CA Job Management for OpenVMS

Installation Guide

Release 3.1

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Chapter 1: Preparing to Install

This guide describes how to install CA Job Management for OpenVMS on HP Alpha systems and HP Integrity Servers. CA Job Management for OpenVMS lets you automate and manage repetitious computer processing jobs, such as fiscal reporting procedures, system maintenance tasks, and user applications.

CA Job Management for OpenVMS includes two components—the Job Management Manager and the Job Management Agent. Throughout this guide, we use these component names in our discussions.

This section contains the following topics:

Preparing to Install Job Management Manager

Before installing the manager, do the following:

Check for the latest install information

Job Management Manager installation information released after the publication of this guide is provided in the CA Job Management for OpenVMS 3.1.00 readme file. Be sure to review this file for important updates before beginning the installation.

Hardware and Software Requirements

Before installing CA Job Management on OpenVMS, your OpenVMS machine should meet the following minimum requirements:

- At least 5 MB of available disk space
- HP OpenVMS I64 8.2-1, 8.3, 8.3-1H1, 8.4
- HP Alpha 7.3-2, 8.2, 8.3, 8.4

- HP Motif V1.5 or later for OpenVMS Server
- Minimally supported TCP/IP Stacks:
  - HP TCP/IP Services for OpenVMS Industry Standard 64 V5.5 and V5.6
  - HP TCP/IP Services for OpenVMS Alpha V5.4, V5.5 and V5.6
  - Process Software TCPware 5.8-2, 5.9-2
  - Process Software MultiNet V5.1, V5.2, V5.3 – Support of V5.1 is optional. The vendor policy is to provide engineering support only on the two most recent versions.

This release does not support the following operating systems:

- HP OpenVMS Alpha v6.2, v7.1-*, v7.2.*, v7.3 and 7.3-1.
- HP OpenVMS I64 V8.2.

Wide Area Network Support

To support a wide area network (WAN), you need a TCP/IP Stack for OpenVMS as described in the "Hardware and Software Requirements" section above. The following sections describe installation procedures for TCP/IP Services.

Default Job Management Manager Node Must Have a Supported TCP/IP Stack

If you are installing remote Agent software, TCP/IP must be installed and running on the manager's default node before you start up the manager. Otherwise, remote operations will not work since the default node handles all remote mode operations.

To check which node is the default node, execute this command on a node that is a member of the OpenVMS Cluster:

```
$ SCHEDULE SHOW STATUS
```

The default node name will be indicated by "<\-\--- DEFAULT" in the output. To force the default manager node to a particular node, execute the command:

```
$ SCHEDULE SET DEFAULT node_name
```

where *node_name* is the new default node.

TCP/IP Services Installation and Configuration

The manager uses hp TCP/IP Services for OpenVMS, or Process Software TCPware for communication between the manager and the remote agents.

Configuration Items Required Regardless of IP Stack Installed

In addition, perform the following procedures to ensure proper communication between the manager and the remote agent:

- When specifying a job on a remote node, use the syntax user@node (rather than node::user).
- Make sure TCP/IP is running on Job Management Manager node. Use the command SCHED SHOW STATUS to see which node is the default.
- Make sure SCHED$LISTENER is running on the default manager node.
- Make sure you can ping each node from the other, in both directions.
- If the manager is running in a cluster, make sure all nodes in the cluster have proxy access to the account on the remote Agent. In cases where Job Management Manager failover occurs, another manager node in the cluster may take over submission of jobs to the remote agent. Defining the proxies ensures that the other manager nodes will be able to run jobs on the remote agent.

You must define those proxies in AUTHORIZE (not UCX). To add proxies for manager nodes, use the following command on the remote agent node:

```
$RUN AUTHORIZE
UAF>ADD/PROXY servernode::serveruser /DEFAULT
```

Enabling Wide Area Network Support

To enable WAN support, you should perform these three procedures:

- Create a network object
- Add an account for the network object
- Add a proxy for each cluster account or local account that will be using the manager

The Job Management Manager startup procedure creates the network object for you. For the manager to function correctly with WAN support, both the network object and the corresponding account must be added, as described below. If they are not, the environment is at risk and may not function correctly.

Note: DECnet is required to enable communication between manager and agent pairs, for proxy authentication only.

The passwords for the SCHED_DECNET object and the SCHED$DECNET UAF account must match to properly facilitate the communication between manager instances across the WAN. To properly synchronize the passwords between the object and the account, run these commands:

```
$ MCR NCP
NCP> define object SCHED_DECNET password yourpassword
NCP> set object SCHED_DECNET password yourpassword
NCP> exit

$ RUN AUTHORIZE
$ SET DEF SYS$SYSTEM
UAF> MOD SCHED$DECNET/password=yourpassword
UAF> exit
```

To add the account for the network object, first determine a UIC that is in the same group as the default DECnet account, or is in a group by itself. Then, run AUTHORIZE as follows:

```
$ RUN AUTHORIZE
UAF> ADD SCHED$DECNET/FLAGS=DISUSER/UIC=uic-spec
UAF> EXIT
```

Add a proxy for each account that will be using the manager:

```
$ RUN AUTHORIZE
UAF> ADD/PROXY local_node::local_user local_user/DEFAULT
UAF> EXIT
```

Note that on cluster member nodes, this proxy needs to be added for each cluster account only, not for each cluster node account. This is needed to allow DECnet to operate in cases such as use of the following command:

```
$ SCHEDULE MODIFY remote-node::job1/sync=(local-node::job2)
```

Refer the *CA Job Management for OpenVMS 3.1.00 Administration Guide* for standard proxy needs and setup. Those specified here are in addition to those specified in the Administrator Guide. Both sets of instructions must be followed. Also, for information on how to set up proxies to allow job synchronization on remote nodes, see Setting Up a Proxy in AUTHORIZE Database (see page 41).

Installing in an OpenVMS Cluster

Installing in a New Cluster

If you are installing Release 3.1 on a server in a cluster, do the following for the product to work correctly.

- Install this release on all nodes in the cluster.
- Start Job Management on all nodes, after the install on the last node.

Upgrading in a Cluster

Note: Upgrade from any release before 3.0 (sometimes named r3) to CA Job Management for OpenVMS Release 3.1 is not supported. If you want to install Release 3.1 on a system, which is running Unicenter TNG Workload Manager 2.4.2 or ScheduleIT 2.4, follow one of the options:

1. Upgrade to 3.0 or 3.0 SP1, followed by upgrade to 3.1.
2. Script all the jobs from your database. Uninstall the Job Manager/Scheduler from the system. Install CA Job Management for OpenVMS Release 3.1. Import the scripted jobs by running the script file to populate the job database. For more information about the SCRIPT JOB command, see the *Command Reference Guide*.

Release 3.1 of CA Job Management for OpenVMS includes database format changes. If you are upgrading Release 3.1 on a server in a cluster, do the following for the product to work correctly:

- Shut down Job Management Manager on all nodes in the cluster.
- Do not start Job Management Manager on any node until all the nodes have been upgraded.
- Do not run the Installation Verification Procedure (IVP) on any node until all the nodes have been upgraded.
- Upgrade all nodes in the cluster to this release.
- Start Job Management Manager and run the IVP on desired nodes.
- Start Job Management Manager on all remaining nodes.

Note: Any jobs that are requested to run with override parameters using the command RUN /PARAMETERS=, but which have not run may need to be reset after the upgrade. The file TEMP_PARMS.DAT will be converted. Check the job before starting Job Management Manager after the upgrade.

Choosing Installation Directories

CA Technologies supports Job Management Manager in a homogeneous OpenVMS cluster or a mixed cluster. A mixed OpenVMS cluster is one that has mixed architecture, mixed versions, or both. A mixed-architecture cluster has both Integrity and Alpha systems. A mixed version cluster has different nodes at different operating system versions. A cluster may also be mixed with both Alpha and Integrity nodes that are each running different versions of OpenVMS. For the manager to function correctly, each machine must have its own license. Nodes with the same architecture or the same system version should share executables. All other files must be shared on a cluster common disk. You can accomplish this set up as follows:

1. Select a common directory on a disk that:
   - Is served cluster-wide
   - Has at least 5,000 free blocks

   It is preferable to use a cluster member fault-tolerant disk—that is, a disk hosted on a multi-path storage controller and physically connected to more than one cluster member.

   When the installation procedure prompts for a pathname to the cluster common files area, provide the pathname to the selected storage area. For example, if the logical name of the designated shared disk is SHARED$DISK, the proposed pathname could be SHARED$DISK:[NSCHED].

   Note: The default answer to the prompt for the common disk, SYS$COMMON:[NSCHED], is only valid on homogeneous clusters and on standalone nodes.

   Only these clusters may have a system disk that is shared among all nodes. In a mixed-architecture cluster, a minimum of two system disks are required, one for Integrity and one for Alpha. Do not choose the default answer to the prompt on these clusters.

   The directory will be created by the installation procedure, if it does not yet exist. You do not need to create it manually prior to installation.

2. Select a platform-specific directory that:

   - Is common to all nodes with the same architecture (Integrity, Alpha) and system version
   - Has at least 30,000 or 56,000 free blocks, for Alpha or Integrity, respectively.

   When the installation procedure prompts for a pathname to the node-specific files area, specify the selected directory. As long as there is sufficient space available on the device SYS$COMMON, selecting the default answer to the prompt, SYS$COMMON:[NSCHED] is a safe choice.

   In a completely homogeneous cluster where all machines are of the same architecture and all machines are running an identical version of OpenVMS and patches, the node-specific area may be shared in order to save space. If the nodes share a system disk, this sharing of space happens automatically. In heterogeneous clusters, nodes of different types do not necessarily share system disks, and SYS$COMMON points to different locations. This device is safe to select. If you relocate files, you must select distinct directories for each node type.

   Note: The installation procedure stops running processes it encounters. When installing on a cluster, you save time if you do not automatically start the software after installation on each node. After you finish installing on the last node, run startup and IVP for each node.

3. Install on all cluster members.

   Repeat the installation on each of the cluster nodes where the manager will be needed. Provide a directory name for the system specific directory according to step 2. The default value for the system specific directory works in all types of clusters.

   Note: Installing the manager on one node in a cluster does not allow you to run the manager on other nodes by simply running the startup procedure. You must run the kit installation procedure on every member, even in a homogeneous cluster environment.

4. Start the manager on all cluster members on which it was installed. By default, the load-balancing mechanism will be engaged in a cluster environment. Verify the result of the load balancing startup by using one of the following commands:

   ```
   $ SCHEDULE SHOW STATUS
   or
   $ SCHEDULE SHOW LOAD_BALANCE
   ```

   Note: Basic load balancing may not provide desired results in a mixed-architecture cluster. We recommend observing the results on a few batches of jobs, then either using specific node restrictions for some or all jobs, or designing load-balance groups that restrain the execution of given jobs to selected cluster member subsets.

   Important! Be careful when making assumptions about which node is the default node, or which architecture the default node uses. Because batch queues may not be distributed across architectures or nodes, care should also be taken when using batch mode jobs.

Installing on a Standalone System

You can install the manager on a standalone node. The installation procedure prompts you for two separate directories. This prompt is intended for OpenVMS cluster installations; however, for a standalone node, you also select the default answer to both prompts. We recommend that you use the default answers to place the files on device SYS$COMMON. This location lets you easily transition this node into a cluster in the future. You can accomplish this setup as follows:

1. Select a common directory on a disk that has at least 5,000 free blocks

   The default answer to the prompt for the common disk, SYS$COMMON:[NSCHED], is valid on standalone nodes.

   If the directory does not exist, the installation procedure creates it. You do not need to create it prior to installation.

2. Select a node-specific directory that has at least 30,000 or 56,000 free blocks, for Alpha or Integrity, respectively.

   When the installation procedure prompts you for a pathname to the node-specific files area, specify the selected directory. If there is sufficient space available on the device SYS$COMMON, selecting the default answer to the prompt, SYS$COMMON:[NSCHED] is a safe choice.

Considerations for Systems Running DECnet

Before installing or starting the manager on systems running DECnet, grant the NET$MANAGE IDENTIFIER to the user account. To grant the NET$MANAGE IDENTIFIER, run AUTHORIZE as follows:

```
$ RUN AUTHORIZE
UAF> GRANT /IDENTIFIER NET$MANAGE user_account
```

For example, if the manager is being installed or started by user SMITH, type:

```
$ RUN AUTHORIZE
UAF> GRANT /IDENTIFIER NET$MANAGE SMITH
```

Installation Procedure Requirement

The following sections list Job Management Manager installation procedure requirements.

Installation Time

The installation should take from 10 to 20 minutes, depending on the type of media you use and your system configuration.

Privilege

To install the manager, you must be logged in to an account that has either the SETPRV privilege or at least the following default privileges:

- CMKRNL
- WORLD
- SYSPRV
- SYSNAM
- CMEXEC
- SYSLCK
- DETACH
- TMPMBX
- NETMBX

Note: The installation procedure turns off the BYPASS privilege when the installation starts.

