



Software Product Description

PRODUCT NAME: Generations® for Compaq Tru64™ UNIX® Version 4.3.1

SPD 70.58.00

DESCRIPTION

Generations for Compaq Tru64 UNIX is a development and runtime environment for enhanced Interactive Voice Recognition (IVR) services in public and private telephone networks. It includes the following three components:

- **Generations Developer**, the development component of the Generations platform, enables the development and maintenance of quality interactive voice /call processing applications
- **Generations Runtime Server Platform (RSP)**, the core of the Generations platform, deploys and efficiently manages voice and call control processing applications.
- **Generations Telephony Server Platform (TSP)**, the telephony and shared-resource server component of the Generations platform, provides an interface for telecommunications such as FAX, Voice and Web Internet information processing networks.

FEATURES

- Graphical development environment for rapid development and deployment
- Distributed client/server architecture
- Multi-lingual and localization capabilities
- Integrated host communications support
- Integrated SQL database management access
- Large port and call volume capacity
- Concurrent processing of multiple applications

- Integration of multiple telephony speech technologies such as fax and automatic speech recognition
- Text-to-speech synthesis
- Network and signaling interfaces for telecommunications services in public networks all over the world
- SNMP event support

I: GENERATIONS DEVELOPER

Service Creation Environment

Generations Developer, the call-flow creation component of the Generations software platform, enables the development of quality interactive voice/call processing application services. Generations Developer provides a set of graphical tools to integrate diverse computer and telephony technologies and construct interactive applications at any level of complexity. Generations makes the following tasks quicker, easier, and more reliable:

- Analysis
- Design
- Prototyping
- Service creation
- Online help
- Market trials
- Enhancements

Generations Developer consists of the following five application software components:

- Application Editor
- Cell Builder

- Application Test Facility
- Web Option
- Prompt Manager

Application Editor

The Application Editor is a graphical, object-oriented application generator used to create and edit applications. It enables graphical layout of the call flow by dragging and dropping icons ("cells") onto a drawing board. The completed application is an executable file that controls the processing of the Voice Response Unit (VRU).

A complete suite of shareable resources is available through the system-defined palette of cells, including:

- FAX
- Text-To-Speech (TTS)
- Choice of Automatic Speech Recognition (ASR) technologies
- All leading Relational Database Management Systems (Sybase, Oracle, Ingres, Informix, ODBC)
- Analog Display Services Interface (ADSI)
- Full range of host telecommunications protocols (3270, 5250)
- Out of band signaling control (for SS& and switch integration)

Cell Builder

The Cell Builder option enables the creation of cells unique to the installation. Such processing can be programmed in either "C" or "C++." The Cell Builder facilitates the process through a structured "fill-in-the-blanks" definition procedure. Once implemented, the new functionality is represented among the standard palette of cells and becomes available to all Generations applications.

Application Test Facility

The Application Test Facility provides the trace tools to analyze, debug, and test applications prior to implementation. The ability to fine-tune voice prompts and processing flows during this process significantly increases the application's acceptance and success rates.

Web Option

The Generations Web option maximizes your current investment in Generations-based hardware and software; and eliminates the need to handle Web-based customer interactions. Generations telephony resources deployed to handle phone transactions can be easily reused to handle Web-based "calls". For example, current interactive communications applications allow a

customer to check an account balance or an order status, any time of day or night. Generations Web extends these capabilities into the existing call flow architecture.

Prompt Manager

The Prompt Manager option allows the developer to display, play, edit, concatenate, trim and manipulate voice prompts.

II: GENERATIONS RSP

Comprehensive Runtime Environment

The core of the Generations platform, Generations Runtime Server Platform (RSP) deploys and efficiently manages voice/call processing application solutions. Generations RSP offers the capability to manage both simple, straightforward systems as well as large networked systems distributed over a wide geographic area. Open and modular, UNIX-based Generations RSP comprises a full set of shared- resources such as speech, switching, FAX, voice processing that can be easily extended to meet robust application requirements.

Generations RSP consists of the following components:

- Administration interfaces for centralized administration
- Reports
- Internal Database
- Prompt Loading
- Prompt Import Utility

Administration

The administrator maintains complete control over all the system resources through Generations RSP's Administration Interfaces. The graphical System Monitor provides real-time display of system resource utilization, system configuration, and channel status. A series of system alarms alerts the administrator when to take appropriate corrective actions. Applications can be reassigned to different ports, new applications can be deployed, and existing applications can be updated without any disruptions to caller services. System-level statistics provide the critical information for load balancing and advance capacity planning while application-level statistics allow service, performance, and usability analysis.

