# DEComni MMS for OpenVMS Installation Guide

Order Number: AA-QH1RB-TE

**April 1997**

This manual describes the pre-requisites and procedures for installing the DEComni Manufacturing Message Specification (MMS) software on OpenVMS platforms.

| | |
|---|---|
| **Revision/Update:** | This is a new document for the current release. |
| **Operating System:** | OpenVMS Version 6.1, 6.2, 7.0, 7.1 |
| **Software Version:** | DEComni MMS Version 3.1 |

**Digital Equipment Corporation**
**Maynard, Massachusetts**

**First printing, July 1996**
**Revised, April 1997**

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This document was prepared using VAX DOCUMENT, Version 2.1.

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# Preface

This document covers the installation of the DEComni Manufacturing Message Specification (MMS) software on a OpenVMS system. Keep this document with your distribution kit. You may need it to install maintenance updates or to reinstall the DEComni MMS software.

For more information about DEComni MMS features and functions, refer to the DEComni MMS Software Product Description (SPD) in your software distribution kit.

## Intended Audience

This document is for system and network managers and Digital personnel who are responsible for planning or performing installations of the DEComni MMS software on a OpenVMS system.

## Document Structure

This manual is organized as follows:

- Chapter 1, Pre-installation Requirements, describes the hardware and software requirements that must be met before you can install the DEComni MMS software.
- Chapter 2, Installing DEComni MMS on OpenVMS Systems, describes the system environment required to install and run the DEComni MMS software. The chapter also provides the DEComni MMS installation procedures and guidelines.
- Chapter 3, Post-installation Requirements, describes how to start or stop the DEComni MMS installation process and to access the release notes after the installation. The chapter also provides more information about the installed product.
- Appendix A, Files Added During Installation, lists directories and files added to the system during the installation process.
- Appendix B, Installation Dialogue Sample, provides a sample installation dialogue.
- The Glossary of DEComni Terms defines the terms used in this document or in reference to the DEComni product set.

## Associated DEComni Documents

The following documents provide detailed information about using DEComni API:

- *DEComni API and DEComni MMS User Guide*
- *Guide to Using Omni Directory Services*
- *DEComni API Guide to Using OmniView*
- *DEComni API Omni Definition Facility User Guide*

## Related ISO/IEC Documents

The following documents provide information about the ISO/IEC standard Manufacturing Message Specification (MMS):

*Industrial Automation Systems — Manufacturing Message Specification Service Definition*, ISO/IEC 9506–1
*Industrial Automation Systems — Manufacturing Message Specification Protocol Specification*, ISO/IEC 9506–2

## Related System Documents

See your OpenVMS documentation for information about software installation and licensing procedures.

The following documents are part of the OpenVMS documentation set:

- *OpenVMS License Management Utility Manual*
- *OpenVMS System Manager's Manual*
- *OpenVMS System Management Utilities Reference Manual: A–M*
- *OpenVMS System Management Utilities Reference Manual: N–Z*

## Conventions

This manual uses the following conventions:

| Convention | Meaning |
|---|---|
| DEComni | The term ''DEComni'' refers to the DEComni MMS product or to functions and services provided by the DEComni software. |
| OpenVMS | The term ''OpenVMS'' refers to OpenVMS products or to operations and functions performed by the OpenVMS operating system. |
| $ | The dollar sign is the default OpenVMS system prompt for user input. |
| UPPERCASE, lowercase | The system differentiates between uppercase and lowercase characters. Literal strings that appear in descriptions, examples, or command syntax must be entered exactly as shown. |
| **Boldface Type** | Boldface type emphasizes user input to system prompts. |
| `system output` | This typeface indicates system output in interactive examples. |
| [ ] | Square brackets are part of the directory specification `[directory_name]` on OpenVMS systems. |
| Ctrl/x | Hold down the Ctrl key while you press another key, indicated here by x. |

| Convention | Meaning |
|---|---|
| *n* | A lowercase italic *n* indicates the generic use of a number. |
| *x* | A lowercase italic *x* indicates the generic use of a letter. |
| *italic type* | Italic type emphasizes important or unique information or the complete titles of documents. |
| .<br>.<br>. | Vertical ellipses (dots) in examples represent data that has been omitted for clarity. |

# 1
# Pre-installation Requirements

This chapter lists the minimum system hardware and software environment required to install and run the DEComni Manufacturing Message Specification (MMS) software.

