HP OPC Transport for OpenVMS Integrity servers

Installation Guide and Release Notes

March 2008

This manual describes instructions for installing, known problems and restrictions that pertain to the HP OPC Transport Version 1.0 software.

Software Version:	HP OPC Transport for OpenVMS Version 1.0
Operating System:	OpenVMS I64 Version 8.2-1 or higher

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Preface

This manual describes how to install and configure OLE for Process Control (OPC) Transport Version 1.0 for OpenVMS I64.

Intended Audience

OPC customers are the intended audience for this document.

Structure of this Document

This document contains the following chapters:

- Chapter 1 describes the requirements and procedures that you must complete before installing the software.

- Chapter 2 describes the installation procedure and postinstallation tasks.

- Chapter 3 describes the known problems and restrictions.

- Appendix A describes how to configure Windows to interoperate with unauthenticated COM.

Related Documents

HP COM, Registry, and Events for HP OpenVMS Developer's Guide is available from the COM for OpenVMS website:

`http://h71000.www7.hp.com/openvms/products/dcom/`

For additional information about HP OpenVMS products and services, visit the following website:

`http://www.hp.com/go/openvms`

For more information about OPC, visit the following website:

`http://www.opcfoundation.org/`

Acronyms

Acronym	Description
OPC	OLE for Process Control
COM	Component Object Model
TCP/IP	Transmission Control Protocol/Internet Protocol
PCSI	POLYCENTER Software Installation utility
ATL	Active Template Library

Reader's Comments

HP welcomes your comments on this manual. Please send comments to either of the following addresses:

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Before Installing the OPC Transport for OpenVMS

HP is pleased to provide OPC Transport for OpenVMS I64. OPC Transport is supported by HP, only for use in OPC environments and is a subset of COM - only unauthenticated COM is supported.

This chapter describes the prerequisites, disk space, and preinstallation requirements for OPC Transport kit for OpenVMS.

1.1 About the OPC Transport

OPC Transport Version 1.0 software contains the following:

- Software

  — OPC Transport for OpenVMS run-time libraries

  — OPC Transport for OpenVMS MIDL compiler and header files

  — OPC Transport for OpenVMS configuration utilities

  — Active Template Library Version 3.0

  — Sample applications

- Documentation

  — *HP COM, Registry, and Events for HP OpenVMS Developer's Guide*

1.2 Prerequisites

The following software is required:

- For OpenVMS systems

  — OpenVMS I64 Version 8.2-1 or higher

  — For Windows 2000 Interoperability:
    The most recent DCE$LIB_SHR.EXE (available from your support center).

  — For OPC Transport for OpenVMS application development:
    Recommended: HP C++ Version 7.2 or higher
    Minimum requirement: HP C++ Version 7.2 or higher

  — /STANDARD=RELAXED

    The C++ compiler supports many different compilation standards. HP recommends to use /STANDARD=RELAXED.

  — To build ATL applications on OpenVMS:
    HP C++ Version 7.2 or higher

— HP TCP/IP Services for OpenVMS Version 5.6

— Before installing OPC Transport Version 1.0 for OpenVMS check that you have the required free global pages, global sections, and disk blocks. The following table lists the requirements.

Software	Global pages (appx)	Global sections (appx)	Disk blocks (appx)
OPC Transport for OpenVMS	11,000	27	34,000
RPC Runtime	3,300	14	98,000

For more information about TCP/IP requirements, refer to the *HP TCP/IP Services for OpenVMS Installation and Configuration* manual.

- For Windows systems

  — Windows NT 4.0 with Service Pack 5 or higher

  OR

  — Windows 2000 with Service Pack 4 or higher

  — Microsoft Visual C++ or Visual Basic (for Windows client development and information about MIDL compiler). See the Microsoft website for compiler version requirements.

  — TCP/IP enabled (needed for OpenVMS connectivity)

1.3 Disk Space Requirements

The OPC Transport for OpenVMS requires approximately 57560 blocks of working disk space to install.

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Installing OPC Transport for OpenVMS

You must install OPC Transport on OpenVMS I64 system only. Before you begin the installation procedure, check the prerequisites listed in Section 1.2. The following sections describe the installation procedure for OPC Transport software.