For customers who have implemented support for the Simple Network Management Protocol (SNMP), SNMP event, Generations RSP's SNMP provides the interface to pass system information from Generations to remote network management system, such as IBM NetView. Site management configures the desired Generations

messages to be passed by setting the appropriate triggers in Generations RSP.

Reports

The Generations Reports Facility allows one to access system activity information. Statistics gathered and reported on include the number of calls received per day, hour-of-day, trunk line, and events on any or all of the trunks and VRUs controlled by the application processor. System defined reports include call detail, call audit including cell usage, trunk usage, subscriber information, and a transaction log. The Report Writer allows one to generate customized reports for billing, resource planning, load balancing, and other purposes.

There are two components to creating a report of the statistics from a Generations RSP application. First, you prepare your application to gather the relevant statistics. Second, you configure the report writer to manipulate these statistics into a useful format. You can use either or both of the following methods to gather statistics in your application:

- Enable the parameter Call Auditing from the parameter page in a cell.
- Use EVENT cells to monitor selected cells in your application.

Internal Database

The System Database Editor is a menu-driven utility within Generations RSP that creates two types of databases:

- A message database that Generations RSP applications use to collect and store messages from callers in a set of mailboxes
- An information database that Generations RSP uses to store data, in the form of character strings, that can be used as part of the application. Examples are names, addresses, and phone numbers of subscribers.

Message databases and information databases are set up using the Database Editor. Note that the Information database and voice messaging are separate database types. The Database Editor is a menu-driven utility specifically designed for creating information and message databases. Each information database consists of a series of records and can be connected to applications or used separately. For example, an application might look up a specific record and then copy information from the record into buffers within the application.

Prompt Loading Facility

The Prompt Loading Facility, or PLF, manages the loading and unloading of voice files, called prompts or VSNs. Prompts are the recordings that Generations RSP uses to guide callers through the applications. These prompts are loaded on the VRU. When a caller contacts the system, the application might play a prompt like: "Thank you for calling XYZ Corporation." The Prompt Loading Facility is the tool for playing, recording, deleting, backing up or restoring and managing prompts.

Prompt Import Utility

The Prompt Import Utility is an application that enables users to do the following:

- Load digitized prompt data from UNIX-Tar and DOS formatted disks
- Add VSN headers to voice prompt files that are stored on the system in either ADPCM or Audio (*.au) format
- Add VSN headers to fax files stored on the system in TIFF format
- Trim the silence at the beginning and end of the voice prompt Views and/or changes configuration parameters

III: GENERATIONS TSP

Architecture Server Platform with Shared Resources

The telephony and shared resource server component of the Generations platform, Generations Telephony Server Platform (TSP) bridges telecommunications such as FAX, ADSI, and TTS information processing networks. Open and modular, Generations TSP makes information easily accessible by linking many different communications tools such as telephones, computers, faxes, speech recognition, speech synthesis, and other technologies. Generations TSP is a UNIX-based platform. It enables multimedia access and delivery of information as well as complex switching of information by sharing system resources. Telephony sequencing, physical interfacing activities, and telephony functions (i.e., signaling, call progress analysis, and timing) are all processes controlled by Generations TSP, freeing the applications to focus specifically on the call flows.

Generations TSP consists of the following components:

- VRU Runtime Subsystem (VRS)
- Service Console Interface (SCI)
- Resource Manager
- Call Control Module
- Trunk Files

VRU Runtime Subsystem (VRS)

The core of Generations TSP is an intelligent VRU Runtime Subsystem (VRS). It provides a communications interface for application clients and controls and monitors the state of each of the shared resources, as well as the state of the entire VRU. Generations TSP dynamically allocates resources to fulfill application requests, allowing multiple applications to share the same system resources.

Service Console Interface™ (SCI)

Through the Service Console Interface (SCI), Generations TSP provides the administrator with capabilities to configure network interfaces; manage the network configuration; modify resource configurations for the Text-to-Speech (TTS), FAX, and automatic speech recognition (ASR) options; and manage the various voice, fax, and data files. Generations TSP also enables access to comprehensive remote system diagnostics, setup, and maintenance. Facilities for system troubleshooting include the Transaction Event Log, Status Displays, usage reports, and various test utilities.

Resource Manager

The Generations TSP Resource Manager fulfills the application's requests to access various system resources, including voice processing, call control, FAX, Text-to-Speech (TTS), and Automatic Speech Recognition (ASR). The Resource Manager for each type of resource communicates with the ASR by means of pre-defined API's.

