



# Software Product Description

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PRODUCT NAME: *Compaq ACMSxp Version 3.2A for OpenVMS Alpha*

SPD 60.53.08

## DESCRIPTION

*Compaq ACMSxp for OpenVMS Alpha* is middleware that makes client/server business applications run more reliably, efficiently, and securely. *ACMSxp* works with other Compaq Computer Corporation commercial software products to provide users with a complete and customizable development and runtime environment for transaction processing applications such as order tracking, accounting and billing, shop floor control, and insurance claims processing.

Many of the concepts and features incorporated in *ACMSxp* have evolved from the *Compaq ACMS TP* monitor, which has been available on the *OpenVMS VAX* platform since 1984. However, *ACMSxp* is a different and separately orderable product that runs on multiple platforms and does not share any common source or binary *ACMS* files. *ACMSxp* has been designed to take advantage of open transaction processing technology, incorporating the latest industry standards for data communications and distributed computing. *ACMSxp* also conforms to widely accepted Spirit and X/Open industry standards for transaction processing.

*ACMSxp* documentation helps guide users through the entire application development life cycle, including the installation, planning, design, development, testing, implementation, management, and maintenance of complex TP applications. *ACMSxp* provides a high-level structured transaction definition language (STDL) that defines TP application functions and runtime characteristics.

*ACMSxp* makes efficient use of the operating system and associated hardware resources, making itself particularly suitable for running mission-critical applications that require high throughput and performance.

*ACMSxp* is closely integrated with the following Compaq layered software products:

- *Compaq DCE* client/server data communication
- *Compaq TP Desktop Connector for ACMSxp* for multivendor client access to *ACMSxp*
- *Compaq TP Web Connector* for web-enabling *ACMSxp* applications
- *Compaq C* language compiler for *OpenVMS*

Because *ACMSxp* is designed to allow for modular implementation as well as development, users can separate and distribute front-end processing (data input/output operations such as forms processing) from back-end processing (data calculations and database storage). In addition, *ACMSxp* allows developers to implement applications using nonstandard terminal or I/O devices (such as barcode readers and ATMs). *ACMSxp* supports the deployment of TP applications in a production environment.

## Features

- Application development environment
- Runtime system
- System and application administration
- Front-end/back-end processing
- Database management
- Japanese text data support
- Documentation set

### Application Development Environment

The *ACMSxp* development environment is based on a modular approach to application development. When creating an application with *ACMSxp*, programmers can clearly delineate the behaviors of the various functional portions of the application, including user interface capture and display, data calculation, access to data storage, and higher-level transaction block responsibilities.

To support programmers in adhering to this modular approach, *ACMSxp* provides a high-level programming language called the Structured Transaction Definition Language (STD<sub>L</sub>). STD<sub>L</sub> is a compiler-based, English-like definition language that replaces lower-level system service calls for most TP application functions. Because the STD<sub>L</sub> syntax is similar to English, programmers can more easily define the sequence and style in which the various functions of an application occur.

Using STD<sub>L</sub>, programmers can specify as much or as little application control as they choose, depending on their preferences for configuring the application environments. Some environments require that most of the control occur at the client, with the server dedicated to database access. In this case, relatively little STD<sub>L</sub> programming is required. Other applications require more stringent control at the server, to provide more sophisticated security, reliability, or availability features. A more robust high-level definition of the application using STD<sub>L</sub> is warranted in this case.

The basic functional components of STD<sub>L</sub> are:

- Exchange step definition and invocation for display interaction
- Processing step definition and invocation for database access and general computation activities
- Data resource definition of entities such as servers, tasks, workspaces, and logs
- Transaction demarcation and resource manager recovery specification
- Execution flow control specification such as IF ... THEN ... ELSE and loop statements.

### Runtime System

*ACMSxp*, when integrated with other layered products, provides all features required for the execution of TP applications in a distributed environment. The *ACMSxp* runtime system is based on DCE. *ACMSxp* uses DCE for remote procedure call (RPC) communication, naming resolution (CDS), threading (DECthreads), and security.

The runtime system is composed of the following components, which manage applications and the control of the runtime system itself:

- Request execution

A request performs work for an *ACMSxp* end user. A request is always executed on behalf of a particular *ACMSxp* end user and is created when the end user invokes an application procedure. When a client performs a remote procedure call, the call is redirected to a backup or secondary server if the intended server is not reachable (due to node failure, for example). This behavior is called failover.

- Exception handling

An exception is the occurrence of an error or other unexpected condition during the execution of a request. Exceptions may be raised by the application or the *ACMSxp* runtime system. When an exception occurs, it is either propagated back to the client that initiated the request, or it is handled at the task level without the client knowing an exception occurred.

- Servers

An *ACMSxp* system has two types of servers; system servers defined by *ACMSxp*, and user-defined application servers. System servers provide *ACMSxp* runtime features and are managed by the *ACMSxp* system. An application server provides a set of application procedures and is managed through *ACMSxp* system administration. The set of application procedures provided by a particular server is defined by an STD<sub>L</sub> group specification.

