

# **Online System Manager**

**(OSM)**

**Release Notes**

*PARSEC*<sub>Group</sub>



# **OSM for OpenVMS**

## **Release Notes**

**Version 4.2**

PARSEC Group  
5610 Ward Rd, Suite 110  
Arvada, Colorado 80002  
(303) 763-9600  
(303) 763-9909 fax

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# **Chapter 1**

## **Overview**

### **Background**

The Online System Manager (OSM) for OpenVMS aids in the management, predictive maintenance and support of OpenVMS systems. OSM allows system administrators to automatically monitor hardware, software, resource, performance, security and user-defined events that represent potential system failures. Once OSM detects an event, it reports that event to specified parties via E-mail. This allows corrective action before the event becomes a failure. OSM can execute a user-supplied command procedure, batch file or command to address the issues causing the event.

OSM is fully configurable through the use of parameter files and logical names. These parameter files may be maintained through the use of any text editor on the system. The parameters allow the user to control all aspects of OSM operation. For instance, there are parameters that allow the user to specify where OSM sends event information, what the individual event priorities are, which events are critical, how to handle an event (called event fixing), what email addresses to notify or telephone number to page, event thresholds and much more.

Once the monitor process has detected and recorded an event, the transport process reports that event as directed. For example, it can send hardware error reports to your hardware service vendor, as well as a copy to the system manager while sending all security events to your IT security department for evaluation.

## **History**

Each major update to OSM includes support for a new platform. Other releases include significant enhancements, many of which were requested by the users of OSM.

### **V1**

The original release of OSM was on VAX/VMS. This included the core functionality and design that is still in use today.

### **V2**

When OpenVMS was ported to the Alpha architecture, OSM V2 included support for the new systems. Other enhancements included the addition of user-defined monitoring and automated fixes in V2.1. V2.2 added support for monitoring network connectivity, SYSUAF synchronization with other nodes and commands to test and demonstrate the OSM configuration.

### **V3**

Support for Microsoft Windows NT and Windows 95 was added with OSM V3.0. Additional versions of windows were added but were eventually dropped from the supported platforms.

### **V4**

As OpenVMS grew and was ported to the HP Integrity Servers, OSM V4.0 added support for those systems and monitoring of alignment faults and temperature sensors. At the same time, several enhancements were made to control output formatting; including output groups.

### **V4.2**

This release of OSM adds monitoring of compute-bound processes and the availability of process slots. OSM-specific logical names may be placed in a separate logical name table to simplify maintenance.

SYSUAF synchronization is enhanced to allowing synchronizing changes made before OSM was installed or configured.



## **Prerequisites**

### **Hardware Requirements**

The following list provides the user with the minimal hardware configuration required to run OSM. Additional disk or memory may be required on some systems in a large environment to support storing reported events for several computers or for a large period of time.

- HP VAX, Alpha, or Integrity system running HP or VSI OpenVMS.
- Approximately 20MB of disk space for installation and use

### **Software Requirements**

For VAX systems:

- OpenVMS VAX V6.0 or higher
- VAXCRTL.EXE is part of OpenVMS VAX, but may have been tailored off. This file must be installed for OSM to work.

For Alpha Systems:

- OpenVMS Alpha V6.1 or higher

For Integrity Server Systems:

- OpenVMS IA64 V8.2 or higher

For network communication (one or more of the following):

- Digital TCP/IP services for OpenVMS
- TCPware for OpenVMS
- Multinet for OpenVMS
- DECnet Phase IV
- DECnet-Plus



# **Chapter 2**

## **New Features**

### **Overview**

This chapter identifies the new features included in OSM V4.2. Additional information about these features may be found in the Online System Manager Operations Manual.

### **Installation**

The installation procedures have been streamlined to ask fewer questions and provide more automation. On OpenVMS v8 and later systems, which have the F\$LICENSE lexical function, that function is used to check for a loaded license for OSM instead of asking the user. Other questions have been eliminated to streamline the installation.

When updating OSM in a cluster environment, the command procedure `osm_addnode` is executed on each member of the cluster which may have been configured to run OSM to ensure it has the updated images and startup procedures.

### **Logical Name**

The parameter `LNМ_TABLE` may be defined to set the name of the logical name table to maintain most of the logical names used by OSM. This moves most of the logical names out of the system logical name table into one used only by OSM.

#### Note

This affected most of the OSM command procedures and template files. When implementing this feature, be sure to review and update any files based on those templates. This is especially important with `osm_logicals.com` and `osm_sysuaf_logicals.com`.

## **Monitoring**

OpenVMS has two parameters which provide limits on the number of processes on the system. MAXPROCESSCNT sets a limit on the total number of processes on the system. This parameter can not be changed on the running system. IJOBLIM limits the number of interactive jobs on the system. This may be changed with the command SET LOGIN /INTERACTIVE=#. OSM can monitor these resource limits and alert you to concerns before it becomes impossible to log into the machine. See the parameters PROCESSES and PROCESSES\_C in the OSM Operations Manual for more details.