Call Control Module

The Call Control module is responsible for accessing called and calling party information; and for managing all call handling constraints, call transfers, and call setup and teardown. It analyzes and differentiates various network responses ~ SIT tones, busy tones, human answers, fax/modem, answering machine, network busy, ringing, and reorder tones ~ and forwards the information to the application for further processing. At the termination of each call, all the resources allocated to the call are freed to allow re-allocation to another call or application.

Trunk Files

Generations TSP encapsulates the handling of various trunk types and diverse switches. This provides universal signaling capabilities and the flexibility to meet the requirements of most telephone networks and private telephone equipment. Included with the system is the unique set of specifications (referred to as Trunk Files) which allow the VRU to connect to the most commonly used trunk interfaces, such as, T1, E1, ISDN, Loop-start, and DID. Generations TSP also provides the facility to create custom trunk type files to accommodate

specific requirements of non-standard private telephone networks.

CONFORMANCE TO STANDARDS

Generations for Compaq Tru64 UNIX is designed to conform to the following standards:

- NEBS
- 802.5 ETHERNET
- 802.5 TOKEN RING
- TCP/IP
- SQL
- ODBC

INSTALLATION STATEMENT

Compaq recommends that a customer's first purchase of this software product include Compaq Installation Services. These services provide for installation of the software product by an experienced Compaq Software Specialist.

For subsequent purchases of this product only experienced customers should attempt installation. Compaq recommends that all other customers purchase Compaq's Installation Services.

HARDWARE REQUIREMENTS**Processors Supported:**

AlphaServer 1000a 4/2xx
AlphaServer 1000a 5/300
AlphaServer 1000a 5/333, 5/4xx, 5/5xx

Processor Restrictions:

SMP is not supported.

Other Hardware Required:

Dialogic modules:

- D/41E-SC*
- D/160SC-LS*
- D/320SC*
- D/240SC-T1
- D/300SC-E1*
- D/480SC-2T1
- D/600SC-2E1*
- Antares 2000/50
- GammaLink CP-6/SC

- GammaLink CP-12/SC

* The Dial Pulse Detection option is available for systems using these cards.

Aculab modules:

- ACL-30 rev. 5
- ACL-60 rev. 5

Disk Space Requirements for RSP:

Required for installation: 150 MB
Required for use: 120 MB

Memory Requirements for RSP:

Required: 128 MB

Disk Space Requirements for TSP:

Required for installation: 100MB
Required for use: 70MB

Memory Requirements for TSP:

Required: 128 MB

OPTIONAL HARDWARE:

- Y2K FAX card
- Expansion box

SOFTWARE REQUIREMENTS:

Compaq Tru64 UNIX Operating System V4.0d
Dialogic Drivers for Compaq Tru64 UNIX V4.3a
Nuance Communications ASR V6.1.1

SOFTWARE LICENSING INFORMATION:

This software is furnished only under a license. For more information about Compaq's licensing terms and policies, contact your local Compaq office.

OPTIONAL SOFTWARE:

Aspect Telecommunications Voice Activated Dialing Switching Control System (SCS): SCS interfaces with the DIGITAL Stack via DIGITAL SS7 Management SCS is useful for out-of-band signaling (SS7)

GROWTH CONSIDERATIONS:

The minimum hardware and software requirements for any future version of this product may be different from the requirements for the current version.

DISTRIBUTION MEDIA:

Generations for Compaq Tru64 UNIX software and documentation are distributed on CD-ROM.

See the next section, "Ordering Information" for part numbers and descriptions of the various packaging options available for Generations for Compaq Tru64 UNIX.

YEAR 2000 READY:

This product is Year 2000 Ready.

Year 2000 Ready is defined: "Year 2000 Ready" products are defined by Compaq as products capable of accurately processing, providing, and/or receiving date data from, into and between the twentieth and the twenty-first centuries, and the years 1999 and 2000. Including leap year calculations, when used in accordance with the associated Compaq product documentation and provided that all hardware, firmware and software used in combination with such Compaq products properly exchange accurate date data with the Compaq products.

YEAR 2000 TESTING PROCESS

The Generations Year 2000 Project positions Generations for the next millennium. The goal of the project was to identify the potential problems when the clock/calendar rolls over into the next millennium. The test itself consisted of a three step process:

1. Investigate and Identify the problem
2. Implement code changes
3. Test the system

The test was divided into two categories: User Interface issues, and Run Time issues.

User Interface

All GUI interface tools were tested and examined for the usage of time and date fields. These GUI tools include XAE, UIF, XCONSOLE, XBUP, etc.

