HP DCE/9000 Version 1.6
for
HP-UX 10.30
Release Note

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About This Document

This document is the release note for HP DCE/9000 Version 1.6 (HP DCE 1.6) core services for HP-UX 10.30.

For detailed information about HP DCE 1.6, see *Planning and Configuring HP DCE 1.6* (B3190-90071).

For information about the documentation for HP DCE 1.6, see Chapter 5 of this document.

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1 What's In This Version

HP DCE/9000 Version 1.6 provides the features of OSF DCE 1.1, along with HP value-added features and bug fixes.

HP DCE/9000 Version 1.6 Overview

HP DCE/9000 Version 1.6 (HP DCE 1.6) makes the functionality of OSF DCE 1.1 available on HP/9000 Series 800 systems running HP-UX 10.30. HP DCE 1.6 also includes HP value-added tools. HP DCE 1.6 provides the functionality of HP DCE 1.4.1 and 1.5, along with new features and bug fixes.

As of HP-UX 10.0, HP DCE client software is bundled with the HP-UX operating system; other DCE software is distributed as layered software.

This release note describes HP DCE 1.6 for the HP-UX 10.30 operating system. For information about HP DCE application development tools, see *HP DCE/9000 Version 1.6 Application Development Tools for HP-UX 10.30 Release Note* (B3193-90021).

HP DCE/9000 Features

The primary features of HP DCE/9000 include:

- All of the functionality of OSF DCE 1.1, except for DFS and the DFS extended file services. Bundled as a default in HP DCE Version 1.5, DFS is not supported in Version 1.6; however, Version 1.5 DFS can be upgraded to HP DCE/9000 Enhanced DFS Version 1.5.1, which is based on the OSF Version 1.2.1 of DFS. OSF DCE features supported by HP DCE 1.5 include Remote Procedure Call (RPC), Security, Cell Directory Service (CDS), Distributed Time Service (DTS), and CMA-threads. Global Directory Service (GDS) is no longer supported.
- HP value-added functionality consisting of I2DL, enhanced CDS browser, C++ class libraries, and sample applications.
- HP value-added tools that make configuration and administration easier, including HP DCE Account Manager and HP DCE Configuration Manager.

For detailed information about these features, see *Planning and Configuring HP DCE* 1.6 (B3190-90071).

HP Value-Added Features New at HP DCE 1.6

HP added the following features to DCE in HP DCE 1.6. For detailed information about these features, see *Planning and Configuring HP DCE* 1.6.

- New integrated login features including:
  - ✓ The **-timeout** option in the **pam.conf** configuration file. It specifies the length of time it is acceptable to wait for a response from DCE for the specified function.
  - ✓ The password expiration feature. A command, **-warn_pwd_expiry <m>** warns users to change their passwords if they are going to expire within *m* days. Another command, **-force_pwd_change <n>** forces users to change their passwords if they are about to expire within *n* days.
  - ✓ Cross-cell login using a fully qualified DCE name. It is supported for integrated login configurations created by **auth.adm -i -l dce -b ux** or **auth.adm -i -l dce** but not for other configurations created by **auth.adm**.
  - ✓ Forced password change on login. Administrators can set **pwdvalid no** in a user's account to force change of password on login.
  - ✓ As of HP DCE 1.6, **passwd -R** becomes **passwd -r**.
  - ✓ The addition of **-e**, **-g** and **-h** flags to **passwd -r dce**.
    passwd -r dce -e *username* changes the *username* shell in the DCE registry only.
    passwd -r dce -g *username* changes the *username* gecos (finger) information in the DCE registry only.
    passwd -r dce -h *username* changes the *username* home directory in the DCE registry only.
  - ✓ In HP DCE 1.6, new Kerberos tickets now overwrite any existing ticket for the same client and server as long as the tickets are the same size. If the existing ticket has not expired, the new ticket overwrites the old one only if the **authdata** matches. Previously, the new Kerberos tickets were always appended to the end of the credential file cache, allowing it to grow without bound and also requiring time on every lookup to scan over the expired credentials.

HP Value-Added Features For HP DCE 1.5

HP added the following features to DCE in HP DCE 1.5. For detailed information about these features, see *Planning and Configuring HP DCE* 1.5.

- HP DCE Measurement Service (DMS) to monitor resource utilization and performance of HP DCE 1.6 servers.
- Support for large **UID**s.
- Integrated login support for CDE/PAM.
- Support for large files APIs; however, there is no support for creating or operating on large files within DFS. DFS became unavailable with Version 1.6.
- Support for context-switching 64-bit machine registers in DCE threads (**libcma** and **libdce)**.
- Thread-safe wrappers for the new POSIX 1003.1b calls (**waitid**, **nanosleep**, and **setrlimit64**).

In addition, HP DCE 1.5 contains numerous bug fixes.

HP Value-Added Features for HP DCE 1.4.x

HP added the following features to OSF DCE 1.1 at HP DCE 1.4.1 and 1.4; for detailed information about these features, see *Planning and Configuring HP DCE* 1.4.1.