The OpenVMS audit server is notified to not suspend the OSM monitor process when it encounters a shortage of resources and is suspending other processes. This allows OSM to report that a disk is filling up since that is the resource which triggers the audit server to suspend processes.

When OSM monitoring is shut down, any active event files are then sent to the transport process for reporting. This allows notification of everything to occur without waiting for OSM to be restarted.

The system serial number has been added to email and other text formatted reports when it is available. This helps support organizations, especially hardware support, to associate events with specific systems and be able to prepare for any required maintenance.

## **Network**

Network communication is used to monitor the OSM process on other nodes, time differences and enable synchronization of the SYSUAF files. OSM supports the use of TCP/IP, DECnet Phase IV and DECnet-Plus. This release of OSM removes the requirement for the short, DECnet Phase IV compatible name when using DECnet-Plus.

## **User-Defined Monitoring Templates**

The template for user-defined monitoring of licenses nearing expiration has been enhanced to report a critical event if a license has already expired. If you are using this template, compare it with the command procedure and apply any changes for your environment.

## **SYSUAF Synchronization**

OSM has the ability to propagate changes made to the SYSUAF file to other systems. This simplifies user account maintenance in large OpenVMS environments. The `SHOW STATUS /SYSUAF` command displays information about changes which have not been fully propagated. The `/FULL` qualifier has been added to that command to provide additional information.

In an environment where SYSUAF synchronization has been recently configured, or possibly one where OSM was disabled for a period of time, it may be desired to synchronize changes to the SYSUAF which OSM is not aware. This can be done with the command `SYNCHRONIZE /SYSUAF` command. See *Chapter 12, SYSUAF Synchronization* in the OSM Operations Manual for additional information.

## **Automated Fixes**

The name of the temperature sensor is passed as a parameter to any automated fix procedure for temperature events.

## **Formatting**

Minor improvements have been made to the formatting of email. This includes removing data which had been included with the event but does not have any pertinent information.

The parameter `OUTPUT_SEVERITY_MAX` has been added to output groups to set the highest severity level that is included in the group. This allows separating low severity events from the more critical events to minimize the amount of information being viewed when addressing a critical event.



# **Chapter 3**

## **Bug Fixes**

### **Overview**

Each new release of OSM attempts to fix all known issues from previous releases. Here is a list of those fixes in OSM V4.2.

### **Installation**

Several fixes were done to the command procedure `osm_addnode`. This procedure is used to set up another node within the cluster for running OSM. It is also used to update OSM on other nodes when an update is installed on one node. The fixes include occasional errors reported about IF-THEN-ELSE nesting, unbalanced parentheses in an IF statement, and improved handling of user-mode logical names.

The `/NOUSERLIBRARY` qualifier was added to link commands to avoid conflicts with user environments.

The command procedure `osm_remove` has been fixed to work even when the `OSM$` logical name has not been defined.

The command procedure `osm_shutdown` reported an error when deleting the symbol for deassign in some environments. This has been fixed.

When updating OSM from a previous version and answering yes to the question regarding purging all files replaced by the installation, previous versions of OSM might not remove all images from the old version. This update will remove all of those images if requested by the user.

The procedure `osm_logicals` is provided as a template and copied to a command procedure if the command procedure does not already exist. Previous versions of the OSM installation incorrectly overwrote the command procedure. This has been fixed.

### **Parameters**

The `OUTPUT_REASONS` parameter did not work as intended in OSM V4.1. Through trial-and-error, some sites were able to get the desired results. This has been fixed. If you are using this parameter in a previous version, update the parameter using the expected keywords after applying this update.

## **Help Content**

Help text was added for the SHOW TEMPERATURE command. This had been omitted from the previous version.

Other minor cleanup of help text was done to make formatting more consistent and the text more readable.

## **Monitoring**

If SYSUAF synchronization is enabled with the sysuaf\_notify parameter, security auditing must be enabled for changes to the SYSUAF. This update verifies security auditing is enabled for changes to the SYSUAF when the monitor process is started.

If error logging is disabled on a disk, OSM will ignore errors on those devices. This works around an issue where OpenVMS does not honor that flag in some circumstances.

## **SUMMARIZE Command**

The SUMMARIZE command without the /OUTPUT qualifier failed to produce any output if performed twice within the same image run. This may have affected other commands following the SUMMARIZE command as well. This has been fixed.

## **Reporting**

The emails and other formatted reports generated by OSM have been cleaned up to improve accuracy. This includes the removal of an extra blank line when reporting temperature events and using unsigned values for the size of disks and the amount of free space on them.

The number of CPUs active on the system was reported as a CPU mask. This has been corrected to be the count of CPUs.