2.1 Installation Procedures

To install OPC Transport, invoke the PCSI utility by executing the following command:

```
$ PRODUCT INSTALL OPC_TRANSPORT /SOURCE=device:[directory]
```

For *device:[directory]*, specify the device name and directory location of the kit, respectively.

For information about the PCSI utility, refer to the *HP OpenVMS System Manager's Manual*.

2.2 Installing OPC Transport on an OpenVMS Standalone System

To install OPC Transport on a standalone system, follow these steps:

1. Install OpenVMS I64 Version 8.2-1 or higher.

2. Install TCP/IP Services. For this procedure, see the *HP TCP/IP Services for OpenVMS Installation and Configuration* manual or your TCP/IP supplier's documentation.

3. Boot the installed system from the system disk.

4. Install OPC Transport for OpenVMS. For this procedure, see Section 2.1.

5. Configure TCP/IP Services (set up for startup and reboot); then start TCP/IP. For information about configuring TCP/IP, see the *HP TCP/IP Services for OpenVMS Installation and Configuration* manual or your TCP/IP supplier's documentation.

6. Configure the OpenVMS Registry as follows:

   - Run `REG$CONFIG.COM` to configure the OpenVMS Registry.

   - Edit the `SYLOGICALS.COM` file to define the `SYS$REGISTRY` logical.

     ```
     $ DEFINE/SYSTEM SYS$REGISTRY directory-specification
     ```

7. Start OpenVMS Registry by running the `REG$STARTUP.COM` file.

8. If necessary, configure and start DCE now.

—————————————————— **Note** ——————————————————

DCE is not required by OPC Transport, but if your environment uses DCE, HP recommends that you start DCE.

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For this procedure, see the *HP DCE Installation and Configuration Guide.*

9. Start RPC by executing the following command:

   ```
   $ @SYS$STARTUP:DCE$RPC_STARTUP.COM
   ```

10. Configure OPC Transport. For this procedure, see Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*

—————————————————— **Note** ——————————————————

You can skip the steps relating to the installation, configuration and startup of HP Advanced Server for OpenVMS and ACME server.

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   • Populate the OpenVMS Registry by using the DCOM$SETUP utility, option 3. For this procedure, see Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*

11. Edit the `SYS$MANAGER:SYLOGICALS.COM` file and add the following line:

    ```
    $ DEFINE DCOM$TO_BE_STARTED TRUE
    ```

12. Start OPC Transport by executing the following command:

    ```
    $ @SYS$STARTUP:DCOM$STARTUP
    ```

    Alternately, you can run DCOM$SETUP and choose option 4. (See Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*)

2.3 Installing OPC Transport on an OpenVMS Cluster

—————————————————— **Note** ——————————————————

This cluster installation procedure assumes you are installing OPC Transport on a single system disk.

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To install OPC Transport on a cluster system, follow these steps:

1. Install OpenVMS I64 Version 8.2-1 or higher on all system disks as required.

2. Install TCP/IP. For this procedure, see the *HP TCP/IP Services for OpenVMS Installation and Configuration* manual or your TCP/IP supplier's documentation.

3. Boot the installed system from the system disk.

4. Install OPC Transport for OpenVMS. For this procedure, see Section 2.1.

5. Configure TCP/IP (set up for startup on reboot on each node) and start TCP/IP. For information about configuring TCP/IP, see the *HP TCP/IP Services for OpenVMS Installation and Configuration* manual or your TCP/IP supplier's documentation.

6. Configure the OpenVMS Registry:

   - Run `REG$CONFIG.COM` to configure the OpenVMS Registry. You need to configure the OpenVMS Registry only once for the cluster.

   - Set the `SYS$REGISTRY` logical to `DEFINE/SYSTEM` on every node in the cluster that will run the OpenVMS Registry server.

   - Edit the `SYLOGICALS.COM` file on every node in the cluster as follows:

     — If the cluster uses a single, cluster-common `SYLOGICALS.COM` file that is called by each node's `SYLOGICALS.COM` file, you do not need to make any changes.

     — On those nodes where you do not want the OpenVMS Registry server to run, add the following line to the `SYLOGICALS.COM` file:

       ```
       $ DEFINE/SYSTEM REG$TO_BE_STARTED FALSE
       ```

7. If necessary, configure DCE on each node that you plan to use and start DCE.

   _____ **Note** _____

   DCE is not required by OPC Transport, but if your environment uses DCE, HP recommends that you start DCE.