Run Time

Applications were created in the areas where date and time fields are used and the applications were run.

The Generations source code (both RSP and TSP) was examined for all possible forms of usage of year and date.

All the Generations tools were tested for any usage of date and time.

All third party development tools source code was also examined for any possible problems.

Dates Tested

With the incorporation of Year 2000 testing in regular test suites for Generations, each test suite takes into consideration the following dates.

- 1/1/99
- Roll over 12/21/1999 to 1/1/2000
- 9/9/1999
- Roll over of 2/28/2000 to 2/29/2000 to 3/1/2000 (Leap year)
- Roll over from 12/31/2000 to 1/1/2001
- Roll over from 2/28/2001 to 3/1/2001

For additional information visit Compaq's DIGITAL Products Year 2000 Ready web site located at <http://ww1.digital.com/year2000/warranty.asp>.

SOFTWARE WARRANTY:

Compaq provides this software with a 90-day conformance warranty in accordance with the Compaq warranty terms applicable to the license purchase.

ORDERING INFORMATION:

Software License:

QL-68JAM-3B	Generations Developer 1 User
QL-68JAM-5B	Generations Developer 1 User Conc UPD
QL-68JAM-3C	Generations Developer 4 User
QL-68JAM-5C	Generations Developer 4 User Conc UPD
QL-68JAM-3D	Generations Developer 4 User Conc UPG
QL-6CTAM-3B	Generations R&D Developer UNIX Conc 1 User
QL-6CTAM-5B	Generations R&D Developer UNIX Conc 1 User UPD
QL-68KAM-3B	Generations TSP 1 User UNIX Conc
QL-68KAM-5B	Generations TSP 1 User UNIX Conc UPD
QL-68KAM-3C	Generations TSP 4 User UNIX Conc
QL-68KAM-5C	Generations TSP 4 User UNIX Conc UPD
QL-6C2AM-3B	Generations TSP Call Tromboning
QL-6C2AM-5B	Generations TSP Call Tromboning UNIX Conc UPD
QL-6CUAM-3B	Generations R&D TSP UNIX Conc
QL-6CUAM-5B	Generations R&D TSP UNIX Conc UPD

QL-6BVAM-5B	Generations RSP UNIX Conc
QL-6BVAM-5B	Generations RSP UNIX Conc UPD
QL-6C1AM-3B	Generations RSP Call Tromboning
QL-6C1AM-5B	Generations RSP Call Tromboning UNIX Conc UPD
QL-6CSAM-3B	Generations R&D RSP UNIX Conc
QL-6CSAM-5B	Generations R&D RSP UNIX Conc UPD
QL-6BWAM-3B	Generations Redundant RSP
QL-6BWAM-5B	Generations Redundant RSP UNIX Conc UPD
QL-6BXAM-3B	Generations Prompt Manager
QL-6BXAM-5B	Generations Prompt Manager UNIX Conc UPD
QL-6BYAM-3B	Generations Cell Builder
QL-6BYAM-5B	Generations Cell Builder UNIX Conc UPD
QL-6BZAM-3B	Generations DMX
QL-6BZAM-5B	Generations DMX UNIX Conc UPD
QL-6C0AM-3B	Generations (SS7/ISUP)
QL-6C0AM-5B	Generations (SS7/ISUP) UNIX Conc UPD
QL-6C3AM-3B	GamaLink FAX
QL-6C3AM-5B	GamaLink FAX UNIX Conc UPD
QL-6C4AM-3B	L&H Voice Recognition Enablement
QL-6C4AM-5B	L&H Voice Recognition Enablement UNIX Conc UPD
QL-6C5AM-3B	Generations Nuance ASR Enablement
QL-6C5AM-5B	Generations Nuance ASR Enablement UNIX Conc UPD
QL-6C6AM-3B	L&H TTS Enablement
QL-6C6AM-5B	L&H TTS Enablement UNIX Conc UPD
QL-6C7AM-3B	Host Communications
QL-6C7AM-5B	Host Communications UNIX Conc UPD
QL-6C8AM-3B	SQL Link
QL-6C8AM-5B	SQL Link UNIX Conc UPD
QL-6C9AM-3B	ADSI
QL-6C9AM-5B	ADSI UNIX Conc UPD
	Software Media: QA-68JAM-H8*
	Software Documentation: QA-68JAM-G8

The "*" Denotes variant fields.

The above information is valid at time of release. Please contact your local Compaq office for the most up to date information.

SOFTWARE PRODUCT SERVICES:

A variety of service options are available from Compaq. For more information, contact your local Compaq office.

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