Disk Space

Installing the manager requires at least 55,000 blocks of free storage disk space. After the manager is installed, about 30,000 blocks are used. For more information, see the "Installing in an OpenVMS Cluster" section in this guide.

To determine the number of free disk blocks on the current system disk, enter the following command at the DCL prompt:

```
$ SHOW DEVICE SYS$SYSDEVICE
```

System Quotas

The system you install the manager on must have sufficient quotas to enable you to perform the installation and start the software.

The following minimum values recommended for system parameters are listed below:

SYSGEN parameter	Minimum Value
FREE_GBLSECTS	20
GBLPAGES	900
CHANNELCNT	256
RESHASHTBL	4096

SYSGEN parameter	Minimum Value
LOCKIDTBL	3840

If you are using extended job field lengths, the DCL "pipe" command may need larger quotas. The following minimum values recommended for system parameters are listed below:

SYSGEN parameter	Minimum Value
DEFMBXBUFQUO	10240
DEFMBXMXMSG	2048

VMSINSTAL Requirements

The Job Management installation procedure uses VMSINSTAL to complete the installation. When invoked, VMSINSTAL checks whether:

- You are logged into a privileged account
- You have adequate quotas for installation
- Any users are logged into the system

If it detects any problems during the installation, the installation procedure notifies you of the problem and asks if you want to continue the installation. In some instances, you can enter YES to continue. To stop the installation process and correct the problem, type NO or press Enter. After the problem is corrected, restart the installation.

Chapter 2: Installing Job Management Manager

This section provides step-by-step instructions for installing Job Management Manager (the manager).

Important! If you are installing in a cluster, or upgrading the Job Management Manager in a cluster, review the section *Installing in a Cluster* before proceeding with the installation or upgrade.

This section contains the following topics:

Running the Installation

A successful installation requires you to be logged into the SYSTEM account for security access to the Job Management Manager configuration database.

This section describes the following topics:

- Installing Job Management Manager
- Running the Installation Verification Procedure (IVP)
- Error recovery

Installing Job Management Manager

Before installing the manager on your system, you should stop any previous version currently running on that system. If there are active processes, the installation procedure displays them and prints the following message:

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
```

Then you will be asked the following question:

```
* Do you want to continue anyway [NO]?
```

A NO answer halts the installation procedure and exits. A YES answer allows you to continue the installation procedure.

How to Install the Job Management Manager

The installation consists of a number of steps designed to check your system, install Job Manager, and then initialize Job Manager. You must complete the following tasks in the following order:

1. Mount the distribution media
2. Run the Installation Procedure
3. Specify a temporary directory to unzip the savesets
4. Check your system backup
5. View and accept the License Agreement
6. Run the Installation Verification Procedure
7. Start the applicaton after the installation
8. Purge previous version files
9. Choose whether to install the DECwindows interface
10. Choose support for remote command execution
11. Choose a product common directory location
12. Choose a node specific directory location
13. Stop CAM and CAFT
14. Remove CAM
15. Activate the CA NSM integration componencts (optional)
16. Choose products for automatic startup after installation
17. Specify the CA NSM Manager system
18. Specify the UIC of the CAUNIVMS account

For a sample installation, see "Examples of New Installations" in this guide

Step 1. Mount the Distribution Media

For Integrity, the DVD-ROM can be mounted on OpenVMS or Windows. For Alpha, the CD-ROM is for OpenVMS only.

$ mount/over=id device

This is the name of the DVD reader device.

For example, if the DVD-ROM reader is DQA0, the command would be:

```
$ mount/over=id dqa0:
```

OpenVMS provides a mechanism to mount an ISO image of a CA OpenVMS product CD/DVD directly. See the Appendix: Access ISO Disk Image with OpenVMS Logical Disk Facility. (see page 89)

Step 2. Run the Installation Procedure

Using the SYSTEM account, run the installation procedure on the OpenVMS system by typing the following command:

For Alpha:

```
$ run device:[000000]setup_alpha.exe
```

For Integrity:

```
$ run device:[000000]setup_ia64.exe
```

This command launches an installation menu where you can install the components shown here:

```
CA Job Management for OpenVMS

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----------------------------

       PRODUCT

1      Job Management Manager Install
2      Job Management Agent Install

I      CA NSM/CCS Integration Help
P      Product Readme
H      Install Help
E      Exit


 Please Enter the Number of the Product you wish to
 install >>>>
```

Step 3. Specify a Temporary Directory to Unzip the Savesets

The installation procedure allows you to choose the temporary directory used for the savesets and installation files. Choose a device and directory with at least 70,000 free blocks. The following example shows how to select a device and directory:

```
* Enter the device and directory to unzip the save-sets, 70000 blocks of temp space
needed [sys$common:[CA$SETUP]]:
```

Note: 70,000 free blocks are the minimum for Alpha; the minimum free blocks for Integrity are 95,000.

Step 4. Check Your System Backup

You should always back up your system disk before installing any new software. If you need to restore your former system settings, you want the most current information saved. To ensure you have a good backup, the installation asks if you are satisfied with your backup. Select one of the following responses:

YES

If you are satisfied with the backup of your system disk, press Return to accept the default YES.

NO

Type NO and press Return to stop the installation. Back up your system disk, and then restart the installation.

Step 5. View and Accept the License Agreement

You must accept the terms of the license agreement before the installation process begins.

To view and accept the license agreement

1. Type V to view the license agreement.

   Note: The license agreement is several pages long.

2. Select one of the following responses to accept or reject the terms and conditions of the agreement:

   YES

   The installation continues.

   NO

   The installation stops.

Step 6. Run the Installation Verification Procedure (optional)

After the installation, the Installation Verification Procedure (IVP) checks to ensure that the installation was successful. It starts the application and performs function tests. We recommend that you run the IVP, so the installation gives you the opportunity by asking if you want to run it after completing the installation. Select one of the following responses:

YES

The IVP runs after the installation completes and automatically starts the product.

NO

The IVP does not run after the installation completes and the startup prompts.

Note: If you choose not to run the IVP during the installation, you can run it at any time after the installation completes by entering the following command:

```
$ @SYS$TEST:UJM$MANAGER$IVP.COM
```

Step 7. Start the Application After Installation

During the installation process you can choose to start or not start Job Manager after the installation completes.

Note: If you already chose to run the Installation Verification Procedure (IVP), no prompt occurs for the startup option, as the IVP requires the Job Management Manager to run.

If this is the first time you are installing the application on your system, you are asked if you want the software to start right after the installation. Select one of the following responses:

YES

The application is started after the installation.

NO

The application is not started after the installation.

Step 8. Purge Previous Version Files

You can purge files from previous versions of the product that are superseded by this installation. We recommend that you purge your old files; however, if you need to keep files from a previous version you can choose to not purge your files. The installation asks if you want to purge files replaced by this installation. Select one of the following responses:

YES

The files related to earlier versions of the product are purged after the installation completes.

NO

The files related to earlier versions of the product are left on the system after the installation completes.

Step 9. Choose Whether to Install the DECwindows Interface (Optinal)

If you have Motif installed, the installation asks if you want to install Job Management Manager DECwindows interface.

```
* Do you want the DECwindows/MOTIF components  [YES]?
```

The DECwindows interface provides a graphical, user-friendly interface to the manager. To run the DECwindows interface, you must have a workstation or an X-based display station. The DECwindows interface requires approximately 8000 blocks of disk space.

Step 10. Choose Support for Remote Command Execution

The manager can be installed with support for executing jobs on a remote OpenVMS node. If you want to use the manager to control jobs on one or more of these remote nodes, answer YES to this question. This feature of the manager requires that a supported TCP/IP stack be installed on your system. If it is, the installation asks the following question:

```
* Do you want support for remote Agent command execution [YES]?
```

If you answer YES to this question, and a supported TCP/IP stack is not installed on ALL the nodes of your cluster, be sure that the Job Management Manager default node is one on which the supported TCP/IP stack is running. If this is not the case, remote operations will not work since the default node handles all remote node operations.

To check which node is the default node, type the command:

```
$ SCHEDULER SHOW STATUS
```

The default node name will be indicated by “<-- DEFAULT” in the output. To force the default Job Management Manager node to a particular node, type the command:

```
$ SCHEDULER SET DEFAULT node_name
```

where *node_name* is the new default node.

Step 11. Choose a Product Common Directory Location

Job Management Manager common files are installed to two directories on a cluster common disk: NSCHED$COM and NSCHED$DATA. The installation procedure asks for the device where the product common directory will be located. The default device is SYS$COMMON. However, if you are installing the manager in a mixed architecture OpenVMS cluster, specify a disk that is shared among all nodes in the cluster (for more details, see "Installing on an OpenVMS Cluster" in this guide).

```
* Enter the full pathname for CA Job Management – (cluster) common
files[SYS$COMMON:[NSCHED]]:
  Selected pathname: [SYS$COMMON:[NSCHED]
* Is that correct [Y]?
```

Note: On a standalone system, the prompt still refers to a cluster common directory. You may choose to install the common and specific files to the same directory. However, we recommend choosing a directory that is part of SYS$COMMON, which makes it easier to add this system to a cluster in the future.

Step 12. Choose a Node-Specific Directory Location

The manager’s system specific files are installed to NSCHED$EXE on a system specific disk. The installation procedure asks for the device where the node-specific directory will be located. The default answer is SYS$COMMON. The directory must not be in use by a manager instance on another node of the cluster. In most cases, this is a good choice (for more details, see "Installing on an OpenVMS Cluster" in this guide).

```
* Enter the full pathname for CA Job Management - node specific files
  [SYS$COMMON:[NSCHED]]:
  Selected pathname: SYS$COMMON:[NSCHED]
* Is that correct [Y]?
```

Note: On a standalone system, the prompt still refers to a cluster common directory. You may choose to install the common and specific files to the same directory. However, we recommend choosing a directory that is part of SYS$COMMON, which makes it easier to add this system to a cluster in the future.

Directories [DATA] and [COM] will be created under the path you specify. All data and common files are moved to these directories. Logical names NSCHED$DATA and NSCHED$COM will be associated accordingly.

Note: Directory [EXE] will be created under the path you specify. All the executable files will be moved to this [EXE] directory. Logical name NSCHED$EXE will be associated with this directory.

Step 13. Stop CAM and CAFT

The installation checks if CAM is current running on the system. If it is running, it needs to be shutdown before the installation can continue. The installation asks if you are able to shut down CAM at this time.

YES

Shuts down CAFT and CAM on the system and then continues.

NO

Stops the installation.

Step 14. Remove CAM

The installation checks for certain prior releases of CAM installed on the system. If a certain prior release is installed, it must be removed in order for the current release to be installed. The installation asks if you are able to remove the prior release of CAM from the system.

YES

Uninstalls CAM and CAFT from the system and then continues

NO

Stops the installation

Step 15. Activate the CA NSM Integration Components (optional)

The installation asks if you want to activate the CA Common Services Integration Components

YES

The installation activates the CA NSM Integration components and then continues.

NO

The installation continues without activating the CA NSM Integration components.

Step 16. Choose Products for Automatic Startup after Installation

If you choose to activate UCS Integration, the installation displays the Product Startup Selection menu (shown below) listing all the products that you can choose to start automatically after installation and asks if you are satisfied with the displayed choices.

```
    CA NSM/CCS for OpenVMS - product startup selection
    -------------------------------------------------
1   CA Job Management.................................   YES
2   CA Job Management Agent...........................   NO
3   CA Universal Job Management Agent.................   NO
4   CA NSM Jobflow Support .......................,,,,,,  YES
5   CA Job Management NSM/CCS Integration.............   YES
6   CA Console Management.............................   NO
7   CA System Watchdog................................   NO
8   CA System Watchdog NSM/CCS Integration............   NO
9   CA Performance Management Agent...................   NO
10  CA NSM Performance Trend Cube .....................   NO
11  CA Common Services OpenVMS Gateway ................   YES

* Are you satisfied with the product selection Y/[N] ? y
```

The installation automatically sets the value for the product that you are installing to YES. If you responded YES to the question about activating CA NSM/CCS integration components, then the value for item 11 (CA Common Services OpenVMS Gateway) is also set to YES.

In a clustered environment, you may not have licenses for all components on all nodes. This menu enables you to select components separately for each node. You can also customize the startup list by using the following command procedure while logged onto each node:

```
@sys$manager:CAPOLY$SET_STARTUP_PARAMS.COM
```

Step 17. Specify the CA NSM Manager System

The installation prompts you to specify the node name, which is usually the same as the node name you already specified, or IP address of the system where CA NSM Manager is running, as shown in the following message.

```
To complete integration with a CA NSM Management Station,
its IP address or node name is required.