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   For this procedure, see the *HP DCE Installation and Configuration Guide.*

8. Start RPC by executing the following command:

   ```
   $ @SYS$STARTUP:DCE$RPC_STARTUP.COM
   ```

9. Configure OPC Transport. For this procedure, see Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*

   _____ **Note** _____

   You can skip the steps relating to the installation, configuration and startup of HP Advanced Server for OpenVMS and ACME server.

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   - Populate the OpenVMS Registry by using the DCOM$SETUP utility, option 3. For this procedure, see Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.* You need to populate the OpenVMS Registry only once in the cluster.

10. Edit the `SYLOGICALS.COM` file and add the following line:

    ```
    $ DEFINE DCOM$TO_BE_STARTED TRUE
    ```

11. Start OPC Transport by executing the following command:

    ```
    $ @SYS$STARTUP:DCOM$STARTUP
    ```

    Alternately, you can run DCOM$SETUP and choose option 4. (See Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*)

2.4 Postinstallation Tasks

After the installation completes, follow these steps:

1. Verify that the OpenVMS Registry is running. (See Chapter 13 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*)

2. Verify that the RPC daemon is running.

3. Populate the OpenVMS Registry with the required keys and values using the DCOM$SETUP utility, option 3. (See Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*) You must do this only once in the cluster.

4. Configure the DCOM$GUEST account using option 7 in the DCOM$SETUP utility. You must do this only once in an OpenVMS Cluster.

5. Start OPC Transport using the DCOM$SETUP utility, option 4. (See Section 6.2 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*) You must do this on every node in the cluster.

6. If you want OPC Transport to start automatically when the system reboots, modify the DEFINE DCOM$TO_BE_STARTED line in the SYLOGICALS.COM file. (See Section 4.13.1 in the *HP COM, Registry, and Events for HP OpenVMS Developer's Guide.*) You must do this on every node in the cluster.

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Release Notes

This chapter describes the known problems and restrictions for OPC Transport Version 1.0 for OpenVMS I64.

3.1 Known Problems and Restrictions

- Only unauthenticated COM is supported - the COM process is executed with an OpenVMS security identity only; OpenVMS does not authenticate COM requests from Windows NT/Windows 2000 clients or process any Windows NT/Windows 2000 credentials.

- On OpenVMS I64, OPC supports only C++ interface. Application developers are requested to develop their application using only C++ interface. This can be achieved by generating/developing only the C++ modules without enabling the CINTERFACE switch.

- The OPC Transport supports unauthenticated COM only - as such, there is no need to explicitly define the DCOM$UNAUTHENTICATED logical.

- Active Template Library (ATL) Not Supported

  HP does not support Microsoft's ATL to develop OPC applications on OpenVMS because ATL requires certain features that are not supported by OPC applications. If you want to use ATL to simplify the development of OPC applications, you need to modify the ATL generated source code to enable them to compile, link and run on OpenVMS systems.

  HP continues to ship the OpenVMS-specific ATL header and source files to use this feature.

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Configuring Windows to Interoperate with Unauthenticated COM

A.1 Configuring Windows to Interoperate with Unauthenticated COM

For COM objects to interoperate properly between unauthenticated COM for OpenVMS systems and Windows, perform the steps described in the following sections. This will configure the COM objects to run without security enabled on the Windows system.

A.1.1 Setting on Windows Systemwide Authentication Level

On Windows systems, set the systemwide authentication level using this procedure:

1. Run DCOMCNFG on the Windows system.

2. Select the **Default Properties** tab.

3. Set the **Default Authentication Level** to **None**.

A.1.2 Setting on Windows Application Security Properties

After a COM application has been registered, check the security properties for that application to ensure that an unauthenticated user can activate the image.

To do this, perform the following steps:

1. Run DCOMCNFG on the Windows system.

2. Select the application by name.

3. Click the **Properties** button.

4. Click the **Security** tab.

Set the access permissions (registry value AccessPermission) so that user **Everyone** is allowed access (**Allow** access).

Set the launch permissions (registry value LaunchPermission) so that user **Everyone** is allowed access (**Allow** access).

Set the configuration permissions so that user **Everyone** is allowed at least **Read** access to the Registry values.

A.1.3 Setting on Windows Application Security Identity

After you set security permissions, you must set the identity of the account to run the application. To do this, click the **Identity** tab, and select **Theinteractive user**.