- The enhanced HP DCE Configuration Manager (DCM).
- The HP Cell Monitor (became unavailable with Version 1.6).
- The HP DCE Account Manager.
- The enhanced HP CDS Browser.
- Single threaded Datagram protocol clients.
- Single CDS client process per machine.
- Support for Kerberos Version 5 clients.
- Configurable checkpointing in security server.
- **dced**/**dcecp** time synchronization.
- Increased performance of local RPC.
- IDL++ user-defined exceptions.

- Compatibility with ServiceGuard (limited to relocatable IP addresses only).
- Binary compatibility with HP DCE/9000 Versions 1.2, 1.2.1, 1.3, 1.3.1, and all 1.4.x releases.
- New GDS system administration tools, including **gds_autoconf**, **gds_lookup**, and **gds_browser**. These became unavailable with Version 1.6.
- A set of DCE-integrated login utilities that authenticate users via the DCE Security Registry instead of via **/etc/passwd** and **/etc/group**. Documentation for these utilities can be found in *Planning and Configuring HP DCE 1.6*, Chapter 6, "HP-UX Integrated Login".

OSF DCE 1.1 Features

HP DCE 1.6 includes the following OSF DCE 1.1 features. For information about these features, see the OSF DCE 1.1 documentation, which is provided with HP DCE 1.6.

- Single administrative DCE control program — **dcecp**.
- DCE daemon (combines **rpcd** and **sec_clientd**) — **dced**.
- Cell aliasing.
- Hierarchical cell naming without transitive trust.
- Serviceability improvements.
- Security delegation — intermediary servers can operate on behalf of the initiating client while preserving identities and ACLs.
- Auditing — tracking of security-related events.
- Extended Generic Security Service Application (GSSAPI) — permits use of DCE security by message passing applications.
- Extended Registry Attribute (ERA) facility— provides a means to define arbitrary attribute types; to attach instances of those types to principals, groups, and organizations; and to insert attributes in a principal's credentials for use by specialized security applications. For example, the ERA facility could be used to support single sign-on across non-UNIX platforms and legacy systems by associating additional security information with users and groups.
- Extended logon capabilities — provide the following features:

  - ✓ Pre-authentication, which improves the security of authentication by eliminating passive attacks on the Key Distribution Center.
  - ✓ Login denial, which permits limitation on the number of successive invalid attempts and Security Server enforcement of password expiration.
  - ✓ Password management, which permits strength checking of user-selected passwords according to site policies and automatic generation of random plaintext passwords.
- ACL Manager Library — provides server writers with an ACL manager for use with all servers.
- Group override — customizes group name mapping from host to host to allow DCE to adapt to various operating system conventions.
- Internationalization interfaces — message catalogs for all user-visible messages.
- Character code set interoperability — allow development of RPC applications that automatically convert character data from one code set to another.
- IDL compiler performance enhancements — smaller stub size and a number of new IDL constructs.
- RPC performance enhancements — allows additional client sockets during peak usage and optimizes RPC run-time packets.
- Subtree operations — allows large-scale administrative name changes within cells.
- Distributed Time Service (DTS) remote administration.

Other Information

This section contains consequences, recommendations, and other items not included in the other sections of this chapter.

DCE Features Not Supported by OSF DCE 1.1

Cell renaming is documented but not supported by OSF DCE 1.1 (or by HP DCE 1.6).

Transitive trust between hierarchical cells is documented but not supported by OSF DCE 1.1 (or by HP DCE 1.6).

DCE Features Not Supported By HP DCE 1.6

HP DCE 1.6 does not support DFS, DFS extended file services, or GDS.

Features Changing at the Next Release

This section describes OSF DCE and HP DCE features that will not be supported in the next release of HP DCE and a likely change to threads.

Control Programs and Daemons

HP DCE 1.4.x replaced the following control programs with **dcecp**. HP DCE 1.6 supports these programs for transition purposes and will not support them in future releases. If you use any scripts referencing these programs, modify these scripts to use **dcecp** instead.

- **cdscp**
- **rpccp**
- **dtscp**
- **rgy_edit**
- **sec_admin**
- **acl_edit**

The following daemons no longer exist:

- **sec_clientd**

- **rpcd**
- **cdsclerk**

dced replaces **sec_clientd** and **rpcd**. As of HP DCE 1.4.x, a symbolic link permits you to run **dced** as **rpcd**.The functionality of **cdsclerk** is part of **cdsadv** in HP DCE 1.4.x. You need to modify any scripts or programs that reference these non-existent daemons.

Transition of ACL Managers in HP DCE 1.6

OSF DCE 1.1 provides ACL management facilities within **libdce**. The **sec_acl_mgr** API is obsolete, and it is no longer necessary to write your own ACL manager. Refer to the OSF DCE documentation to determine how to use the new **dce_acl** API to greatly reduce the amount of specialized ACL code your application needs to deal with.

