 or later (two diskettes).
   ~ Agent Assist (four diskettes)
- Avaya DEFINITY PBX

   Event Manager requires a Avaya DEFINITY software version that is compatible with the CONVERSE feature found in the call center Call Vectoring suite of software.

Call Classification Analysis

Call Classification Analysis (CCA) allows application developers to classify the disposition of originated and transferred calls. Some of the dispositions include busy, answered, ring no-answer, and reorder.

The standard level of call classification analysis, intelligent CCA, is included with the base V8.0 system software. Intelligent CCA is needed to make call transfers and call bridges, as described in *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-206.

For enhanced level of call classification analysis, Full CCA is available as an optional feature package in V8.0. Full CCA is the feature package discussed in this section.

Note: Full CCA is supported only in the United States and Canada.

Full CCA   Full CCA provides a more complete interpretation of network progress tones than does base intelligent CCA.

Full CCA also provides the following additional advantages over intelligent call classification analysis:

- Better answer detection using a more sophisticated voice-energy detector

- Detection of busy and ringback tones generated by older or faulty equipment that does not conform to precise tone-plan standards

- Detection of special information tones (SITs) that indicate why an originated call failed. (This feature package allows for reliable call classification over the public switched network.)

- Detection of modem tones.

- T1, Line-side T1, and PRI lines can be used

Full CCA can be activated when a call is dialed out during a flash transfer, a call bridge (internal transfer), or a call origination.

Software and Hardware Requirements	This feature package requires the V8.0 Call Classification Analysis package software and at least one speech and signal processor (SSP) circuit card to be installed and operational.

Note: The SSP card must be installed in the system before you install the CCA software.

SSP Channel Capacities for CCA	A single SSP card can handle up to 24 simultaneous channels of CCA if it is dedicated exclusively to CCA.

For more information on this feature package, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, and *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

Computer Telephony Integration

Computer Telephony Integration (CTI) lets Script Builder and Voice@Work applications communicate with a CentreVu Computer Telephony (CVCT) server that controls a DEFINITY PBX and/or interacts with a Siebel desktop that has been set up as a CVCT client.

Applications can make function calls to the associated DIP that will:

*   Put calls on hold.

*   Retrieve calls from hold.

*   Disconnect calls.

*   Transfer two calls together.

*   Conference two calls together.

*   Report information to the application about a call (port extension, call ID, ANI, Called Number).

*   Report the state of each call to the application.

*   Provide answer notification to a voice script.

*   Dial a call.

*   Get and report private data (UUI and UCID information) to the application.

For more information on this feature package, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, *CONVERSANT System Version 8.0 Communication Development*, 585-313-220, and *CONVERSANT System Version 8.0 Application Development with Siebel eBusiness*, 585-310-784.

Data Collection Toolkit

The Data Collection Toolkit feature package provides support for collecting speech samples by authorized Avaya affiliates who then build custom speech recognition models for the collected data. This data is also forwarded and archived at Avaya for future speech modeling. Such data collection and development is key for producing and refining WholeWord speech recognition vocabularies. This is because developing a vocabulary for WholeWord speech recognition requires a large number of speech samples for each utterance or word. Because of the need for extremely uniform and accurate sample taking, this package is only used by Avaya or Avaya development partners.

Dial Pulse Recognition

The Dial Pulse Recognition (DPR) feature package allows users with rotary telephones or pushbutton telephones that generate dial pulses to interact with system applications. DPR processes the caller input by using a recognizer that relies on the SSP circuit card. (Touchtone input requires resources from the telephony interface circuit card.) DPR can be added on a channels-per-system basis to all supported digital interfaces.

DPR recognizes the digits on a rotary telephone, which consists of 0 through 9, but not the asterisk (*) or pound sign (#). Barge-in, also referred to as "dial-through," is also supported. Barge-in allows callers to enter dial-pulse input during the system prompts. They do not have to listen to the entire prompt before responding.

DPR is accessible through Script Builder applications. DPR can work simultaneously with either WholeWord or FlexWord speech recognition, although the WholeWord and FlexWord recognizers are not able to work together. Combining DPR with a speech recognizer gives the caller the choice of using dial-pulse or touchtone input, as well as spoken input. If the standard recognition types with this feature package do not meet your needs, Avaya can develop custom recognition types for you. For additional information, contact your Avaya sales representative.

For more information, see *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition*, 585-313-218.

Hardware Requirements
At least one SSP circuit card and one E1/T1 circuit card must be installed and operational.

E1 CAS Protocol

The E1 channel associated signaling (CAS) protocol feature package works with the E1/T1 (CWB21, formerly CWB2) circuit card and provides E1 signaling types. This protocol is used with a switch and is compatible with CAS protocols in Mexico, Australia, Brazil, and Argentina.

For more information, see *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

Hardware and Software Requirements

At least one E1/T1 circuit card must be installed and operational.

This feature requires one of the following packages to be installed:

- E1 CAS R2 MFC Interface Package - Argentina

- E1 CAS R2 MFC Interface Package - Brazil

- E1 CAS R2 Interface Package - Australia

- E1 CAS R2 MFC Interface Package - Mexico

Enhanced Basic Speech

The enhanced basic speech vocabulary package (called *standard speech* in previous releases) includes simple words that are frequently used to provide information to callers during transactions. In V8.0, enhanced basic speech has been standardized to include the phrases needed to speak numeric, date, and monetary quantities. The range of numeric, date, and monetary quantities that can be spoken is the same as in previous releases.

A maximum of one language can be used per application. Multiple languages can be installed on a system, and multiple applications can be running simultaneously, but only one language can be active per each application.

Enhanced basic speech is available in the following languages and voices:

- Australian English (female voice)

- Brazilian Portuguese (female voice)

- Canadian French (female voice)

- Cantonese Chinese (female voice)

- Castilian Spanish (female voice)

- Czech (female voice)

- Dutch (female voice)

- French (female voice)

- German (female voice)

- Hindi (female voice)

- Hungarian (female)

- Indonesian (female voice)

- Italian (female voice)

- Japanese (female voice)

- Korean (female voice)

- Latin-American Spanish (female voice)

- Malay (female voice)

- Mandarin Chinese (female voice)

- Polish (female voice)

- Slovak (female voice)

- Thai (female voice)

- United Kingdom (UK) English (female voice)

- United States (US) English (male and female voices)

Software Requirements This feature requires that at least one CONVERSANT Enhanced Basic Speech optional software language package be installed and operational.

For more detailed information on Enhanced Basic Speech, see *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition*, 585-313-218.

FAX

With the Next Generation FAX feature package, you can send and receive faxes. IRAPI commands are used to control the process.

For more information, see *CONVERSANT System Version 8.0 Application Development with Advanced Methods*, 585-313-216.

Hardware Requirement At least one SSP circuit card must be installed and operational.

FAX Actions

The FAX Action feature package allows you to send faxes to callers of system applications. You can also receive faxes from system application callers.

The FAX Actions package is easy to use and can be incorporated into any Script Builder or Voice@Work application.

FAX Actions allows you to:

- Transmit a stored graphic image to the caller.

- Transmit dynamically created text information to the caller. (Note that you can have more than one text-to-fax conversion operating at the same time, but performance will decline. More than two simultaneous conversions may not be recommended, depending on the number of channels available.)

- Attach a customized cover page to the fax information requested by the caller.

- Receive a fax from the caller.

- Develop applications that send faxes to callers or receive faxes from callers quickly and easily.

- Integrate fax capabilities into existing CONVERSANT system applications.

- Automatically retry numbers if the called fax machine is busy.

- Transmit faxes immediately or at a scheduled time

- Support both tip/ring and E1/T1 callers.

Note: Tip/ring circuit cards are supported on the MAP/40P only.

- Transmit multiple faxes to callers.

- Support international callers and dialing through restricted trunks that require the entry of special codes in addition to a normal dialing string.

Software and Hardware Requirements

To use the FAX Actions package, you require:

- A functional CONVERSANT Version 8.0 system

- Script Builder or Voice@Work

- The following feature packages:

    ~ Next Generation FAX Package
    ~ CONVERSANT Script Builder Fax Actions
    ~ CONVERSANT FAX Set

- Either a speech and signal processing (SSP) card or a tip/ring card

Note: Tip/ring circuit cards are supported on the MAP/40P only.

Use the actions to incorporate fax functionality into your system application. You use the FAX Actions administrative windows to load the graphical images your application transmits to the caller. Text files can be created in advance or "in real-time" based upon caller input, if desired, and then transmitted to the caller. Faxes can be received from callers and placed into any directory specified by your application.

Some Uses for FAX Actions in Applications

The following list suggests how to use FAX Actions in various applications:

• Company brochures

Callers interact with an application to request product brochures by fax transmission. The product brochures may be sent immediately or at a later time when the telephone rates are lower. They may also be sent on the current call if the caller is calling from a fax machine.

• Bank account records

Callers enter an account number and then receive a fax of that account status including a list of the last 20 checks that were cleared through the account. Callers can fax their loan application into the system.

• Real estate information

Prospective home buyers notice a sign in the front yard of a house they are interested in purchasing. They call the number on the sign, enter the house identification code, then receive a fax of the house data sheet including a floor plan, asking price, and the name of the real estate agent.

• Company savings plan records

Employees call the automated administrator of their company savings plan and request the most current account statement. They can then get their latest account statements immediately via fax, instead of waiting until the next quarterly statement.

• Medical records

Physicians call a single telephone number and listen via text-to-speech (TTS) to up-to-date patient records supplied by the hospital, pharmacy, or laboratory. They can then have the medical records faxed to them in their automobile or office.

• Customer service information

Customers call an application that allows them to receive faxes about product/system maintenance issues and the resolutions to those issues. They can listen to the issue resolutions via audiotext or TTS or can request a fax of the issue resolution. If they want immediate attention, they can transfer to a customer service agent.

• Hotel and conference services

A hotel simultaneously hosting two industry conferences can provide an automated service to organizers of both conferences. These services allow conference attendees to automatically register and pay for the conference, receive a fax of their confirmed reservation, and receive a fax of a map that provides instructions on how to get to the hotel. The service also allows attendees to hear conference agendas and descriptions of technical sessions, receive faxes about both conferences, register for technical tutorials, receive a faxed registration confirmation, and listen to a replay of the conference keynote speech which is automatically added to their room charge.