Verify that your installation kit contains all items listed on the Bill of Materials (BOM). Contact your Digital representative if there are any problems or missing items.

The software distribution kit typically contains the following items:

- Installation media (CD–ROM) containing the DEComni MMS installation software
- Product Authorization Key (PAK) for registering the DEComni MMS software
- DEComni MMS installation and user documentation
- Online release notes are included on the installation media. Directions for accessing the release notes are provided in Section 2.1.4.

**Note**

Digital recommends that you read the release notes before installing or running the DEComni MMS software.

## 1.1 System Hardware Requirements

Your system must meet the hardware requirements specified in the DEComni MMS Software Product Description (SPD).

## 1.2 System Software Requirements

Your system must be running the following software versions:

- OpenVMS Version 6.1, 6.2, 7.0 or 7.1
- DECnet/OSI for OpenVMS Version 6.3 to 7.1
- OSAK Version 3.0
- DEComni API for OpenVMS Version 3.1

Pre-requisite software and versions can change. For the latest pre-requisite information, see the current DEComni MMS Software Product Description (SPD).

The following command displays the OpenVMS system version you are running:

```
$ WRITE SYS$OUTPUT F$GETSYI("VERSION")
```

## 1.3 License Registration

You must use the License Management Facility (LMF) to register the DEComni MMS software license in accordance with the license agreement signed for your site before you can run either the Installation Verification Procedure (IVP) or the software. License registration information is included in the Product Authorization Key (PAK) that is shipped with the DEComni software. The PAK contains licensing information that should be registered *before* you start the installation.

To register the license, log into the SYSTEM account and set your default to SYS$UPDATE. You can register the license under LMF using either of the following two methods:

- Invoke the following procedure and enter the data supplied by the PAK:

  ```
  $ SYS$UPDATE:VMSLICENSE.COM
  ```

- Enter the following command, using the qualifiers that specify the data supplied by the PAK:

  ```
  $ LICENSE REGISTER DECOMNI-MMS/qualifier,...
  ```

If you plan to use the DEComni software on more than one node of a VAXcluster system, you must load the license on each of the other nodes after you have completed this one.

See the *OpenVMS License Management Utility Manual* for more information about using LMF.

## 1.4 Installation Time

Installing DEComni MMS from CD–ROM and running the Installation Verification Procedure (IVP) on your target system takes approximately 3 to 4 minutes, depending on the system and media configuration. Installation can take longer on a system that is dependent on network activity during the installation.

## 1.5 Installation Privileges

You require either the SETPRV privilege or all of the following privileges:

CMKRNL
WORLD
SYSPRV

The following command verifies your installation privileges:

```
$ SHOW PROCESS /PRIVILEGES
```

## 1.6 Required Disk Space

The following free disk space is required on OpenVMS systems:

| Blocks to Install | Blocks to Run |
|---|---|
| 20,000 | 10,000 |

The following command verifies the available disk space:

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

## 1.7 System Parameters and Settings

The DEComni MMS installation requires specific system parameter settings.

### 1.7.1 Displaying System Parameters

The following minimum system parameter values are required for the installation and to accommodate the space requirements for DEComni data structures:

FREE_GBLPAGES = 3000 (VAX) or 5000 (Alpha)
FREE_GBLSECTS = 5

You can determine the current number of free global pages and free global sections with the following commands:

```
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLPAGES")
```

```
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS")
```

The system displays the current values associated with the FREE_GBLPAGES and FREE_GBLSECTS parameter.

For additional information about these parameters, or for help when verifying the values, see the *OpenVMS System Manager's Manual* for information about the OpenVMS System Generation Utility (SYSGEN).

- If you need to change one or more system parameters, continue with Section 1.7.2.
- If you do not need to change system parameters, proceed to Section 1.8.

