COMPAQ

Software Product Description

PRODUCT NAME: ***Compaq ACMSxp*** **Version 3.2A for Windows NT** **SPD 60.52.06**

DESCRIPTION

Compaq ACMSxp for Windows NT® is middleware that makes client/server business applications run more reliably, efficiently, and securely. *ACMSxp* works with commercial software products from Compaq and other third party vendors 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:

- Distributed Computing Environment (DCE) client /server data communication
- *Compaq TP Desktop Connector* for multivendor client access to *ACMSxp* applications
- *Compaq TP Web Connector* for web-enabling *ACMSxp* applications

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 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

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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 (STDL). STDL is a compiler-based, English-like definition language that replaces lower-level system service calls for most TP application functions. Because the STDL syntax is similar to English, programmers can more easily define the sequence and style in which the various functions of an application occur.

Using STDL, 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 STDL 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 STDL is warranted in this case.

The basic functional components of STDL 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, and workspaces.
- 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, threading and security. The runtime system is composed of the following components, which manage applications and control of the runtime system itself:

- Request execution

A request is the execution of a sequence of application procedures that perform 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 STDL group specification.

- Security

When invoking a server, *ACMSxp* software uses both authentication and authorization mechanisms. If authentication and authorization fails, invocation is rejected. Any authentication and authorization failure is logged as a security event.

- Transactional coordination

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

- RPC communication

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

- 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

Utilities are provided for creating, deleting, and starting TP systems. 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 the TP systems, servers, and other objects within the 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.

Database Management

This release of *ACMSxp* for Windows NT supports any database management system that runs on Windows NT and can be called from C procedures.

Japanese Text Data Support

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

Documentation Set

ACMSxp for Windows NT 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 case study demonstrates how *ACMSxp* applications are designed, developed, and managed, using the example of a reservations processing application.

The *ACMSxp* for Windows NT documentation set consists of the following manuals and online help:

- *ACMSxp Release Notes*

Specific information related to the current version of *ACMSxp* for Windows NT 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 Windows NT 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
  - — XA Interface
  - — STDL

HARDWARE REQUIREMENTS

ACMSxp Verison 3.2A for Windows NT runs on all Intel and Alpha machines that can run the Windows NT operating system.

Disk Space Requirements

Disk space required on development workstation for installation:	6mb
Disk space required on runtime server for permanent use:	4mb

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 32 Megabytes. However, the use of this software in conjunction with increased memory capability improves performance.

SOFTWARE REQUIREMENTS

Software required on all Windows NT nodes in *ACMSxp* environment:

- Windows NT Version 4.0, Service Pack 3 or 4
- *Compaq DCE* Version 2.0B (ECO 6) or 2.2 (ECO 1) Runtime Services for Windows NT

Additional software required on all nodes used for development:

- Microsoft Visual C++® Version 5.0 or 6.0
- *Compaq DCE* Version 2.0B (ECO 6) or 2.2 (ECO 1) Application Developers' Kit for Windows NT

Additional software required on at least one node in the network for Runtime Server:

- *Compaq DCE* Version 2.0B (ECO 6) or 2.2 (ECO 1) Cell Directory Server for Windows NT
- *Compaq DCE* Version 2.0B (ECO 6) or 2.2 (ECO 1) Security Server for Windows NT

SOFTWARE LICENSING INFORMATION

ACMSxp for Windows NT 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 on a single system. The Runtime license permits the use of the software to test and deploy *ACMSxp* applications on a single system..

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

- *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
- Microsoft SQL Server Version 6.5. If using Microsoft Distributed Transaction Coordinator (DTC), Microsoft SQL Server Version 6.5, Service Pack 3.
- Microsoft DTC - this is bundled with Microsoft Transaction Server (MTS). MTS can be obtained by installing Microsoft Windows NT Version 4.0 Option Pak.
- ORACLE7® for Windows NT Version 7.3.3
- *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::/ww1.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 CDROM.

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.

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