- Tax form distribution

    Corporate and individual tax payers call into an application that allows them to retrieve tax forms and directions for their use. Callers may also leave their completed tax form on the system.

- Callers queued in ACD

    Callers who reach a service bureau are placed in an automatic call distributor (ACD) queue awaiting the availability of an organization representative. While in the ACD, callers listen to information about new products and services and can elect to receive information about these products and services via fax.

- Travel and airline reservations

    An airline or travel agency offers customers the option of receiving a fax of all flights that are consistent with their travel needs. Once a reservation is made, the customer can receive a faxed confirmation of the travel arrangement.

- News or wire service

    Subscribers to a newspapers, other publications, and wire service can receive late-breaking news reports via fax by dialing a voice-response application.

- Brokerage services

    A brokerage house offers its callers a voice-response service that allows the caller to buy and sell stocks and bonds. The caller receives a fax confirming the transaction.

- Shipping

    Shipping company customers dial a voice-response application and request a fax with the latest status information about their shipping job and/or a duplicate of their bill of lading.

- Order entry or verification

    A manufacturer's representative contacts a supplier via the supplier's voice-response application and requests several spare parts. The representative receives a fax with the order confirmation.

    For more information on this feature package, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, or *Using Voice@Work*, 585-313-207.

FAX_Zapper   FAX_Zapper is a user-modifiable, remotely administrable fax-back or fax-on-demand application. It allow callers to:

- Retrieve faxes of their choosing from a menu of available faxes. Faxes can be sent to any fax machine or directly to the caller, if calling from a fax machine.

- Send voice-annotated faxes to the system fax mailbox.

- Reach an attendant.

- Transfer to an extension.

- Listen to an information announcement.

The application can be modified from the system console through Script Builder and the FAX Actions administrative screens, through Voice@Work, or remotely using a telephone or fax machine. Remotely the user can:

- Administer the main system prompts.

- Change faxes available for callers to retrieve.

The FAX_Zapper software is included in the CONVERSANT FAX Set as a set of three diskettes.

For more information on FAX_Zapper, see Chapter 8, "Using Optional Features," of *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, and *Using Voice@Work*, 585-313-207.

Host Interface

The Interface Systems, Inc. (ISI) TN3270 host interface software provides access to IBM Mainframe applications by providing a 3270 Mod 2-5 Terminal emulator and programmable interface to look like an IBM 3270 terminal. The TN3270 software uses a TCP/IP connection to a TNSERVER system that physically connects to the IBM mainframe.

ISI SNA 3270 host interface software (and optionally hardware) provides access to IBM mainframe application by providing a 3270 terminal emulator and programmable interface to look like an IBM 3270 terminal. Additionally, the SNA 3270 host interface emulates an IBM 3274-41C or 3174-01R cluster controller with up to 128 logical units (LUS), that is, 3278 Model 2-5 terminals, connected to it. The connection to the host is typically done by linking to a front end processor (FEP) using synchronous data link control (SDLC) protocol (plus special hardware), token ring data streams (plus special hardware), or SNA protocol over LLC2 (no special hardware).

Table 17 lists host interface capacities.

Table 17.   Host Interface Capacities

Item	Max. Number	Notes
Host screen initial time-out	300 seconds	Amount of time to wait for any screen to arrive from host (10 is recommended; the default is 60).
Logical Unit availability time-out	300 seconds	Time to wait for Logical Unit to become available while the telephone rings before answering.
Unrecognized screen time-out	300 seconds	Time to wait for valid screens to become available after GET_HOST (returns invalid screen).
Number of Logical Units	128	
Logins/passwords for host interface	128	Must have same amount as the number of Logical Units specified.
		1 of 2

Table 17. Host Interface Capacities

Item	Max. Number	Notes
Shared host applications	8	Multiple applications sharing the same host application.
Host screen identifier length in characters when defining host screens	128	
Field length in characters when used in host screens	128	
Data passed per host screen, in bytes	988 - X	X = the number of fields defined (application dependent). Define a second screen if additional bytes are required.

2 of 2

For more information on this feature and other features that use host interface communications, see *CONVERSANT System Version 8.0 Administration*, 585-313-510.

Line Side or FXS Digital Protocol

The line side digital protocol set has been expanded. The protocol formerly called "Line Side T1 for Definity" is a standard loop start Foreign eXchange Station (FXS) protocol specified in the ANSI generic PBX requirements (ANSI TIA/EIA-464-B-1996, section 6.2.3). In addition to the loop start version of the protocol, a ground start version of the protocol (TIA/EIA-464-B-1996, section 6.2.4) is also provided. These two protocols are widely supported by customer-based switches, central office switches, and channel banks under names like "line side digital," "FXS," or "off premise station (OPS)." Purchase of the FXS digital feature provides both protocols. These protocols will work over digital cards configured as T1 or E1. Switches known to support either or both of the loop start and ground start FXS protocols include Avaya DEFINITY, Nortel Meridian, and Rockwell Spectrum.

Line side T1 provides 24-channel interface (23 voice + 1 signaling). Line side E1 provides a 32-channel interface (30 voice + 2 signaling) between a customer-based switch and the V8.0 CONVERSANT system. Both significantly improve system connectivity and reduced the number of cards required to support multiple channels. Both also provide ASAI compatibility with DEFINITY and detection of "forward disconnect" from far end.

Software and Hardware Requirements

This feature package requires that one or more of each of the following software packages and hardware components be installed and operational:

- Loop Start FXS or Ground Start FXS package
- E1/T1 board driver
- ASP board driver
- E1/T1 circuit card
- SSP circuit card

Platform Maximums UCS 1000 maximums, if the system is all E1, are five circuit cards (150 channels) for transactions and bridging. If the system is all T1, six circuit cards (144 channels for transactions and bridging) is the maximum.

MAP/40P maximums, if the system is all E1, are three circuit cards (90 channels) for transactions and bridging. If the system is all T1, five circuit cards (25 channels) for transactions and bridging is the maximum.

For more information on this feature package, see *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

Multi-Port Asynchronous Communications Interface

This optional feature package provides hardware and software for additional asynchronous serial data connections to the platform. These connections can be used to support asynchronous host computers, serial printers, onsite and remote monitoring systems, or an extra modem in addition to the modem connected to the remote maintenance circuit card.

The system provides two asynchronous communication ports as standard equipment. These ports, labeled COM1 and COM2, are separate and fully functional in addition to the eight ports provided by this feature package.

Note: COM1 is reserved for the remote maintenance circuit card on the UCS 1000. COM2 is reserved for the remote maintenance circuit card on the MAP/40P.

Software and Hardware Requirements This feature package requires that the SuperSerial STREAMS device driver and the asynchronous 8-port circuit card be installed and operational.

Table 18 lists multi-port asynchronous communications capacities.

Table 18.   Multi-Port Asynchronous Communications Capacities

Item	Max. Number	Notes
Additional physical asynchronous ports	8	These connections are in addition to the standard system COM1 and COM2 serial ports.
Data speed	9.6 Kbps	

For more information on asynchronous communications, see *CONVERSANT System Version 8.0 Communication Development*, 585-313-220.

ORACLE RDBMS

The ORACLE Integration package (oraint) provides the ORACLE RDBMS that allows you to establish and maintain a local ORACLE database on the system. This package is the supported package for systems that need a database management system. It includes optional ORACLE NET8 TCP/IP software for establishing remote database connectivity.

In addition to the ORACLE RDBMS package, you can purchase the optional development tools package, described in ORACLE Development Tools below.

Note: You must have ORACLE to use the CallBack Manager and Form Manager applications.

For complete information on the delivery media for the different ORACLE packages, see Optional Database Management Software (page 36).

ORACLE Reports

When you purchase ORACLE, you get access to the system reports. These reports make it possible to create a compiled list of system statistics, including the number of calls made to the system, transfer attempts, or call information for a specific day. The Reports Administration screen gives you access to system reports, including system call classification reports, call data detail reports, call data summary reports, message log reports, and traffic reports. The system enables you to customize each report to your needs and specifications.

Note: If ORACLE is not installed, the report data is stored in flat files. See Chapter 6, "Database Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for additional information.

Table 19 shows storage capacities for system reports.

Note: These capacities assume that the database is sized properly for call volume and call data events.

Table 19. Storage Capacities for Reports

Report	Maximum Storage Capacity
Call Data Detail Report	Stores 7 days of data. (Data is sorted from the current day plus data from 7 previous days, and then summarized.)
Call Classification Report	Stores 365 days of data.
Call Data Summary Report	Stores 7 days of data.
Traffic Summary Report	Stores 7 days of data.
Event Log Messages	Stores 500, 20 Kbps messages (compressed).

ORACLE Development Tools

The ORACLE development tools package contains the following tools:

- ORACLE Developer 2000— Contains the following packages:

    ~ Developer

    ~ Reports

    ~ Procedure Builder

See ORACLE installation or vendor-provided installation documents for the specific requirements and installation procedures. ORACLE maintains a list of ORACLE development partners (third-party vendors). Contact ORACLE directly for more information at (800) 542-1170.

Database Capacities

Table 20 illustrates the database capacities used within a Script Builder application script.

Table 20. Database Capacities

Item	Maximum Capacity	Notes
Local database (LDB) table name	11 characters	
Length of LDB field names	24 characters	
LDB field size – char	50 characters	
LDB field size – num	11 digits	
LDB field size – date	10 characters	Fixed size
LDB field size – time	11 characters	Fixed size
Number of open cursors on the system	255, default size	This can be tuned higher. See *CONVERSANT System Version 8.0 Administration,* 585-313-510, for more details on tuning the open cursor number.
Different database tables accessed per application	Infinite number	
Different database tables owned per application	10	Includes both local and remote tables.
Fields specified in one LDB table with Script Builder	15	Includes both local and remote tables.
Number of remote databases accessed per system	4	Up to five database interfaces supported; one is dedicated are to the local database (requires SQL*Net).
Overall database size		Free space is restricted only by the amount of space available in all file systems.

Primary Rate Interface

The Primary Rate Interface (PRI) feature package allows the system to communicate directly a switch that supports one of the following PRI protocols:

- AT&T PRI

- Nortel ISDN

- ETSI

- National ISDN

Choose the appropriate package to communicate in your environment.