### 1.7.2 Changing GBLPAGES and GBLSECTIONS with AUTOGEN

If you need to change the number of global pages or global sections, invoke AUTOGEN after you have entered the new parameter values in the SYS$SYSTEM:MODPARAMS.DAT file. AUTOGEN adjusts values for the parameters associated with the values that you reset manually.

To change system parameters with AUTOGEN:

1. Use an editor to access the SYS$SYSTEM:MODPARAMS.DAT file.
   - To change a parameter value that is already listed in the file, delete the current value associated with that parameter and enter the new value.
   - To modify incremental parameters, such as GBLPAGES or GBLSECTIONS, use the ADD_ command. The following example increases the global page setting by 380:

     ADD_GBLPAGES = 380
2. After you have made all of your changes, exit from the editor.
3. Invoke the AUTOGEN procedure with the following command to recalculate your system parameters:

   ```
   $ @SYS$UPDATE:AUTOGEN GETDATA REBOOT [NOFEEDBACK]
   ```

   If you specify REBOOT, AUTOGEN performs a system shutdown and reboots the system when it has finished. Any users logged in on the system are immediately disconnected during the shutdown. The reboot then puts the new parameter values into effect.

The AUTOGEN utility adjusts some SYSGEN parameters based on the consumption of resources since the last reboot. If you do not want to use this adjustment, include the NOFEEDBACK parameter in the command line.

See the *OpenVMS System Manager's Manual* for more information about using AUTOGEN.

## 1.8 Installation Account Process Quotas

You require the following minimum process quotas for the installation account (typically the SYSTEM account):

| | | |
|---|---|---|
| ASTLM | = | 200 |
| BIOLM | = | 50 |
| BYTLM | = | 30480 |
| DIOLM | = | 50 |
| ENQLM | = | 2000 |
| FILLM | = | 50 |
| PGFLQUO | = | 30000 |
| PRCLM | = | 1+ |
| WSDEF | = | 256 |
| WSEXTENT | = | 3072 |
| WSQUO | = | 768 |

You can use the AUTHORIZE utility to display installation process quotas by entering the following commands:

```
$ SET DEFAULT SYS$SYSTEM
$ RUN AUTHORIZE
UAF> SHOW SYSTEM
```

If no changes are necessary, enter the EXIT command to leave the AUTHORIZE utility.

To modify system account quotas (BYTLM, for example):

```
UAF> MODIFY SYSTEM /BYTLM=30480
```

The utility responds with a message confirming the change and you can enter the EXIT command to leave the utility. You must then log out and log in again to reset the system account quotas.

See the *OpenVMS System Manager's Manual* for more information about using AUTHORIZE.

## 1.9 Backing Up the System Disk

Digital recommends that you do a full system disk backup before you start any installation procedures. Use the backup procedures established for your site. For an explanation of how to back up a system disk, refer to your OpenVMS documentation.

# 2

# Installing DEComni MMS on OpenVMS Systems

This chapter provides the requirements and procedures for installing the DEComni Manufacturing Message Specification (MMS) software on your OpenVMS system.

## 2.1 Installation Considerations

This section provides information you may require during the installation process.

### 2.1.1 VMSINSTAL Requirements

When you invoke VMSINSTAL, it verifies whether:

- You are logged into a privileged account
- There are adequate quotas for the installation
- There are other users logged in on the system
- You have the minimum SYSTEM account quotas listed in Section 1.8

If VMSINSTAL detects any errors during the installation, it notifies you and exits from the installation procedure. You can restart the installation after you have corrected the problem.

### 2.1.2 VMSINSTAL Error Messages

The DEComni MMS installation can fail for various reasons. Refer to the *OpenVMS System Management Utilities Reference Manual* for information about VMSINSTAL error messages.

If the installation fails for any reason, either during installation or during the IVP, VMSINSTAL displays a message similar to the following:

```
%VMSINSTAL_E_INSFAIL, The installation of OMNIMMS V3.1 has failed.
```

If it is possible to correct the problem, repeat the installation from the beginning. If the problem cannot be corrected, follow the procedures described in Chapter 3.

### 2.1.3 Stopping the Installation

To abort the installation procedure at any time, press Ctrl/Y.

To restart the installation after pressing Ctrl/Y, you must repeat the entire procedure.

