

# CA Job Management for OpenVMS

## Release Notes

Release 3.1



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## Documentation Changes

The following documentation updates have been made since the last release of this documentation:

- [New Features](#) (see page 7)—Added descriptions of new features for this release.
- [Support for Internet Protocol Version 6 \(IPv6\)](#) (see page 7)—Added a new section to describe this new feature.
- [Job Record Field Size Extensions](#) (see page 9)—Added a new section to describe this new feature.
- [Extended Job Event Auditing/Reporting](#) (see page 11)—Added a new section to describe this new feature.
- [Load Balancing Responsiveness](#) (see page 13)—Added a new section to describe this enhancement to existing feature.
- [Improve Event Log File Performance](#) (see page 14)—Added a new section to describe this enhancement to existing feature.
- [Reset the Pending Deletes Counter](#) (see page 14)—Added a new section to describe this enhancement to existing feature.
- [Improve Database Optimization](#) (see page 14)—Added a new section to describe this enhancement to existing feature.
- [Allow More NULL Index Keys](#) (see page 14)—Added a new section to describe this enhancement to existing feature.
- [Enable Manual Clearing of the Job Restart Value](#) (see page 14)—Added a new section to describe this enhancement to existing feature.
- [Preserve User-Specified Configuration Parameters](#) (see page 15)—Added a new section to describe this enhancement to existing feature.

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# Chapter 1: New Features

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CA Job Management for OpenVMS provides automated job and workload management, making it easy to keep OpenVMS applications running in a timely manner.

CA Job Management for OpenVMS offers the following:

- Delivers the scalability and reliability to define, run and monitor all your critical jobs at the scheduled times, in the desired sequence; making it easier to manage complex interdependent jobs.
- Manages job execution integrity and enables operational load balancing within your OpenVMS clusters.
- Monitors real-time job execution and increases the productivity of your OpenVMS-based systems as core IT assets.

CA Job Management for OpenVMS Release 3.1 adds the following features and support:

- Support for Internet Protocol Version 6 (IPv6)
- Job Record Field Size Extensions
- Extended Job Event Auditing / Reporting

For information about changes to existing features, see [Enhancements to Existing Features](#) (see page 13).

This section contains the following topics:

[Support for Internet Protocol Version 6 \(IPv6\)](#) (see page 7)

[Job Record Field Size Extensions](#) (see page 9)

[Extended Job Event Auditing/Reporting](#) (see page 11)

## Support for Internet Protocol Version 6 (IPv6)

CA Job Management Agent now supports Internet Protocol version 6 (IPv6), to comply with the U.S. government requirement. The Job Management Agent now operates in a dual-stack environment (IPv4 and IPv6) by default. Additionally, IPv6 support is extended in CA Common Services Integration to include Job Management integration and Jobflow Status support.

IPv6 support in the Integration components requires a logical name to be defined in order to be enabled. For more information on IPv6 as it relates to CCS Integration, see the appendix "IPv6" in the *CA Common Services for OpenVMS Integration Guide*.

## CA Common Services r11.2

IPv6 support for the CA NSM Integration requires OpenVMS host objects in the NSM Repository containing IPv6 addresses and names. This will allow NSM Integration components to find these objects upon reception of SNMP traps from nodes with IPv6 addresses, to create, update and maintain child objects and to provide all the object related features by using IPv6 name and address lookup functions.

For more information on IPv6 as it relates to CCS Integration, see the appendix "IPv6" in the *CA Common Services for OpenVMS Integration Guide*.

## CA Common Discovery

CA Common Discovery is a lightweight common component that provides the discovery and classification of all entities within an IPv4 or IPv6 network. It discovers the relationships between these entities and effectively records the Network's Topology in a separate database. Then, Management Command Center (MCC) IPv6 import tool is used to import the discovered hosts into the NSM Repository. Therefore, the MCC component is installed as part of NSM/CCS r11.2.

CA Common Discovery is included into the Windows-side NSM Integration to provide support for IPv6 environments. CA NSM and CCS r11.2 do not include tools to discover hosts in IPv6 environment. Thus, CA Common Discovery must be installed on Windows to provide IPv6 capabilities for NSM/CCS r11.2 and NSM Integration.

CA Common Discovery is a separate item in the Product Explorer menu.

**Note:** CA Common Discovery installation requires Java Run-Time Environment and Apache Tomcat Server to be installed. These third party components are installed by NSM / CCS r11.2.