- Security

To invoke a server, *ACMSxp* software uses an authorization mechanism. If authorization fails, invocation is rejected. Any authorization failure is logged as a security event.

- RPC communication

The *ACMSxp* runtime environment provides full support for the DCE RPC protocol supplied with the DCE RPC product. The DCE RPC protocol supports full interoperability between *ACMSxp* clients and servers residing in separate address spaces.

- Transactional coordination

The *ACMSxp* runtime environment provides full transactional coordination of resources across all Compaq platforms including Windows NT®, *OpenVMS*, and *Tru64 UNIX*®.

- Process management

Runtime server process termination is detected by the *ACMSxp* runtime system and may cause the creation of a new server process to replace the terminated one.

*System and Application Administration*

ACMSxp provides facilities for managing the runtime system environment and includes the following administrative features:

- System configuration

Scripts are provided for creating, deleting, starting, and stopping the TP system. Most management operations can be performed remotely using the ACMSxp GUI.

- Centralized administration

System and application servers can be managed from a central location. This can be done from either the command line interface or from the GUI (Graphical User Interface) running on the Windows NT platform. The operations that can be performed from one location include: creating, deleting, starting, and stopping servers; showing and modifying attributes of TP systems, servers, and other objects within TP systems.

- Multiple TP systems

A single node can host multiple TP systems. Each TP system and the application components within it are completely isolated from other TP systems on the node. For example, test and production versions of an application can run in separate TP systems on the same node.

- Access control

Access control lists (ACLs) control who can invoke procedures or insert elements into queues at runtime. ACLs can also control who can perform administration operations.

- Event logging

Exceptions and trace information in the runtime environment can be configured to capture events and record them in an event log. A tool is provided for examining the contents of the event log.

- Performance monitoring

ACMSxp performance monitoring software allows you to collect data concerning processing activity within a particular TP system on an as needed basis.

- Selectable Resource Manager (RM) model

Allows the configuration of ACMSxp with or without transactional support. Allows selection of several transaction management configurations depending on the number and type of resource managers being used.

*Front-End/Back-End Processing*

With the aid of customer-written presentation servers, ACMSxp applications can be developed with a centralized or client/server configuration. Customer-written presentation servers enable customers to interface with client devices or nonstandard devices. ACMSxp routes exchange I/O to the device that originated the request and supplies the device with the context necessary for the customer-written presentation server to access the device.

Customer-written presentation servers are serially reusable, single user, synchronous servers. However, the presentation server code developer must be aware that the presentation procedures run in a multithreaded environment.

*Database Management*

This release of ACMSxp for OpenVMS Alpha supports the Oracle® Rdb database management system.

*Japanese Text Data Support*

ACMSxp for OpenVMS Alpha allows the exchange of Japanese text data across different platforms through the use of code conversion functions.

*Documentation Set*

ACMSxp for OpenVMS Alpha includes a complete and comprehensive documentation set. ACMSxp concepts and components are explained to new users in a *Software System Overview*. An *STDL Encyclopedia* is provided as a full reference to the STDL language. Additionally, a comprehensive three-part guide demonstrates how ACMSxp applications are designed, developed, and managed, using the example of a reservations processing application.

The ACMSxp for OpenVMS Alpha documentation set consists of the following manuals and online help:

- *ACMSxp Release Notes*

Specific information related to the current version of ACMSxp for OpenVMS Alpha and material added too late for publication in other ACMSxp documents.

- *Getting Started*

A manual containing a step-by-step tutorial for developing a simple ACMSxp application.

- *ACMSxp for OpenVMS Alpha Installation Guide*

Description of installation requirements, step-by-step installation instructions, and post-installation tasks, with full examples.

- *Software System Overview*

An overview of the *ACMSxp* software system, including an introduction to the STDL language and a discussion of related products.

- *STDL Encyclopedia*

The reference material for the STDL application programming interface to the *ACMSxp* portable transaction processing monitor.

- *ACMSxp Developing and Managing Applications*

A three-part manual describing how to design, develop, and manage a transaction processing application that can be implemented using the *ACMSxp* portable TP monitor.

- *ACMSxp Help*

A comprehensive help file that describes the STDL language and how to develop and manage *ACMSxp* applications.

- *ACMSxp Management GUI Help*

A system administration GUI help file that provides information about managing *ACMSxp* entities through the GUI entity hierarchy window.

## CONFORMANCE TO STANDARDS

*ACMSxp* conforms to formal industry standards set forth by the following standards bodies:

- International Standards Organization (ISO)
- American National Standards Institute (ANSI)

*ACMSxp* conforms to the following industry specifications:

- Open Software Foundation (OSF) DCE (part of The Open Group)
- Multivendor Integration Architecture (MIA)
- NMF/Spirit
- X/Open (part of The Open Group)
  - DTP Model
  - STDL

## HARDWARE REQUIREMENTS

*ACMSxp* Version 3.2A for *OpenVMS* Alpha is supported on all Alpha hardware configurations running *OpenVMS* Version 6.2, 7.1, or 7.2. Reference can be made to the configuration charts listed in the *OpenVMS* Operating System Software Product Description (SPD 25.01.xx) Hardware Support Tables.