### 2.1.4 Accessing the Release Notes

Release notes contain information about known problems or restrictions that apply to the current version of the product. DEComni MMS release notes are in an online ASCII text file that you can read or print before or after the installation.

To display or print the release notes, use the OPTIONS N parameter when you invoke VMSINSTAL for the installation in Section 2.2. The OPTIONS N parameter also enables you to exit the installation procedure after reading the release notes.

VMSINSTAL copies the release notes to SYS$HELP by default. The release notes file installed by VMSINSTAL is labelled with the current product name and version number, such as OMNIMMS031.RELEASE_NOTES.

**Note**

Digital recommends that you read the release notes before you attempt the installation procedure or run the DEComni MMS software.

## 2.2 Installation Procedure

To perform the installation, you must be logged in either to the system manager's account or to an account with the appropriate privileges.

### 2.2.1 Invoking VMSINSTAL

Either of the following commands invokes VMSINSTAL for the installation:

```
$ @SYS$UPDATE:VMSINSTAL
```

```
$ @SYS$UPDATE:VMSINSTAL OMNIMMSA031 ddcu: OPTIONS N
```

Here, *ddcu:* is the device name, where *dd* is the device code, *c* is the controller letter, and *u* is the drive unit number of one or more digits (for example, MUA100:).

Using OPTIONS N allows you to display or print the release notes before the installation. You can then continue the installation or exit from the procedure.

### 2.2.2 Installation Process

VMSINSTAL starts the installation process and displays messages and prompts similar to the following:

1. The VMSINSTAL process starts up by displaying a message similar to the following:

```
        OpenVMS AXP Software Product Installation Procedure V7.1
         It is 12-MAY-1997 at 11:39.
    Enter a question mark (?) at any time for help.
```

2. The process then asks if you are satisfied with your system disk backup.

**Note**

System disk backup is a prerequisite for the installation.

If you are not satisfied with the disk backup, type NO to terminate the installation and perform the backup. Otherwise, type YES or press Return to begin the installation process:

```
* Are you satisfied with the backup of your system disk [YES]?
YES

The following products will be processed:

  OMNIMMSA V3.1

        Beginning installation of OMNIMMSA V3.1 at 11:40

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.


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Installation procedure for: DEComni MMS for OpenVMS Alpha (TM) V3.0
```

3. If you used OPTIONS N in your VMSINSTAL command, the process prompts you for a release notes option number that executes one of the following:

```
1 - Display release notes

    Displays the online release notes.

2 - Print release notes

    The process prompts you for an ASCII text printer queue name.  You
    can  enter the queue name or press Return to send the file to your
    default print device.

3 - Both 1 and 2

    Displays  the release notes online.   If you terminate the  display
    with Ctrl/C, the process prompts you for a printer queue name.  You
    can enter the queue name, or you can press Return to send the  file
    to the default print device.

4 - None of the above
```

When the selected operation has completed, VMSINSTAL copies the release notes to SYS$HELP.

**Note**

Digital recommends that you read the release notes before you continue the installation.

4. The process then displays the product identification and authorization key prompt:

```
      Product:      DECOMNI-MMS
       Producer:    DEC
       Version:     3.1
       Release Date: 15-APR-1997

* Does this product have an authorization key registered and loaded? YES
```

The DEComni MMS software can be installed but cannot be run unless the Product Authorization Key (PAK) is registered. Enter YES to the authorization key prompt if you have registered and loaded the DEComni MMS PAK.

Enter NO if you have not registered your PAK. The installation continues but you cannot run either the Installation Verification Procedure (IVP) or the software. To run the IVP after the installation, you must register and load the PAK then follow the IVP instructions in Section 3.2.

5. VMSINSTAL then displays the following questions about purging the files replaced by the installation, and whether you want to run the IVP as part of the installation:

```
* Do you want to purge files replaced by this installation [YES]? YES
* Do you want to run the IVP after the installation [YES]? YES
```

6. If you entered YES to run the IVP, the process displays informational messages about the progress of the installation, including the DEComni IVP startup.