See Chapter 2, "Digital Telephony Interfaces," in *CONVERSANT System Version 8.0 Communication Development*, 585-313-220, for additional information.

Universal Call ID

Universal Call ID (UCID) is available using ISDN-PRI. UCID provides a unique identifier (8-byte binary or 20-character ASCII) for every call in a DEFINITY call center customer environment. UCID allows for uniform data-tracking for all call-related data in a call center, regardless of the system. Also available is the user-to-user information (UUI) element, which allows for the customer to specify additional information to be passed in external function arguments. For more information on these features, see *CONVERSANT System Version 8.0 Application Development with Advanced Methods*, 585-313-216.

Two B-Channel Transfer

Two B-Channel Transfer (TBCT) is an overlay to the PRI package. With the TBCT feature, a call coming into the CONVERSANT on one B (bearer) channel can be connected, within the switch, to a call that has been made by the CONVERSANT on another B channel, and both incoming and outgoing calls on the CONVERSANT are released. For more information on this features see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217.

Hardware and Software Requirements

The PRI feature package requires the following hardware and software:

- At least one E1/T1 circuit card must be installed and operational.

- At least one speech processing circuit card is required for speech coding or playback with all E1/ T1 circuit cards.

- One of the following PRI feature software packages

  - ~ ISDN Primary Rate Interface Package (specific to AT&T)
  - ~ Advanced PRI Package
  - ~ Nortel ISDN PRI Package
  - ~ ETSI PRI Extension Library
  - ~ National ISDN

PRI Interface Capacities

Table 21 on page 82 shows capacities for PRI on the UCS 1000. Table 22 on page 82 shows capacities for PRI on the MAP/40P.   Note that AT&T PRI on a 5ESS switch requires a separate D-channel for each T1. For example, 6 23B+D can be used.

Table 21. Primary Rate Interface Capacities on the UCS 1000

Component	Maximum Number	Comments
Data channels on the CWB21 (formerly CWB2) card per system	T1:6 E1:5	For example, up to five 23B+D interfaces are supported.
Supported voice channels per system at the T1 rate	143	143 B-channels are supported when using one D-channel (for example, 143B +D) The number of voice channels supported depends on the capability of the switch. Not all switches support all PRI configurations.
Supported voice channels per system at the E1 rate	149	From one to five 30B+D interfaces are supported.

Table 22. Primary Rate Interface Capacities on the MAP/40P

Component	Maximum Number	Comments
Data channels on the AYC21 card per system	5	For example, up to five 23B+D interfaces are supported when at least four use an AYC21.
Supported voice channels per system at the T1 rate	119	119 B-channels are supported when using one D-channel (for example, 119B +D) OR 115 B-channels are supported when using five 23B+D interfaces The number of voice channels supported depends on the capability of the switch. Not all switches support all PRI configurations.
Supported voice channels per system at the E1 rate	90	One, two, or three 5 30B+D interfaces are supported.

For more information, see *CONVERSANT System Version 8.0 Communication Development,* 585-313-220.

Script Builder

The Script Builder feature package is a menu-driven application generator for the system. With it, you can create applications that run on the CONVERSANT system. You can create applications with Script Builder using intuitive windows, forms, and keys.

Script Builder is designed for application designers who are familiar both with the specific application and with programming concepts. Specifically, the designer should be familiar with high-level programming methods used in languages such as BASIC, COBOL, Pascal, and C. Experience with a database application such as ORACLE, dBASE, LOTUS 1-2-3, or ACCESS is helpful. Although not required, it is also helpful to have some basic knowledge of the UnixWare operating system. A basic knowledge of telephony is also helpful when working with the system and Script Builder.

Script Builder enables you to access Dial Pulse Recognition (DPR) through its application menu if you have purchased the optional DPR feature package. Script Builder also allows you to select intelligent call transfer when the line side FXS T1/E1 is assigned to the T1/E1 circuit card.

Software and Hardware Requirements
This feature package requires that the CONVERSANT System V8.0 Script Builder package be installed and operational. No additional hardware is required.

There are many subtle application capacities that provide limits or constraints while performing application development using Script Builder. These capacities are listed in Table 23.

Table 23. Script Builder Application-Related Capacities

Item	Max. Number	Notes
Characters in application name	11	
Characters in field names	24	
Applications on system	Restricted only by disk space	
Call data events per application	100	For numeric or 12-character fields
	50	For 7-character strings (telephone numbers)
	33	For 8-character dates
	25	For 14-character credit card numbers
	14	For 24-character names
Transaction statements	1000	Action steps (for example, "Answer Phone," "Announce only") recommended; not currently enforced in software
Script labels per application	2400	Label maximum per application

1 of 3

Table 23.   Script Builder Application-Related Capacities

Item	Max. Number	Notes
Length of comment line (characters)	50	
Arguments passed between external function and transaction	5	
Label name length (characters)	20	
Digits accepted for a prompt and collect action step	64	Either touchtones or spoken
Tries to collect in prompt and collect	9	
Initial time-out in prompt and collect	60 sec	
Interdigit time-out in prompt and collect	60 sec	
Cases of correct input within the nonstandard checklist of a prompt and collect	12	
Touchtones accepted for call transfer	16	Minimum is 1
Channels that can simultaneously use background feature	48	See *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217, for more information
Digits used in telephone number of call bridge	24/16	T1 (all types) has a limit of 15 digits for outdialing; minimum is 1
Digits used in DNIS number passed from central office	16	Incoming DNIS limited to 15 for PRI; configured in switch administration screens; see *CONVERSANT System Version 8.0 Administration*, 585-313-510
Arguments passed between applications using "Execute External Action"	10	
Data space available per channel using "Execute External Action," in bytes	552	Characters used in argument passing
External function names length (characters)	12	
Phrase length for coding messages, in seconds	999	If 0 is specified, coding continues indefinitely
Phrases coded per system	48,000	
Talkfiles coded and stored	256	

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Table 23. Script Builder Application-Related Capacities

Item	Max. Number	Notes
Initial time-out to detect speech during a code session, in seconds	30	Minimum is 0; default is 5
Completion time-out to detect silence during a code session, in seconds	30	Minimum is 0; default is 5
		3 of 3

For more information on this feature package, see *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-217.

Speech Recognition Packages

Speech recognition packages allow the system to recognize and respond to spoken responses from the caller. For those who want to accommodate callers using a rotary telephone, speech recognition packages provide a way to interact with applications without requiring touchtone input. Applications using speech recognition can differ greatly. Two methods of providing this capability are offered:

- WholeWord Speech Recognition — based on comparing entire spoken words

- FlexWord Speech Recognition — based on comparing phonemes (units of sound)

- Natural Language Speech Recognition — based on interpreting and assigning meaning to the speech it recognizes

Both WholeWord and FlexWord can be added on a channels-per-system basis.

Speech recognition packages require speech processing circuit cards.

WholeWord Speech Recognition

WholeWord speech recognition provides a *whole word* method of recognition by comparing an entire spoken word with a statistical model of the same word spoken by thousands of different people.

WholeWord speech recognition is well suited to tasks where the required input is digits (0-9 and "oh") or "yes" and "no" responses. WholeWord custom vocabulary packages are also available if you have special words, such as "checking" or "savings," that need to be recognized. We then develop software to recognize those requested words. Avaya collects speech samples of the requested words and creates statistical models of each word.

If you require a larger customized vocabulary, FlexWord speech recognition may be more appropriate. See FlexWord Speech Recognition for more information on FlexWord. Both WholeWord and FlexWord input can be used in the same application.

All WholeWord speech recognition language packages support connected digit recognition and barge-in.

Standard vocabularies for WholeWord speech recognition are available in the following languages:

- Dutch

- Australian English

- UK English

- US English

- French

- Canadian French

- German

- Italian

- Japanese

- Brazilian Portuguese

- Latin-American Spanish

- Castilian Spanish

The V8.0 system supports up to two WholeWord languages. At any given point, input can be collected in one language or the other, but not in both simultaneously.

Software and Hardware Requirements

This software package requires that at least one of the speech recognition software packages, as well as at least one SSP card, be installed and operational. Table 24 lists WholeWord speech recognition capacities.

Table 24.   WholeWord Speech Recognition Capacities

Item	Max. Number	Notes
Supported languages in use per SSP	2	Any two WholeWord packages can be in use simultaneously
Channels of simultaneous speech recognition per SSP card without barge-in	15	SSP dedicated exclusively to WholeWord
Connected digits recognized (using standard recognition types)[1]	10	Application dependent; recognition accuracy improves significantly if fixed length is used

1 24 connected digits are recognized, using standard recognition types, in US English only.

For more information on WholeWord speech recognition capacities, see Chapter 4, "Recognizing WholeWord Speech Input," in *CONVERSANT Speech Development, Processing, and Recognition,* 585-313-218.

FlexWord Speech Recognition

FlexWord speech recognition provides a different method of constructing and recognizing speech vocabularies than does WholeWord. The FlexWord speech recognition package relies on phonemic recognition.

The English language is made of approximately 40 phonemes. These phonemes are units of sound that form recognizable words when strung together in particular orders. The word "sales," for example, consists of four phonemes: "s-A-l-z."

Because FlexWord vocabularies are much easier and less time consuming to construct, customers have a cost-effective method of designing large, customized vocabularies.

The FlexWord Speech Recognition package also includes word spotting and phrase screening. Word spotting provides the ability to search past extraneous speech input during recognition. Phrase screening provides the ability to reject speech that is outside the FlexWord vocabulary.

FlexWord speech recognition is available in the following languages:

• US English

• French

• German

• Japanese

• Brazilian Portuguese

• Spanish

Software and Hardware Requirements

This software package requires that one of the Speech Recognition software packages, as well as at least one SSP card (for languages new to V8.0 and previously offered languages) and the ASP driver be installed and operational.

Table 25 lists FlexWord speech recognition capacities.

Table 25. FlexWord Speech Recognition Capacities

Item	Max. Number
Words in a wordlist	500
Wordlists	200

For more information on the FlexWord speech recognition feature package, see Chapter 5, "Recognizing FlexWord Speech Input," of *CONVERSANT Speech Development, Processing, and Recognition*, 585-313-218.