The CA NSM Manager has been identified as:
"vmstest0"

* Node Name or IP Address [vmstest0]?
```

If, at a later time, you want to change the system name, you can do so by using the following command procedure:

@sys$manager:CAPOLY$SET_STARTUP_PARAMS.COM

Step 18. Specify the UIC of the CAUNIVMS account

The installation checks for the presence of an OpenVMS account CAUNIVMS. This account is needed to support the remote commands from the CA management station.

If the account does not exist, it prompts you for the UIC information to create the account. You need to have a unique UIC value.

Backup of Files from a Previous Installation

If the installation is not a first time install on the node, the installation determines whether or not it should backup the existing files. There are two types of files that are backed up:

1. Job Management database and executable files
2. Startup files which define customized configuration

Backup of Job Management database and executable files

The installation might create two savesets:

```
NSCHED$:OLD_CAJM_DATABASE.BCK (with NSCHED$:*.DAT;* files)

NSCHED$:OLD_CAJM_EXECUTABLES.BCK (with NSCHED$:*.EXE;*,*.OLB;*,

*.UID;*,*.COM;*,*.HLB;*,*.CLD;* files.)
```

The installation also deletes all files from their original location.

Preserving customized startup files

The installation procedure removes the definitions of all customizable logical names from the main manager startup procedure to new user customizable files in the directory NSCHED$COM. User customizable files include all customizable logical names, even those which were not previously included in the startup file.

System specific logical names are placed in the file NSCHED$COM:UJM$MANAGER$STARTUP_nodename.COM where nodename is the name of the local system. Cluster-wide logical names are placed in the file NSCHED$COM:UJM$MANAGER$STARTUP_SYSCLUSTER.COM. If a logical name is defined in both the system table and in the cluster table, only the value in the system table is preserved.

The startup procedure SYS$STARTUP:UJM$MANAGER$STARTUP.COM will run these two files if they are present.

Job Management Manager logical names which are defined in LNM$SYSTEM_TABLE at the time of product installation are provided in the system specific custom startup file; logical names found in LNM$SYSCLUSTER_TABLE are provided in the cluster common custom startup file. Any logical name present in the template file but not defined in any of the above mentioned LNM tables is copied as is (commented out) to the system specific custom file, along with related comments. The operator can review and amend these definitions by editing the custom file.

Upon upgrade, the installation procedure detects and saves any existing application startup file that might have been customized. The following table summarizes the files that are saved, where from, and where to. The last column indicates what happens to the original file, at the end of the installation.

File name	Original directory	Saved to directory	Original file is...
SCHEDULER$STARTUP.COM	SYS$STARTUP:	NSCHED$DATA:	Removed
UJM$MANAGER$STARTUP.COM	SYS$STARTUP:	NSCHED$DATA:	Superseded
SCHEDULER$STARTUP_SPECIFIC.COM	NSCHED$:	NSCHED$COM:	Removed
UJM$MANAGER$STARTUP_SPECIFIC.COM	NSCHED$:	NSCHED$COM:	Removed
UJM$MANAGER$STARTUP_nodename.COM	NSCHED$COM:	NSCHED$COM:	Superseded
UJM$MANAGER$STARTUP_SYSCLUSTER.COM	NSCHED$COM:	NSCHED$COM:	Superseded

Notes:

- When the installation procedure backs up a file, the name is changed; the characters _yyyymmdd are appended to each file name. This represents the last modification date of the file being backed up.
- The files that are valid for the current release are backed up to NSCHED$COM:. Any legacy files that are not to be reused for the current release are backed up to NSCHED$DATA:
- The startup template file UJM$MANAGER$STARTUP_LOCAL.TEMPLATE is placed in NSCHED$COM: for future reference.

Error Recovery

If errors occur during the installation, the procedure displays failure messages. If the installation fails, the following message is generated:

```
%VMSINSTAL-E-INSFAIL, The installation of
UJMMGR-UNI-0000-yymmdd-V V3.1 has failed.
```

Errors can occur during the installation if any of the following conditions exist:

- Incorrect operating system version
- Incorrect version of some prerequisite software
- The account used for the installation does not have the required quotas for a successful installation
- System parameter values are insufficient for a successful installation
- OpenVMS help library is currently in use
- Insufficient disk space

For descriptions of the error messages that these conditions generate, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, take the appropriate action as described in the message. You may need to change a system parameter or increase an authorized quota value.

For information on installation requirements, see Preparing to Install Job Management Manager (see page 9) .

Chapter 3: After Installing Job Management Manager

After you install Job Management Manager (the manager) on OpenVMS, perform the following procedures:

Start the manager on the nodes on which you installed it (if they are not started as part of the installation procedure).

1. Edit your system startup and shutdown files.
2. Reboot your system to verify your edits (optional).
3. Ensure that your system account has the required minimum quotas.
4. Ensure that the accounts managing the manager have the required privileges.
5. Customize your manager installation by modifying the logical name definitions in the custom startup files. For more information, see the Custom Startup Files (see page 38) section.
6. Enter proxies for each user account.

This section contains the following topics:

Starting Job Management Manager

If you chose the option to start or restart the manager, the installation procedure has already started the manager.

If you did not, you can use one of the following methods to start or restart the manager after the installation procedure is complete:

1. Enter the following command to run the command procedure SYS$STARTUP:UJM$MANAGER$STARTUP.COM from the SYSTEM account:

   ```
   $ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM
   ```

2. If you are not currently logged into the SYSTEM account, enter this command:

   ```
   $ SUBMIT/USER=SYSTEM SYS$STARTUP:UJM$MANAGER$STARTUP.COM
   ```

3. If you are activating the Integration software, enter the following command to start up from the SYSTEM account:

   ```
   $ @SYS$STARTUP:CAPOLY$STARTUP.COM
   ```

Editing the System Startup and Shutdown Files

You must edit your operating system startup and shutdown files, as described below.

System startup command file

Edit your system startup command file to cause an automatic startup of the manager when your system is rebooted.

Add the following command line to the system startup file, SYS$MANAGER:SYSTARTUP_VMS.COM:

```
$ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM
```

If you are activating the Integration software as well, you only need to add the following to your system startup file:

```
@SYS$STARTUP:CAPOLY$STARTUP
```

CAPOLY$STARTUP checks for the presence of each component and, if installed, will start it.

Place this new command line *after* the line that invokes the network startup command procedure. For example:

```
$ @SYS$MANAGER:STARTNET.COM
.
.
.
$ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM
```

You may want to edit the local startup files to change default values for Max_jobs, to enable load balancing, or perform any other customization. For more information, see the Custom Startup Files (see page 38). Users who are currently logged on must log off and then back on again to gain access to the Job Management Manager DCL command interface.

In addition, if you have a supported TCP/IP stack installed and you asked for remote Agent command execution support during the installation, you must place the Job Management Manager startup command *after* the line that invokes the TCP/IP Startup command procedure. For example, when using TCPIP Services:

```
$ @SYS$STARTUP:TCPIP$STARTUP.COM
.
.
.
$ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM
```

System shutdown command file

Edit your system shutdown file so that the manager will shut down properly when your system performs an orderly shutdown.

Add the following command line to the system shutdown file, SYS$MANAGER:SYSHUTDWN.COM:

```
$ @SYS$STARTUP:UJM$MANAGER$SHUTDOWN.COM
```

If you are activating the Integration software as well, you only need to add the following to your system shutdown file:

```
@SYS$STARTUP:CAPOLY$SHUTDOWN
```

CAPOLY$SHUTDOWN checks for the presence of each component and, if installed, shuts it down.

Rebooting the System

You can reboot your system after you have installed the manager and edited your system startup command file. A system reboot verifies that the manager is ready for use and ensures that the edits to the system startup command file are correct.

Rebooting the system is an optional step and not required for using the manager.

Starting Job Management Manager on an OpenVMS Cluster

If you have installed the manager on an OpenVMS Cluster, you must start the manager on all the nodes that will run Job Management Manager jobs.

You can start the manager on a node in three ways:

Automatically

Edit the node's startup command file to start the manager automatically. For instructions, see the "Editing the System Startup Command File" section in this guide.

Interactively

Log into the account from which the manager will run (normally the SYSTEM account), and enter the following command:

```
$ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM
```

or

```
$ @SYS$STARTUP:CAPOLY$STARTUP.COM
```

From batch

Enter the following command:

```
$ SUBMIT/USER=SYSTEM SYS$STARTUP:UJM$MANAGER$STARTUP.COM
```

On nodes that will not run jobs, you can install just the DCL interface. To install the interface on a node without starting the manager, enter the following commands. You can enter the commands interactively or place them in the system startup file:

```
$ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM LOGICAL_NAMES
$ DEFINE/SYSTEM/EXEC NSCHED$ NSCHED$DATA,NSCHED$COM,NSCHED$EXE
$ @NSCHED$:INSTALL_INTERFACE.COM
```

If necessary, substitute the appropriate device for SYS$COMMON.

Shutting Down Job Management Manager

If you chose the option to shut down the manager, the installation procedure has already shut down the manager.

If you did not, you can use one of the following methods to shut down the manager after the installation procedure is complete:

- Enter the following command to run the command procedure SYS$SHUTDOWN:UJM$MANAGER$SHUTDOWN.COM from the SYSTEM account:

  ```
  $ @SYS$STARTUP:UJM$MANAGER$SHUTDOWN.COM
  ```

  or

  ```
  $ @SYS$STARTUP:CAPOLY$SHUTDOWN.COM
  ```

- If you are not currently logged into the SYSTEM account, enter this command:

  ```
  $ SUBMIT/USER=SYSTEM SYS$SHUTDOWN:UJM$MANAGER$SHUTDOWN.COM
  ```

  or

  ```
  $ @SYS$STARTUP:CAPOLY$SHUTDOWN.COM
  ```

- If you are activating the Integration software, enter the following command to shutdown from the SYSTEM account:

  ```
  $ @SYS$STARTUP:CAPOLY$SHUTDOWN.COM
  ```

Checking SYSGEN Parameters Minimum Quotas

The following SYSGEN parameters and system quotas are checked during the installation and are highly suggested for a system in a production-clustered environment. Warning messages are generated during installation if these parameters and quotas are lower than recommended, but you have the responsibility of setting these yourself prior to the startup of the manager product.

These settings will ensure maximum effectiveness of the manager. You should ensure that SYSGEN parameters meet or exceed the following minimum values:

- FREE_GBLSECTS=20
- GBLPAGES=900
- CHANNELCNT=256
- RESHASHTBL=4096
- LOCKIDTBL=3840

However, your own configuration may differ and may not require settings as high as these recommended parameters. In particular, RESHASHTBL requirements may vary broadly for a given configuration. If lower settings are used, they should be monitored closely.

Note: The SYSGEN parameter values listed in this section are the recommended values for a clustered environment. The optimum values for your particular system may vary from the recommended values, particularly if the system on which you have installed the manager is not part of a cluster.

Global Sections and Pages

Job Management Manager for OpenVMS does not install any shared images. Therefore, the images do not take up global sections or pages. However, the installation procedure modifies the DCL tables, and DCL tables are shared. During an installation, the current tables are modified and reinstalled. As long as users are logged on who are mapped to the previous version of DCL tables, both versions will be mapped and will require both sections and pages. Repeated installations of products while many people are logged in may eventually exhaust global memory.

Checking the Minimum Privileges for Job Management Manager

If you do not choose to start the manager under the SYSTEM account, the manager must start under an account that has the following privileges enabled *by default*:

- SYSPRV
- SYSLCK
- SYSNAM
- CMKRNL
- CMEXEC
- WORLD
- DETACH

To use the manager, individual accounts must have at least the TMPMBX and NETMBX privileges. The startup procedure will fail to execute for an account without sufficient privileges. Use the OpenVMS Authorize Utility to determine whether users have the privileges that they require.

Customizing Your System

Job Management Manager Startup

Access Restriction to the SYSTEM Account

The Job Management Manager SYS$STARTUP:UJM$MANAGER$STARTUP.COM procedure allows users outside the SYSTEM account to start the manager. If this is an undesirable feature for your installation, insert the following line in your UJM$MANAGER$STARTUP_SYSCLUSTER.COM procedure:

```
$ UIC == "[1,4]"
```

This ensures that the manager always runs under the SYSTEM account.

Custom Startup Files

The product startup can be customized according to instructions delivered within the template file NSCHED$COM:UJM$MANAGER$STARTUP_LOCAL.TEMPLATE. However, such customizations affect how the manager runs and what it does. Before attempting any customization of the Job Management Manager startup procedure, read the referencing sections. For more information about the system logical names, see the following:

- *CA Job Management for OpenVMS Administration Guide*
- Job Management Manager Logical Names (see page 79)

The following files contain several logical name definitions that you can modify to customize Job Management Manager for your particular system or cluster.

- NSCHED$COM:UJM$MANAGER$STARTUP_*nodename*.COM, where nodename is the name of the system.
- NSCHED$COM:UJM$MANAGER$STARTUP_SYSCLUSTER.COM

Change the values of the logical names as needed, following instructions within the comments in the custom startup files. For a list of these logical names, see the Job Management Manager Logical Names (see page 79). If either of these files are not present in NSCHED$COM, after upgrading a noncustomized version of Job Management Manager, or after performing a new installation, you can copy the template file NSCHED$COM:UJM$MANAGER$STARTUP_LOCAL.TEMPLATE as file names listed, then customize as required.

Note: The upgrade installation procedure processes any relevant logical name found on the system and automatically rebuilds the custom startup files accordingly.

Process Priority

The NSCHED process priority is set to 6 by default. You can carefully alter this process by editing the value of the symbol NSCHED_PRIORITY within the Job Management Manager main startup procedure SYS$STARTUP:UJM$MANAGER$STARTUP.COM. Job Management jobs run at a default priority of 4, adjustable using the logical name NSCHED$DEFAULT_JOB_PRI found in the custom startup procedures.

Privilege Requirements

The following privileges are required to start the manager (to run the UJM$MANAGER$STARTUP.COM file):

- Default privileges: SYSPRV + DETACH
- Authorize privileges: SETPRV, or ALTPRI + CMEXEC + CMKRNL + DETACH + SYSLCK+ SYSNAM + SYSPRV

Server Process Logfile

The file NSCHED$:nodename.LOG is always created by the Job Management Manager's server process "NSCHED". The startup procedure command file contains the command:

```
PURGE NSCHED$:*.LOG/KEEP=2
```

Job Management Manager Shutdown

The SYS$STARTUP:UJM$MANAGER$SHUTDOWN.COM procedure allows the passing of a parameter that controls the type of shutdown performed. The parameter values accepted are:

FAST

This P1 parameter shuts down the system without checking for any currently running CA Job Management Manager jobs. Any jobs currently running are stopped and requeued.

NOWAIT

This P1 parameter checks for any currently running Job Management Manager jobs. If any jobs are found, you are notified and given the option of reviewing a list of currently running jobs and terminating the shutdown, if desired. If you do not respond within 30 seconds, the shutdown procedure continues, and any jobs currently running are stopped and requeued. This is the SYS$STARTUP:UJM$MANAGER$SHUTDOWN.COM default setting.

WAIT

This P1 parameter checks for any currently running Job Management Manager jobs. If any jobs are found, you are notified and given the option of reviewing a listing of currently running jobs and terminating the shutdown, if desired. The shutdown will not continue until a response is given.

Entering a Proxy for Each User Account

To enable WAN support via DECnet, you need to perform these three procedures:

- Create a network object
- Add an account for the network object
- Add a proxy for each cluster account or local account that will be using the manager

For the manager to function correctly with WAN support, both the network object and the corresponding account must be added, as described below. If they are not, the environment is at risk and may not function correctly.

The passwords for the SCHED_DECNET object and the SCHED$DECNET UAF account need to match in order to properly facilitate the communication between manager instances across the WAN. The commands to do this are as follows:

```
$ MCR NCP
NCP> define object SCHED_DECNET password yourpassword
NCP> set object SCHED_DECNET password yourpassword
NCP> exit

$ SET DEF SYS$SYSTEM
$ RUN AUTHORIZE
UAF> MOD SCHED$DECNET/password=yourpassword
UAF> exit
```

These commands will properly synchronize the passwords between the object and the account.

To create the network object, enter these commands:

```
$ MCR NCP
NCP> SHOW EXEC CHAR
NCP> SET EXEC INCOMING TIMER 120
NCP> SET EXEC OUTGOING TIMER 120
NCP> SHOW KNOWN OBJECT
NCP> DEFINE OBJECT SCHED_DECNET NUMBER 0 -_
NCP> FILE SYS$COMMON:[SYSEXE]SCHED_DECNET.COM -_
NCP> USER SCHED$DECNET -_
NCP> ALIAS INCOMING ENABLED -_
NCP> ALIAS OUTGOING ENABLED
NCP> SET OBJECT SCHED_DECNET NUMBER 0 -_
NCP> FILE SYS$COMMON:[SYSEXE]SCHED_DECNET.COM -_
NCP> USER SCHED$DECNET -_
NCP> ALIAS INCOMING ENABLED -_
NCP> ALIAS OUTGOING ENABLED
NCP> SET NODE local-node ACCESS BOTH
NCP> EXIT
```

To add the account for the network object, first determine a UIC that is in the same group as the default DECnet account, or is in a group by itself. Then, run AUTHORIZE as follows:

```
$ RUN AUTHORIZE
UAF> ADD SCHED$DECNET/FLAGS=DISUSER/UIC=uic-spec
UAF> EXIT
```

Enter these commands to add a proxy for each account that will be using the manager:

```
$ RUN AUTHORIZE
UAF> ADD/PROXY local_node::local_user local_user/DEFAULT
UAF> EXIT
```

Note: On cluster member nodes, this proxy needs to be added for each cluster account only, and not for each cluster node account. This configuration allows DECnet to operate in cases such as use of the following command:

```
$ SCHEDULE MODIFY remote-node::job1/SYNC=(local-node::job2)
```

Refer to the *CA Job Management for OpenVMS 3.1.00 Administrator Guide* for standard proxy needs and setup. Those specified here are in addition to those specified in the Administrator Guide. Both sets of instructions must be followed.

Setting Up a Proxy in AUTHORIZE database

For job synchronization on remote nodes, an additional proxy must exist in the AUTHORIZE database of the dependent job's node to allow that job to receive job completion synchronization messages from its predecessor jobs. You need to set up only one proxy for each node that must receive job completion messages. If the proxies are not set up, jobs with the status DEP WAIT will never run.

The proxy must define the predecessor job's node and the account on that node under which the manager was started (usually the SYSTEM account). The proxy must be set up to access the dependent job's node through the account on that node under which the manager was started (also usually the SYSTEM account).

To add the proxy, run AUTHORIZE as follows:

```
$ RUN AUTHORIZE
UAF> ADD/PROXY predecessor_job_node::pred_node_startup_account -
UAF> dependent_job_node_startup_account/DEFAULT
```

For example, if the manager was started under the SYSTEM account on both nodes, type:

```
$ RUN AUTHORIZE
UAF> ADD/PROXY predecessor_job_node::SYSTEM SYSTEM/DEFAULT
```

If the manager was started under the XYZ account on the predecessor job node, type:

```
$ RUN AUTHORIZE
UAF> ADD/PROXY predecessor_job_node::XYZ SYSTEM/DEFAULT
```

If the manager was started under the account XYZ on the predecessor job node and also started under the account SMITH on the dependent job node, type:

```
$ RUN AUTHORIZE
UAF> ADD/PROXY predecessor_job_node::XYZ SMITH/DEFAULT
```

Chapter 4: Installing CA Job Management Agent

This section contains instructions for installing Job Management Agent (the agent) on nodes running the OpenVMS operating system.

This section contains the following topics:

Before Installing Any Agent Component

Before installing the agent, perform the following procedures:

Back up your system disk

We recommend that you back up your system disk before installing any software. For information about backing up your system disk, see the documentation for the operating system involved.

Verify your hardware and software requirements

Your OpenVMS HP Integrity Server should satisfy the general requirements outlined in the "Hardware and Software Requirements" section in Chapter 1 of this guide.

Check your system quotas

The system you install the manager on must have sufficient quotas to enable you to perform the installation and start the software.

The following minimum values are recommended for system parameters listed below:

SYSGEN parameter	Minimum Value
FREE_GBLSECTS	20
GBLPAGES	900
CHANNELCNT	256
RESHASHTBL	4096
LOCKIDTBL	3840

Note: These are minimum quotas only and intended for systems with CA Job Management Agent-only installations. Higher values may be needed for other applications.

Installing the CA Job Management Agent

The installation procedure provides instructions to install the agent on an OpenVMS node that is accessible by an OpenVMS computer where Job Management Manager (the manager) is installed, or will be installed. Installation time for the agent is 5 to 10 minutes.

- **Distribution media:** This product is available on CD-ROM.
- **User requirement:** The installation procedure requires that the user be familiar with system level OpenVMS commands and procedures.
- The node on which you are installing the agent must have TCP/IP installed. In addition, TCP/IP must be running on the default Job Management Manager node.

Installation Procedure

Before installing the agent on your system, stop any previous version that you have running on that system. If there are active processes, the installation procedure displays them and prints the following message:

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
```

Then you will be asked the following question:

```
* Do you want to continue anyway [NO]?
```

YES

Continues the installation procedure.

NO

Exits the installation procedure immediately.

How You Install Job Manager Agent

The installation consists of a number of steps designed to check your system, install Job Manager, and then initialize Job Manager. You must complete the following tasks in the following order:

1. Mount the distribution media
2. Run the Installation Procedure

3. Specify a temporary directory to unzip the savesets
4. View and accept the License Agreement
5. Decide whether or not to run the Installation Verification Procedure.
6. Purge previous files version
7. Specify the UIC of the CAUNIVMS account
8. Choose the Products for Automatic Startup
9. Specify the CA NSM Manager System

For a sample installation, see Examples of New Installations (see page 57).

Note: Default answers to the installation questions below are provided in brackets. For example, "[YES]" indicates the default answer is YES. You can accept the default by pressing Enter. For answers other than the default, type your answer and press Enter.

Step 1. Mount the Distribution Media

For Integrity, the DVD-ROM can be mounted on OpenVMS or Windows. For Alpha, the CD-ROM is for OpenVMS only.

```
$ mount/over=id device
```

device

This is the name of the DVD reader device.

For example, if the DVD-ROM reader is DQA0, the command would be:

```
$ mount/over=id dqa0:
```

OpenVMS provides a mechanism to mount an ISO image of a CA OpenVMS product CD/DVD directly. See the Appendix: Access ISO Disk Image with OpenVMS Logical Disk Facility. (see page 89)

Step 2. Run the Installation Procedure

Using the SYSTEM account, run the installation procedure on the OpenVMS system by typing the following command:

For Alpha:

```
$ run device:[000000]setup_alpha.exe
```

For Integrity:

```
$ run device:[000000]setup_ia64.exe
```

This command launches an installation menu where you can install the components shown here:

```
CA Job Management for OpenVMS

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----------------------------

       PRODUCT

1      Job Management Manager Install
2      Job Management Agent Install

I      CA NSM/CCS Integration Help
P      Product Readme
H      Install Help
E      Exit

 Please Enter the Number of the Product you wish to
 install >>>>
```

Step 3. Specify a Temporary Directory to Unzip the Savesets

The installation procedure allows you to choose the temporary directory used for the savesets and installation files. Choose a device and directory with at least 170,000 free blocks. The following example shows how to select a device and directory:

```
* Enter the device and directory to unzip the save-sets, 170000 blocks of temp space
needed [sys$common:[CA$SETUP]]:
```

Note: 21, 000 free blocks are the minimum for Alpha; the minimum free blocks for Integrity are 25,000.

Step 4. View and Accept the License Agreement

You must accept the terms of the license agreement before the installation process begins.

To view and accept the license agreement

1. Type V to view the license agreement.

   Note: The license agreement is several pages long.

2. Select one of the following responses to accept or reject the terms and conditions of the agreement:

   YES

   The installation continues.

   NO

   The installation stops.

Step 5. Run the Installation Verification Procedure (optional)

After the installation, the Installation Verification Procedure (IVP) checks to ensure that the installation was successful. It starts the application and performs function tests. We recommend that you run the IVP, so the installation gives you the opportunity by asking if you want to run it after completing the installation. Select one of the following responses:

YES

The IVP runs after the installation completes and automatically starts the product.

NO

The IVP does not run after the installation completes and the startup prompts.

Note: If you choose not to run the IVP during the installation, you can run it at any time after the installation completes by entering the following command:

```
$ @SYS$TEST:UNIJM$AGENT$IVP.COM
```

Step 6. Purge Previous Version Files

You can purge files from previous versions of the product that are superseded by this installation. We recommend that you purge your old files; however, if you need to keep files from a previous version you can choose to not purge your files. The installation asks if you want to purge files replaced by this installation. Select one of the following responses:

YES

The files related to earlier versions of the product are purged after the installation completes.

NO

The files related to earlier versions of the product are left on the system after the installation completes.

Step 7. Specify the UIC of the CAUNIVMS account

The installation checks for the presence of an OpenVMS account CAUNIVMS. This account is needed to support the remote commands from the CA management station.

If the account does not exist, it prompts you for the UIC information to create the account. You need to have a unique UIC value.

Step 8. Choose the Products for Automatic Startup

The installation displays the Product Startup Selection menu listing all the products that you can choose to start automatically after installation and asks if you are satisfied with the displayed choices, as shown in the following example:

```
        CA NSM for OpenVMS - product startup selection
        ------------------------------------------------------
1       CA Job Management ................................. NO
2.      CA Job Management Agent ........................... NO
3.      CA Universal Job Management Agent ................. NO
4.      CA NSM Jobflow Support............................. NO
5.      CA Job Management NSM/CCS Integration ............. NO
6.      CA Console Management ............................. YES
7.      CA System Watchdog ................................ NO
8.      CA System Watchdog NSM/CCS Integration ............ NO
9.      CA Performance Management Agent ................... NO
10.     CA NSM Performance Trend Cube ..................... NO
11.     CA Common Services OpenVMS Gateway ................ YES

Are you satisfied with the product selection Y/[N] ? y
```

If you responded Yes to the question about activating CA Common Services, then the value for item 11 (CA Common Services OpenVMS Gateway) is also set to Yes.