7. The process displays a series of messages about the success of the installation, then exits from the VMSINSTAL utility:

```
SUCCESS: Able to successfully establish an association.
Subprocess OMNI-IVP_RESP has completed
%OMNI-S-IVP, THE DECOMNI IVP HAS SUCCESSFULLY COMPLETED
        Installation of OMNIMMSA V3.1 completed at 11:50
```

# 3
# Post-installation Requirements

This chapter explains how to start, verify, and stop the DEComni MMS software, and provides account process information.

## 3.1 Starting DEComni MMS

You require the following privileges to invoke the DEComni MMS startup procedure:

OPER
DETACH
PRMMBX
SYSNAM
CMKRNL
SYSGBL
PRMGBL
WORLD
GROUP
SYSLCK
SYSPRV

You must edit the system startup and shutdown files to allow the automatic startup and shutdown of DEComni MMS Alpha when your system is rebooted.

Add the command line that starts DEComni MMS to the system startup file, SYS$MANAGER:SYSTARTUP_VMS.COM. REFERENCE>(omni_mms_product_name) cannot start until after the network, OSAK and DEComni MMS have started:

- To use the thread-based version of DEComni MMS (BASEstar Open users), execute the following command:

  ```
  $ @SYS$STARTUP:OMNI_STARTUP_MMS
  ```

- To use the AST-based version of DEComni MMS, execute the following command:

  ```
  $ @SYS$STARTUP:OMNI_STARTUP_MMS AST
  ```

For further information about starting up the system, refer to the *OpenVMS System Manager's Manual*.

## 3.2 Running the Installation Verification Procedure

If you did not run the Installation Verification Procedure (IVP) as part of the installation, you should run it separately after you have installed and started the product. You must start the DEComni MMS process (by typing `@sys$startup:omni_startup` and `@sys$startup:omni_startup_MMS`) before you can run the IVP.

You cannot invoke the IVP unless the following privileges are enabled:

NETMBX
PRMMBX
SYSLCK
WORLD
GROUP

Enter the following command to run the IVP:

```
$ @SYS$TEST:OMNI_IVP_MMS
```

The DEComni MMS IVP verifies that the DEComni MMS system is correctly installed and displays informational messages as it progresses. If the IVP fails, it displays a message indicating the reason for the failure. Correct the problem, then re-execute the IVP. When the DEComni MMS IVP has executed successfully, the DEComni MMS software is ready for use.

The DEComni MMS IVP can fail for various reasons. Table 3–1 lists the possible causes for an IVP failure and ways to resolve the problem.

**Table 3–1 Resolving DEComni MMS IVP Failures**

| Possible Cause | Resolution |
|---|---|
| Error while checking process quotas | See the required process quotas in Section 3.4. |
| Error while checking process privileges | See the required process privileges in this section. |
| Missing files error | See Appendix A for the list of files. |
| IVP responder linking error | OMNI_IVP_RESP.OBJ or OMNI_IVP.OPT file missing from SYS$COMMON:[SYSTEST]. |
| IVP Initiator linking error | OMNI_IVP_INIT.OBJ or OMNI_IVP.OPT file missing from SYS$COMMON:[SYSTEST]. |
| Error while running Initiator /Responder test | OSAK not running: check for OSAK$SERVER process. |

## 3.3 Linking a DEComni MMS Application

You must link your DEComni MMS application at DEComni API level to the AST-based shareable image OMNI_AST_BASIC_SHR.EXE The *omni_server* process and the client shareable images OMNI_SHR.EXE and OMNI_PORT_SHR.EXE are no longer provided (as of Version 3.0).

## 3.4 User Account Quotas

DEComni MMS user accounts require the following minimum quotas:

| | | |
|---|---|---|
| ASTLM | = | 200 |
| BIOLM | = | 50 |
| BYTLM | = | 30480 |
| DIOLM | = | 50 |
| ENQLM | = | 2000 |
| FILLM | = | 50 |
| PGFLQUO | = | 30000 |
| PRCLM | = | 1+ |
| WSDEF | = | 256 |

```
WSEXTENT        =       3072
WSQUO           =       768
```

## 3.5 User Account Privileges

The following privileges are required to run an application linked with OMNI_AST_BASIC_SHR:

- PRMMBX may create permanent mailbox
- TMPMBX may create temporary mailbox
- WORLD may affect other processes in the world
- NETMBX may create network device
- SYSLCK may lock system wide resources

## 3.6 Stopping DEComni MMS

You require the following privileges to invoke the DEComni MMS stop procedure:

DETACH
PRMMBX
SYSNAM
CMKRNL
SYSGBL
PRMGBL
WORLD
GROUP

Enter the following command to shut down the DEComni MMS process manually:

```
$ @SYS$MANAGER:OMNI_STOP
```

If you want the DEComni MMS process to shut down each time the system is brought down, include the command in the site-specific shutdown file SYS$MANAGER:SYSHUTDWN.COM.

# A

# Files Added During Installation

Below isa list of the OpenVMS directories and files that are added during the DEComni MMS installation procedure.

```
SYS$COMMON:[SYS$STARTUP]
------------------------
 OMNI_STARTUP_MMS.COM

SYS$COMMON:[SYSTEST]
--------------------
 OMNI_IVP_MMS.COM
 OMNI_IVP_CONFIGURE.NCL
 OMNI_IVP_INIT.OBJ
 OMNI_IVP_RESP.OBJ
 OMNI_IVP.OPT

SYS$COMMON:[SYSHLP.EXAMPLES.OMNI]
-----------------
 OMNI_IVP_INIT.C
 OMNI_IVP_RESP.C

SYS$COMMON:[SYSLIB]
-------------------
 OMNI_STARTUP_MMS.COM
 OMNI_MMS_SHR.EXE
 OMNI_MMS_AST_SHR.EXE

SYS$COMMON:[SYSHLP.EXAMPLES.OMNI]
-----------------
 MMS_REGISTER.COM
 MMS_DEREGISTER.COM
```

# B

# Installation Dialogue Sample

The following example shows a DEComni MMS installation on an OpenVMS system:

1. **Start the installation**

```
$ @sys$update:vmsinstal OMNIMMSA030 MMS_ROOT:[KIT]

        OpenVMS AXP Software Product Installation Procedure V7.1

   It is 14-MAY-1997 at 14:16.

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

2. **Confirm the system backup**

```
* Are you satisfied with the backup of your system disk [YES]?
```

VMSINSTAL asks if you are satisfied with your system backup. Always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press Return. Otherwise, enter NO to discontinue the installation. After you back up your system disk, you can restart the installation.

```
The following products will be processed:
  OMNIMMSA V3.1
  Beginning installation of OMNIMMSA V3.1 at 14:18

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

You should now mount the first distribution volume on the device you specified when you invoked VMSINSTAL. The device name appears in the line preceding the question. VMSINSTAL then asks you if you are ready to continue with the installation.

3. **Begin the installation**

At this point, VMSINSTAL checks which license has been installed and continues with the installation as follows:

```
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
******************************************************************

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Installation procedure for: DEComni MMS for OpenVMS Alpha (TM) V3.1

Now performing software prerequisite check...

Now checking for available disk space...

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CONFIGURATION PROCEDURE FOR: DEComni for OpenVMS Alpha V3.1

Now checking process quota values...
```

```
        Product:      DECOMNI-MMS
        Producer:     DEC
        Version:      3.1
        Release Date: 15-APR-1997
* Does this product have an authorization key registered and loaded? y
* Do you want to purge files replaced by this installation [YES]?
* Do you want to run the IVP after the installation [YES]?
* Do you want to continue with this installation [YES]?
******************************************************************
```