Before migrating their ACL management layer to the DCE supported **dce_acl** API, HP DCE 1.5 users were advised to include a backward-compatible set of header files that matched the header files used by applications in previous HP DCE releases. For HP DCE Version 1.6, backward-compatible files are not necessary. Users who included them should now put the previous files back; i.e., replace any instance of:

- **#include <dce/rdaclifv0.h>** in your application with #include <dce/rdaclif.h>
- **#include <dce/daclmgrv0.h>** with #include <dce/daclmgr.h>

In your makefiles and in your application program, change all instances of:

- rdaclifv0 to **rdaclif**
- daclmagrv0 to daclmgr

Future Support for POSIX 1003.1c Threads

The Threads API in HP DCE is likely to migrate eventually from Draft 4 of the POSIX threads standard to the final, ratified 1003.1c standard. This migration will result in source incompatibility, and it is recommended that application developers plan now for this transition. HP plans to preserve binary compatibility and to provide tools to assist in source code migration. However, developers should also prepare for this change by isolating new threads API usage to macros or wrapper APIs. They should minimize the use of signals and use only POSIX

semantics when programming with signals. For example, we recommend that threaded applications use only the functions **sigaction()**, **sigprocmask()**, and **sigwait()**.

HP DCE 1.6 U.S./Canada Software

The DCE Security component uses the Data Encryption Standard (DES) algorithm as its default encryption algorithm. Because the United States State Department restricts the export of DES software, HP supplies two binary versions of the **dced** daemon and DCE library (**libdce.1** and **-libdce.a**):

- The U.S./Canada version of HP DCE 1.6 is available only to HP customers in the United States and Canada. The U.S./Canada version of libdce supports use of DES to encrypt RPC argument values, via the "privacy" authentication level, and the use of DES to encrypt **gssapi** messages, via the **gss_seal** "confidentiality requested" flag. The U.S./Canada version of **dced** supports secure remote key table management.
- The Export version of HP DCE 1.6 is available to all HP customers. The Export version of **libdce** disables the "privacy" authentication level in RPC and also disables all program entry points to DES routines. The Export version of **dced** does not support secure remote key table management.

If an application uses the Export version of the DCE library and specifies the "privacy" level or the "confidentiality requested flag", the library returns an error at run time. This restriction does not apply to the U.S./Canada version of this release.

See the **dced** man page for more information about remote key table management support in the two versions of the daemon.

NOTE

Users of the Export version of HP DCE 1.6 should start **dced** with the **-c** option. See the **dced** man page for more information.

Software Included in the U.S./Canada Version

The U.S./Canada version of HP DCE 1.6 includes the following software:

- **/usr/lib/libdce.1**
- **/opt/dce/lib/libdce.a**

- **/opt/dce/sbin/dced**

Installing the U.S./Canada Software

There are special considerations that apply to installing and de-installing the U.S./Canada Software. For information, see *HP DCE/9000 Version 1.6 U.S./Canada Software for HP-UX 10.30 Release Note* (B3864-90004) or *Planning and Configuring HP DCE* 1.6.

Compatibility Among Versions of HP DCE

HP DCE 1.2 and 1.2.1 (HP-UX 9.03, 9.04, and 9.05), HP DCE 1.3.1 (HP- UX 10.01), HP DCE 1.4 and 1.4.1 (HP-UX 10.01 and 10.10), HP DCE 1.4.2 (HP-UX 9.03, 9.04, and 9.05) and HP DCE 1.5 are all compatible with HP DCE 1.6. However, you cannot use DFS (supplied with HP DCE 1.5 and earlier HP DCE versions) with HP DCE 1.6; HP DCE 1.6 does not support DFS.

Interoperability with Other Implementations of OSF DCE

HP DCE 1.6 is interoperable with a variety of other implementations of OSF DCE running on several platforms other than Series 800. See *Planning and Configuring HP DCE* 1.6, Chapter 1, for more information.

2 Known Problems and Work Arounds

This chapter describes the known problems, workarounds, and changes in HP DCE/9000 Version 1.6 on HP-UX 10.30.

Known Problems for HP DCE/9000 Version 1.6

This chapter contains a list of the known problems for HP DCE 1.6. Where possible, we indicate a work around for the problem. *Planning and Configuring HP DCE 1.6* (B3190-90071) also contains additional information about many of these problems.

There are several known problems with integrated login that are documented only in *Planning and Configuring HP DCE 1.6.* For information about these problems, refer to Chapter 6 of that manual under “Notes, Cautions, and Warnings” and “Integrating DCE with HP-UX Integrated Login”. In the latter section, see “Notes, Cautions and Warnings About Using HP-UX Integrated Login with DCE” and “Configuring ux as a Fallback Technology for DCE.”

OSF DCE 1.1 Limitations

The following are limitations to OSF DCE 1.1 (and also to HP DCE 1.6):

- Cell renaming (the **dcecp “cellalias set”** command) is not supported.

  You can create an alternate cell name using the **dcecp** “**cellalias create”** command. This command creates a cell alias name without changing the primary cell name.

- Transitive trust between hierarchical cells is not supported.
- Cell alias names are not automatically propagated across cell boundaries. Use of cell aliases across cell boundaries is supported when the cell alias name is manually registered in the security namespace.

