

CA OPS/MVS® Event Management and Automation

Best Practices Guide

Release 12.1



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CA Technologies Product References

This document references the following CA Technologies products:

- CA Chorus™ Software Manager (CA CSM)
- CA OPS/MVS® Event Management and Automation (CA OPS/MVS)

Contact CA Technologies

Contact CA Support

For your convenience, CA Technologies provides one site where you can access the information that you need for your Home Office, Small Business, and Enterprise CA Technologies products. At <http://ca.com/support>, you can access the following resources:

- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
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- Other helpful resources appropriate for your product

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If you have comments or questions about CA Technologies product documentation, you can send a message to techpubs@ca.com.

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Best Practices Guide Process

These best practices represent years of product experience, much of which is based on customer experience reported through interviews with development, technical support, and technical services. Therefore, many of these best practices are truly a collaborative effort stemming from customer feedback.

To continue and build on this process, we encourage users to share common themes of product use that might benefit other users. Please [consider sharing](#) your best practices with us.

To share your best *practices*, contact us at techpubs@ca.com and preface your email subject line with "Best Practices for product name" so that we can easily identify and categorize them.

Documentation Changes

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

Note: In PDF format, page references identify the first page of the topic in which a change was made. The actual change may appear on a later page.

- [Introduction](#) (see page 9)—Streamlined and improved.
- Your Product Installation and Configuration Best Practices > [Implement a proactive Preventive Maintenance Strategy](#) (see page 13)—Added to the guide.

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Chapter 1: Introduction

The guide introduces the CA Technologies mainframe management strategy and features, and describes the best practices for installing and configuring your product.

The intended audience of this guide is systems programmers and administrators who install, maintain, deploy, and configure your product.

This section contains the following topics:

[Purpose of this Guide](#) (see page 9)

[Audience](#) (see page 9)

Purpose of this Guide

The guide provides a brief introduction to the CA Technologies mainframe management strategy and features, and describes the best practices for installing and configuring CA OPS/MVS.

Audience

The intended audience of this guide is systems programmers and administrators who install, configure, deploy, and maintain CA OPS/MVS.

Chapter 2: Best Practices for Installation

This section contains the following topics:

[Install Using CA CSM](#) (see page 11)

[Keep Current on CA Common Services](#) (see page 12)

[Install on Test System First](#) (see page 12)

[Recompile AOF Rules and OPS/REXX Programs](#) (see page 12)

[Implement a Proactive Preventive Maintenance Strategy](#) (see page 13)

Install Using CA CSM

Use the CA Mainframe Software Manager (CA CSM) to acquire, install, and maintain your product.

Business Value:

CA CSM provides a web interface, which works with ESD and standardized installation, to provide a common way to manage CA mainframe products. You can use it to download and install CA OPS/MVS.

CA CSM lets you download product and maintenance releases over the Internet directly to your system from the CA Support website. After you use CA CSM to download your product or maintenance, you use the same interface to install the downloaded software packages using SMP/E.

Additional Considerations:

After you install the product, follow the appropriate steps in the *CA OPS/MVS Installation Guide* to set it up. CA CSM can continue to help you maintain CA OPS/MVS.

More Information:

For more information about CA CSM, see the *CA Mainframe Software Manager Guide*. For more information about product setup, see the *CA OPS/MVS Installation Guide*.

Keep Current on CA Common Services

Make sure you have installed the most current release of CA Common Services.

Business Value:

The latest release of CA Common Services contains the most current infrastructure updates allowing you to use newer features of CA OPS/MVS, including licensing changes, service desk integration, and product health checks. Staying on the current release and maintenance of CA Common Services helps you avoid problems encountered by others, getting you up to speed sooner and without as many problems.

Install on Test System First

Perform your installation and initial evaluations of the product and its components on a test system. New releases of CA OPS/MVS are always compatible with previous releases, letting you run a new release on a test system while still running the older version on a production system.

Business Value:

Evaluating CA OPS/MVS in a test environment helps you detect any possible problems before you roll out the product to a production system.