If No, the value is set to No. If you answer "No", the UNICM event trap filter and action will not be loaded. If at a future date you wish to activate the Integration, you will need to take additional steps to include the Console Integration configuration settings (see below).

To activate CA NSM Integration at a later date

1. Run @sys$manager:capoly$set_startup_params. Make sure that the following values are set.
   - The startup option for the product that you are installing is set to YES.
   - The startup option for CA Common Services OpenVMS Gateway is set to Yes.
   - The name of the CA NSM Manager system is identified.
2. Run @sys$startup:capoly$startup
3. Run the CA NSM Integration IVP by executing @sys$test:TNG$LINKS$IVP

In a clustered environment, you may not have licenses for all components on all nodes. This menu enables you to select components separately for each node. You can also customize the startup list by using the following command procedure while logged on to each node:

@sys$manager:CAPOLY$SET_STARTUP_PARAMS.COM

Step 9. Specify the CA NSM Manager System

The installation prompts you to specify the node name, which is usually the same as the node name you already specified, or IP address of the system where CA NSM Manager is running, as shown in the following message.

```
To complete integration with a CA NSM Management Station,
its IP address or node name is required.
The CA NSM Manager has been identified as:
"vmstest0"
* Node Name or IP Address [vmstest0]?
```

If, at a later time, you want to change the system name, you can do so by using the following command procedure:

@sys$manager:CAPOLY$SET_STARTUP_PARAMS.COM

Chapter 5: After Installing the CA Job Management Agent

After installing CA Job Management Agent (the agent), you can perform the following tasks:

- Start the agent
- Shut down the agent
- Edit startup command files
- Edit shutdown command files

Each of these tasks is described in detail in the following sections.

This section contains the following topics:

Starting CA Job Management Agent

To start the agent, use one of these two methods:

- If you are logged into the SYSTEM account, enter the following to run the command procedure SYS$STARTUP:UNIJM$AGENT$STARTUP.COM:

  ```
  $ @SYS$STARTUP:UNIJM$AGENT$STARTUP.COM
  ```

- If you are not currently logged into the SYSTEM account, you can start the agent by entering:

  ```
  $ SUBMIT/USER=SYSTEM SYS$STARTUP:UNIJM$AGENT$STARTUP.COM
  ```

- If you are activating the Integration software, enter the following command to start up from the SYSTEM account:

  ```
  $ @SYS$STARTUP:CAPOLY$STARTUP.COM
  ```

Shutting Down CA Job Management Agent

To shut down the agent, use one of these two methods:

If you are logged into the SYSTEM account, enter the following to run the command procedure SYS$STARTUP:UNIJM$AGENT$SHUTDOWN.COM:

```
$ @SYS$STARTUP:UNIJM$AGENT$SHUTDOWN.COM
```

- If you are not currently logged into the SYSTEM account, you can stop the agent by entering:

  ```
  $ SUBMIT/USER=SYSTEM SYS$STARTUP:UNIJM$AGENT$SHUTDOWN.COM
  ```

- If you are activating the Integration software, enter the following command to shut down from the SYSTEM account:

  ```
  $ @SYS$SHUTDOWN:CAPOLY$SHUTDOWN.COM
  ```

Editing the System Startup Command File

You can edit your system startup command file so that the agent is automatically started when your system is rebooted. To do this, add the following command line to the system startup file, SYS$MANAGER:SYSTARTUP_VMS.COM:

```
$ @SYS$STARTUP:UNIJM$AGENT$STARTUP.COM
```

Place this new command line *after* the line that invokes the network startup command procedure. For example:

```
$ @SYS$MANAGER:STARTNET.COM
.
.
.
$ @SYS$STARTUP:UNIJM$AGENT$STARTUP.COM
```

In addition, place the CA Job Management Agent startup command *after* the line that invokes the TCP/IP services startup command procedure. For example:

```
$ @SYS$STARTUP:UCX$STARTUP.COM
.
.
.
$ @SYS$STARTUP:UNIJM$AGENT$STARTUP.COM
```

If you activated CA Common Services for OpenVMS, you do not need to run the commands above. Instead, just run @SYS$STARTUP:CAPOLY$STARTUP.

Editing the System Shutdown Command File

You can edit your system shutdown file so that the agent shuts down properly when your system performs an orderly shutdown. To do this, add the following command line to the system shutdown file, SYS$MANAGER:SYSHUTDWN.COM:

```
$ @SYS$STARTUP:UNIJM$AGENT$SHUTDOWN.COM
```

If you activated CA Common Services for OpenVMS, you can add the following command:

```
$ @SYS$STARTUP:CAPOLY$SHUTDOWN.
```

Chapter 6: Re-installing CA Job Management

This chapter considers reinstallation requirements and processes.

The JM Manager must be reinstalled after OpenVMS upgrade. For example, if you installed JM Manager on OpenVMS 8.2 and then upgraded to OpenVMS 8.3, you must reinstall JM Manager. The JM Manager installation links executables with current system libraries, and those executables might not work properly after OpenVMS upgrade.

When reinstalling in a cluster, you may perform just one installation for all the nodes with the same architecture and OpenVMS version. Those nodes must share node-specific directory NSCHED$EXE, so the reinstalled executables will be effective on all nodes. Select any node among those nodes to run the installation on. Be sure to specify the same node-specific directory as the existing one. If however you decide to specify another node-specific directory, you must edit SYS$STARTUP: UJM$MANAGER$STARTUP.COM on ALL nodes that share this directory and alter the definition of the NSCHED$EXE logical name.

Chapter 7: Examples of New Installations

This chapter provides sample installations for the two components of CA Job Management for OpenVMS — the manager and the agent.

This section contains the following topics:

Job Management Manager OpenVMS Installation

The following example shows the log file from a sample installation of the manager.

```
$ run $3$lda1:[000000]setup_alpha
UnZipSFX 5.20 of 30 April 1996, by Info-ZIP (Zip-Bugs@wkuvx1.wku.edu).
UnZipSFX is distributed by CA, Inc., and has been modified to spawn a subprocess
that installs either a product or a product patch kit. The original
distributors of UnZipSFX cannot and do not support CA's modified version.
Please see the Acknowledgements section of the CA OpenVMS product documentation
for more information.
  inflating: ca$setup.com
  inflating: installhelp.hlp
  inflating: cajm_product.key
  inflating: cajm$readme.txt
Setup location: $3$LDA1:[000000]

           CA Job Management for OpenVMS

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           ----------------------------

                  PRODUCT

           1      Job Management Manager Install
           2      Job Management Agent Install

           I      CA NSM/CCS Integration Help
           P      Product Readme
           H      Install Help
           E      Exit
```

```
            Please Enter the Number of the Product you wish to
            install >>>> 1
%DCL-S-SPAWNED, process SYSTEM_52491 spawned
%DCL-S-ATTACHED, terminal now attached to process SYSTEM_52491
UnZipSFX 5.20 of 30 April 1996, by Info-ZIP (Zip-Bugs@wkuvx1.wku.edu).
UnZipSFX is distributed by CA, Inc., and has been modified to spawn a subprocess
that installs either a product or a product patch kit. The original
distributors of UnZipSFX cannot and do not support CA's modified version.
Please see the Acknowledgements section of the CA OpenVMS product documentation
for more information.
  inflating: ca$setup.ini
  inflating: ca$setup.com
  inflating: unzip_alpha.exe
  inflating: unzip_ia64.exe
Platform type : ALPHA
OS version    : V7.3
Setup location: $3$LDA1:[000000.ENU.OPENVMS.JOBMANAGER]
Product Kit   :
$3$LDA1:[000000.ENU.OPENVMS.JOBMANAGER]UJMMGR_UNI_0000_yymmdd_V031.ZIP;1
* Enter the device and directory to unzip the save-sets, 110000 blocks of temp space
needed [sys$common:[CA$SETUP]]:
UNZIP location: SYS$SYSROOT:[SYSMGR]UNZIP_ALPHA.EXE;1
Unzipping installation media ... Please be patient ...

        OpenVMS AXP Software Product Installation Procedure V7.3-2

It is 23-NOV-2011 at 10:40.

Enter a question mark (?) at any time for help.

%VMSINSTAL-W-ACTIVE, The following processes are still active:
       TCPIP$FTP_1
* Do you want to continue anyway [NO]? y
* Are you satisfied with the backup of your system disk [YES]?
```

```
The following products will be processed:

  UJMMGR_UNI_0000_yymmdd_V V3.1

       Beginning installation of UJMMGR_UNI_0000_yymmdd_V V3.1 at 10:40

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RESTORE, Restoring product save set Y ...

  Copyright (c) 1990,2011 CA.  All rights reserved.

* DO YOU ACCEPT THE TERMS AND CONDITIONS OF THIS AGREEMENT AS SET FORTH IN THE LICENSE
AGREEMENT (YES (Y) / NO (N) / VIEW (V)) [N]:
y

%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[CAI$REGISTRY].

* Do you want to run the IVP after the installation (Product Startup Required)  [YES]?

  The product will be started and the IVP will run automatically at the end of this
install.

* Do you want to purge files replaced by this installation [YES]?

   The DECwindows/MOTIF components of this software are optional

* Do you want to install the DECwindows/MOTIF components [YES]?

   This product needs a TCP/IP network stack installed and
   started on this node.  You can use TCPWARE, MULTINET or
   HP  TCP/IP Services.

   The TCP/IP stack TCP/IP Services is up and running...

   Support for remote agent command execution is an available option.
```

```
* Do you want support for remote Agent command execution [YES]?

   The installation procedure will prompt you for pathnames to two distinct
   areas: cluster-common files area and node-specific files area.
   When prompted, enter the full pathname of selected root directories,
   including device names.

   o Cluster Common files area
   Contains data files and scripts which are shared by all cluster nodes.
   It must be on a cluster-common non-DFS device.
   Default value SYS$COMMON:[NSCHED] is intended for homogeneous clusters
   and stand-alone nodes. It will NOT work for clusters that have different
   system disks for different nodes.
   Directories [DATA] and [COM] will be created under the path you specify.
   Logical names NSCHED$DATA and NSCHED$COM will be associated accordingly.

   o Machine architecture specific files area
   Contains executables and other files which are specific to the hardware
   architecture and/or OpenVMS version of the node.
   A single set of executables can be shared for nodes with the same
   architecture and OpenVMS version, to save disk space. For other cases
   be sure to specify a directory that is specific to the local node.
   The default value SYS$COMMON:[NSCHED] is a valid choice for stand-alone
   nodes and clustered nodes with a shared system disk.
   Directory [EXE] will be created under the path you specify.
   Logical name NSCHED$EXE will be associated with this directory.

   o Disk space required
   Initial cluster-common NSCHED$ area requires a total of 5,000 blocks of
   disk space. Node architecture specific area requires about 25,000 blocks.
   If this installation is an upgrade from a previous version, additional
   disk space (equal to the current total size of NSCHED$ directory) will be
   required to backup your current files.
   If you do not have sufficient space, abort the installation by pressing
   CTRL-Y at this time.

* Enter the full pathname for CA Job Management - (cluster) common files
[SYS$COMMON:[NSCHED]]:

   Selected pathname: SYS$COMMON:[NSCHED]

* Is that correct [Y]?

* Enter the full pathname for CA Job Management - node specific files
[SYS$COMMON:[NSCHED]]:

   Selected pathname: SYS$COMMON:[NSCHED]
```

```
* Is that correct [Y]?
%VMSINSTAL-I-SYSDIR, This product creates system disk directory SYS$COMMON:[NSCHED].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory SYS$COMMON:[NSCHED].
%CREATE-I-EXISTS, SYS$COMMON:[NSCHED] already exists
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[NSCHED.DATA].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[NSCHED.COM].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[NSCHED.EXE].

                            ** NOTE **

    If you are installing on a cluster that has mixed versions,
    mixed architectures, or uses different IP stacks in the cluster,
    you MUST install on SYS$SPECIFIC.  Otherwise, you may use the
    default of SYS$COMMON.

* Enter the full pathname for the CA Common Services root directory
[SYS$COMMON:[UNIVMS]]:

   Selected pathname: SYS$COMMON:[UNIVMS]

* Is that correct [Y]?
%VMSINSTAL-I-SYSDIR, This product creates system disk directory SYS$COMMON:[UNIVMS].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  CAPOLY$BIN.
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  CAPOLY$LOCAL_BIN.
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  CAPOLY$TMP.
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  CAPOLY$DATA.
%VMSINSTAL-I-SYSDIR, This product creates system disk directory  CAPOLY$LOGS.
COMMON install complete
%VMSINSTAL-I-RESTORE, Restoring product save set X ...
%VMSINSTAL-I-RESTORE, Restoring product save set R ...

   The installation will now check the for the presence of an
   OpenVMS account CAUNIVMS.  This account is needed to support
   the remote commands from the CA NSM management station.

   The installation did not find the CAUNIVMS account.
   It will prompt you for the UIC information to create the account.
   You will need to have a unique UIC value.
```

```
* Enter a new UIC (include brackets) [[713,63]]:
%VMSINSTAL-I-ACCOUNT, This installation creates an ACCOUNT named CAUNIVMS.
%UAF-I-ADDMSG, user record successfully added
%UAF-I-RDBADDMSGU, identifier CAUNIVMS value [000713,000063] added to rights database
%UAF-I-RDBADDMSGU, identifier NSM value [000713,177777] added to rights database
* Do you want to activate the CA Common Services Integration Components [YES]? y
%UJMMGR_UNI_0000_yymmdd_V-I-EXISTS, Directory VMI$SPECIFIC:[UNIVMS.BIN] already
exists.

            CA NSM/CCS for OpenVMS - product startup selection
            -------------------------------------------------

        1   CA Job Management ..............................   YES
        2   CA Job Management Agent ........................   NO
        3   CA Universal Job Management Agent ..............   NO
        4   CA NSM Jobflow Support .........................   YES
        5   CA Job Management NSM/CCS Integration ..........   YES
        6   CA Console Management ..........................   NO
        7   CA System Watchdog .............................   NO
        8   CA System Watchdog NSM/CCS Integration .........   NO
        9   CA Performance Management Agent ................   NO
        10  CA NSM Performance Trend Cube ..................   NO
        11  CA Common Services OpenVMS Gateway .............   YES

* Are you satisfied with the product selection Y/[N] ? y

        To complete integration with a CA NSM/CCS Management Station,
        its IP address or node name is required.

* Node Name or IP Address ? win2K3a
%UJMMGR_UNI_0000_yymmdd_V-I-TRAPDST, The CA NSM/CCS Management station is set to
"win2K3a"
%UJMMGR_UNI_0000_yymmdd_V-I-CREPRM, Created the file
SYS$MANAGER:CAPOLY$SYSTARTUP.COM
%UJMMGR_UNI_0000_yymmdd_V-I-SETPRM, You can modify the selection later, using:
SYS$MANAGER:CAPOLY$SET_STARTUP_PARAMS.COM

   All questions regarding this installation have been asked.
   The installation will run for approximately 2 to 5 minutes

%VMSINSTAL-I-RESTORE, Restoring product save set Z ...
%VMSINSTAL-I-SYSDIR, This product creates system directory [CA_LIC].
%VMSINSTAL-I-SYSDIR, This product creates system specific directory [CA_LIC].
```

```
   Installing CA Message Service (CAM/CAFT)
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[UNIVMS.LOGS.ALPBOX.CAM].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[UNIVMS.LOGS.ALPBOX.CAM.LOGS].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[UNIVMS.LOGS.ALPBOX.CAM.QLOCAL].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[UNIVMS.LOGS.ALPBOXCAM.QREMOTE].
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
SYS$COMMON:[UNIVMS.LOGS.ALPBOX.CAM.FTLOGS].
%VMSINSTAL-I-RESTORE, Restoring product save set B ...

   Linking CA Job Management Manager images...
      Linking NSCHED.EXE ...
      Linking SCHED_DECNET...
      Linking INTERFACE...
      Linking RETRY...
      Linking MANAGER...
      Linking SHELL_INTERFACE...
      Linking SUMMARIZE_LOG...
      Linking DOO_COMMAND...
      Linking DB_UTILITY...
      Linking VSS_REPORTS...
      Linking SCHED$LISTENER...
      Linking SCHED$GET_BEST_NODE...
      Linking MOTIF...
      Linking Config Utility...
      Linking CPU Utility...
      Linking Convert Utility...

   Providing files...
      Providing DCL interface, utilities, and HELP...
      Providing Wide Area Network capabilities...
      Providing Remote Executor capabilities for Agent...
      Providing DECWindows Interface...
      Providing Callable Application Programming Interface (API)...
```

```
   Providing Startup, Shutdown, Installation Verification
   and Deinstallation procedures ...

   Restoring the links saveset...

%VMSINSTAL-I-RESTORE, Restoring product save set T ...

   Installing links...

   To have CA Common Services started when rebooting, add
   "@SYS$STARTUP:CAPOLY$STARTUP" to the system startup file,
   either SYS$MANAGER:SYSTARTUP_V5.COM for VMS V5 or
   SYSTARTUP_VMS.COM for OpenVMS V6 and OpenVMS V7, and add
   "@SYS$STARTUP:CAPOLY$SHUTDOWN" to the system shutdown file,
   SYS$MANAGER:SYSHUTDWN.COM.

   The TCP/IP stack TCP/IP Services is up and running...

%UJMMGR_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$TNGD ...
%UJMMGR_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$TRAP ...
%UJMMGR_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$CASEND ...
%UJMMGR_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$FORCEX ...
```

```
    You may run the CA Common Services integration Installation
    Verification Procedure at any time by typing the command:

        $ @SYS$TEST:TNG$LINKS$IVP.COM

%UJMMGR_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$SCHEVENT...
%UJMMGR_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$SCHD...

   ------------------------------------------------------------------------
   Product Management Command Files
   ------------------------------------------------------------------------
   Startup:    $ @SYS$STARTUP:UJM$MANAGER$STARTUP.COM
   Shutdown:   $ @SYS$STARTUP:UJM$MANAGER$SHUTDOWN.COM
   IVP:        $ @SYS$TEST:UJM$MANAGER$IVP.COM
   Deinstall:  $ @SYS$UPDATE:UJM$MANAGER$DEINSTALL.COM
   ------------------------------------------------------------------------

   ------------------------------------------------------------------------
   Common Component Command Files
   ------------------------------------------------------------------------
   Startup:                $ @SYS$STARTUP:CAPOLY$STARTUP
   Shutdown:               $ @SYS$STARTUP:CAPOLY$SHUTDOWN
   Reconfig Common Startup: $ @SYS$MANAGER:CAPOLY$SET_STARTUP_PARAMS
   List Installed Products: $ @SYS$STARTUP:CAREGISTRY$LISTPRODUCTS [FULL]
   ------------------------------------------------------------------------

   Note:  A call to the product startup procedure or common
          startup procedure should be inserted manually in
          SYS$STARTUP:SYSTARTUP_VMS.COM in order to start
          the product automatically at system boot time.
          Similarly, a call to the product or common
          shutdown procedure should be inserted in the system
          shutdown procedure, SYS$MANAGER:SYSHUTDWN.COM
```