HP DCE 1.6 Limitations and Known Problems

The limitations of HP DCE 1.6 are as follows:

- In DCE 1.6 the **DCE_SVC_DEBUG** macro has been changed to acquire a SVC mutex lock (in prior releases this was done in the serviceability library). Because of this, DCE applications based on

DCE 1.5 and earlier releases that make use of this macro will be binary incompatible with DCE 1.6 applications and so must be recompiled under DCE 1.6 on HP-UX 10.30.

- The following messages may be seen during swinstall on systems with Integrated Login installed. This error has no detrimental effect, and hence can be ignored.

```
* Beginning the Batch Swmodify Phase
WARNING: Cannot delete the definition for "/usr/vue/bin/
vuge.auth.new"from the fileset "IntegratedLogin.AUTH-COM
MON". The file does not exist in this fileset.
ERROR:   The selected software was not modified. All of the
specified file modifications are invalid. See the ERROR and/
or WARNING messages above.
ERROR: The swmodify command failed for IntegratedLogin.AUTH-
COMMON...
```

- In order to successfully unconfigure a CDS server and then configure a new CDS server on the same machine, you must follow these steps:

  1. Stop and restart the CDS server containing the master replica of the root directory.
  2. Stop and restart any other CDS servers containing master replicas for directories that will be replicated on the newly (re-)configured server.

  These steps are necessary because unconfiguring and reconfiguring causes the CDS server principal for that host to be deleted and then recreated. As a result, cached security contexts in the CDS servers for master replicas contain out of date information, leading to RPC failures that can cause the cell's namespace to become unavailable.

  As a precautionary measure, HP recommends that all CDS servers containing master replicas be stopped and restarted any time a CDS server is unconfigured from the cell.

- In a split server configuration, if the **secd**/**dtsd** server is started before the **cdsd/dtsd** server, **dtsd** will fail to start if CDS services are not available. The problem lies in the **dtsd** initialization code attempting to export its time service interface into the namespace.

  If this problem occurs, verify that **cdsd** is running and start **dtsd** using one of the following commands:

```
/opt/dcelocal/bin/dtsd -s (for servers)
/opt/dcelocal/bin/dtsd -c (for clients)
```

- If you use standard UNIX remote login utilities (**remsh**, **rlogin**, **telnet**) to perform remote DCE cell administration, these utilities may expose the cell administrator's password to network attackers.

  The most secure way to perform cell administration is to log in locally on each system that requires administration.

- A user's DCE credentials are not automatically removed by exiting a shell or logging out.

  Use **kdestroy** to remove credentials that are no longer needed. The **-e** option of **kdestroy** removes credentials older than a specified number of hours.

- When you run **dcecp** in "local" mode (that is, when you start **dcecp** with the **local** option) on a host with **dced** in partial-service mode, there is a possibility that a **dcecp "acl modify -add"** command will not work. The interactive **dcecp** session may hang or a Bus Error may be returned.

  One workaround for this condition is to run **dcecp** in normal mode on a host with **dced** also in normal mode and then execute the command again. Alternatively, you can quit out of "local" mode between **acl modify -add** commands. For more information, see *Planning and Configuring HP DCE 1.6*.

- For HP DCE 1.6, **dcecp**'s **secval activate** and **secval deactivate** commands are asynchronous. They return before the actual change takes place within **dced**. (Prior to HP DCE 1.6, **secval activate** and **secval deactivate** were synchronous and didn't return until the actual state change finished in **dced**.)

  You should use the **secval status** command to verify the state change. Although future HP DCE/9000 releases may reimplement synchronous **secval activate** and **deactivate** commands, the verification by **secval status** is still recommended.

- Not all of the operations of the **dcecp host** command are implemented.

- The **"add cellname as preferred" cdscp** command has been removed. The use of the **"add cellname as preferred"** command to set a new primary **cdsalias** name for a local cell causes the cell to have problems.

- Audit events are not generated for authentication services. These events are: **AS_Request**, **TGS_TicketReq**, **TGS_RenewReq**, and T**GS_ValidateReq**.
- The **chpass** command is not supported.
- The **dcecp** commands **rpcentry**, **rpcgroup**, and **rpcprofile** do not support the **-version** option.
- Intercell logins are insecure with respect to other logins from the same cell; therefore, such logins are disabled by default. To facilitate administrative control over intercell logins, two switches have been added to the **dcecp registry connect** command. If you want to permit intercell logins, specify one or both of the following switches to the dcecp registry connect command:

Command	Definition
acctvalid	Marks the local cell account as a valid account. A valid local cell account allows users from the foreign cell to login to nodes in the local cell. The default is invalid.
-facctvalid	Marks the foreign cell account as a valid account. A valid foreign cell account allows users from the local cell to log in to nodes in the foreign cell. The default is invalid.