Recompile AOF Rules and OPS/REXX Programs

If you choose to compile your AOF rules and OPS/REXX programs, you should recompile them with each new release.

Business Value:

Recompiling your AOF rules and OPS/REXX programs lets you take advantage of any internal efficiency changes in OPS/REXX processing that was introduced in the new release.

Also, we conduct extensive high-stress testing on the CA interoperability systems with each new release with AOF rules and OPS/REXX programs compiled for that release.

Additional Considerations:

AOF rules and OPS/REXX programs compiled with the current release's compiler are not backward-compatible with earlier CA OPS/MVS releases.

More Information:

For information about compiling AOF rules, see the *CA OPS/MVS AOF Rules User Guide*.

For information about compiling OPS/REXX programs, see the *CA OPS/MVS User Guide*.

Implement a Proactive Preventive Maintenance Strategy

CA Technologies formerly delivered product maintenance using Service Packs. We have replaced this model with [CA Recommended Service \(CA RS\) for z/OS](#), which provides more flexibility and granular application intervals. CA RS is patterned after the IBM preventive maintenance model, Recommended Service Upgrade (RSU). With CA RS, you can install preventive maintenance for most CA Technologies z/OS-based products in a consistent way on a schedule that you select (for example, monthly, quarterly, annually).

We recommend that you develop and implement a proactive preventive maintenance strategy whereby you regularly apply maintenance. You could follow the same schedule that you use to apply IBM maintenance, or you could implement a schedule for CA Technologies products only.

Business Value:

Keeping your products current with maintenance helps your team remain productive and minimize errors while safely protecting your systems. If you do not install preventive maintenance regularly, you risk encountering known problems for which we have published and tested fixes.

Our mainframe maintenance philosophy is predicated upon granting you the flexibility to maintain your sites and systems consistent with industry best practices and site-specific requirements. Our philosophy focuses on two maintenance types. Understanding each type can help you maintain your systems in the most efficient manner.

Note: This philosophy applies to the [CA Next-Generation Mainframe Management stack products](#). For legacy products, contact CA Support for maintenance details.

Corrective Maintenance

Helps you address a specific and immediate issue. This type of maintenance is necessary after you encounter a problem. We may provide a test APAR when a new problem is uncovered, or a confirmed PTF when the problem has been resolved. Your primary goal is to return your system to the same functional state that it was before you experienced the issue. This type of maintenance is applied on an as-needed basis.

Preventive Maintenance

Lets you apply PTFs that we have created and made public. You may have experienced the issues that each PTF addresses. CA RS provides a way to identify all published maintenance that has been successfully integration-tested. This maintenance has been tested with other CA Technologies products, current z/OS releases, and IBM subsystems, such as CICS and DB2. Major CA RS service levels are published quarterly, with updates for HIPER and PE-resolving PTFs that are published monthly. After you test the CA RS level, we recommend that you accept that level before you apply a new CA RS level.

You can initiate a maintenance installation activity at any time. You can then install the current CA RS level of maintenance (recommended) or an earlier level. Additionally, you can install maintenance to support a new hardware device, software upgrade, or function using our [FIXCAT](#) method.

For all maintenance, *before* you initiate any maintenance action, obtain the current SMP/E HOLDDATA.

Important! [CA Chorus™ Software Manager \(CA CSM\)](#) - formerly known as CA Mainframe Software Manager™ (CA MSM) - is an intuitive web-based tool that can automate and simplify many CA Technologies product installation and maintenance activities. We strongly recommend that you use CA CSM to maintain your CA Technologies z/OS-based products.

More Information:

To apply preventive maintenance using CA CSM or from CA Support Online on <http://ca.com/support>, see the *Installation Guide* for your product and the CA CSM online help.