## Disk Space Requirements (Block Cluster Size = 1):

Disk space required on user disk for installation:	30,000 blocks
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Disk space required on user disk for permanent use:	24,000 blocks
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The sizes are approximate; actual sizes may vary depending on the user's environment, configuration, and software options.

## Memory Requirements:

The minimum memory supported is 128 Megabytes. However, the use of this software in conjunction with increased memory capability improves performance.

## SOFTWARE REQUIREMENTS

*ACMSxp* for *OpenVMS* Alpha runs on all Alpha machines that use the *OpenVMS* operating system. Allowable configurations include: one Alpha processor for centralized configurations; multiple Alpha processors for client/server configurations.

Software required on all *OpenVMS* Alpha nodes in *ACMSxp* environment:

- *OpenVMS* Alpha Version 6.2, 7.1, or 7.2
- *Compaq TCP/IP Services* for *OpenVMS* Version 4.1 (ECO 4)
- *Compaq DCE* Version 1.4 (ECO 1) - 1.5 Runtime Services for *OpenVMS* Alpha
- RMS Journaling License
- DECnet/OSI Version 6.3 (ECO 6)

Additional software required on at least one additional node in the network:

- *Compaq DCE* Version 1.4 (ECO 1) - 1.5 Cell Directory Server for *OpenVMS* Alpha
- *Compaq DCE* Version 1.4 (ECO 1) - 1.5 Security Server for *OpenVMS* Alpha

Additional software required on all *OpenVMS* Alpha nodes used for development:

- *Compaq C* Version 5.3-006
- *Compaq DCE* Version 1.4 (ECO 1) - 1.5 Application Developer's Kit for *OpenVMS* Alpha

## SOFTWARE LICENSING INFORMATION

ACMSxp for OpenVMS Alpha is available in either a Development or Runtime license offering. The Development license permits the use of the software to develop, test, and deploy ACMSxp applications. The Runtime license permits the use of the software to test and deploy ACMSxp applications.

Both Development and Runtime license offering are available in two different license types. These license types are Capacity and Concurrent Use:

- The Capacity license offering permits the use of the software on a single system.
- The Concurrent Use license offering permits the use of the software by a single user.

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

## LICENSE MANAGEMENT FACILITY SUPPORT

This layered product supports the OpenVMS License Management Facility.

License units for this product are allocated on a Capacity and Concurrent Use basis.

Each Concurrent Use license allows any one individual at a time to use the layered product.

For more information on the License Management Facility, refer to the OpenVMS Alpha Operating System Software Product Description (SPD 41.61.xx) or the License Management Facility manual of the OpenVMS Alpha Operating System documentation set.

For more information about Compaq's licensing terms and policies, contact your local Compaq office.

## OPTIONAL SOFTWARE

- *TP Web Connector* Version 1.2

Enables seamless web access to business applications running on ACMSxp, ACMS, and Compaq Portable TP systems. For more information visit the web site located at:

<http://www.software.digital.com/tpwebconnect>

- *Compaq COBOL* Version 2.4
- Any database supported by OpenVMS Alpha Version 6.2, 7.1, or 7.2

- *Compaq DECforms* is an optional software product for the development and deployment of forms-based user interfaces for interactive applications running on OpenVMS systems. DECforms is a complete user interface management system (UIMS), providing applications with the look and feel of a forms interface and a robust set of dialog management and validation functions to control the user interface during application execution. DECforms supports Motif-based workstations, X terminals, VT-based character-cell terminals, and PostScript printers.
- *TP Desktop Connector* Version 3.1 for ACMSxp

Enables desktop system users to access ACMSxp, ACMS, and Compaq Portable TP applications from the native desktop system environment. For more information visit the web site located at:  
<http://www1.digital.com/tpdesktop>

## GROWTH CONSIDERATIONS

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

## DISTRIBUTION MEDIA

This product is distributed on an individual product CD-ROM, or part of the OpenVMS Consolidated Software Distribution on CD-ROM.

## 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 product documentation and provided that all hardware, firmware and software used in combination with such products properly exchange accurate date data with the products.

For additional information visit the DIGITAL Brand area on Compaq's Year 2000 Ready web site located at <http://www1.digital.com/year2000/warranty.asp>.

## SOFTWARE WARRANTY

This software is provided by Compaq with a 90 day conformance warranty in accordance with the Compaq warranty terms applicable to the license purchase.

**ORDERING INFORMATION**

Listed below is the ordering information for the ACMSxp Development and Runtime offerings.

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<b>Development</b>	
Licenses	QL-4WRA*-**
Media/Documentation	QA-4WRAA-H8
Documentation Only	QA-4WRAA-GZ
Product Services	QT-4WRA*-**

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<b>Runtime</b>	
Licenses	QL-4WSA*-**
Media/Documentation	QA-4WSAA-H8
Documentation Only	QA-4WSAA-GZ
Product Services	QT-4WSA*-**

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\* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

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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