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

   DECwindows interface installation has completed successfully.

   The DECwindows interface may be accessed by type the command:

               $ schedule/interface=decwindows

   You may want to edit the startup file UJM$MANAGER$STARTUP.COM
   to change the default value for Max_jobs, or to enable load balancing...
   Users who are currently logged on must log off and then back on again
   to gain access to the CA Job Management Manager
   command line interface.
              IMPORTANT

   For each CA Job Management Manager user on this node
   set up a proxy to self, using AUTHORIZE as follows:

   $ RUN AUTHORIZE
   UAF> ADD/PROXY <local-node>::<local-user> <local-user>/DEFAULT

   An additional proxy is needed to support job execution synchronization.
   This proxy must exist in AUTHORIZE on the DEPENDENT JOB NODE.  If both
   CA Job Management Managers are started
   under the SYSTEM account, then add:

   UAF> add/proxy <predecessor-job-node>::SYSTEM SYSTEM/DEFAULT

   Finally, add the account for the network object: first determine an UIC
   which is either in the same group as the default DECNET account, or in
   a group by itself.  Then, run AUTHORIZE as follows:

   UAF> ADD SCHED_DECNET/FLAGS=DISUSER/UIC=<uic-spec>
   UAF> EXIT
```

```
   Please refer to the CA Job Management Installation Guide for more details.
%RUN-S-PROC_ID, identification of created process is 21A0042F
%RUN-S-PROC_ID, identification of created process is 21A00430

Node 0 Session Control Application SCHED_DECNET
at 2011-11-23-10:53:22.578-07:00Iinf

Node 0 Session Control Application SCHED_DECNET
at 2011-11-23-10:53:22.693-07:00Iinf

Characteristics

    Addresses                       =
       {
          name = SCHED_DECNET
       }
    Client                          = <Default value>
    Incoming Alias                  = True
    Incoming Proxy                  = True
    Outgoing Alias                  = True
    Outgoing Proxy                  = True
    Node Synonym                    = True
    Image Name                      = SYS$SYSTEM:SCHED_DECNET.COM
    User Name                       = "SCHED$DECNET"
    Incoming OSI TSEL               = <Default value>
CCS OpenVMS Gateway Daemon Shutdown Complete

            CA NSM/CCS for OpenVMS - product startup selection
            --------------------------------------------------

        1   CA Job Management ..............................   YES
        2   CA Job Management Agent ........................   NO
        3   CA Universal Job Management Agent ..............   NO
        4   CA NSM Jobflow Support .........................   YES
        5   CA Job Management NSM/CCS Integration ..........   YES
        6   CA Console Management ..........................   NO
        7   CA System Watchdog .............................   NO
        8   CA System Watchdog NSM/CCS Integration .........   NO
        9   CA Performance Management Agent ................   NO
        10  CA NSM Performance Trend Cube ..................   NO
        11  CA Common Services OpenVMS Gateway .............   YES

        The CA NSM/CCS Management station is set to
        "win2K3a"

Note: You may change the list of products to be started on this node, using:
  @SYS$MANAGER:CAPOLY$SET_STARTUP_PARAMS.COM
prior to launching this startup procedure...
```

```
                CA NSM/CCS for OpenVMS - product startup selection
                -------------------------------------------------

              1   CA Job Management ..............................   YES
              2   CA Job Management Agent ........................   NO
              3   CA Universal Job Management Agent ..............   NO
              4   CA NSM Jobflow Support .........................   YES
              5   CA Job Management NSM/CCS Integration ..........   YES
              6   CA Console Management ..........................   NO
              7   CA System Watchdog .............................   NO
              8   CA System Watchdog NSM/CCS Integration .........   NO
              9   CA Performance Management Agent ................   NO
              10  CA NSM Performance Trend Cube ..................   NO
              11  CA Common Services OpenVMS Gateway .............   YES

              The CA NSM/CCS Management station is set to
              "win2K3a"

Starting CAM Server...
%RUN-S-PROC_ID, identification of created process is 21A00432
Starting CAFT Server...
%RUN-S-PROC_ID, identification of created process is 21A00433
Starting OpenVMS TNG Gateway Daemon...
%RUN-S-PROC_ID, identification of created process is 21A00434
Job Management Manager already running...
Starting Job Management Jobflow Daemon...
%RUN-S-PROC_ID, identification of created process is 21A00435
Starting CAPOLY$SCHEVENT...
%RUN-S-PROC_ID, identification of created process is 21A00436

   Beginning the CA Job Management Manager for OpenVMS Installation Verification
Procedure.

%NSCHED-I-RQSTSUCCSS, Job          1 - Created
Job Management job #1 (Name: IVP_JOB) Started on node ALPBOX
Job Management Job #1 (Name: IVP_JOB) Completed on node ALPBOX
%NSCHED-I-FLAGSET, Job IVP_JOB - DELETE Requested

   CA Job Management Manager for OpenVMS has been successfully installed.
```

```
Starting TNG$LINKS$IVP

Sending IVP Request to node: win2K3a
wait 5 seconds
Checking node: win2K3a
   ..................  Responded OK


   All CA NSM/CCS Management stations responded!

   CA NSM/CCS Integration IVP completed successfully!


        Installation of UJMMGR_UNI_0000_yymmdd_V V3.1 completed at 10:55

    Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

    Creating installation data file:
VMI$ROOT:[SYSUPD]UJMMGR_UNI_0000_yymmdd_V031.VMI_DATA

        VMSINSTAL procedure done at 10:56

%DELETE-I-FILDEL, SYS$COMMON:[000000]CA$SETUP.DIR;1 deleted (16 blocks)
%DELETE-I-FILDEL, SYS$SYSROOT:[SYSMGR]CA$SETUP.INI;1 deleted (160 blocks)
%DELETE-I-FILDEL, SYS$SYSROOT:[SYSMGR]CA$SETUP.COM;1 deleted (160 blocks)
%DCL-S-RETURNED, control returned to process SYSTEM_48483
           CA Job Management for OpenVMS

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           ----------------------------

                  PRODUCT

           1      Job Management Manager Install
           2      Job Management Agent Install

           I      CA NSM/CCS Integration Help
           P      Product Readme
           H      Install Help
           E      Exit


            Please Enter the Number of the Product you wish to
            install >>>>
```

Job Management Agent OpenVMS Installation

The following example shows the log file from a sample installation of the agent.