For detailed information on the use of CA Common Discovery to discover IPv6 networks, refer to this file on the product DVD:

`\ENU\NT\CommonDiscovery\CA_Common_Discovery_Install_and_Configuration.doc`.



## Job Record Field Size Extensions

The existing job database file does not allow for expansion, while maintaining backward compatibility with both existing product interfaces and customer applications that use the public API.

The Job Management Database is now extended by adding a new file to the database that allows certain job record fields to be extended beyond the current length. Use of these longer field lengths is optional. Existing job databases can be used as is. The fields that are extended are:

- VMS command line
- Prefunction name
- Postfunction name
- Output or log file name

These fields now hold long file pathnames.

The following table documents the job record field extensions for the job commands CREATE, COPY and MODIFY:

Job Attribute	Maximum Length	
	Old	New
Output (log) file	50	255
Postfunction	40	1024
Prefunction	40	1024
VMS command	132	1024

In addition, the following qualifiers to the RUN command have been extended to accept the DCL limit of 255 characters per command element:

- /VMS\_COMMAND
- /PARAMETERS
- /OUTPUT

For more information, see the CREATE, COPY, MODIFY, and RUN entries in the *CA Job Management for OpenVMS Command Reference Guide*.

With the addition of extended field sizes in job records in Release 3.1, you need to be aware of certain conditions concerning executing commands on remote systems.

- For jobs which do not use fields with extended lengths, Job Management Manager will continue to execute commands on remote systems running JM Manager 3.0 (also called r3), 3.0 SP1 or Release 3.1, and accept remote commands from these systems.
- For jobs defined on Release 3.1 containing extended length fields, remote commands will work with remote systems running the Release 3.1 only. If such a command is directed to, or coming from a remote system running an earlier Job Management Manager release, then the request will fail with the following error message :

Example: %NSCHED-E-INSUFFSIZE, Insufficient Buffer Size

- Remote commands from nodes running 3.0 or 3.0 SP1 can be executed on a Release 3.1 node as long as any data that needs to be returned by the 3.1 system does not contain extended length fields. When the data to be returned contains extended length fields, the request will fail as indicated above.

For example, a job run request SCHEDULE RUN JOB\_A /SERVER=SERV\_A from a 3.0 system will fail with the insufficient buffer size message if SERV\_A is a 3.1 system and JOB\_A has any extended fields associated with it.

- If you create or edit a job on a 3.0 or 3.0 SP1 Manager for a remote 3.1 Manager, and you specify one or more extended length fields, the Manager on 3.0 will truncate the fields to the 3.0 size limit without a warning. This is a known issue with 3.0 and 3.0 SP1 Manager. This might cause unexpected results if you run the remote job. To avoid this, always create or edit jobs with extended length fields from a 3.1 Manager.

**Note:** If you will run your application program against a database that has extended fields or will have extended fields in the foreseeable future, you must change your application source code as necessary. Then the application program must be recompiled and relinked after installing CA Job Management for OpenVMS Release 3.1.

The Job Edit Window in the Motif interface has been modified to support this feature. The extended fields are wider by default. New buttons are added to allow viewing of extended fields. Some fields have been relocated for logical grouping.

If you use the DCL "pipe" command to redirect output of Job Management Manager commands, which might contain extended length job fields, certain system quotas might need to be increased. For more information, see the System Quotas section in the *CA Job Management for OpenVMS Installation Guide*.

For more information about working with extended length job fields with the DCL command interface, see the Using Extended Job Fields Appendix in the *CA Job Management for OpenVMS Administration Guide*.

## Extended Job Event Auditing/Reporting

CA Job Management for OpenVMS now supports extended event logging. Job modification requests and job run requests are logged to the event log. Information that identifies the requesting user is captured and included in the event records.

The new event class INTERFACE\_EVENT includes the following user interface events:

ABORT JOB

COPY JOB

CREATE JOB

DELETE JOB

MODIFY JOB

RUN JOB

HOLD JOB

RELEASE JOB

SHOW JOB (only logged if command fails for permission)

SCRIPT JOB

And the following management command events:

OPTIMIZE DB

SCHED CONFIG

SET MGR for the following SET commands:

LOAD\_BALANCE, LOGGING, MAX\_JOBS,

NETWORK EXPIRATION\_RETRY , NETWORK

INTERVAL\_RETRY , PRIORITY

SET RESTART

STOP MGR

For detailed information on the events which are logged, see Writing Job Events to a Log File in the *CA Job Management for OpenVMS Administration Guide*.