Events related to non-paged pool expansion and paged pool usage were all reported as pool expansion. This has been fixed to be reported as memory pool usage.

The spelling of Fahrenheit and Celsius has been corrected in commands and reports.

Depending on output reporting parameters, it was possible for an email to be sent referencing a higher severity event than was included in the report. This has been fixed.



# Chapter 4

## OSM Installation

### Overview

On OpenVMS, the standard `VMSINSTAL` command procedure located in the `SYSS$UPDATE` directory is used to install and update OSM.

During an update to OSM, the installation procedure will stop the monitor and the transport processes if they are currently running. If you elect not to have the installation procedure start OSM automatically, you may start it later with the following command:

```
$ @SYS$MANAGER:OSM_STARTUP
```

### Updating OSM in a VMScluster Environment

In a VMScluster environment, the installation updates other nodes of the cluster. This can be invoked manually with the following command.

```
$ @OSM$: [OSM]OSM_ADDNODE UPDATE
```

### OSM Installation Example

The example starting on the following page is an update to OSM V4.2 on an HP Integrity Server rx2600 running OpenVMS V8.4.

```
$ @sys$update:vmsinstal osm042 dsa2:[software]
```

OpenVMS Software Product Installation Procedure V8.4

It is 23-FEB-2024 at 11:53.

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

%VMSINSTAL-W-NOTSYSTEM, You are not logged in to the SYSTEM account.

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

WILLIAMS

\_FTA81:

\* 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:

OSM V4.2

Beginning installation of OSM V4.2 at 11:53

\*\*\*\*\*

%VMSINSTAL-I-VALSIGN, Performing product kit validation of signed kits ...

%VMSINSTAL-I-NOVALDONE, Product is not signed by HP

\* Do you want to install this product [NO]? **y**

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

Installation of OSM V4.2

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Thank you for choosing OSM as your one and only on-line system manager tool. You will be glad you did!

You, the person performing this installation, will probably be in a position to know the most about how the product is used at your site. If you think of any way that we can improve OSM to better meet your needs and the needs of others, we would appreciate your call. The PARSEC Group products contain features which were originally suggested by our customers.

Call us at (303) 763-9600 and ask for Technical Support if we can assist you during the installation or at any other time while you are running OSM.

Press <RETURN> to continue.

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PARSEC Group  
5610 Ward Road  
Suite 110  
Arvada, CO 80002  
(303) 763-9600

It is illegal to install or run OSM on any system that is not licensed. If you are not sure which systems your company has licensed, check with The PARSEC Group before proceeding. Demo sites may install and run OSM for the period specified by their demo license.

```
* Have you carefully read all of the above notice [YES]?
The logical name OSM$ points to DSA2:[OSM]
This directory will be updated with OSM V4.2.
* Do you want to purge files replaced by this installation [YES]?
* Do you want OSM started during installation [YES]?
%OSM-I-DONEASK, No further questions will be asked during this installation.
OSM provides to the user some template files which may be used as
examples during the setup of OSM. They are located in the OSM$
directory and are listed here for your information.
```

```
Example parameter file which can be used by OSM
OSM_CTLFILE.TEMPLATE
```

```
Example command procedure to define OSM logical names
OSM_LOGICALS.TEMPLATE          OSM_SYSUAF_LOGICALS.TEMPLATE
```

```
Example command procedures for user defined monitoring
CHECK_ENTRY_UDM.TEMPLATE      CHECK_LICENSE_UDM.TEMPLATE
CHECK_PRINT_QUEUE_UDM.TEMPLATE DS100_DS200_MONITOR_UDM.TEMPLATE
DS90LPLUS_MONITOR_UDM.TEMPLATE DSSI_MONITOR_UDM.TEMPLATE
EXTRACT_NEWMAIL_UDM.TEMPLATE  OSM_SUMMARY_UDM.TEMPLATE
```

```
Example automated fix command procedures
DISK_PURGE_FIX.TEMPLATE      HIGH_KERNEL_TIME_FIX.TEMPLATE
PAGE_SWAP_FILE_FIX.TEMPLATE  T4_FIX.TEMPLATE
%OSM-I-PROGRESS, Removing old files which are no longer necessary.
%OSM-I-PROGRESS, Building executables.
Copyright (c) 1994 - 2024 The PARSEC Group Inc. All rights reserved.
%OSM-I-PROGRESS, Stopping previous version if running.
Autostart is disabled for: transport
%OSM-I-PROGRESS, Setting up new version.
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
Copyright (c) 1994 - 2024 The PARSEC Group Inc. All rights reserved.

%OSM-I-STARTUP, OSM is starting up
OSM started with pid 20364285
```

Installation of OSM V4.2 completed at 11:53

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

```
Creating installation data file: VMI$ROOT:[SYSUPD]OSM042.VMI_DATA
```

VMSINSTAL procedure done at 11:54