The installation will now continue unattended; no further user intervention is required. The estimated time of completion for this phase is 3 minutes for a configuration consisting of a DEC 3000 and installation from CD-ROM.

```
  The current time is: 14:23.38
******************************************************************
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
Now integrating MMS protocol into DEComni for OpenVMS Alpha V3.1 ...

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STARTUP PROCEDURE FOR: DEComni MMS for OpenVMS Alpha V3.1

Now checking process privileges...

Now checking for the DEComni MMS license...

Now checking that prerequisite software has been started...

Now checking the DEComni sharable images...
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STARTUP PROCEDURE FOR: DEComni API for OpenVMS Alpha (TM) V3.1

Now checking process privileges...
Now checking for the DEComni license...

 %OMNI-I-LICENSE, The following valid license was found -  DECOMNI MMS

Now checking that prerequisite software has been started...
Now installing the DEComni sharable images...
Now creating DEComni logicals...
Starting Omni Directory Services now...
Checking for required directories...
Checking for required files ...

ODS Identification information : 2.14.0

Checking cache area ODS:[CACHE]...
Checking Schema area ODS:[LOCAL]...

Valid Schema definitions found in the attribute schema database as:
```

```
OC ALIASED_NAME CN C L S O OU P_ADDR APC OWNER APT AEQ MAPV SY OBJ_ID
BER PSAP SSAP TSAP N_ADDR AS_LIST DESCR VMD DOM DEL VN APPSN APROF
VERSION NLEVEL MAX_CALLED MAX_CALLING MAX_SEG CBB_LIST SS_LIST VENDOR
MODEL REV INUM DN SHARE CONT_FILE CAP_FILE PN REUSE ARG MON DOM_LIST
VAR ATYPE ADDR_T ADDR_V

Valid Schema definitions found in the object class schema database as:

TOP ALIAS C L O OU AP AE DSA DEVICE TAE OAE AS VMD DOMAIN PI NVAR UNVAR

ODS_STARTUP: Normal completion.

Now checking ODS schema definitions...

Checking ODS misc schema definitions ...

Checking ODS vmd schema definitions ...

Checking ODS domain schema definitions ...

Checking ODS pi schema definitions ...

Checking ODS var schema definitions ...

OMNI_SCHEMA.COM: Normal Completion.

Now Checking for OMNI_SERVER.EXE...

Now starting the OMNI_SERVER process...

%RUN-S-PROC_ID, identification of created process is 000001B3

%OMNI-S-STARTUP, DEComni startup successfully completed

%OMNIMMS-S-STARTUP, DEComni MMS startup successfully completed

    +-----------------------------------------------------------------+
    |                                                                 |
    |   The DEComni MMS for OpenVMS Alpha IVP will now be invoked...  |
    |                                                                 |
    +-----------------------------------------------------------------+

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INSTALLATION VERIFICATION PROCEDURE FOR: DECOMNI MMS for OpenVMS
Alpha (TM) V3.1

Now checking process quotas...

Now checking process privileges...

Now checking that the OSI software was started...

Now checking that DEComni was started...

Now checking that files have reached target directories...

Now linking the IVP Initiator...

Now linking the IVP Responder...

Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.495+01:00I0.828

Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.719+01:00I0.828

Characteristics

    Network Service                  = CLNS
```

```
Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.726+01:00I0.828

Characteristics

    Classes                          =
       {
          4
       }

Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.733+01:00I0.828

Characteristics

    Classes                          =
       {
          4
       }

Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.733+01:00I0.828

Characteristics

    CONS Template                    = ""

Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.739+01:00I0.828

Characteristics

    Checksums                        = False

Node 0 OSI Transport Template OMNINET
at 1995-01-12-14:26:19.745+01:00I0.828

Characteristics

    Inbound                          = True

Copy used; entry is:

Name:

VN      (VMD Name)              =       OMNI_IVP_RESP_VMD

Entry:

OC      (Object Class)          =       13 (Virtual Manufacturing Device)