# Chapter 2: Enhancements to Existing Features

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This section describes the enhancements made to existing features for CA Job Management for OpenVMS Release 3.1.

For information about new features, see [New Features](#) (see page 7).

This section contains the following topics:

[Load Balancing Responsiveness](#) (see page 13)

[Improve Event Log File Performance](#) (see page 14)

[Reset the Deleted Jobs Counter](#) (see page 14)

[Improve Database Optimization](#) (see page 14)

[Allow More NULL Index Keys](#) (see page 14)

[Enable Manual Clearing of the Job Restart Value](#) (see page 14)

[Preserve User-Specified Configuration Parameters](#) (see page 15)

## Load Balancing Responsiveness

The existing load balancing does not respond quickly enough to changes in system load, under certain conditions. CA Job Management for OpenVMS Release 3.1 enhances load balancing, thus the product responds more quickly to changing system loads.

The following three enhancements have been made. These settings are independent of one another.

- The default interval between execution of the load balancing routine has been reduced from 30 seconds to 5 seconds.
- A new logical name NSCHED\$LBAL\_INSENSITIVE is created. When set to a non-zero integer x, the load balancing algorithm considers all CPUs that are rated within x percent of each other to be the same rating. They are then load balanced using round robin scheduling. This distributes the load more equitably among similarly rated systems.
- A new logical name NSCHED\$LBAL\$UPDATE\_RATING is created. When set to ON, the manager will decrease a node's rating when a job is sent to it. In this way, a node will be aware of the number of jobs pending, so the rating routine will take these jobs into consideration.

For more information on Load Balancing, see the *CA Job Management for OpenVMS Administration Guide*.

## Improve Event Log File Performance

The event log file attributes have been changed to improve performance. Improved features include the following:

- Less fragmentation and greater contiguity--Less fragmentation occurs on the disk, where the event file is stored, thus reducing the need for maintenance.
- Write-back caching.

## Reset the Deleted Jobs Counter

The deleted jobs counter is reset during database optimization.

## Improve Database Optimization

The Database optimization feature is enhanced thus improving the product performance:

- Flatter Index Structure - the job database is now optimized with an emphasis toward a flatter index structure and larger bucket size.
- Job database contiguity - the job database files are created with the best-try-contiguous file attribute.

## Allow More NULL Index Keys

File access time is improved by allowing NULL index keys (a feature of OpenVMS RMS). The NULL keys allow more compact index structures within the file which reduces file I/O.

## Enable Manual Clearing of the Job Restart Value

This enhancement enables you to clear the job restart value manually from either within a job or from the DCL command line.

For more information, see the command SET JOB /RESTART\_VALUE in the *CA Job Management for OpenVMS Command Reference Guide*.

## Preserve User-Specified Configuration Parameters

The installation procedure is enhanced to preserve the custom configuration settings instead of over-writing them.

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 are enhanced to 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 available.

For detailed information regarding the new startup procedures and how your site's customized settings are preserved, see "Preserving customized startup files" in the CA Job Management for OpenVMS Installation Guide.

### 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.





# Chapter 3: Published Fixes

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You can find the complete list of published bug fixes for this product at CA Support Online: <https://support.ca.com>

The following fixes and behavioral changes are included in this release. Where applicable, the published PTF number is specified before the description of the fix:

PTF Number	Fix Description
None	A method is provided to repair job records which contain stale cluster aliases or stale node names. The aliases and node names were present in remote clusters at some point in the past and the aliases or node names have been changed, or the remote cluster has been assigned an alias for the first time. Cluster alias changes can cause dependency wait states for jobs that have remote dependencies. See “Repairing Job Records Containing Cluster Aliases” in the <i>CA Job Management for OpenVMS Administration Guide</i> .
RO40320	When some 8-bit characters are entered using <code>VSS\$MODIFY_ITEM()</code> in order to modify the comment field, some of the characters are translated to spaces.



# Appendix A: Third-Party Software Agreement

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This section contains the following topics:

[Info-ZIP Acknowledgements](#) (see page 19)

[Tomcat Acknowledgements](#) (see page 21)

[Sun JRE Acknowledgements](#) (see page 24)

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