Natural Language Speech Recognition

Natural language speech recognition (NLSR) takes the speech recognition process several steps further by providing a more natural conversational interface with IVR systems. Not only can NLSR be used to recognize particular words and phrases, it can also interpret and assign meaning to the speech it recognizes.

For example, under the more basic forms of ASR, a caller can respond only to specific prompts, such as "Say 'one' if you want information about..." or "Say 'yes' if this is correct." NLSR enables you to write applications that ask the caller more open-ended questions, such as a banking application that presents the caller with a list of options and then asks "What would you like to do?" Then, when the caller responds "I'd like to know the balance of my checking account, please," the system can recognize what kind of information the caller is asking for (the *balance* in a *checking account*) and can automatically direct the call to a new prompt that would ask for the caller's checking account number. This new technology provides a more natural way of interacting with callers.

It is worth noting that NLSR is also able to take into account grammatical structures. This allows it, for instance, to recognize and deal appropriately with differences in statements like the following caller responses:

"I would like to fly from Chicago to LAX."
"I need to get from LAX to Chicago."

NLSR is also capable of understanding natural numbers ("seventy-six" instead of "seven six"), natural dates ("July 26th" instead of "zero seven two six") and natural currency ("25 dollars" instead of "two five zero zero").

Because of the relatively complex nature of NLSR, it requires the use of larger vocabularies and grammars. For this reason, it often works best when a "proxy server" is used to do the speech recognition. Speech recognizers running on external speech recognition servers have at their disposal more CPU power and more memory than specialized voice processing circuit cards such as the Speech and Signal Processing (SSP) circuit card on the CONVERSANT system. They also offer more flexibility by allowing you to use multiple speech recognition servers, thus increasing the available CPU power and memory even more.

See *Natural Language Speech Recognition with the CONVERSANT System*, 585-310-774, for additional information.

Hardware and LAN Requirements

Table 26 on page 89 summarizes the hardware and LAN requirements for the NLSR offer. In addition to these requirements, you must also have one or more remote NLSR servers, depending on the NLSR engine requirements. Hardware requirements for these NLSR servers are provided by the NLSR engine vendor.

Table 26. Hardware and LAN Requirements for NLSR

System Hardware	LAN

•   E1/T1 circuit card
 	
•   SSP circuit card
	Note: LAN installation is the customer's responsibility.
	
	• TCP/IP PCI Ethernet network operating at a speed of at least one of the following:
	
	   ~ 10 Mbps (supports up to 28 channels)
	
	   ~ 100 Mbps (supports up to 96 channels)
	
	Note: The speed required is influenced by the number of LAN-intensive features, such as ASAI or Proxy Text-to-Speech, that are running on the CONVERSANT system.
	
	• LAN segment dedicated for all CONVERSANT traffic

Software Requirements   The NLSR offer requires a number of software packages. Table 27 lists the required software packages and whether each package is available as part of the NLSR offer package.

Table 27. NLSR Required Software

Package Name	Available as part of the NLSR offer package?
CONVERSANT Base System software	No
Appropriate circuit card drivers (for example, SSP, T1, and LAN)	No
ASP driver package	No
Natural Language Speech Recognition - Proxy/Client software package	Yes
Voice@Work or Script Builder with Service Creation Integration Package	No
NLSR engine software (provided by the NLSR engine vendor and installed on remote NLSR server)	No

T1 E&M Protocol

The T1 E&M protocol feature package supports the E1/T1 circuit card. It provides T1 signaling types and the following three addressing types:

- Dual tone multifrequency (DTMF)

- Multifrequency (MF)

- Dial pulse

For more information, see *CONVERSANT System Version 8.0 Communication Development,* 585-313-220.

Hardware Requirement   This package requires that at least one E1/T1 (CWB21, formerly CWB2) circuit card be installed and operational.

Text-to-Speech

CONVERSANT System Version 8.0 supports two versions of Text-to-Speech (TTS):

- SSP-based TTS

- Proxy TTS (PTTS)

SSP-Based Text-To-Speech

The SSP-based TTS feature package allows you to include speech in an application using ASCII text as input. The text is converted to synthesized speech via the SSP circuit card. The text can be used for text retrieved from a database or host or for prompts, and can be spoken in an application with synthesized speech. TTS application development is supported through the Script Builder and Voice@Work software packages.

Note: Standard TTS is available only in US English, spoken in a male or female voice (male is the default).

TTS is an alternative to using prerecorded phrases for voice response. It can be essential in some applications that must speak dynamic text (for example, names and addresses) and that have large amounts of speakable text (for example, electronic news). Without TTS, these types of applications can require many hours of recording and much disk space. These applications can also use TTS for static text for consistency.

The TTS technology can distinguish between different classes of text, such as zip codes and telephone numbers, and pronounces the text string in the appropriate spoken format. When constructing speech, parameters such as pitch and duration are adjusted to make the outcome sound more natural. In addition, the ASCII text is preprocessed to expand abbreviations. For example, "Dr." is expanded to "doctor" or "drive," depending on the context.

TTS can be added on a channels-per-system basis. For more information on this feature package, see *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition,* 585-313-218.

Proxy Text-to-Speech

In applications where the demand for TTS is very high or where a language is needed that is not supported on the SSP circuit card, speech processing must be done using one or more auxiliary computers connected to the CONVERSANT system in a client/serve configuration. This capability is called Proxy Text-to-Speech (PTTS).

The current release of the PTTS feature supports two basic classes of languages:

*   Japanese

*   Microsoft Speech Application Programming Interface (SAPI) compliant languages, which typically include English and most western European and Latin American languages (currently includes Castilian Spanish and Latin American Spanish)

With the open architecture provided by this feature, you can also add other customized languages, possibly with the assistance of an independent software vendor (ISV).

For more information on the standard TTS feature package, see Text-to-Speech (page 90) *CONVERSANT System Version 8.0 Speech Development, Processing, and Recognition*, 585-313-218.

For more information on the PTTS feature package, see the *Proxy Text-to-Speech (PTTS) User Guide*, 585-350-115.

Hardware and Software Requirements

SSP Circuit Card Requirements

*   At least one SSP circuit card and one E1/T1 circuit card installed and operational

*   ASP driver, installed and operational

*   Text-to-Speech package

*   Proxy Text-to-Speech Software Packages

    ~   Proxy Text-to-Speech Package
    ~   CONVERSANT Avaya U.S. English Language Selection Key
    ~   CONVERSANT Avaya L.A. Spanish Language Selection Key
    ~   CONVERSANT Avaya Castilian Spanish Language Selection Key
    ~   CONVERSANT Avaya French Language Selection Key
    ~   CONVERSANT Avaya German Language Selection Key

Voice@Work

The Voice@Work service creation environment allows you to design applications for the V8.0 system on a Windows-based PC, within a graphical user interface (GUI) that you can customize. This tool allows you to develop applications by specifying the details of interaction between the V8.0 system and its callers. Voice@Work features standard Windows operations, with right-click menus and enhanced cut, copy, and paste capabilities.

The following are examples of parts of an application that you can define and implement with Voice@Work:

• The greeting heard by callers when connecting with a service

• The menu of options offered

• The way callers are prompted for credit card numbers and other pertinent information

• The amount of time to wait for caller responses

• The relevant databases that need to be accessed

In addition, you can develop a full range of interactive voice response services including banking by phone, processing insurance claims, paying bills, purchasing tickets, shopping by catalog, and registering for classes.

Voice@Work includes a set of tools that allow you to design, edit, test, simulate, generate, transfer, and install the applications. In addition, these tools also let you diagnose and debug your applications.

Voice@Work feature package enables you to do the following:

• Create applications on your Windows-based PC instead of on your system and thus reduce the need to dedicate your system to application development.

• Develop complex applications easier and faster by creating subroutines and menus.

• Test call flows and hear what callers will hear if you have recorded speech.

• Use context-sensitive and online help.

• Share application resources with other developers.

• Access remote databases in applications.

• Insert TAS code into your application "as is."

• Access the Enhanced Basic Speech and Text-to-Speech features.

• Access the WholeWord and FlexWord languages.

Note: Applications developed with Voice@Work cannot be loaded into Script Builder. However, you can bring up the speech for a Voice@Work application in Script Builder. Note that Voice@Work does allow certain features that do not work in Script Builder, such as special characters.

Hardware and Software Requirements

This section includes all necessary hardware and software requirements, as well as performance issues, and a list of optional equipment.

Hardware Requirements for PC

The following hardware is required for installation and operation of Voice@Work:

• VGA monitor (or better).

• Microsoft-compatible mouse.

• Pentium personal computer, or equivalent. (See Table 28 on page 93 for minimum and recommended capacities)

- 30-MB of free hard-disk space — The required amount of available disk space depends on the number and complexity of the applications you plan to develop on your personal computer and whether or not you plan to record speech. The entire Voice@Work software package requires 10MB of space on the hard drive. You will need at least 10MB of additional free space for the applications you develop and considerably more disk space if you plan to record speech. For help on determining the hard drive requirements for your application, contact the Technical Support Center.

- CD-ROM drive, any speed

Table 28.   Minimum and Recommended PC Requirements

	Processor		RAM	
Operating System	**Minimum**	**Recommended**	**Minimum**	**Recommended**
Windows NT 4.0	90 MHz	200 MHz	32 MB	64 MB
Windows 95	90 MHz	166 MHz	16 MB	32 MB

Software Requirements   Your personal computer must have the following software installed:

- Voice@Work Version 3.0 or later

- Microsoft Windows 95 or Microsoft Windows NT 4.0

Optional Equipment   This section includes information about equipment for recording speech and for transferring applications over a network.

- Sound Blaster compatible card

  The sound card allows you to listen to speech that you record with the Voice@Work service creation environment. You can use this speech during simulation, as well as on the system. You can run Voice@Work without a sound card; however, you will not be able to record or listen to speech during the simulation mode.

Note: Speech that you record may not have the fidelity of the professionally recorded speech available from Avaya. If you are interested in professionally recorded speech, contact your local Avaya account team.

- Microphone

  Although any microphone is sufficient for recording speech with the Voice@Work, the quality of the microphone you choose dramatically affects the fidelity of speech you record with Voice@Work.