Chapter 3: Best Practices for Configuration

This section contains the following topics:

[OPSLOG Data Set](#) (see page 16)

[Multiple OPSLOGs](#) (see page 17)

[OPSLOG Archiving](#) (see page 17)

[SYSCHK1 Data Set](#) (see page 18)

[High-level Qualifier for Rule Data Set Name](#) (see page 18)

[External Data Queues](#) (see page 19)

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[AOFMAXQUEUE and AOFEDQHIG Parameter Settings](#) (see page 20)

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[OSF TSP Queue Utilization](#) (see page 24)

[OSF USS Queue Utilization](#) (see page 24)

[PROCESS Parameter](#) (see page 25)

OPSLOG Data Set

Make sure you allocate a data set for OPSLOG use.

Business Value:

Allocating data set for OPSLOG will prevent you from losing critical historical information.

Additional Considerations:

You can activate the OPSLOG facility without allocating a data set. However, if you do not allocate an OPSLOG data set, log information is kept in storage and becomes subject to periodic overlays as the storage fills up, or being lost upon an IPL or CA OPS/MVS restart. Additionally, a larger OPSLOG holds more data to better facilitate problem research across days or possibly for weeks, depending on the size of the OPSLOG and current message traffic. Having several days worth of data in the OPSLOG allows you to search further back in time for messages and other events without having to restore an archived OPSLOG, cutting down on the mean time to problem resolution. Refer to the DEFDIV member within the opsmvshq.CCLXCNTL data set for more information on defining the size of the OPSLOG data set.

More information:

For information on allocating an OPSLOG data set, see

- The DEFDIV utility and the OPSSPA00 OPS/REXX program
- The section Define OPSLOG and Checkpoint VSAM Linear Data Sets in the *CA OPS/MVS Installation Guide*.

Multiple OPSLOGs

Allocate OPSLOGs for multiple data sets by following the procedure in the OPSSPA00 member.

Business Value:

CA OPS/MVS now supports up to 32 OPSLOG definitions. Allocating multiple OPSLOGs helps ensure the integrity of the log files.

Additional Considerations:

Allocating multiple OPSLOGs allows you to:

- Handle message number wrap-around
- Retrieve archived OPSLOG into individual data spaces
- Support concurrent viewing of active and archived OPSLOG from OPSVIEW and OPSLOG WebView
- Enter LOGN to view all OPSLOGs defined from OPSLOG

More information:

For more information on allocating multiple OPSLOGs, see the instructions in the OPSSPA00 member.

OPSLOG Archiving

Make sure you implement the OPSLOG archive process.

Business Value:

The OPSLOG archive process is critical to maintaining OPSLOGs as the 'flight recorders' for your enterprise. Archiving your OPSLOGs ensures that critical historical information is recoverable, allowing you to investigate problems that have occurred with CA OPS/MVS automation or to troubleshoot system problems.

More information:

For more information, see the chapter "Archiving OPSLOG Data" in the *CA OPS/MVS Administration Guide*.

SYSCHK1 Data Set

Make sure you allocate a SYSCHCK1 data set.

Business Value:

CA OPS/MVS can run without a SYSCHK1 data set, but it will run at a significantly reduced level and functionality is severely impaired. This may affect the users of your production systems.

More information:

For information on allocating a SYSCHK1 data set, see the following:

- The DEFDIV utility and the OPSSPA00 OPS/REXX program
- The section Define OPSLOG and Checkpoint VSAM Linear Data Sets in the *CA OPS/MVS Installation Guide*.

High-level Qualifier for Rule Data Set Name

Avoid using 'SYS1' for the value of the RULEPREFIX parameter. Use a less common high-level qualifier (HLQ) that is consistent with your data set naming standards.

Business Value:

Setting the HLQ for the rule data set name to 'SYS1' can cause high overhead, resulting in slower interactive response time and longer wall clock time for batch programs.

Additional Considerations:

Automation applications that use the ADDRESS AOF OPS/REXX command to manipulate rules indirectly trigger searches and comparisons against the data set name of the rule set. Processing to locate a rule set is frequently triggered from OPSVIEW. Using a common HLQ, such as SYS1, causes excessive comparisons for the rule set name against a large number of data set names.

More information:

For more information, see the section Setting a Prefix and Suffix for Rule Sets in the *CA OPS/MVS Installation Guide*.

For more information on the RULEPREFIX command, see the *CA OPS/MVS Command and Function Reference*.