For example, to enable peer-to-peer trust between two cells and permit intercell logins in both directions between them:

```
dcecp>registry connect /.../_cell_name> \
-facct cell_admin\
-facctpw _cell_admin_pwd>\
-acctvalid\
-facctvalid\
-group none\
-fgroup none\
-org none\
-forg none\
-mypwd _cell_admin_pwd>
```

- A machine whose name has been changed must be unconfigured and then reconfigured into the cell; otherwise the old name will be used.
- Support for Integrated Login Password Expiration and Password Generation is as follows: When a password expires, the corresponding account is disabled. The user cannot log in until the DCE cell

administrator reactivates the account. The DCE cell administrator can exempt certain principals from this security feature by attaching instances of the **passwd_override** ERA to those principals.

To prevent this problem, users can add the following parameters to an account line in **pam.conf**:

- ✓ **-warn_pwd_expiry <m>** will warn a user when his password is within *m* days of expiring.
- ✓ **-force_pwd_change <n>** will force a user to change his password when it is within *n* days of expiring.

- The new **dced**-based server configuration and execution features are not fully functional. The following **dcecp** commands are not yet implemented. They will be provided in a future release:
  - ✓ **server stop -method rpc**
  - ✓ **server enable**
  - ✓ **server disable**
  - ✓ **server create -starton auto**
- To enable printing, you must add the **lp** administrator to the **passwd_override** file; you can do this only if you create the principal and account for **lp** in the registry.
- HP MC/ServiceGuard compatibility does not support DFS.
- **xntpd** and **dtsd** cannot run on the same host because they both affect the system clock. If **xntpd** is running, do not start **dtsd** manually or via the DCE configuration tools (DCM, **dce_config**) without first stopping the **xntpd** daemon.
- VxFS volumes can not be exported to DFS.
- Use the following command to display the **dts update** man page:

  ```
  man dts_update
  ```
- Users of the Export version of HP DCE 1.6 should start **dced** with the **-c** option. See the **dced** man page for more information.
- The DCE-integrated versions of the HP-UX login utilities are installed, but are not activated, by the HP DCE installation and configuration procedure. This is because most systems will require the transfer of account information from **/etc/passwd** to the DCE Security Registry before the system will be useful.

A script, **/usr/sbin/auth.adm** is supplied to activate the utilities once your system has been set up with the needed accounts.

You should not use the **auth.adm** script to activate the DCE-integrated login utilities until *after* you have set up the accounts necessary for your site in the DCE security service registry.

Login using a fully qualified DCE name is supported for integrated login configurations created by

✓ **auth.adm -i -l dce -b ux**

✓ **auth.adm -i -l dce**

but not for other configurations generated by **auth.adm**.

- In normal operation, core dumps of **ilogind** will be suppressed. To reverse this suppression, create a file, **/var/adm/ilogin/DEBUG**, owned by **root** and with the **setuid** bit set.
- In normal operation, core dumps of **libpam_dce.1** will be suppressed. To reverse this suppression, create a file, **/var/adm/ilogin/LIBPAMDCE_DEBUG**, owned by **root** and with the **setuid** bit set.
- Group information used during login is obtained from the local machine, not the DCE registry.
- Don't specify "**-a dce**" if DCE requires generated passwords.
- Series 817 and 827 systems do not perform well under moderate DCE activity. It is therefore recommended that HP DCE 1.6 should not be installed on these systems.

Differences in Functionality

This section briefly describes differences in functionality from previous releases of HP DCE and OSF DCE and other considerations. These changes were made at HP DCE 1.4.x. For detailed information about these changes, see *Planning and Configuring HP DCE* 1.6.

- As of HP DCE 1.4, the audit daemon does not start by default. You must set the proper environment variable, export it, and start the audit daemon. You can also start the audit daemon using **dce_config**. For information about starting the audit daemon, see Chapter 5 of *Planning and Configuring HP DCE* 1.6.
- HP DCE 1. 6 includes the following changes made at HP DCE 1.4 to the **dcecp** command:
  - ✓ The **registry show -replica** command displays a new attribute field, **-supportedversions**.
  - ✓ The **registry show -replica** command no longer displays the **version** attribute. Use the re**gistry show -attr** command to display the **version** attribute.
  - ✓ The **registry delete -only** command has been changed to r**egistry destroy.** The **registry delete** command still exists, but the **-only** option is not available.
  - ✓ The **registry set** command has been renamed **registry designate**. All options formerly supported by **registry set** are supported by **registry designate**.
  - ✓ The **registry modify -version** command has been added to support cell migration.
- You can specify the machine string binding in place of the host name in the **-hostdata show** command. (This is an HP DCE 1.4 extension of OSF DCE 1.1 functionality.)
- As of HP DCE 1.4, to join a cell, the user no longer needs to tell **dce_config** the name of the cell that the user is joining; instead the user specifies a name of a security server. The function **create_dcecfdb()** will figure out the primary name of the cell, and

the aliases, and fill in those fields in the local **dce_cf.db** file. The data is obtained from the remote node via **dcecp hostdata** commands using string bindings.

NOTE

This feature only works if the Security Server is running HP DCE 1.4.1 or later versions. If the security server is an HP DCE 1.2 or 1.2.1 machine, users must still provide a cell name.