- Speaker

  Although any speaker is sufficient for listening to recorded speech with the Voice@Work, the quality of the speaker you choose affects the fidelity of recorded speech you hear with Voice@Work.

- Microsoft-standard networking hardware and software and TCP/IP stack for transferring files to the target CONVERSANT system

- Digital-audio editing software

Application-Related Capacities

There are many subtle application capacities that provide limits or constraints while performing application development using Voice@Work. These capacities are listed in Table 29.

Table 29.   Voice@Work Application-Related Capacities

Item	Max. Number	Notes
Characters in application name	8	
Characters in field names	Any length	Make only as long as is needed to be useful.
Applications on system	Restricted only by disk space	
Call data events per application	100	For numeric or 12-character fields.
	50	For 7-character strings (telephone numbers).
	33	For 8-character dates..
	25	For 14-character credit card numbers
	14	For 24-character names.
Length of node name	Any length	Make only as long as is needed to be useful.
Arguments passed between external function and transaction	5	
Digits accepted for a prompt and collect action step	64	Either touch tones or spoken.
Tries to collect in prompt and collect	5	
Initial time-out in prompt and collect	60 seconds	
Interdigit time-out in prompt and collect	60 seconds	
Touch tones accepted for call transfer	30	The number is limited by the tip/ring card, which accepts a maximum of 30.
Channels that can simultaneously use background feature	48	See *CONVERSANT System Version 8.0 Application Development with Script Builder*, 585-313-206, for additional information.
Digits used in telephone number of call bridge	24/16	T1 (all types) has a limit of 15 digits for outdialing; minimum is 1.
Digits used in DNIS number passed from central office	16	Incoming DNIS limited to 15 for PRI; configured in switch administration screens; see *CONVERSANT System Version 8.0 Administration,* 585-313-510.

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Table 29.   Voice@Work Application-Related Capacities

Item	Max. Number	Notes
Arguments passed between applications using "Execute External Action"	10	
Data space available per channel using "Execute External Action," in bytes	552	Characters used in argument passing.
External function names length (characters)	12	
Phrase length for coding messages, in seconds	999	If 0 is specified, coding continues indefinitely.
Phrases coded per system	48,000	
Talkfiles coded and stored	256	
Initial time-out to detect speech during a code session	30 seconds	Minimum is 0; default is 5.
Completion time-out to detect silence during a code session	30 seconds	Minimum is 0; default is 5.

2 of 2

Script Builder to Voice@Work Conversion Tool

Beginning with Release 4.0 of Voice@Work, you can convert existing Script Builder applications to Voice@Work automatically, without having to recreate them in Voice@Work.

The Script Builder Conversion Tool is activated by an option on the File Menu within Voice@Work. When you select this option, the Script Builder Conversion Tool finds the desired application on the target CONVERSANT system, downloads it to the Voice@Work PC, and converts it to Voice@Work format. You can then modify it as desired before reinstalling it on the CONVERSANT system.

Note: Depending upon the complexity and features used in the original Script Builder application, the Script Builder Conversion Tool may not be able to convert the application completely. You may still have to do some reconstruction of the original application. However, the tool will still result in substantial savings in development time and effort when moving to Voice@Work.

Note also that the conversion tool requires a LAN connection between the Voice@Work PC and the CONVERSANT; you cannot use fdiskette transfer to accomplish the conversion.

The Script Builder Conversion Tool works only with applications designed, compiled, and installed using Script Builder. Applications that have been modified or customized using tools or methods other than Script Builder may or may not work.

Also, this tool converts only applications that reside in the standard Script Builder application directory (**/att/trans/sb**).

The conversion process does not destroy the original Script Builder application. It still resides on the CONVERSANT system until you remove it.

6 Requirements and Specifications

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Overview

This chapter provides information on the UCS 1000 and MAP/40P system requirements and specifications for proper operation.

Requirements and Specifications for the UCS 1000

This section provides the following information:

- Platform Specifications for the UCS 1000

- Telephony Interface Specifications for the UCS 1000

- Data Communications Specifications for the UCS 1000

Platform Specifications for the UCS 1000

This section presents the power and space requirements and provides temperature and humidity guidelines for the UCS 1000.

Power Requirements   Note the following general power requirements:

- Each server, modem (optional), and printer (optional) must be located near a power source.

- Communication cables must be kept separate from power cables. Installation of communication and power cables must be in accordance with National Electrical Codes (NEC) and country-specific requirements.

Table 30 shows the specific power requirements.

Table 30. Power Requirements for the UCS 1000

Attribute	Requirement
Voltage	110/220 VAC
Input current	11A maximum @90 VAC input and 500W load
Maximum power output	500 Watts
Heat dissipation	2700 BTU/hour

Table 31 shows the specific power requirements for each optional monitor.

Table 31. Power Requirements for an Optional Monitor

Attribute	Monitor
Voltage	90 to 264 VAC auto sensing
Frequency	50 to 60 Hz
Phase	Single
Power consumption	80 Watts maximum
Input cords	NEMA 5-15P
Unit input receptacles	IEC-320 inlet

Space Requirements   Table 32 shows the space requirements.

Table 32. Space Requirements for the UCS 1000

	Height	Width	Depth
UCS 1000[1]	66.7 centimeters (26.25 inches)	43.8 centimeters (17.25 inches)	42.5 centimeters (16.75 inches) plus 5 centimeters (2 inches) for the SCSI terminator guard on the back of the system
UCS 1000 with dress cover	79.5 centimeters (31.3 inches)	47 centimeters (18.5 inches)	49.5 centimeters (19.5 inches) plus 5 centimeters (2 inches) for SCSI terminator guard on back of system

[1] The J code for the UCS platform is J1P380-A1.

Weight   The weight of the server varies according to the components installed, ranging from approximately 99 pounds to 113 pounds. For example, a system weighs approximately 99 pounds (44.91 kilograms) when equipped with all standard hardware (includes three hard disk drives), one E1/T1 circuit card with a companion rear I/O card, and two speech processing circuit cards.

Environmental Considerations

Locate each server in an area in which the temperature and humidity requirements shown in Table 33 are maintained.

Table 33. Temperature and Humidity Requirements for the UCS 1000

Condition	Operating State	Nonoperating State
Temperature	+10 to +38°C (+50 to +100°F)	-40 to +60°C (-40 to +140°F)
Relative humidity	20 to 55%, 20 to 80% short-term	5 to 95%, noncondensing

Telephony Interface Specifications for the UCS 1000

The UCS 1000 supports up the following channels for code-and-play and bridging applications:

- For T1: 144

- For E1: 150

Note: If your system uses more than 144/150 channels, you must tune the NCHANNELS parameter accordingly. Use the following commands: **/etc/conf/bin/idtune** and **/etc/conf/bin/idbuild -B**

The following tables show the various digital interface specifications for all E1/T1 protocols on the UCS 1000 V8.0 CONVERSANT system:

- Table 34. Digital Telephony Interface General Specifications for the UCS 1000

- Table 35. T1 Telephony Interface Specifications for T1 E&M Type Configurations on the UCS 1000

- Table 36. Digital Telephony Interface Specifications for ISDN-PRI Type Configurations on the UCS 1000

- Table 37. Digital Telephony Interface Specifications for E1 CAS on the UCS 1000

- Table 38. Data Communications Specifications for the UCS 1000

Table 34. Digital Telephony Interface General Specifications for the UCS 1000

Attribute	Specification for CWB21/CYD21 (Formerly CWB2/CYD2) Circuit Cards
Trunk types	T1 E&M, ISDN-PRI
Physical connector	RJ-48C
Line impedance	100 Ohms
FCC registration	See card faceplates.
Safety approval	UL-1459 and UL-1950 for U.S. markets.
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Table 34. Digital Telephony Interface General Specifications for the UCS 1000

Attribute	Specification for CWB21/CYD21 (Formerly CWB2/CYD2) Circuit Cards
Clock rate	1.544 Mb/seconds +/- 32 ppm
Pulse width	323 (nominal)
Electrical compliance	ANSI T1.403, T1.408
Clock/timing/jitter compliance	AT&T TR62411, Stratum 4 enhanced
Framing	D4, ESF
Line coding/zero suppression	AMI/ZCS, AMI/B8ZS
Signal level	3.0-V nominal peak to peak up to 655 feet. A CSU is required if the distance to the DS-X is greater than 655 feet.
Remotely initiated loopback	Via CSU only
Recommended CSU type	Paradyne (PEC 21581-ESF), Verilink 551VST List 2, or equivalent. A CSU is required for long-haul connections, wet-loop connections, or to provide power line and/or other types of primary protection.
Input gain	
~ DS-1 to CTBus, nonbridging	0 dB nominal[1]
~ DS-1 to CTBus, bridge to analog port	0 dB
~ DS-1 to CTBus, bridge to digital port	0 dB
Output gain	
~ CTBus to DS-1, nonbridging	0 dB
~ CTBus to DS-1, bridge to analog port	+3 dB nominal1
~ CTBus to DS-1, bridge to digital port	0 dB nominal1
DTMF generation	
~ Power level	-7 dBm per tone nominal1
~ Timing	70 mS ON, 70 mS OFF nominal1
	2 of 3

Table 34. Digital Telephony Interface General Specifications for the UCS 1000

Attribute	Specification for CWB21/CYD21 (Formerly CWB2/CYD2) Circuit Cards
DTMF detection	
~ Power levels, frequency deviation, twist, duration	Nominally comply with Bellcore LSSGR section 6.1 With DTMF muting enabled, the DTMF receiver's minimum ON time for detection is increased and may not meet LSSGR requirements. DTMF muting does not impact LSSGR compatibility during call setup.
~ Number of DTMF receivers	24
MF generation	
~ Power level	-8 Bm per tone nominal1
~ Timing	70 mS ON, 70 mS OFF nominal1
~ KP timing	100 mS ON, 70 mS OFF nominal1
MF detection	
~ Power levels, frequency deviation, twist, duration	Nominally comply with Bellcore LSSGR section 61
~ Number of MF receivers	24
Call progress tone generation	
~ Power level	-20 dBm per tone nominal1
~ Cadence timing	• Busy tone — 500 mS ON, 500 mS OFF nominal1 • Ring tone — 2 seconds ON, 4 seconds OFF nominal1 • Reorder tone — 250 mS ON, 250 mS OFF nominal1
Dial pulse generation timing	60 mS ON, 40 mS OFF, 650 mS interdigit time nominal1
Supported protocols	• T1 E&M • AT&T T1 ISDN-PRI • ETSI PRI • National ISDN • Nortel NIS A211- ISDN PRI • E1 CAS

3 of 3

[1] Can be tuned through digital switch interface packages.