External Data Queues

Make sure your AOF rules do not queue a high number of entries in any of the external data queues.

Business Value:

AOF rules are intended for maximum performance and small amounts of output. A rule that places a large amount of data on the external data queues may result in loss of data and performance degradation of the rule.

More information:

For more information, see the *CA OPS/MVS AOF Rules Guide* and the discussion of the AOFEDQHIG and AOFEDQWARNTRESH parameters in the *Parameter Reference*.

Global Variable Backup

Make sure you have implemented one of the CA OPS/MVS global variable backup processes.

Business Value:

Implementing a process for backing up global variables allows you to recover your global variables and RDF table values in the event of a catastrophic failure in the global variable facility.

More information:

For more information, see the section Global Variable Backup and Restore in the *CA OPS/MVS Administration Guide*.

JES2 Offset Table

Make sure your product JES2 offset table corresponds to JES2 on this system.

Note: This release of CA OPS/MVS has a health check that checks whether the JES2 offset table module, OPJ2CB, has been assembled and linked with the current version of JES2.

Business Value:

An accurate JES2 offset table ensures that data returned by the OPSJES2 REXX function is completely reliable.

Note: For more information, see the *Installation Guide*.

AOFMAXQUEUE and AOFEDQHIG Parameter Settings

Make sure that the value of the AOFMAXQUEUE parameter is greater than the observed value in the AOFEDQHIG parameter. If the value of AOFEDQHIG is close to the value of AOFMAXQUEUE, increase the value of AOFMAXQUEUE by 25%. For example, if the current value of AOFMAXQUEUE is 3000 (the default), you would increase it to 3750.

Note: You should increase the value of the AOFMAXQUEUE parameter only after you determine that the amount of data on the external data queue is not the result of poor coding technique in the rule that is using the external data queue. Poor coding techniques could include, but are not limited to, the following:

- Not clearing the external data queue before each use
- Writing data to the external data queue that does not need to be saved
- Executing commands in a rule that generate excessive amounts of output to be placed on the external data queue. We suggest that you run commands that generate large amounts of output in an OPS/REXX EXEC instead of in an AOF rule.

Business Value:

The AOFMAXQUEUE parameter defines the maximum number of output lines an AOF rule can have in its external data queue. The AOFEDQHIG parameter displays the highest number of entries ever queued in any of the external data queues that are used by AOF rules for the current life of the product or since the parameter value was last reset. If the value of the AOFEDQHIG parameter reaches the value of the AOFMAXQUEUE parameter, any returned data records that exceed the value of the AOFMAXQUEUE parameter will not be written to the data queue, resulting in loss of that data.

Additional Considerations:

To reset the value of AOFEDQHIG, enter the following command:

```
OPSPRM('SET', 'AOFEDQHIG', 0)
```

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

COMMANDMAX Parameter

Make sure your automation applications are optimized to prevent a per-second command generation that exceeds the value set for COMMANDMAX parameter.

Note: This release of CA OPS/MVS has a health check that checks the current value of the COMMANDMAX parameter and displays a warning message if that command generation threshold is exceeded.

Business Value:

Commands can excessively consume CA OPS/MVS storage and processing resources, causing risk to the timely execution of your automation policy.

Additional Considerations:

When the number of commands issued per second exceeds the value of the COMMANDMAX parameter, CA OPS/MVS terminates.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

EXTENDEDCONSOLES Parameter and OSF Servers

Make sure the value of the EXTENDEDCONSOLES parameter is higher than the maximum number of OSF servers that can be activated in CA OPS/MVS as set by the sum of the OSFMAX, OSFTLMAX, and OSFTSPMAX parameters.

To determine the command depth on a given OSF server, use OPSVIEW option 4.3.

Business Value:

If the EXTENDEDCONSOLES parameter is set to a value lower than the total number of allowed OSF servers, there may be no extended console available to execute an automation-issued command. The command is never executed, leading to a failure in the required automation. Making sure that there are enough extended consoles to process commands can prevent automation failure.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

MESSAGEMAX Parameter

Make sure your automation applications are optimized to prevent a per-second message generation that exceeds the value set for MESSAGEMAX parameter.