- Servers under high stress require non-standard memory and swap. For details, see *Planning and Configuration HP DCE 1.6*.
- The **pe_site** file has changed as follows:
  - ✓ There is a new field at the end of each line which is the name of the replica at the address.
  - ✓ The **pe_site** file is updated once an hour by **dced**; if you edit it manually, entries for the local cells will be overwritten; other cells, however, will not be affected.
  - ✓ You can use the "**secval update -pesite <INTERVAL>**" **dcecp** command to change the update interval. You can also use the **secval update** command to force an update to happen immediately.
  - ✓ The **/krb/krb.conf** file is updated by **dced**.
- HP DCE 1. 4.x includes support to integrate DCE with HP-UX Integrated Login. When integrated with DCE, login utilities authenticate users via the DCE Security Registry instead of via **/etc/passwd** and **/etc/group**. The Integrated Login utilities include **login**, **dtlogin**, **su**, **passwd**, **chsh**, **chfn**, **ftpd**, **telnet**, **rlogin** and **dtsession**. Note that HP-UX Integrated Login is a different product from the DCE-Integrated Login Product that HP DCE/9000 provides on HP-UX 9.x operating systems. See Chapter 6 of *Planning and Configuring HP DCE* 1.6 for more information on HP-UX Integrated Login and on how to configure it with DCE.
- Hewlett-Packard supports only the ANSI C compiler for building DCE applications. This restriction also applies to applications on HP-UX 10.x that use the HP-UX user space threads library **libcma**.
- **secd** supports the following additional options: **-audit**.
- DCE RPC-only and NCS-only applications require that **dced** be running to provide EP and LLB services. **dced** has been modified so that if it is invoked as **rpcd**, it does not require any initialization or

bootstrap and it supports only EP and LLB services. Thus, you can run DCE RPC-only and NCS-only applications on hosts that have not been configured into a cell.

- The command **klist -e** no longer returns all expired tickets.
- **dce_login** supports the **-r** option, which refreshes a user's credentials. It is more secure than using **kinit** because it uses DCE third-party preauthentication.
- Certain header files were added to support the transition to OSF DCE 1.1 ACL Managers, as described in the Chapter 1 of this release note.

NOTE

These header files are supported for transition purposes only; they will not be supported in the next release of HP DCE.

- **dcecp hostdata** has changed as follows:

  When **dced** is in **full service mode** the ability to remove new **hostdata objects** has been removed.

  A local privileged user may perform the vast majority of DCE cell administrative tasks remotely. This is allowed by these additional ACLs for **hostdata**:

  ✓ **/.:/hosts/foo/config/hostdata**

  Grants read and insert permissions to the machine principal and to the member of the **subsys/dce/dced-admin** group. Grants read access, i.e., hostdata catalog, to all other users.

  This prevents altering a local file system object not residing under the **/var/opt/dce/dced** directory.

  ✓ **/.:/hosts/foo/config/hostdata -io**

  Grants all permissions to the machine principal except **modify -acl** (control) to the member of the **subsys/dce/dced-admin** group. Grants read access to all other users.

  This allows the remote administration of the DCE configuration, for example, **cellalias**, by the member of the **subsys/dce/dced-admin** group.

  ✓ **/.:/hosts/foo/config/hostdata/post_processors**

Grants purge and read permissions to the machine principal and to the member of the **subsys/dce/dced-admin** group. Grants read access to all other users.

This prevents altering post-processors that are executed as a privileged user.

✓ **/.:/hosts/foo/config/hostdata/passwd_override**, and **/.:/hosts/foo/config/hostdata/group_override**

Grants no right to all users. These files should be only accessible by the local privileged user.

- **HP's dced** supports the new **-r** option. This option starts dced in remote-update mode, which allows DCE cell administration tasks to be performed by an administrator on a remote machine. By default, dced prevents any remote administration, to help prevent attacks.

3 Compatibility Information and Installation Requirements

This chapter describes compatibility and installation requirements for HP DCE/9000 Version 1.6 on HP-UX 10.30.

HP DCE/9000 Version 1.6 Installation Requirements

This section provides a brief overview of HP DCE 1.6 installation for HP-UX 10.30, followed by installation requirements.

Installation of HP DCE 1.6 is described in *Planning and Configuring HP DCE* 1.6 (B3190-90064); installation of HP-UX 10.30 is described in *Installing HP-UX 10.30 and Updating from HP-UX 10.0 to 10.30* (B2355- 90078).

Overview of HP DCE Installation

The following is a brief overview of the installation process for HP DCE 1.6, which runs on HP-UX 10.30:

1. Verify that you meet the hardware and software prerequisites for HP DCE 1.6.
2. Obtain a codeword from HP if necessary.
3. If required, migrate existing systems to HP-UX 10.30; see *Planning and Configuring HP DCE* 1.6 for information.
4. If you are installing the U.S./Canada software, read *HP DCE/9000 Version 1.6 U.S./Canada Software for HP-UX 10.30* before you install or remove any software.
5. Decide where you will install HP DCE.
6. Load HP DCE software from media to a depot using **swcopy**.
7. Install filesets on individual systems using **swinstall**.

