

CA Aion[®] Business Rules Expert

Best Practices Guide

r11



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CA Product References

This guide refers to the following CA products:

- CA Mainframe Software Manager (CA MSM)
- CA Aion® Business Rules Expert (CA Aion BRE)

Contact CA

Contact Technical Support

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

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

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Chapter 1: Introduction

This section contains the following topics:

[Purpose of this Guide](#) (see page 7)

[Audience](#) (see page 7)

[Mainframe 2.0 Overview](#) (see page 7)

[Mainframe 2.0 Features](#) (see page 8)

Purpose of this Guide

The guide provides a brief introduction to CA's Mainframe 2.0 strategy and features, and describes the best practices for installing and configuring CA Aion® Business Rules Expert.

Audience

The intended audience of this guide is systems programmers and administrators who install, configure, deploy, and maintain CA Aion® Business Rules Expert.

Mainframe 2.0 Overview

Mainframe 2.0 is our strategy for providing leadership in the mainframe operating environment. We intend to lead the mainframe marketplace for customer experience, Out-Tasking solutions, and solution innovation. After listening to customer needs and requirements to keep the mainframe operating environment viable and cost-effective, we are providing new tools to simplify usage and to energize this operating environment for years to come.

CA Mainframe Software Manager (CA MSM) is an important step in realizing the Mainframe 2.0 strategy. CA MSM simplifies and standardizes the delivery, installation, and maintenance of mainframe products on z/OS systems. CA MSM has a browser-based user interface (UI) with a modern look and feel for managing those solutions. As products adopt Mainframe 2.0 features and CA MSM services, you can acquire, install, and manage your software in a common way.

CA MSM provides software acquisition and installation that make it easier for you to obtain and install CA mainframe products, and apply the recommended maintenance. The services within CA MSM enable you to manage your software easily based on industry accepted best practices. The common browser-based UI makes the look and feel of the environment friendly and familiar.

We follow the IBM z/OS packaging standards using SMP/E, with some additional CA qualities of service added, to make installation simple and consistent. Additionally, through the synchronization of product releases and the use of common test environments, we will declare a yearly mainframe software stack that includes many new releases with enhanced functionality. This stack is certified for interoperability across the CA mainframe product portfolio and the base IBM z/OS product stack.

Mainframe 2.0 Features

Mainframe 2.0 has the following main features:

CA Mainframe Software Manager (CA MSM)

Delivers simplified acquisition, installation, and deployment capabilities using a common z/OS-based web application delivered through a browser-based UI. CA MSM includes the following services:

Product Acquisition Service (PAS)

Facilitates the acquisition of our mainframe products and services, including product base installation packages and program temporary fixes (PTFs). This service integrates the inventory of products available on your system with CA Support, providing a seamless environment for managing and downloading software and fixes onto your system.

Software Installation Service (SIS)

Facilitates the installation and maintenance of our mainframe products in the software inventory of the driving system. This service enables you to browse and manage the software inventory using a web interface, and automates tasks for products that use SMP/E to manage installation. You can browse downloaded software packages, and browse and manage one or more consolidated software inventories (CSIs) on the driving system.

Software Deployment Service (SDS)

Facilitates the deployment of our mainframe products from the software inventory of the driving system. This service enables you to deploy installed products that are policy driven with a set of appropriate transport mechanisms across a known topology. The enterprise system topology can include shared DASD environments, networked environments, and z/OS systems. Policies represent a combination of CA metadata input that identifies the component parts of a product and user-supplied input that identifies the deployment criteria, such as where it will go and what will it be called.

Electronic Software Delivery (ESD)

Enables you to get our products from an FTP server. We have improved this process so that you no longer need to build a tape to install the product.

Best Practices Management

Integrates with IBM Health Checker for z/OS to verify that deployed software follows our best practices. The health checks continually monitor the system and software to provide feedback on whether the software continues to be configured optimally.

Best Practices Guide

Provides best practices for product installation and configuration.

Note: For additional information about the CA Mainframe 2.0 initiative, see <http://ca.com/mainframe2>.

Chapter 2: Installation and Configuration Best Practices

This section contains the following topics:

[Installation](#) (see page 11)

[Configuration](#) (see page 12)

[Application Development](#) (see page 14)

[Performance and Maintenance](#) (see page 15)

[Problem Reporting](#) (see page 16)

Installation

Use MSM

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

Business Value:

CA MSM 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 Aion BRE.

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

Separate Libraries and Directories for CA Aion BRE r11

Use separate libraries and directories for r11 builds. Do not mix pre-r11 build files and r11 build files in the same libraries and directories.

Business Value:

Subtle build problems that are difficult to resolve may occur if builds from different versions are mixed together. In addition, if you mix components that are built with different Aion BRE versions problematic run-time errors can occur.