Note: This release of CA OPS/MVS has a health check that checks the current value of the MESSAGEMAX parameter and displays a warning message if that message generation threshold is exceeded.

Business Value:

Messages can excessively consume CA OPS/MVS storage and processing resources, causing risk to the timely execution of your automation policy.

Additional Considerations:

When the number of messages issued per second exceeds the value of the MESSAGEMAX parameter, CA OPS/MVS terminates.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

OCCONSOLENAME Parameter

Make sure you have set the OCCONSOLENAME parameter to one of the following:

- A sysplex-unique value for the OCCONSOLENAME parameter. An extended console by that name will be allocated automatically during product initialization.
- The name of one of the extended consoles allocated in product initialization through the EXTRAEXTPREFIX and EXTRAEXTCONSOLES parameters.

Business Value:

This is important to ensure that commands execute reliably.

Additional Considerations:

This parameter specifies the console name that the CA OPS/MVS OPSCMD command processor and ADDRESS OPER commands use to issue commands when the NOOUTPUT keyword is either implied or explicitly specified. In the past, the default was the master console, which may no longer exist in newer releases of z/OS.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

OSF TSO Queue Utilization

Make sure the OSF TSO queue does not overflow and commands are executed.

Note: This release of CA OPS/MVS has a health check that checks the maximum number of commands that have been on the OSF TSO queue and displays a warning message when the threshold number is exceeded.

Business Value:

This queue is where CA OPS/MVS sends TSO commands to be executed in the OSF TSO servers. The OSF execution scheduler dispatches these commands to OSF TSO servers as the servers become available to process work. The key objective of this health check is to provide you with appropriate warnings to prevent the situation where this queue overflows and TSO commands are never executed.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

OSF TSL Queue Utilization

Make sure the OSF TSL queue does not overflow and commands are executed.

Note: This release of CA OPS/MVS has a health check that checks the maximum number of commands that have been on the OSF TSL queue and displays a warning message when the threshold number is exceeded.

Business Value:

This queue is where CA OPS/MVS sends TSO commands to be executed in the OSF TSL servers. The OSF execution scheduler dispatches these commands to OSF TSL servers as the servers become available to process work. The key objective of this health check is to provide you with appropriate warnings to prevent the situation where this queue overflows and TSO commands are never executed.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

OSF TSP Queue Utilization

Make sure the OSF TSP queue does not overflow and commands are executed.

Note: This release of CA OPS/MVS has a health check that checks the maximum number of commands that have been on the OSF TSP queue and displays a warning message when the threshold number is exceeded.

Business Value:

This queue is where CA OPS/MVS sends TSO commands to be executed in the OSF TSP servers. The OSF execution scheduler dispatches these commands to OSF TSP servers as the servers become available to process work. The key objective of this health check is to provide you with appropriate warnings to prevent the situation where this queue overflows and TSO commands are never executed.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

OSF USS Queue Utilization

Make sure the OSF USS queue does not overflow and commands are executed.

Note: This release of CA OPS/MVS has a health check that checks the maximum number of commands that have been on the OSF USS queue and displays a warning message when the threshold number is exceeded.

Business Value:

This queue is where CA OPS/MVS sends TSO commands to be executed in the OSF USS servers. The OSF execution scheduler dispatches these commands to OSF USS servers as the servers become available to process work. The key objective of this health check is to provide you with appropriate warnings to prevent the situation where this queue overflows and TSO commands are never executed.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

PROCESS Parameter

Make sure there are enough process blocks in the process blocks pool for CA OPS/MVS events or requests.

Note: This release of CA OPS/MVS has a health check that checks the high-water mark for the number of used process blocks and displays a warning message when the threshold number is exceeded.

Business Value:

If a process block is not available, then CA OPS/MVS will not capture or respond to the event, which in turn could lead to undesirable results on your system.

More information:

For more information, see the *CA OPS/MVS Parameter Reference Guide*.

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