```
$ run $3$lda1:[000000]setup_alpha
UnZipSFX 5.20 of 30 April 1996, by Info-ZIP (Zip-Bugs@wkuvx1.wku.edu).
UnZipSFX is distributed by CA, Inc., and has been modified to spawn a subprocess
that installs either a product or a product patch kit. The original
distributors of UnZipSFX cannot and do not support CA's modified version.
Please see the Acknowledgements section of the CA OpenVMS product documentation
for more information.
  inflating: ca$setup.com
  inflating: installhelp.hlp
  inflating: cajm_product.key
  inflating: cajm$readme.txt
Setup location: $3$LDA1:[000000]

           CA Job Management for OpenVMS

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           ----------------------------

                  PRODUCT

           1      Job Management Manager Install
           2      Job Management Agent Install

           I      CA NSM/CCS Integration Help
           P      Product Readme
           H      Install Help
           E      Exit
```

```
            Please Enter the Number of the Product you wish to
            install >>>> 2
%DCL-S-SPAWNED, process SYSTEM_39161 spawned
%DCL-S-ATTACHED, terminal now attached to process SYSTEM_39161
UnZipSFX 5.20 of 30 April 1996, by Info-ZIP (Zip-Bugs@wkuvx1.wku.edu).
UnZipSFX is distributed by CA, Inc., and has been modified to spawn a subprocess
that installs either a product or a product patch kit. The original
distributors of UnZipSFX cannot and do not support CA's modified version.
Please see the Acknowledgements section of the CA OpenVMS product documentation
for more information.
  inflating: ca$setup.ini
  inflating: ca$setup.com
  inflating: unzip_alpha.exe
  inflating: unzip_ia64.exe
Platform type : ALPHA
OS version    : V7.3
Setup location: $3$LDA1:[000000.ENU.OPENVMS.JOBAGENT]
Product Kit   :
$3$LDA1:[000000.ENU.OPENVMS.JOBAGENT]UJMAGT_UNI_0000_yymmdd_V031.ZIP;1
* Enter the device and directory to unzip the save-sets, 110000 blocks of temp space
needed [sys$common:[CA$SETUP]]:
UNZIP location: SYS$SYSROOT:[SYSMGR]UNZIP_ALPHA.EXE;2
Unzipping installation media ... Please be patient ...

        OpenVMS AXP Software Product Installation Procedure V7.3-2

It is 23-NOV-2011 at 11:20.

Enter a question mark (?) at any time for help.

%VMSINSTAL-W-ACTIVE, The following processes are still active:
       TCPIP$FTP_1
* Do you want to continue anyway [NO]? y
* Are you satisfied with the backup of your system disk [YES]?

The following products will be processed:

  UJMAGT_UNI_0000_yymmdd_V V3.1

        Beginning installation of UJMAGT_UNI_0000_yymmdd_V V3.1 at 11:20

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RESTORE, Restoring product save set Y ...

  Copyright (c) 1990,2011 CA.  All rights reserved.
```

```
* DO YOU ACCEPT THE TERMS AND CONDITIONS OF THIS AGREEMENT AS SET FORTH IN THE LICENSE
AGREEMENT (YES (Y) / NO (N) / VIEW (V)) [N]:
y

* Do you want to run the IVP after the installation (Product Startup Required)  [YES]?
y

  The product will be started and the IVP will run automatically at the end of this
install.

* Do you want to purge files replaced by this installation [YES]?

   This product needs a TCP/IP network stack installed and
   started on this node.  You can use TCPWARE, MULTINET or
   HP  TCP/IP Services.

   The TCP/IP stack TCP/IP Services is up and running...

%VMSINSTAL-I-RESTORE, Restoring product save set X ...
%VMSINSTAL-I-RESTORE, Restoring product save set R ...

   The installation will now check the for the presence of an
   OpenVMS account CAUNIVMS.  This account is needed to support
   the remote commands from the CA NSM management station.

%VMSINSTAL-I-ACCOUNT, This installation updates an ACCOUNT named CAUNIVMS.

   The installation has detected the account CAUNIVMS. The installation will
   skip the account creation.  If this account is used by something other
   than CA NSM, please modify the account name and re-install the product.

* Do you want to activate the CA Common Services Integration Components [YES]? y

   The installation has found that CAM is currently running on the system.
   In order to continue with the upgrade, CAM must be stopped.  Other
   CA software may be using CAM.  If you are unable to stop CAM at this
   time, the installation will exit.
```

```
* Do you want to stop CAM and continue Y/[N] [NO]? y
%UJMAGT_UNI_0000_yymmdd_V-I-EXISTS, Directory VMI$SPECIFIC:[UNIVMS.BIN] already
exists.

            CA NSM/CCS for OpenVMS - product startup selection
            --------------------------------------------------

        1   CA Job Management ..............................   YES
        2   CA Job Management Agent ........................   YES
        3   CA Universal Job Management Agent ..............   NO
        4   CA NSM Jobflow Support .........................   YES
        5   CA Job Management NSM/CCS Integration ..........   YES
        6   CA Console Management ..........................   NO
        7   CA System Watchdog .............................   NO
        8   CA System Watchdog NSM/CCS Integration .........   NO
        9   CA Performance Management Agent ................   NO
        10  CA NSM Performance Trend Cube ..................   NO
        11  CA Common Services OpenVMS Gateway .............   YES

* Are you satisfied with the product selection Y/[N] ? y

        To complete integration with a CA NSM/CCS Management Station,
        its IP address or node name is required.

        The CA NSM/CCS Manager has been identified as:
        "win2K3a"

* Node Name or IP Address [win2K3a] ?
%UJMAGT_UNI_0000_yymmdd_V-I-TRAPDST, The CA NSM/CCS Management station is set to
"win2K3a"
%UJMAGT_UNI_0000_yymmdd_V-I-CREPRM, Created the file
SYS$MANAGER:CAPOLY$SYSTARTUP.COM
%UJMAGT_UNI_0000_yymmdd_V-I-SETPRM, You can modify the selection later, using:
SYS$MANAGER:CAPOLY$SET_STARTUP_PARAMS.COM

   All questions regarding this installation have been asked.
   The installation will run for approximately 2 to 5 minutes

%VMSINSTAL-I-RESTORE, Restoring product save set Z ...

   Installing CA Message Service (CAM/CAFT)
Shutdown CAFT Daemon...
caftclose: server shutdown initiated.
Shutdown CAM Daemon...
camclose: server closed.
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
```

```
   Linking Agent...
     Linking NSCHED$AGENT.EXE ...
     Linking NSCHED$AGENT_IVP.EXE ...
     Linking NSCHED$AGENT_SHUTDOWN.EXE ...

   Providing files...
     Providing NSCHED$AGENT.EXE ...
     Providing NSCHED$AGENT_SHUTDOWN.EXE ...
     Providing NSCHED$AGENT_IVP.EXE ...
     Providing NSCHED$AGENT_DO_COMMAND.COM ...
     Providing NSCHED$AGENT_RUN.COM ...

   Providing Startup, Shutdown, Installation Verification
   and Deinstallation procedures ...

   Restoring the links saveset...

%VMSINSTAL-I-RESTORE, Restoring product save set T ...
   Installing links...

   To have CA Common Services started when rebooting, add
   "@SYS$STARTUP:CAPOLY$STARTUP" to the system startup file,
   either SYS$MANAGER:SYSTARTUP_V5.COM for VMS V5 or
   SYSTARTUP_VMS.COM for OpenVMS V6 and OpenVMS V7, and add
   "@SYS$STARTUP:CAPOLY$SHUTDOWN" to the system shutdown file,
   SYS$MANAGER:SYSHUTDWN.COM.

   The TCP/IP stack TCP/IP Services is up and running...

%UJMAGT_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$TNGD ...
%UJMAGT_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$TRAP ...
%UJMAGT_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$CASEND ...
%UJMAGT_UNI_0000_yymmdd_V-I-BUILDING, Linking CAPOLY$FORCEX ...
```

```
 You may run the CA Common Services integration Installation
 Verification Procedure at any time by typing the command:

     $ @SYS$TEST:TNG$LINKS$IVP.COM

------------------------------------------------------------------------------
Product Management Command Files
------------------------------------------------------------------------------
Startup:    $ @SYS$STARTUP:UNIJM$AGENT$STARTUP.COM
Shutdown:   $ @SYS$STARTUP:UNIJM$AGENT$SHUTDOWN.COM
IVP:        $ @SYS$TEST:UNIJM$AGENT$IVP.COM
Deinstall:  $ @SYS$UPDATE:UNIJM$AGENT$DEINSTALL.COM
------------------------------------------------------------------------------

------------------------------------------------------------------------------
Common Component Command Files
------------------------------------------------------------------------------
Startup:                $ @SYS$STARTUP:CAPOLY$STARTUP
Shutdown:               $ @SYS$STARTUP:CAPOLY$SHUTDOWN
Reconfig Common Startup: $ @SYS$MANAGER:CAPOLY$SET_STARTUP_PARAMS
List Installed Products: $ @SYS$STARTUP:CAREGISTRY$LISTPRODUCTS [FULL]
------------------------------------------------------------------------------

Note:  A call to the product startup procedure or common
       startup procedure should be inserted manually in
       SYS$STARTUP:SYSTARTUP_VMS.COM in order to start
       the product automatically at system boot time.
       Similarly, a call to the product or common
       shutdown procedure should be inserted in the system
       shutdown procedure, SYS$MANAGER:SYSHUTDWN.COM
```

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
%DCL-I-TABNOTFND, previous table LNM$SCHED_AGENT_TABLE was not found - new table
created
%RUN-S-PROC_ID, identification of created process is 21A0043E
CCS OpenVMS Gateway Daemon Shutdown Complete

            CA NSM/CCS for OpenVMS - product startup selection
            --------------------------------------------------

        1   CA Job Management ..............................   YES
        2   CA Job Management Agent ........................   YES
        3   CA Universal Job Management Agent ..............   NO
        4   CA NSM Jobflow Support .........................   YES
        5   CA Job Management NSM/CCS Integration ..........   YES
        6   CA Console Management ..........................   NO
        7   CA System Watchdog .............................   NO
        8   CA System Watchdog NSM/CCS Integration .........   NO
        9   CA Performance Management Agent ................   NO
        10  CA NSM Performance Trend Cube ..................   NO
        11  CA Common Services OpenVMS Gateway .............   YES

        The CA NSM/CCS Management station is set to
        "win2K3a"

Note: You may change the list of products to be started on this node, using:
  @SYS$MANAGER:CAPOLY$SET_STARTUP_PARAMS.COM
prior to launching this startup procedure...
            CA NSM/CCS for OpenVMS - product startup selection
            --------------------------------------------------

        1   CA Job Management ..............................   YES
        2   CA Job Management Agent ........................   YES
        3   CA Universal Job Management Agent ..............   NO
        4   CA NSM Jobflow Support .........................   YES
        5   CA Job Management NSM/CCS Integration ..........   YES
        6   CA Console Management ..........................   NO
        7   CA System Watchdog .............................   NO
        8   CA System Watchdog NSM/CCS Integration .........   NO
        9   CA Performance Management Agent ................   NO
        10  CA NSM Performance Trend Cube ..................   NO
        11  CA Common Services OpenVMS Gateway .............   YES

        The CA NSM/CCS Management station is set to
        "win2K3a"
```

```
Starting CAM Server...
%RUN-S-PROC_ID, identification of created process is 21A0043F
Starting CAFT Server...
%RUN-S-PROC_ID, identification of created process is 21A00440
Starting OpenVMS TNG Gateway Daemon...
%RUN-S-PROC_ID, identification of created process is 21A00441
Job Management Manager already running...
Job Management Agent already running...
Job Management Jobflow Daemon already running...
Job Management Event Message Daemon already running...
  Beginning the Job Management Agent IVP

CA Job Management Agent, 0 jobs running,   64 jobs max

  The Job Management Agent IVP procedure has completed successfully.

Starting TNG$LINKS$IVP

Sending IVP Request to node: win2K3a
wait 5 seconds
Checking node: win2K3a
   ..... Responded OK


   All CA NSM/CCS Management stations responded!

   CA NSM/CCS Integration IVP completed successfully!

        Installation of UJMAGT_UNI_0000_yymmdd_V V3.1 completed at 11:27

    Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

    Creating installation data file:
VMI$ROOT:[SYSUPD]UJMAGT_UNI_0000_yymmdd_V031.VMI_DATA


        VMSINSTAL procedure done at 11:27
```

```
%DELETE-I-FILDEL, SYS$COMMON:[000000]CA$SETUP.DIR;1 deleted (16 blocks)
%DELETE-I-FILDEL, SYS$SYSROOT:[SYSMGR]CA$SETUP.INI;1 deleted (160 blocks)
%DELETE-I-FILDEL, SYS$SYSROOT:[SYSMGR]CA$SETUP.COM;1 deleted (160 blocks)
%DCL-S-RETURNED, control returned to process SYSTEM_5404

           CA Job Management for OpenVMS

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           ----------------------------

                  PRODUCT

           1      Job Management Manager Install
           2      Job Management Agent Install

           I      CA NSM/CCS Integration Help
           P      Product Readme
           H      Install Help
           E      Exit


            Please Enter the Number of the Product you wish to
            install >>>>
```

Chapter 8: CA Job Management Manager Logical and Kit Names

The following tables list the logical names and kit names used in Job Management Manager (the manager).

