digital™

Software Product Description

PRODUCT NAME: DIGITAL Distributed Computing Environment SPD 64.45.01 Version 2.0 for Windows 95

DESCRIPTION

The DIGITAL™ Distributed Computing Environment for Windows 95™ product family provides the distributed computing functionality specified by the Open Software Foundation's OSF® Distributed Computing Environment (DCE) from The Open Group™ on the Microsoft® Windows 95 operating system. With DCE, the OSF has established a standard set of services and interfaces that facilitate the creation, use, and maintenance of client/server applications.

DCE serves as the basis for an open computing environment where networks of multivendor systems appear as a single system to the user. Because DCE makes the underlying networks and operating systems transparent, application developers can easily build portable, interoperable client/server applications. Users can locate and share information safely and easily across the entire enterprise. The DIGITAL DCE for Windows 95 product family also supplies system managers with a set of tools to consistently manage the entire distributed computing environment. The DIGITAL DCE for Windows 95 product family supports the Windows 95 operating system running on the Intel® platform.

The DIGITAL DCE for Windows 95 product family consists of two separate products. This helps to provide customers with maximum flexibility for configuring a DCE environment, known as a DCE **cell**. The products are:

- **DIGITAL DCE Runtime Services for Windows 95**—Required for all Windows 95 systems participating in a DCE cell. The DCE Runtime Services kit provides data privacy with separate orderable products for the 56-bit Data Encryption Service (DES) and the 40-bit Commercial Data Masking Facility (CDMF). The kit also includes several Windows-based DCE administration tools.

February, 1998
AE-R0SNB-TH

- **DIGITAL DCE Application Developer's Kit for Windows 95**—Required for developers of distributed applications but optional for other users. The DCE Application Developer's Kit provides programmers with all of the tools and files needed to build applications that use the DCE runtime services.

DCE for Windows 95 Product Family Features

The DIGITAL DCE for Windows 95 Version 2.0 product family is an implementation of OSF DCE Release 1.2.1 adapted and enhanced for Windows 95. The core DCE functionality provided in the DIGITAL DCE for Windows 95 product family includes:

- DCE Remote Procedure Call (RPC): Provides the OSF DCE RPC used to create and run client/server applications. RPC allows direct calls to application procedures running on remote systems as if they were local procedure calls. Authenticated (secure) RPC calls are supported through the use of the DCE Security facility provided in the Runtime Services.
- DCE Distributed Time Service (DTS): Synchronizes time on individual hosts in a distributed network environment.
- DCE Security Service Client: Provides access to DCE security services. It enables secure communications and access by means of authorization and authentication services. This access can be used by either the client or the server side of a DCE application.
- DCE Cell Directory Service (CDS) Client: Provides access to CDS name services, allowing location-independent naming of resources. This access can be used by either the client or the server side of the user's application.
- The Interface Definition Language (IDL) Compiler: Provides the language used to define remote procedure calls.
- DCE Threads Service: Provides a simple programming model for building applications that perform many operations simultaneously. The DCE threads service has been integrated with the Windows 95 kernel threads facility.

DIGITAL has made a number of enhancements to these basic DCE services in order to provide greater ease of use and management of DCE. These enhancements include:

- Simplified installation and de-installation using Installshield
- Support for the Year 2000
- DCESetup, a Windows-based graphical tool for DCE configuration
- Support for command-line DCE configurations using DCE Control Program (dcecp) scripts
- Graphical cell management utilities: Visual ACL Editor and DCE Directorcecp)
- Silent Install Support
- 56-bit Data Encryption Standard (DES) and 40-bit Commercial Data Masking Facility (CDMF), which support RPC application encryption and GSSAPI message encryption

- Inline CDS clerk for improved performance
- Integrated login capability
- IDL C++ support allows DCE applications to be written in C++, using Microsoft's Visual C++; it also provides support for distributed objects in DCE applications
- Support for DCE applications written in C to be built using IBM Visual Age C++ Compiler
- Automatic startup feature
- IDL development templates
- Name Service Gateway (NSID), providing access to the DCE name services from native Microsoft RPC applications
- XPG4 message file support
- Support for the XDS (X/Open® Directory Services) API, for use with either CDS or X.500 Directory Services
- Standard DCE and additional Windows-based example applications
- Complete online documentation in native Windows Help format
- Support for international deployment
- DCE Online Tutorial
- Generic Security Service API (GSSAPI), used by applications that require security services but do not require RPC or other integrated DCE services

The DIGITAL DCE for Windows 95 product family complies with applicable Open Software Foundation DCE specifications and interoperates with major vendors' DCE implementations, including DCE for DIGITAL UNIX™, and DIGITAL DCE for OpenVMS™ on VAX™ and Alpha™, and DIGITAL DCE for Windows NT™. It supports TCP/IP and UDP/IP.