Table 35. T1 Telephony Interface Specifications for T1 E&M Type Configurations on the UCS 1000

Attribute	Specifications for CWB21/CYD21 (Formerly CWB2/CYD2) Circuit Cards
DS-1 framing	D4
DS-1 line coding	AMI-ZCS
Protocol	Robbed-bit (A-bit only) 4-wire E&M
Alerting in/out	Wink/wink
Wink generation	230 mS nominal (tunable:[1] 20 to 2500 mS)
Wink detection range	100 to 350 mS
Addressing (outgoing)	DTMF (touchtone) or MF, 15-digit maximum
Addressing (incoming)	DTMF (touchtone) or MF, 16-digit maximum
~ DNIS digits	Waits for up to 15 digits nominally1. Can also be configured to not wait for DNIS digits.
~ Initial digit timer	Waits for up to 4 seconds for first digit. Can also be configured to not wait for digits.
~ Interdigital timer	Waits for up to 2 seconds between digits.
ANI capacity	Not supported.
Transfer capability	Not supported.

[1] Can be tuned through digital switch interface packages.

Table 36. Digital Telephony Interface Specifications for ISDN-PRI Type Configurations on the UCS 1000

Attribute	Specifications for CWB21/CYD21 (Formerly CWB2/CYD2) Circuit Cards
DS-1 framing	For T1 rate, ESF (recommended) or D4; CEPT for E1
DS-1 line coding	B8ZS (with ESF framing only) or HDB3 (with CEPT framing only) ZCS (with D4 framing only)
B-channel capacities	Without NFAS[1]: 23 B+D per board for T1, 30 B+D per board for E1. With NFAS: 47B+D, 71B+D, 95B+D, and so on in increments of 24, up to 143 B+D. Not all switches support all configurations.
D-channel capacities	Multiple D-channels are supported up to the maximum number of E1/T1 boards (6 channels for 6 T1 boards, 5 channels for 5 E1 boards).
Interface ID	1 (for a card with a D-channel, not selectable); 2 to 5 (for a card without a D-channel).

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Table 36. Digital Telephony Interface Specifications for ISDN-PRI Type Configurations on the UCS 1000

Attribute	Specifications for CWB21/CYD21 (Formerly CWB2/CYD2) Circuit Cards
DNIS capacity	0 to 15 digits
ANI capacity	0 to 15 digits.
D-channel backup	Not supported.
Transfer capability	Not supported.
	2 of 2

[1] Non-Facility Associated Signaling

> For additional information on T1 telephony interfaces, see Chapter 2, "Digital Telephony Interfaces," in *CONVERSANT System Version 8 Communication Development*, 585-313-220.

Table 37. Digital Telephony Interface Specifications for E1 CAS on the UCS 1000

Attribute		
Line signaling	**System R2**	Compatible with ITU Q.421.
Register signaling	**Multifrequency-compelled signaling (supports forward groups I, II, III and backward groups A, B, C).**	Compatible with ITU Q.440.
Called number (DNIS)	**Maximum number of 16 digits received.**	The user can set the expected number of DNIS digits.
Calling number (ANI)	**Maximum number of 16 digits received or translated.**	Can be programmed to request or ignore ANI from network. Can be programmed to send originating ANI if requested by the network on a per-system or a per-call basis.
Protocol variations	**Table-driven line and register signaling.**	Supports country-specific variations of ITU Q.421 and Q.440.

> For additional information on T1 telephony interfaces, see Chapter 2, "Digital Telephony Interfaces," in *CONVERSANT System Version 8 Communication Development*, 585-313-220.

Data Communications Specifications for the UCS 1000

Table 38 details the data communications specifications.

Table 38. Data Communications Specifications for the UCS 1000

Attribute	Asynchronous Specifications
Ports	One (up to nine with an asynchronous 8-port circuit card).
Ports available for host communication	See Data Network Interfaces (page 54) in Chapter 4, Features , for details.
Simultaneous host sessions (LUs)	Not applicable.
Mode	Full duplex.
Protocols	Xon/Xoff
Data rates	To 28.8 Kbps
Interface	EIA-232C

Requirements and Specifications for the MAP/40P

This section provides the following information:

- Platform Specifications for the MAP/40P

- Telephony Interface Specifications

- Data Communications Specifications for the MAP/40P

Platform Specifications for the MAP/40P

This section presents the power and space requirements and provides temperature and humidity guidelines.

Power Requirements   Certain power cabling and requirements are standard across all platforms:

- Each multi-application platform (MAP), modem, and printer should be located near a power receptacle.

- The AC power output receptacle on the back of each unit is to be used *only* for a monitor. Never plug any other device into this receptacle.

- Communication cables must be kept separate from power cables. Installation of communication and power cables must be in accordance with National Electrical Codes (NEC) and country-specific requirements.

Table 39 lists the power that must be available for the MAP/40P.

Table 39.   Power Requirements for the MAP/40P

Attribute	MAP/40P
Volts AC (VAC)	115-230 Auto Sensing
Hertz (Hz)	50-60
Phase	Single
Amps (US)	4.5A
Input cords	NEMA 5–15P plug; 3 m (9 ft) long
Unit input receptacles	IEC-320 inlet
Maximum Power Output	350W
Heat Dissipation	1200 BTU

Table 40 lists the power that must be available for each optional printer and monitor.

Table 40.   Power Requirements for the Printer and Monitor

Attributes	Printer	Monitor
Volts AC (VAC)	115 VAC +/- 5%	110–240 VAC auto sensing
Hertz (Hz) (power)	50–60	50–87 Hz
Phase	Single	Single
Amps (US)	4	3.0 (fused)
Amps (International)		1.5 (fused)
Input cords	NEMA[1] 5–15P	NEMA 5-15P
Unit input receptacles	IEC-320 inlet	IEC-320 inlet

[1] National Electrical Manufacturer's Association

Space Requirements   Table 41 lists the space requirements for the MAP/40P.

Table 41.   Space Requirements for the MAP/40P

Weight	Height	Width	Depth
20 kg (45 lbs)	44.5 cm (17.5 in.)	33 cm (13 in.) with stabilizing feet	53.4 cm (21 in.)

Environmental Considerations   Locate the MAP/40P in an area where you are able to maintain the temperature and humidity requirements shown in Table 42.

Table 42.   Temperature and Humidity Requirements for the MAP/40P

Operating State		Nonoperating State	
Temperature	**Humidity**	**Temperature**	**Humidity**
+10 to +35°C (+50 to +95°F	20 to 80%, noncondensing	-20 to +60°C (-4 to +140°F)	20 to 80%, noncondensing

Telephony Interface Specifications

The following tables show the various telephony interface specifications for the MAP/40P:

- General Characteristics

  ~ Table 43. General Telephone Network Characteristics for the MAP/40P

- Analog Specifications

  ~ Table 44. Tip/Ring Circuit Card General Specifications for the MAP/40P

  ~ Table 45. Tip/Ring Circuit Card DTMF Tone Detection Specifications for the MAP/40P

  ~ Table 46. Tip/Ring Circuit Card Transmission Level Plan for the MAP/40P

  ~ Table 47. Tip/Ring Circuit Card DTMF Addressing Specifications for the MAP/40P

  ~ Table 48. Tip/Ring Circuit Card Dial Pulse Addressing Specifications for the MAP/40P

  ~ Table 49. Tip/Ring Circuit Card Default Progress Tone Detection Specifications for the MAP/40P

- Digital Specifications

  ~ Table 50. Digital Telephony Interface General Specifications for the MAP/40P

  ~ Table 51. T1 Telephony Interface Specifications for T1 E&M Type Configurations on the MAP/40P

  ~ Table 52. Digital Telephony Interface Specifications for ISDN-PRI Type Configurations on the MAP/40P

  ~ Table 53. E1 (AYC21) Telephony Interface Specifications for the MAP/40P

  ~ Table 54. E1 (CAS) Telephony Interface Specifications for the MAP/40P

  ~ Table 55. Digital Telephony Interface Specifications for Line Side Configurations on the MAP/40P

  ~ Table 56. Data Communications Specifications for the MAP/40P

Table 43. General Telephone Network Characteristics for the MAP/40P

Attribute	Characteristic
Telephone network connections	• 90 maximum transactions when system is all E1 • 96 maximum transactions when system is all T1 • Telephone network connections not used for transactions are available for bridging
Connectors	Analog**: RJ21X or RJ25C**
	Digital: AYC21 — RJ48C modular or 75 Ohm BNC Coaxial
Lines	• Analog — (loop start) signaling • Digital E1 — (CAS) signaling • Digital T1 — (E&M) signaling • Line Side E1 • Line Side T1 • Digital ISDN — ISDN PRI Layer 1 signaling

Table 44. Tip/Ring Circuit Card General Specifications for the MAP/40P

Attribute	Value
Type of service	Loop-start POTS
Loop current detection	15 mA minimum
Ringing voltage detection	88 VRMS at 20 Hz (nominal)
Ringer equivalence for Tip/Ring	1.0 B for AYC10
Wink detection[1]	80–800 msec
Flash duration[1]	40–1550 msec
Register recall[1]	Timed break/earth recall
Answer delay[1]	0–10 rings

[1] These attributes are adjustable through analog switch interface (ASI) packages.

For more information on changing these attributes via an analog interface screen, see Chapter 5, "Switch Interface Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-501.

Table 45. Tip/Ring Circuit Card DTMF Tone Detection Specifications for the MAP/40P

Attribute	Value
Digits	0–9, asterisk (*), pound sign (#), A–D
Amplitude[1]	+1 to -30 dBm total power (nominal tones)
On/off timing	80 msec minimum on, 23 msec off
Gaps bridged	23 msec
Signal/noise ratio	23 dB (nominal tones at -19 dBm total power)
Twist	+4 to -8 dB (high to low tone)
Frequency deviation	+/-1.5%

[1] This attribute is adjustable through analog switch interface (ASI) packages.