This section contains the following topics:

Job Management Manager Logical Names

For a list of Job Management Manager logical names, refer to the Appendix B of the *CA Job Management for OpenVMS Administration Guide*.

Job Management Manager Installation Kit Files

The following tables list the installation kit files for the Job Management Manager software. These kit files include five categories:

- The Job Management Manager core files
- Startup and miscellaneous control files
- CA Job Management Agent (the agent) files
- DCL interface files
- Motif interface files

All files reside in the NSCHED$ directory, unless the table indicates otherwise.

Job Management Manager Core Files

The following table describes Job Management Manager core files.

File	Description
CPU_UTILITY.EXE	Shows the CPU rating of the local node, if available.
DB_UTILITY.EXE	Database compression utility.

File	Description
NSCHED.EXE	Job Management Manager program image.
RETRY.EXE	A program image that retries the manager's remote operations.
SCHED$LISTENER.EXE	Detached process listening for termination messages from remote Agents.
SCHEDULER$DOO_COMMAND.EXE	Run by jobs that are created by the manager. Protection must be set to W:RE.
SCHEDULER$SHELL.COM	A command shell used to execute jobs.
SCHEDULER$SUMMARIZE_LOG.EXE	Used to generate a log file summary.
VSS.DAT	The job database.
VSS_REPORTS.EXE	A log file reader/reporter utility.

Startup and Miscellaneous Control Files

The following table describes the manager's startup and miscellaneous control files.

File	Description
DEPENDENCY.DAT	File for dependencies, created or updated by the manager when you create a dependency.
INSTALL_DO.COM	Installs the job command Agent SCHEDULER$DOO_COMMAND.EXE.
INSTALL_INTERFACE.COM	Installs all Job Management Manager user interfaces.
LBAL_ROUND_ROBIN.COM	Alternative load-balancing procedure that performs round-robin load balancing.
LOAD_BALANCE.COM	Load-balancing command procedure. Performs dynamic load balancing within an OpenVMS Cluster. You can customize this command procedure to meet specific user requirements.
SCHED$GET_BEST_NODE.EXE	Load balancing file.

File	Description
SCHED$LISTENER.COM	Runs the manager's Remote Agent Listener.
SCHED$SD_CLASSES.DAT	File for Special Day Class definitions, created or updated by the manager when you create a Special Day Class.
SCHED$SD_RESTRICTIONS.DAT	File for Special Day Restrictions, created to record the Day Class definitions (that is, user-defined calendars associated with jobs that run only on specified dates).
SCHED_DECNET.EXE	Detached process listening for communication requests from remote OpenVMS machine running the manager.
SCHED_RUN.COM	Runs the manager's program image.
SYS$SYSTEM:SCHED_DECNET.COM	Runs the manager's remote network object.
TEMP_PARMS.DAT	File that contains parameter override values, created when a RUN or SET command is executed with parameter override values.
UJM$MANAGER$IVP.COM	The manager's installation verification procedure. Resides in the SYS$TEST directory.
UJM$MANAGER$SHUTDOWN.COM	The Job Management Manager shutdown procedure that the SYS$MANAGER:SYSSHUTDOWN. COM procedure should call.
UJM$MANAGER$STARTUP.COM	Installs the manager's images and starts them running. Resides in the SYS$STARTUP directory.
UJM$MANAGER$STARTUP_LOCAL.TEMPLATE	Provides the full list of customizable logical names, as well as usage information, to alter Job Management Manager behavior at startup time.

CA Job Management Agent Files

The following table describes CA Job Management Agent files.

File	Description
NSCHED$AGENT.EXE	SYS$SYSTEM Agent image.
NSCHED$AGENT_DO_COMMAND.COM	Same as DO_COMMAND for server.
NSCHED$AGENT_RUN.COM	Same as SCHED_DECNET.COM but for the agent.
UNIJM$AGENT$IVP.COM	SYS$TEST IVP for the agent.
UNIJM$AGENT$SHUTDOWN.COM	SYS$STARTUP shutdown for the agent.
UNIJM$AGENT$STARTUP.COM	SYS$STARTUP startup file for the agent.

DCL Interface Files

The following table describes the manager's DCL files.

File	Description
SCHEDULER$CONFIG.EXE	The DCL interface program image for Load Balance Group database subsystem
SCHEDULER$INTERFACE.EXE	The DCL interface program image for general command users.
SCHEDULER$MANAGER.EXE	The DCL interface program image for privileged command users.
SCHEDULER$SHELL_INTERFACE.EXE	The DCL interface shell for the Job Management Manager subsystem.
SCHEDULER.CLD	The manager's command language definitions file for the DCL interface.
SCHEDULER.HLB	The manager's help file.

Motif Interface Files

The following table describes Job Management Manager Motif Interface files.

File	Description
SCHEDULER$MOTIF.DAT	Same as the file SCHEDULER$MOTIF_COLOR.DAT, this file is moved to the directory DECW$SYSTEM_DEFAULTS.
SCHEDULER$MOTIF.EXE	The Motif interface image for the manager.
SCHEDULER$MOTIF.UID	The user interface database for the Motif interface.
SCHEDULER$MOTIF_BW.DAT	Motif resource file used by the manager for single-plane displays; copy to DECW$USER_DEFAULTS:SCHEDULER$ MOTIF.DAT.

Chapter 9: Uninstalling

Uninstall scripts enable you to easily remove CA Job Management for OpenVMS components. Two scripts are included for each component. One script removes both the base product and the CA Common Services Integration components associated with it. The other script removes only the CA Common Services Integration components. The command files to execute the scripts are located in the SYS$UPDATE directory.

This section contains the following topics:

Uninstall Scripts (see page 85)

Uninstall Scripts

The following table lists the uninstall scripts.

Product	Main Uninstall Script	Integration Only Uninstall Script
Job Management Agent	UNIJM$AGENT$DEINSTALL.COM	
Job Management Manager	UJM$MANAGER$DEINSTALL.COM	SCHMGRLNK$DEINSTALL.COM

Note: A component is not removed if the Registry includes multiple dependencies for it.

Chapter 10: Installation FAQs

This appendix provides answers to frequently asked questions about Job Management Manager (the manager) installation.

This section contains the following topics:

FAQs

If I install a new version of Job Management Manager, what happens to the old version that was running?

The old version of the manager is superseded by the new version. During the installation, you may choose to stop the old manager and restart the new manager. From the DCL prompt, you may stop the manager by entering the following command:

```
SCHEDULE> STOP
```

The old job database is preserved across manager versions. To start the manager, run the startup procedure in the file SYS$STARTUP:UJM$MANAGER$STARTUP.COM.

After installing the manager, how do I define the command SCHEDULE?

When you install the manager on a node, only that node has the updated DCL table. The tables on the other nodes are updated when those nodes are rebooted.

You can also update the DCL tables by entering the following command from an account that has the CMKRNL privilege:

```
$ INSTALL REPLACE SYS$LIBRARY:DCLTABLES.EXE
```

You can use SYSMAN to perform this task automatically on every node on yourOpenVMS Cluster. If any users are currently logged in, they must log out and log in again for the new DCL tables to take effect for them.

When I install a new version of the manager, do I have to reenter all the jobs that are in the current database?

You should be able to use your current database. In the installation procedure, just specify the manager to be installed in the same area as before—usually SYS$COMMON:[NSCHED].

Will the manager operate in a heterogeneous cluster?

Yes. To run the manager in any cluster, follow the installation instructions to assign files to cluster common devices and to platform specific devices

Appendix A: Access ISO Disk Image with OpenVMS Logical Disk Facility

This section contains the following topics:

Access the ISO Disk Image

OpenVMS provides a mechanism to mount an ISO image of a CA OpenVMS product CD/DVD directly. These steps are valid for OpenVMS Alpha 7.3-2 and newer, and OpenVMS I64 8.2-1 and newer.

Notes:

- OpenVMS Alpha users should start at step 1; OpenVMS I64 users should start at step 4.
- Steps 1 and 2 only need to be performed once on systems running OpenVMS Alpha 7.3-2, but are unnecessary for systems running OpenVMS Alpha 8.2 and newer.

To access the ISO disk Image

1. Edit the file SYS$STARTUP:CDRECORD.COM using any suitable text editor.

   Search for the text “load_ldcld:”. The line immediately following the occurrence of this text should be “$ set command sys$input”. Starting with the line immediately after the line that reads "$ set command sys$input", cut all lines of text up to but not including the line that reads "$ RETURN 1" into a file named LD.CLD; this will be approximately 245 lines of text.

   The first few and last few lines of the selected text should look as follows:

```
!+++
!
! Facility:
!
! Command Definition File for the LD Utility.
!
! Abstract:
!
! This file defines the following commands;
.
.
.
DEFINE SYNTAX PARAM_ALL
PARAMETER P1,LABEL=COMMAND,PROMPT="Command",
VALUE(REQUIRED,TYPE=LD_OPTIONS)
PARAMETER P2,LABEL=DEVICE,VALUE(TYPE=$DEVICE)
!<end-of-file>
```

2. Edit the file SYS$STARTUP:LD$STARTUP.COM and search for a line of text that reads:

```
$ if f$file_attributes("sys$system:ld$utility.exe","known")
```

Insert the following lines of DCL immediately before that line:

```
$ if f$file_attributes("sys$message:ld$msg.exe","known")
$ then
$   install replace sys$message:ld$msg.exe
$ else
$   install create sys$message:ld$msg.exe
$ endif
```

Close the file and terminate your editing session.

3. Add the LD command to your command tables. For OpenVMS Alpha 7.3-2, you will use the LD.CLD file that you created in step 1 as follows:

```
$ SET COMMAND LD
```

For OpenVMS Alpha 8.2 and up, execute the following:

```
$ SET COMMAND SYS$UPDATE:LD.CLD
```

The above commands should be executed whenever you login.

4. Start the logical disk facility by executing the new version of LD$STARTUP.COM created in STEP 3. This only needs to be executed once after each system boot:

```
$ @SYS$STARTUP:LD$STARTUP.COM
```

5. Download the .ISO image of the product(s) that you wish to install and record the location where you have placed them on your OpenVMS system. These files must be transferred using a transfer type of “binary”.

6. Connect the .ISO image to a logical disk device using the command:

```
$ LD CONNECT disk:[dir-path]filename.ISO
```

The system responds with the device name of the logical disk device that the .ISO file was connected to. You will need this device name for the following step.

7. Mount the logical disk device using the command:

```
$ MOUNT/MEDIA=CD/OVER=ID logical-disk-device-from-step-6
```

8. Follow the installation guide for the product that you are installing by substituting the name of the logical disk device for the name of the CDROM or DVD device where indicated in the product installation guide.

9. Repeat steps 6 and 7 for each ISO image for the products that you wish to install.
10. When you have completed the installations, dismount and disconnect each logical disk using the following commands.

    ```
    $ DISMOUNT LD-device-name
    ```

    ```
    $ LD DISCONNECT LD-device-name
    ```

    You can do this after you complete each installation and before repeating steps 6 and 7 for other ISO product disk images, or after you have completed all installations. If you do this after all installations, repeat these commands once for each ISO product disk image that was connected and mounted.

Sample log file

This log shows the connection, mounting, and start of the installation for the CA Job Management r3.1 for OpenVMS Alpha on a system running OpenVMS Alpha 7.3-2.

Steps 1 through 5 have already been performed.

```
$ ld connect LEVEL2:[KITS.CAJM31]CAJM31ALP.ISO
%LD-I-UNIT, Allocated device is $3$LDA6:
$ mount/over=id $3$LDA6:
%MOUNT-I-WRITELOCK, volume is write locked
%MOUNT-I-CDROM_ISO, CAJM31ALP: (1 of 1) , mounted on  _$3$LDA6: (ALPBOX)
$ run $3$LDA6:[000000]setup_alpha
UnZipSFX 5.20 of 30 April 1996, by Info-ZIP (Zip-Bugs@wkuvx1.wku.edu).
UnZipSFX is distributed by CA, Inc., and has been modified to spawn a subprocess
that installs either a product or a product patch kit. The original
distributors of UnZipSFX cannot and do not support CA's modified version.
Please see the Acknowledgements section of the CA OpenVMS product documentation
for more information.
  inflating: ca$setup.com
  inflating: installhelp.hlp
  inflating: cajm_product.key
  inflating: cajm$readme.txt
Setup location:$3$ LDA6:[000000]
```

```
CA Job Management for OpenVMS

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-----------------------------

       PRODUCT

1      Job Management Manager Install
2      Job Management Agent Install

I      CA NSM/CCS Integration Help
P      Product Readme
H      Install Help
E      Exit


 Please Enter the Number of the Product you wish to
 install >>>>
```

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