PRODUCT OPTIONS

The DIGITAL DCE for Windows 95 product family consists of two separate products: the DIGITAL DCE Runtime Services for Windows 95 kit and the DIGITAL DCE Application Developer's Kit.

The DIGITAL DCE Runtime Services for Windows 95 kit must be installed first and is a prerequisite for installing and using the DCE Application Developer's Kit.

DIGITAL DCE Runtime Services for Windows 95

A group of DCE systems that work together and are administered as a unit is called a cell. Every system within a DCE cell must run the DCE Runtime Services. The DIGITAL DCE Runtime Services is a fully integrated set of services that provides applications with the essential capabilities required to use DCE's distributed services. The DIGITAL DCE Runtime Services for Windows 95 product makes the following DCE features available to distributed applications:

- OSF DCE RPC including:
  - Use of the DCE Cell Directory Service for location-independent naming of application services.
  - Use of the DCE Security Service for authentication, authorization, and secure communication.
  - Use of the Data Encryption Standard (DES) or the Commercial Data Masking Facility (CDMF) data encryption feature of the DCE Remote Procedure Call. Data encryption allows DCE applications to use the packet privacy protection level provided by DCE Security Services.
- Distributed Time Services
- DCE Security Services
- DCE Name Services
- DCE Threads

The Runtime Services kit also includes new easy-to-use Windows-based DCE management tools:

- DCEsetup for configuring and managing the DCE services on a system.
- DCE Director for managing DCE cells. DCE Director presents an object-oriented view of the DCE environment. The top-level object is the cell. Objects in the cell that a user can manage include users, groups, hosts, CDS directories, and servers. DCE Director makes it easy to perform management tasks, such as creating, deleting, and modifying cell objects. In addition, the DCE Director allows you to access the standard DCE control programs (rgy_edit, cdscp, acl_edit, and dtscp), while providing additional functions such as managing user accounts.
- Visual ACL Editor for graphically managing DCE Access Control Libraries (ACLs). It is integrated with the DCE Director, or it can also be used as a standalone tool.

DIGITAL DCE Application Developer's Kit for Windows 95

The DIGITAL DCE Application Developer's Kit (ADK) for Windows 95 includes the tools and files required for the development of distributed applications. It includes:

- IDL compiler, which generates RPC interface stubs for C and C++ applications.
- Standard DCE and additional Windows-based sample applications.

- All public DCE application programming interfaces, including the DCE RPC API, DCE Threads API, DCE Security API, DCE name services API, and the DCE Time Services API.

CONFORMANCE TO STANDARDS

The OSF DCE is based on several de facto and de jure standards, including:

- POSIX 1003.4a draft Threads
- POSIX 1003.6 draft Access Control Lists
- OSF DCE is compatible with the Network Time Protocol (NTP) standards

HARDWARE REQUIREMENTS

Intel Processors Supported

DIGITAL DCE for Windows 95 is supported on all Intel processors supported by the Microsoft Windows 95 operating system. Refer to the Microsoft Windows 95 Hardware Compatibility List for complete information on the Intel processors and hardware options supported by Windows 95.

Disk Space Requirements:

For Intel Systems

Disk space for DCE Runtime Services	31 MB
Disk space for DCE ADK	7 MB
Disk space for Additional Documentation	13 MB
Disk space for Debug Files	22 MB
Disk space for Distributed Computing Tutorial	4.2 MB

SOFTWARE REQUIREMENTS

The DIGITAL DCE Version 2.0 for Windows 95 product family requires Microsoft Windows 95 V1.0, Service Pack 1 or OSR2.

The DIGITAL DCE Application Developer's Kit requires that Microsoft RPC header files be installed on the system. These files are present in Microsoft Visual C++ Version 2.0 or later or Visual Age C++.

A DCE cell requires at least one DCE CDE Server and at least one DCE Security Server. These servers are available from DIGITAL on Windows NT (Intel and Alpha), DIGITAL UNIX, OpenVMS (VAX and Alpha), and on a number of other vendor's platforms.

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

All products are available on CD–ROM.