Table 46. Tip/Ring Circuit Card Transmission Level Plan for the MAP/40P

Attribute	Value
Input gain	0 dB fixed
Output gain	0 dB fixed
IVOL (card voice coding only)	Input gain selectable from -9 to +12 dB
OVOL (card voice playback only)	Output gain selectable from -9 to +12 dB

Table 47. Tip/Ring Circuit Card DTMF Addressing Specifications for the MAP/40P

Attribute	Default Value
Digits	0–9, asterisk (*), pound sign (#), A–D
On/off timing[1]	100 msec on, 60 msec off
Frequency	Precise tones
Twist*	0 dB
Amplitude*	-6 dBm per frequency

[1] These attributes are adjustable through analog switch interface (ASI) packages.

Table 48. Tip/Ring Circuit Card Dial Pulse Addressing Specifications for the MAP/40P

Attribute	Default Value
Break time[1]	60 msec
Make time[1]	40 msec
Inter-digit time[1]	600 msec

[1] These attributes are adjustable through analog switch interface (ASI) packages.

Table 49. Tip/Ring Circuit Card Default Progress Tone Detection Specifications for the MAP/40P

Tone	Frequency[1] (Hz)	Amplitude* (dBm)	S/N Ratio (dB)	Maximum Twist (dB)	Frequency Deviation (%)	Cadence*
Dial tone	350 + 440	+1 to -24	55	+3	+/-0.5	Present for 1 sec
Recall dial tone (stutter dial tone)	350 + 440	+1 to -24	55	+3	+/-0.5	3 cycles of 120–150 msec on, 120–150 msec off, followed by 1 sec on
Ringback	440 + 480	+1 to -24	55	+3	+/-0.5	1000– 2000 msec on, 3000- 4000 msec off
Tone	**Frequency[2] (Hz)**	**Amplitude* (dBm)**	**S/N Ratio (dB)**	**Maximum Twist (dB)**	**Frequency Deviation (%)**	**Cadence**
Busy	480 + 620	+1 to -24	55	+3	+/-0.5	60 IPM, **350**–500 msec on, 500–650 msec off
Reorder (Fast busy)	480 + 620	+1 to -24	55	+3	+/-0.5	120 IPM, **180**–250 msec on, 250–350 msec off

[1] These attributes are adjustable through analog switch interface (ASI) packages.

See Chapter 2, "Analog Telephony Interfaces" in *CONVERSANT System Version 8.0 Communication Development*, 585-313-220, for more information on tip/ring circuit card transmission level plans.

See Chapter 5, "Switch Interface Administration," in *CONVERSANT System Version 8.0 Administration*, 585-313-510, for more information on how to change tip/ring circuit card attributes via the Analog Switch Interface (ASI) packages.

Table 50. Digital Telephony Interface General Specifications for the MAP/40P

Attribute	Specifications for AYC21 Circuit Card
Physical connector	8-pin modular RJ-48C and BNC jacks
FCC registration	**See card faceplate.**
Safety approval	• UL 1459 type approval for US markets • CSA 22.2 type approval for Canadian markets • EN 60950 type approval for European markets • AS3260 and TS-001 for Australian markets
Signal regeneration	CSU required over 200 meters (655 feet)
Loopback capability	CSU required for remote capability
TLP at DS-1 interface	0 ELP, 0 DLP
TLP at TDM interface	0 ELP, 0 DLP
Call progress tone frequency[1]	Precise tone frequencies can be tuned to accommodate local standards
Call progress tone generation levels[1]	-10 dBm total (nominal), but can be tuned through digital switch interface packages
Call progress tone timing[1]	• Ringing: 2 sec on, 4 sec off • Busy: 0.5 sec on, 0.5 sec off Can be tuned through digital switch interface packages
Call progress tone detection[1]	Supported with Line Side DEFINITY® protocol (either at T1 or E1 transmission rate)
DS-1 timing source	Slave to DS-1 source (loop timed)
DS-1 timing (free running)	Stratum 4
Suggested CSU types	• Paradyne (PEC 21581-ESF) • Verilink 551VST List 2, or equivalent
Supported configurations	Tie trunk (robbed-bit E&M), E1 (CAS), ISDN-PRI (E1/T1), Line Side E1, Line Side T1

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Table 50. Digital Telephony Interface General Specifications for the MAP/40P

Attribute	Specifications for AYC21 Circuit Card
Dual tone multifrequency (DTMF) output timing	70 msec on, 70 msec off, but is tunable through digital switch interface packages
DTMF output levels	-8 dBm per frequency (nominal), but is tunable through digital switch interface packages
DTMF receivers	LATA Switching Systems Generic Requirements (LSSGR) compatible. Note: If DTMF muting is on for a call, the DTMF receiver's minimum on time for detection is increased and may not meet LSSGR requirements. DTMF muting does not impact LSSGR. Compatibility of DTMF receivers during call setup (S-digits). Is tunable through digital switch interface packages.
Number of receivers: T1	24 (one per DS-0 channel)
Number of receivers: E1	30 (one per B-channel)
	2 of 2

[1] These attributes are adjustable via the digital switch interface (DSI) package.

Table 51. T1 Telephony Interface Specifications for T1 E&M Type Configurations on the MAP/40P

Attribute	Specifications for AYC21 Circuit Card
DS-1 framing	D4
DS-1 line coding	AMI-ZCS
Protocol	Robbed-bit (4-wire) E&M
Alerting in/out	Wink/wink
Wink generation	230 msec default (Selectable: 20–2500 msec)
Wink detection range	100–350 msec
Addressing (outgoing)	DTMF (touchtone) or MF
DTMF output timing	70 msec on, 70 msec off
DTMF output levels	-8 dBm per frequency (nominal)
Number of digits	16-digit maximum
Number of digits for outdialing	15-digit maximum
Addressing (incoming)	DTMF (touchtone) or MF
DTMF receivers	LSSGR compatible
Number of receivers	24 (one per DS-0 channel)
	1 of 2

Table 51. T1 Telephony Interface Specifications for T1 E&M Type Configurations on the MAP/40P

Attribute	Specifications for AYC21 Circuit Card
Number of digits (DNIS)	• Will wait for up to 15 digits (selectable) • Can be provisioned not to wait for digits
Initial digit timer	• Will wait up to 4 seconds for first digit • Can be provisioned not to wait for digits
Interdigital timer	Will wait up to 2 seconds between digits
Audible ring starts	As soon as selected number of digits is received, or when one of the above timers expire (whichever occurs first)
DNIS capacity	0–16 digits
ANI capacity	Not supported
Transfer capability	Not supported
	2 of 2

Table 52. Digital Telephony Interface Specifications for ISDN-PRI Type Configurations on the MAP/40P

Attribute	Specifications for AYC21
DS-1 framing	ESF for T1 rate, CEPT for E1
DS-1 line coding	• B8ZS (with ESF framing only) • HDB3 (with CEPT framing only)
B-channel capacities[1]	• 23 B+D per board for T1 • 30 B+D per board for E1
D-channel capacities	Multiple D-channels are supported up to the maximum number of E1/T1 boards: • 5 channels for 5 T1 boards • 30 channels for E1 boards
Interface ID	• 1 (for card with a D-channel, not selectable) • 2–5 (for card without a D-channel)
DNIS capacity	0–15 digits
ANI capacity	0–15 digits
D-channel backup	Not supported
Transfer capability	Not supported

[1] These configurations are switch dependent as not all switches support all configurations.

See Chapter 3, "Digital Telephony Interfaces," in *CONVERSANT System Version 8.0 Communication Development*, 585-313-202, for additional information on T1 telephony interfaces.

Table 53. E1 (AYC21) Telephony Interface Specifications for the MAP/40P

Attribute	Specification	Notes	ITU No.[1]
Physical connector	• RJ-48C modular jack with shielded connector shell OR • 2 75-Ohm BNC jacks	• Receive signal in: pins 1 and 2 • Transmit signal out: pins 4 and 5 • Connector choice is switch selectable on AYC21	
Bit rate line coding	**2.048 Mbits/second**		G.703
Line coding	**HDB3**		G.703
Framing	**256 bits grouped in 32, 8-bit timeslots**	16-frame multiframe	G.704
CRC	**CRC-4**	Can be enabled or disabled by the user to match network equipment	G.704
Frame alignment			G.705 G.706
Alarm conditions	**Loss of signal and loss of framing**	Supports remote alarm indication (RAI)	G.704
Signaling channel	**CAS or 1 ISDN-PRI D-channel**	In timeslot 16	
Voice channels	30 channels	64 Kbits/second each	
PCM voice encoding	A-law or mu-law	Selectable by user	

[1] International Telecommunications Union number

For additional information on T1 telephony interfaces, see Chapter 3, "Digital Telephony Interfaces" in *CONVERSANT System Version 7.0 Communication Development*, 585-313-220.

Table 54. E1 (CAS) Telephony Interface Specifications for the MAP/40P

Attribute	Specification	Notes
Line signaling	**System R2**	Compatible with ITU Q.421
Register signaling	**Multifrequency-compelled signaling (supports forward groups I, II, III and backward groups A, B, C)**	Compatible with ITU Q.440
Called number (DNIS)	**Maximum number of 16 digits received**	Expected number of DNIS digits is settable by the user
Calling number (ANI)	**Maximum number of 16 digits received or translated**	• Programmable to request/ignore ANI from network • Programmable to send originating ANI if requested by the network on a per-system or a per-call basis
Protocol variations	**Table driven line and register signaling**	Supports country-specific variations of ITU Q.421 and Q.440

For additional information on T1 telephony interfaces, see Chapter 3, "Digital Telephony Interfaces," in *Intuity CONVERSANT System Version 7.0 Communication Development*, 585-313-220.