Hardware and Software Requirements

The hardware, software and other system requirements for HP DCE 1.6 are as follows:

- The hardware requirements for HP DCE: HP 9000 Series 800.

NOTE Series 817 and 827 systems do not perform well under moderate DCE activity. It is therefore recommended that HP DCE 1.6 should not be installed on these systems.

- The operating system required for HP DCE 1.6: HP-UX 10.30.
- The memory space required to run HP DCE 1.6 is a minimum 32 Mb of memory for client-only systems; 64 Mb for server systems.
- Disk space required to install HP DCE 1.6 is at least 92 Mb for a full installation. (The exact space required is highly dependent on exactly what is installed.)
- A minimum 100 Mb of swap space is recommended for client-only HP DCE 1.6 systems; at least 150 Mb is recommended for systems running one or more DCE servers. Device swap is strongly recommended over file system swap.
- The HP-UX kernel parameter **maxfiles** must be increased to 256 and the parameter **maxuser** must be increased to 64 for all systems. **maxdsize** may have to be increased for some systems. See *Planning and Configuring HP DCE* 1.6 for more information.
- HP DCE/9000 must be installed on a long-name file system. If you have a short- name file system, you must first run **convertfs(1m)** to convert your file system to long names.

You can check and, if necessary, change the kernel parameters, the swap space, or both, via SAM (the HP-UX System Administration Manager).

For more information about HP DCE products and file sets, see *Planning and Configuring HP DCE 1.6*.

Codeword

If your software media was shipped with a codeword certificate, you must follow the instructions on the certificate to obtain a codeword before you load the software into the depot. When you load software that requires a codeword, you must enter a valid codeword and hardware id. If a codeword certificate was not shipped with your software, answer “no” to the question:

Do you want to enter your authorized codeword to access the protected software?

Other Installation Notes

Also note the following regarding the installation of HP DCE 1.6:

- Do not install the Export version of HP DCE 1.6 over a previous install of HP DCE 1.6 that included the U.S./Canada Version.

  If you need to install the Export version over a previous install of HP DCE 1.6 that included the U.S./Canada Version:

  1. Use **swremove DCE-Domestic** to remove the U.S./Canada Version
  2. Follow the instructions to install the Export version.

- Install HP DCE 1.6 with the system up.
- It takes approximately 10 minutes to install HP DCE 1.6.
- It takes at least two hours to migrate a system from HP DCE 1.4.x on HP-UX 10.01 or 10.10 to HP DCE 1.6 on HP-UX 10.30. It takes longer to migrate HP DCE on HP-UX 9.x because you must first migrate to HP-UX 10.01.
- A number of environment variables, including **RPC_DEFAULT_ENTRY**, **RPC_SUPPORTED_PROTSEQS**, and **RPC_RESTRICTED_PORTS** affect DCE operations. For detailed information, see *Planning and Configuring HP DCE 1.6*.
- Known compatibility/incompatibility of HP DCE 1.6 with Third Party products are as follows:

  - Encina/9000 version A.20.20 is compatible with HP DCE 1.6.

Distribution Media

HP DCE/9000 Version 1.6 software is shipped on CD-ROM only.

See the manual *Installing HP-UX 10.30 and Updating from HP-UX 10.0 to 10.30 (B2355-90078)* for more information on distribution media.

Migrating to HP DCE 1.6

If you have HP DCE/9000 Version 1.3.1, 1.4, 1.4.1 or 1.5 installed, you can save your existing cell configuration and databases, install HP DCE/9000 Version 1.6, and then restore your former cell configuration. Or, you can discard your previous cell configuration and database

information, update your systems to HP DCE 1.6, and configure a new cell from scratch. Both procedures, along with information about supported migration paths and compatibility issues, are detailed in Chapter 2 of *Planning and Configuring HP DCE* 1.6.

NOTE HP DCE 1.6 does not support direct migration from versions of HP DCE that run on HP-UX 9.x (HP DCE 1.2, 1.2.1, and 1.4.2). However, you can migrate from those versions of HP DCE by migrating first to HP DCE 1.4 on HP-UX 10.01 and then migrating to HP DCE 1.6 on HP-UX 10.30.

4 What's Fixed In This Version

This chapter describes fixes and patches for HP DCE/9000 Version 1.6 on HP-UX 10.30.

Fixes in HP DCE/9000 Version 1.6

Many problems were fixed in HP DCE/9000 Version 1.6. For detailed information, see the *Software Release Bulletin* (SRB).

5 What Manuals Are Available For This Version

This chapter describes the documentation for HP DCE/9000 Version 1.6 on HP-UX 10.30.

HP DCE 9000 Version 1.6 Documentation

Documentation for HP DCE/9000 Version 1.6 consists of printed manuals and online documentation.

For information about documentation for the HP DCE application development tools, see the *HP DCE/9000 Version 1.6 Application Development Tools for HP-UX 10.30 Release Note* (B3193-90021).