Additional Considerations:

Additional staff time maybe necessary to resolve build problems that could be avoided by not mixing builds.

Configuration

Increase MAES Parameters

Adjust the MAXTASKS and IPTASKS values to optimize throughput. Start with a typical value and increase the number of tasks as necessary.

Business Value:

Having sufficient tasks to handle client requests ensures user requests are processed effectively without receiving busy responses. Busy responses would require requests to be reissued.

Activate Detailed MAES Diagnostics

Specify the IPTASKS=1 parameter to activate special diagnostics.

Business Value:

The diagnostics are helpful to resolve problems that occur while performing TCP/IP activity. Normally few diagnostics are available.

Fine Tune MAESPRLD DD Content

The PRIORITY and COPIES options should only be used for applications that will be pre-initialized during MAES startup. Specifying the PRIORITY and COPIES options for other modules (such as CEEBINIT) might cause an S0C4 abend during MAES startup.

Business Value:

Ensure MAES starts correctly without incurring unnecessary abends caused by incorrect MAESPRLD DD definitions.

Create a DB2 NULL Connection

To establish a NULL connection with autocommit off use the following connection information:

```
pConn.ConnectInfo("SQLCONNECT=NULL;AUTOCOMMIT=0")
```

To avoid commit after abend, in MAESAPRM DD specify:

```
<db2appname>='ABTERMENC(ABEND),TRAP(ON),XPLINK(ON)'
```

Business Value:

Database changes may be saved incorrectly if the AUTOCOMMIT attribute is not set to 0. **Note:** If an Aion application is driven by another program, and a system failure occurs then DB2 might implicitly commit database changes that were made by the driving program. This can be a difficult error to resolve.

Establish MSM Permanent Output Destination

Establish MSM permanent output destination using the Settings tab, under "User Settings - Software Installation."

Business Value:

Critical customer installation output is maintained.

Additional Considerations:

This can also be established using universal system settings. For more information see "System Settings" in the *Software Installation Guide*.

Application Development

Avoid Saving Applications with Invalid Content

Do not save an application until you are sure there are no invalids.

Business Value:

If there are "invalids" due to inaccessible libraries, do not save the application. Saving the application will delete the references to the libraries, making the application unusable. You will need to restore it from a prior backup.

Additional Considerations:

Whenever you edit an APP file you should always make sure a backup copy is available. Some developers make their APP files read-only, and only make them editable when the file needs to be changed. Before making the file editable, a backup copy should be prepared.

Use REEXEC for Interpretive Execution

You must build an application (or restore the application in the Windows IDE) before using REEXEC to interpretatively execute the application.

Business Value:

By building the application first you will ensure that it is interpreted correctly.

Additional Considerations:

The build or restore application process prepares information that REEXEC components reference. If you edit the application after it is built or restored, REEXEC will be referencing information that is not compatible with the latest revision. Peculiar errors can occur that are difficult to debug. You can spend a lot of time trying to solve these problems.

Performance and Maintenance

Use SubstringFast Method

Use the SubstringFast method to extract text from lengthy strings instead of the alternative Substring method.

Business Value:

The SubstringFast method can reduce real CPU time by up to 30% or more when substrings are extracted from long strings. This reduces the cost of executing the application noticeably. The faster method is helpful for applications that need to complete within a critical batch time window.

Additional Considerations:

When shorter strings are processed, the SubstringFast method provides no benefit and may be slightly slower.

Build Applications for XPLINK Execution

The mainframe-XPLINK execution option can make applications execute four times more efficiently than if they are built for non-XPLINK execution.

Business Value:

When an application is built for XPLINK execution the cost of execution is reduced noticeably. Using XPLINK is also helpful for applications that need to complete within a critical batch time window.

More Information:

For more information about XPLINK execution options, see the *Mainframe User's Guide*.

Apply all PTFs

Apply all high priority Program Temporary Fixes. Check regularly for recent maintenance.

Business Value:

Being current on maintenance avoids system failures, makes problem resolution go smoothly, and maximizes your investment by providing access to the last features and functionality of Aion BRE.

Problem Reporting

Provide Complete Problem Diagnostic Information

Help CA Technical Support help you to solve problems more quickly.

When you encounter problems provide as much detail as possible concerning the following subject areas:

- Job SYSOUT

- CEEDUMP/SYSUDUMP

Provide the information for specific applicationabend when possible.

- Application source

Consider providing a reduced version that localizes the problem

- Any associated input data

- Application trace information.

- MAES problems

Run the DLOG program to print DIVLOGxx dataset output. Note, MAES must be inactive before running the DLOG program. Usage information regarding the DLOG program can be found in the Mainframe User's Guide.

Business Value:

The problem will be resolved more quickly if CA Technical Support has adequate information from the outset. Otherwise, support will request this information and considerable time can elapse.

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