Table 55. Digital Telephony Interface Specifications for Line Side Configurations on the MAP/40P

Attribute	Specification for AYC21
DS-1 framing	• CEPT for E1 • D4 for T1
DS-1 line coding	• HDB3 for E1 • ZCS for T1
Wink-disconnect interval	300 msec default (selectable within a range of 10–2500 msec)
Dial-tone delay	1000 msec default (selectable within a range of 20–5100 msec)
Switch-hook-flash duration	700 msec default (selectable within a range of 10–2500 msec)
DNIS capacity	Not supported unless used with converse vector step (CVS) or ASAI
ANI capacity	Not supported unless used with CVS or ASAI
Transfer capability	Flash transfers supported

Data Communications Specifications for the MAP/40P

Table 56 lists the data communications specifications for the MAP/40P.

Table 56. Data Communications Specifications for the MAP/40P

Attribute	Asynchronous	Synchronous
Ports	1–9	1–2
Ports available for host communication	1–2	1–2
Simultaneous host sessions (LUs)	N/A	0–128
Mode	Full duplex	Half/full duplex
Protocols	Xon/Xoff	3270 SNA • Token Ring • SDLC
Data rates	To 9600 bps	• SDLC: 9.6k–56k bps • Token Ring: 4/16 MB
Interface	EIA-232C	EIA-232C

A Documentation Guide

Overview

This book is designed to supplement all other documents in the CONVERSANT V8.0 system set. This appendix provides information about the documentation that supports the V8.0 system. The system documentation covers the areas of installation and maintenance, alarms and log messages, administration, application design and development, speech and communication development, and software tools.

- V8.0 Documentation Set Listing on page 117 is a table that lists each document in the V7.0 set and its document number.

- V8.0 Documentation Set Descriptions on page 118 describes the contents of the documents in some detail and provides the current issue numbers.

V8.0 Documentation Set Listing

Each document in the V8.0 set is listed in Table 57. A brief description of each document is provided following the table.

Note: All document titles begin with *CONVERSANT System Version 8.0.*

Table 57.   V8.0 System Documentation Set Listing

Title	Language	Document Number
System Description	English	585-313-219
New System Installation	English	585-313-149
UCS 1000 Maintenance	English	585-313-150
MAP/40P Maintenance	English	585-313-156
Administration	English	585-313-510
System Reference	English	585-313-215
Application Design Guidelines	English	585-310-226
Application Development with Script Builder	English	585-313-217
Application Development with Advanced Methods	English	585-313-216
Speech Development, Processing, and Recognition	English	585-313-218
Communication Development	English	585-313-220
		1 of 2

Table 57. V8.0 System Documentation Set Listing

Title	Language	Document Number
Using Voice@Work	English	585-313-207
CLEO Documentation Set	English	Available from Interface Systems, Inc. (ISI)
ORACLE Product Documentation Library	English	108717695
		2 of 2

V8.0 Documentation Set Descriptions

- *System Description*

  Document number 585-313-219
  Issue 3
  December 2001

  Provides a technical description of the V8.0 system. This document is intended primarily for sales and sales support organizations, administrators, product design organizations, and account executives. Other audiences include the Technical Service Center (TSC), training, and development.

  Topics include: voice response basics, hardware, software, feature and feature package descriptions, requirements and specifications, and a documentation guide.

- *New System Installation*

  Document number 585-313-149
  Issue 3
  December 2001

  Describes procedures to install the USC 1000 and MAP/40P platforms and peripherals, make connections, and perform initial administration and acceptance testing of the system. This document is intended primarily for on-site technical personnel who are responsible for installing the system and performing initial administration and acceptance testing.

  Topics include: getting started (including a system installation checklist), assembling the computer, connecting peripherals, making cable connections and powering up, and completing the system installation.

  Appendixes include: troubleshooting procedures, cable connectivity, and returning defective hardware.

- MAP/40P Maintenance

  Document number 585-313-156
  Issue 2
  December 2001

  Provides a single source of information and procedures needed to maintain a MAP/40P platform. This document is intended primarily for the personnel responsible for installing the system and performing routine and scheduled maintenance. This book is also useful to the system administrator who wants to troubleshoot the system.

  Topics include: getting inside the computer, installing or replacing circuit cards, replacing the hard disk drive and other components, installing base system software, CONVERSANT system software, and optional feature system software.

  Appendixes include: component ordering numbers, how to build a system, disaster recovery, and returning defective hardware.

- *UCS 1000 Maintenance*

  Document number 585-313-150
  Issue 3
  December 2001

  Provides a single source of information and procedures needed to maintain a UCS 1000 platform. This document is intended primarily for the personnel responsible for installing the system and performing routine and scheduled maintenance. This book is also useful to the system administrator who wants to troubleshoot the system.

  Topics include: getting inside the computer, installing or replacing circuit cards, replacing the hard disk drive and other components, installing base system software, CONVERSANT system software, and optional feature system software.

  Appendixes include: component ordering numbers, how to build a system, disaster recovery, and returning defective hardware.

- *System Reference*

  Document number 585-310-215
  Issue 3
  December 2001

  An online help system providing information on troubleshooting and diagnosing problems associated with the CONVERSANT system. This document is intended primarily for the on-site service technician and system administrators. Other audiences include Technical Service Organization (TSO) and helpline personnel.

  Topics include: troubleshooting, diagnostics, common system procedures, and alarm and log messages.

- *Administration*

  Document number 585-313-510
  Issue 2
  December 2001

  Provides ongoing administration, operations, and command reference information about the system. This document is intended primarily for the customer who uses the administrative interface screens and menus. Other audiences include field support, Technical Service Organization, Sales and Technical Response Center, and helpline personnel.

  Topics include administration of: UNIX, the voice system, feature packages, switch interfaces, databases, and daily operations.

  Appendixes include a summary of commands and a listing of country switch packages.

- *Application Design Guidelines*

  Document number 585-313-226
  Issue 2
  December 2001

  Provides introductory information to an end-user about the capabilities of the system and guidelines for designing a voice response application. This document is intended primarily for end-users who are new to the product. Other audiences include development, sales support, service support, and training.

  Topics include: general considerations, caller inputs, system processes, outputs to callers, designing the transaction, and deploying the transaction.

- *Application Development with Script Builder*

  Document number 585-313-217
  Issue 2
  December 2001

  Provides detailed procedures for using the Script Builder feature to create application programs, including external functions that can be activated by Script Builder. This document is intended primarily for application developers who are responsible for creating and maintaining application programs. Other audiences include development, sales support, service support, and training.

  Topics include: Script Builder overview, Script Builder user interface, Script Builder data management, defining the host interface, creating database tables, defining parameters, defining the transaction, using optional features, speech administration, application administration, and using advanced features.

  Appendixes include: sample application, enhanced basic speech formats, and developing language implementations.

- *Application Development with Advanced Methods*

  Document number 585-313-216
  Issue 2
  December 2001

  Serves as a reference for those who develop applications for the system using the TSM script level language and/or C-language, and provides information about designing software applications, processing speech, and writing programs that integrate the application and the generic software. This book is intended primarily for those who write application scripts. Other audiences include development, sales and service support, and training.

  Topics include: application design and structure, TAS script instructions, data interface processes, IRAPI programming, and the message logger.

  Appendixes include: summary of TAS script instructions and C-library functions.

- *Speech Development, Processing, and Recognition*

  Document number 585-313-218
  Issue 3
  December 2001

  Serves as a reference for those who develop applications for the system using speech development features. This book is intended primarily for application developers. Other audiences include service support technicians, research and development teams, and marketing and sales groups.

  Topics include: developing and editing speech, recognizing speech input, including WholeWord Speech Recognition, FlexWord Speech Recognition, Natural Language Speech Recognition, and Dial Pulse Recognition, and combining the use of these feature packages.

  Appendixes include: enhanced basic speech formats, speech file formats, calculating O.S. index, text-to-speech formats, and advanced text-to-speech features.

- *Communication Development*

  Document number 585-313-220
  Issue 3
  December 2001

  Serves as a reference for those who are responsible for establishing the communication interface between the caller, administrators, and the system. This book is intended primarily for application developers. Other audiences include field support, the Technical Service Organization (TSO), helpline personnel, and voice processing comarketers.

  Topics include: analog telephony interfaces, digital telephony interfaces, the adjunct/switch application interface, converse vector step routing, call classification analysis, data network communications, and data network connectivity alarms.

  An appendix contains transmission level adjustment information.

- *Using Voice@Work*

  Document number 585-313-207
  Issue 6
  August 2001

  Provides end-users with information about installing Voice@Work, creating call flow applications, generating the source code, and transferring the application to the target system. This document is intended primarily for application developers. Other audiences include field support and the Technical Service Organization (TSO).

  Topics include information on: menus and commands, palettes, globals, tools, nodes, and sharing resources.

  Appendixes include information on icons, standard external functions, manipulating variables, and the Service Creation Installation (SCI) tool.

- *ORACLE Product Documentation Library, Release 1.0.1*

  Comcode: 108717695

  Provides the following documentation on CD-ROM:

  - *Oracle8 Server Concepts*
  - *Oracle8 Server Administrator's Guide*
  - *Server Application Developer's Guide*
  - *Server SQL Reference Manual*
  - *Server Utilities Guide*
  - *Server Messages*
  - *Server Reference*
  - *PL/SQL User's Guide and Reference, 2.3*
  - *Programmer's Guide to the Oracle Call Interfaces*
  - *Programmer's Guide to the Oracle Pro*C/C++ Precompiler*
  - *Programmer's Guide to Oracle Precompilers*
  - *SQL*Plus User's Guide and Reference*
  - *Oracle Network Manager Administrator's Guide, 2.3*
  - *Oracle Network Product Troubleshooting Guide, 2.3*
  - *Understanding SQL*Net, 2.3*

Glossary

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 Avaya 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 Avaya controls or with which Avaya 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.

barge-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 Avaya 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.

EFT

Enhanced File Transfer

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 Avaya in several languages. Sometimes called standard speech.

Enhanced File Transfer

A feature that allows the transferring of files automatically between the CONVERSANT system and a synchronous host processor on a designated logical unit.

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

ESDI

Enhanced Serial Data Interface

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 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 Avaya 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.

manoos

manually out-of-service state

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.

NFAS

non-facility associated signaling

NFS

network file sharing

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, usch 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-toSpeech 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

> A speech processing circuit card that is an older, lower-capacity version of the speech and signal processor (SSP) 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

> 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

standard speech

The speech package available in several languages containing simple words and phrases produced by Avaya 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 Avaya 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 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.

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.

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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