Printed Documentation

The following printed documents describe HP DCE 1.6:

- *HP DCE/9000 Version 1.6 for HP-UX 10.30 Release Note* (B3190-90070) (this document)
- *HP DCE/9000 Version 1.6 U.S./Canada Software for HP-UX 10.30 Release Note* (B3864-90005)
- *HP DCE/9000 Version 1.6 Planning and Configuring HP DCE* 1.6 (B3190-90071)

  This manual replaces the OSF DCE manual *OSF DCE Administration Guide Volume 1*; it also describes features specific to HP DCE.
- The OSF DCE 1.1 documentation set published by Prentice-Hall:
  - ✓ *Introduction to OSF DCE* (B3190-90046)
  - ✓ *OSF DCE Command Reference* (B3190-90063)
  - ✓ *OSF DCE Administration Guide Volume 2— Core Components*(B3190-90048)
  - ✓ *OSF DCE DFS Administration Guide and Reference* (B3190-90049)
  - ✓ *The OSF DCE Application Development Reference* (B3190-90037)
  - ✓ *OSF DCE Application Development Guide Volume 1— Introduction and Style Guide* (B3190-90038)
  - ✓ *OSF DCE Application Development Guide Volume 2— Core Components* (B3190-90039)

- ✓ *OSF DCE Application Development Guide Volume 3— Directory Services* (B3190-90040)

- The following two books published by O'Reilly & Associates:
  - ✓ *Understanding DCE* (B3190-90018)
  - ✓ *Guide to Writing DCE Applications* (B3190-90029)

For general information on installing software on HP-UX 10.30 systems, see *Installing HP-UX 10.30 and Updating HP-UX 10.X to 10.30* (B2355-90126).

For general information about programming with threads on HP-UX 10.30, see *Programming with Threads on HP-UX* (B2355-90060).

Online Documentation for HP DCE 1.6

The online documentation for HP DCE 1.6 consists of release notes, man pages, HP DCE online help, and embedded online help for the HP DCE Cell Administration tools.

Online Release Notes

An online version of the U.S./Canada release note (*HP DCE/9000 Version 1.6 U.S./Canada Software for HP-UX 10.30 Release Note)* is provided in the directory /opt/dce/ newconfig/RelNotes. This directory also contains the release note for the HP DCE client software (*HP DCE/9000 Version 1.6 Client Software for HP-UX 10.30 Release Note*.) The Client Software release note is provided online only.

Man Pages

Reference pages describing DCE commands and calls are available online in the form of man pages.

There are two styles of man page headers:

- "OSF" or "Open Software Foundation" - This header means that the man page originates from OSF and has not been changed by HP.
- "HP DCE" - This header means that the man page either originates from HP or is an OSF man page that HP has changed.

HP DCE man pages are in the following directories:

```
/opt/dce/share/man
/opt/dce/usr/man
/usr/share/man
```

To read DCE man pages by using the **man** command, include the path names listed above in your MANPATH shell environment variable.

NOTE

Use the following command to display the *dts_update* man page:

```
man dts_update
```

HP DCE Online Help

HP DCE/9000 offers a DCE Online Help feature that provides information about various aspects of HP DCE. DCE Online Help is integrated into the HP Help System, so you can access it from the CDE Front Panel help icon.

NOTE

This feature is supported on X-based displays only; it is not available on ASCII terminals.

This version of HP DCE/9000 Online Help contains the following kinds of help:

- Guide to HP DCE/9000 hardcopy documentation. Provides a list of the manuals available for HP DCE/9000.
- Access to HP DCE/9000 Man Pages.

NOTE

The main menu of the Help Manager lists the HP DCE/9000 Application Development Tools Release Notes and HP DCE Sample Applications. These help topics are available only if the HP DCE/9000 Application Development Tools optional product is installed.

Accessing DCE Online Help From CDE

You can access the DCE Online Help from the Front Panel or from a shell.

To access the DCE Online Help from the Front Panel, follow these steps:

1. Click on the Front Panel help icon (the “ **?**”). A “Welcome to Help Manager” help window appears.

2. In the Help Manager window, click on the “HP DCE/9000, Version 1.6” product-family title. A list of the HP/DCE 9000 help volumes appears.
3. To display a help volume, click on its title.

To access the DCE Online Help from a shell prompt, enter this command:

```
/usr/dt/bin/dthelpview -h DCEwelcome
```

This displays an introductory help window that has hyperlinks to all of the other help volumes in the HP DCE Online Help system.

Note that you can press the **F1** key in any help window to get help on using the help system.

Embedded Online Help for HP DCE Cell Administration Tools

The HP DCE DCM, Account Manager, and CDS Browser tools are provided with online help.

HP DMS also has context-sensitive help as provided by HP GlancePlus.

6 Software Availability In Native Languages

This chapter describes how HP DCE/9000 Version 1.6 on HP-UX 10.30 is localized.

HP DCE/9000 Version 1.6 Localization

HP DCE 1.6 is localized for the Japanese market. HP provides localized message catalogs in both Shift-JIS and EUC encoding. Consult your Hewlett-Packard sales representative for detailed information about the Japanese-localized version of HP DCE 1.6.