ORDERING INFORMATION

DIGITAL DCE Media Kit for Windows 95:

NOTE: The software for all products is combined in one media kit, available in two variants of the DCE Runtime Services option: 40-bit and 56-bit data encryption.

40-bit data encryption–Runtime Software License and Media: QB-50VAA-SA

56-bit data encryption (See Export Restrictions)–Runtime Software License and Media: QB-60LAA-SA

Upgrade Kits:

40-bit data encryption–Runtime Software License and Media Upgrade: QB-50VAA-MA

56-bit data encryption (See Export Restrictions)–Runtime Software License and Media Upgrade: QB-60LAA-MA

Each media kit contains all software (Runtime, ADK), online documentation, Distributed Computing Concepts tutorial, as well as a single right-to-use runtime license (as above) for one Intel system. This kit does NOT include a license for the ADK. Additional licenses for any of the products should be purchased separately—see below. The following online documents are included:

- Configuring with DCEsetup
- Using the DCE Director
- Using the Visual ACL Editor
- DCE Product Guide (online and printed versions)
- DCEcp Configuration Scripts
- DCE Troubleshooting
- DCE Release Notes

In addition, users may optionally install these additional online documents:

- Introduction to OSF DCE
- Guide to DEC Threads

- Problem Determination Guide
- OSF DCE Administration Guide Introduction
- OSF DCE Administration Guide Core Components
- OSF DCE Application Development Introduction and Style Guide
- OSF DCE Application Development Reference
- OSF DCE Application Development Guide Core Services OSF DCE Application Development Guide Directory Services
- OSF DCE Command Reference

DIGITAL DCE Runtime Services for Windows 95:

Runtime Software License Only:

- 40-bit data encryption 1 Lic: QM-50VAA-AA
- 40-bit data encryption 1 Upg: QM-50VAA-CA
- 40-bit data encryption 1K Lic: QM-50VAA-AE
- 40-bit data encryption 1K Upg: QM-50VAA-CE
- 40-bit data encryption 10K Lic: QM-50VAA-AG
- 40-bit data encryption 10K Upg: QM-50VAA-CG

- 56-bit data encryption 1 Lic: QM-60LAA-AA
- 56-bit data encryption 1 Upg: QM-60LAA-CA
- 56-bit data encryption 1K Lic: QM-60LAA-AE
- 56-bit data encryption 1K Upg: QM-60LAA-CE
- 56-bit data encryption 10K Lic: QM-60LAA-AG
- 56-bit data encryption 10K Upg: QM-60LAA-CG

For media, select the Media Kit (QB-50VAA-SA or QB-60LAA-SA) listed above.

Runtime Software Product Services:

- 40-bit data encryption: QT-50VA*-**
- 56-bit data encryption: QT-60LA*-**

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

DIGITAL DCE Application Developer's Kit for Windows 95:

ADK Software License: QM-50WAA-AA

This license grants the right to use the ADK software on one Intel computer. For media, select one of the Media Kits (QB-50VAA-SA or QB-60LAA-SA) listed above.

ADK Software Product Services: QT-50WA*-**

* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book or the DIGITAL DCE web site.

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

SOFTWARE LICENSING

Refer to the DIGITAL LICENSE AGREEMENTS FOR DIGITAL DCE FOR WINDOWS 95 Version 2.0 for a description of the terms associated with this license.

EXPORT RESTRICTIONS

Applies to 56-bit data encryption only

U.S. Government export regulations specify that hardware, software, and documentation for cryptographic products cannot be exported outside the United States or Canada without an export license by the distributor. Specifically, the Department of State's International Traffic in Arms Regulations (22 Code of Federal Regulations Subchapter M) require that an export license be obtained from the Department before any cryptographic hardware, software, or documentation is exported from the United States. Accordingly, it is an explicit condition of sale of this product that the purchaser agrees not to export or cause to be exported this product or any portion of this product from the United States without obtaining the requisite export license from the Department of State. For more information about export control requirements, contact your local DIGITAL office.

SOFTWARE WARRANTY

Warranty for this software product is provided by DIGITAL with the purchase of a license for the product as defined in the Software Warranty Addendum to this SPD.

MORE INFORMATION

For additional and/or up-to-date information about DIGITAL DCE for NT, DIGITAL UNIX, OpenVMS, or Windows 95, please see the DIGITAL DCE web page at:

HTTP://www.DIGITAL.com/DCE.

TRADEMARK INFORMATION