APPSN   (Application Simple Name)       =       /CN=OMNI_IVP_RESP_AE

VENDOR  (Vendor Name)           =       Digital

APROF   (Application Profile)   =       omni

VERSION         (MMS Version)           =       iso

INUM    (Integrator Number)     =       1

Copy used; entry is:

Name:

CN      (Common Name)           =       OMNI_IVP_RESP_AE

Entry:
```

```
OC      (Object Class)          =       10 (Titled Application Entity)
AEQ     (AE Qualifier)          =       111
APT     (AP Title)              =       {1 1 111}
APC     (Application Context)   =       {1 0 9506 2 3}
P_ADDR  (Presentation Address)  =       o.m.ni.osit$loop_clns%21
Copy used; entry is:

Name:

VN      (VMD Name)              =       OMNI_IVP_INIT_VMD

Entry:
OC      (Object Class)          =       13 (Virtual Manufacturing Device)
APPSN   (Application Simple Name)       =       /CN=OMNI_IVP_INIT_AE
VENDOR  (Vendor Name)           =       Digital
APROF   (Application Profile)   =       omni
VERSION         (MMS Version)           =       iso
INUM    (Integrator Number)     =       1
Copy used; entry is:
Name:

CN      (Common Name)           =       OMNI_IVP_INIT_AE

Entry:

OC      (Object Class)          =       10 (Titled Application Entity)
AEQ     (AE Qualifier)          =       110
APT     (AP Title)              =       {1 1 110}
APC     (Application Context)   =       {1 0 9506 2 3}
P_ADDR  (Presentation Address)  =       o.m.ni.osit$loop_clns%21
Now running the DEComni IVP RESPonder and INITiator...

RESP: STARTING the DEComni IVP REPONDER.

RESP: calling omni_initialize...
done.

RESP: local VMD handle...
/VN=OMNI_IVP_RESP_VMD...
/CN=OMNI_IVP_RESP_AE...

                        /Creating a Variable Definition VAR_A...
done.

RESP: listening...

INIT: STARTING the DEComni IVP INITIATOR...

INIT: calling omni_initialize...
done.

appl prof done.
```

```
INIT: local VMD handle...
/VN=OMNI_IVP_INIT_VMD...
/CN=OMNI_IVP_INIT_AE...
done.

INIT: remote VMD handle...
/VN=OMNI_IVP_RESP_VMD...
/CN=OMNI_IVP_RESP_AE...

                          /Creating a Variable Definition VAR_A...
done.

INIT: Attempting a connect...
ACCEPTING a connect...
ACCEPTED the connect.

RESP: Initial value of variable VAR_A  - 12345

RESP: calling get_indications...
connected.

INIT: calling get_remote_attributes...
done.

INIT: calling get_attributes...

        VENDOR: DEC

        MODEL: DECOMNI

        REVISION: V3.1

INIT: Value of variable VAR_A from the Initiator - 54321

RESP: Received a read variable request...

INIT: READING a variable from the Responder now...

INIT: Value of variable VAR_A from the Responder -  12345

INIT: WRITING a variable to the Responder now...

INIT: Value of variable VAR_A from the Initiator - 12345

RESP: Received a write variable request...

INIT: READING the new value of the VAR_A from the Responder now...

RESP: Received a read variable request...

INIT: Value of variable VAR_A from the Responder is now -  98765

INIT: CONCLUDING the association...

RESP: Received an ACSE conclude.

RESP: All done...bye!

Subprocess OMNI_IVP_RESP has completed
done.

INIT: All done...bye!
```

```
%OMNIMMS-S-IVP, THE DECOMNI IVP HAS SUCCESSFULLY COMPLETED
        Installation of OMNIMMSA V3.1 completed at 14:26
    Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY
    Creating installation data file: VMI$ROOT:[SYSUPD]OMNIMMSA031.VMI_DATA
        VMSINSTAL procedure done at 14:26
```

# Glossary of DEComni Terms

This glossary defines DEComni terms that are used in this document or in reference to DEComni functions.

**AE**

Application Entity.

**API**

Application Program Interface.

**ASE**

Application Service Element.

**AST**

OpenVMS Asynchronous System Trap.

**AT**

Application Type or Application Named Type.

**CS**

Companion Standard.

**DOM**

Domain.

**FD**

File Descriptor.

**IOSB**

Input/Output Status Block.

**MMS**

Manufacturing Message Specification.

**MT**

MMS Type or MMS Named Type.

**NC**

Numeric Controller.

**NV**

Named Variable.

**ODF**

Omni Definition Facility.

**ODS**

Omni Directory Services.

**PDU**

Protocol Data Unit.

**PI**

Program Invocation.

**PID**

Entry in a PI list of domains.

**PLC**

Programmable Logic Controller.

**RMS**

OpenVMS Record Management System.

**UV**

Unnamed Variable.

**VAR**

Simple Variable — Named or Unnamed.

**VMD**

Virtual Manufacturing Device.

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