
MSC SimManagerTM Enterprise

Version R2

Release Guide

MSC.Software Corporation
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Introduction

MSC SimManager Enterprise (SimManager) is an advanced software solution for modeling and executing simulation processes, while automatically capturing the related data pedigree. SimManager provides value to organizations by enabling best practice processes, automating data management and providing a fully traceable pedigree of information associated with each process.

A Web user interface allows the user to easily launch processes, navigate through the data relationships, manage the life cycle of objects and perform many other tasks aimed at improving the productivity of designers and engineers. In addition, managers and others who need access to the information can easily view the data and collaborate on any aspect when necessary.

In addition to the Web user interface, SimManager provides out-of-the-box integration to

MSC.Software's SimEnterprise solutions, including MSC SimXpert, MSC SimDesigner CATIA V5R17 Edition, MSC SimDesigner Enterprise Template Client Pro/ENGINEER Edition, and MSC.Software's leading solver technology, MD Nastran.

Overview

Key services and features of SimManager include:

- For R2, SimManager Enterprise is shipped with IBM WebSphere Application Server Network Deployment (ND) v6.1 and both IBM DB2 Universal Database Enterprise Server Edition v8.2 and v9.1. This bundling provides an optimized, out-of-the-box solution ready for deployment.
- Data/Object Management System: The system is configured with a predefined XML-based schema. The meta-data (attributes) of the defined objects are managed by IBM DB2 Universal Database 8.2/9.1 or Oracle Database 10g. The associated data files are stored in a file-based vault.
- Web-based UI: All data in SimManager is viewed and managed from an easy to use Web UI that uses a common tree / detail data display paradigm which can be used for navigation. Self-contained GUI Widgets maintain independent states on a given Web page, improving performance and providing a much improved user experience over normal Web pages.

- Audit Trail Viewer: Data pedigree (parent-child relationships) is easily traversed from an Audit Trail Viewer. For example, in a typical simulation process, users can easily determine from which design variant and load case a key analysis result was derived.
- Life Cycle Actions: Perform life cycle actions (such as promote, demote, delete, and change owner) on data stored in SimManager to control the release level and user access to the data.
- Job Submission: Analysis Manager is integrated with SimManager Enterprise to provide an out-of-the-box job submission environment.

Version R2 Special Notes

Please note that as a multi-component system requiring a Web application server, database and vault, SimManager should be installed only after thoroughly reading the Installation and Administration Guide.

Important Notes:

- If you have a version of MSC.SimManager that was acquired prior to SimManager Enterprise R1.2, you will need to acquire and install SimManager Enterprise R2 with the appropriate software licenses. The new Process Builder, requires a new license feature associated with SimManager Enterprise R2.
- The license provided by MSC. Software for SimManager Enterprise authorizes a maximum number of users the ability to run SimManager. Any named user may log in and use SimManager on any machine on the network on which the SimManager server is accessible and the appropriate licenses are available. Each named user is permitted to run multiple sessions of SimManager, with each session using an additional license. For example, if you have three sessions of SimManager running on your computer, you will use three licenses from the Named User License pool. When individual users consume multiple licenses, it is possible for the available license pool to be depleted, therefore denying access to other named users.
- SimManager R2 introduces many new features and capabilities. This release also introduces significant changes in the UI presentation layer and in organization and separation of data objects and execution objects (procedures). If you have a previous version of SimManager you must migrate all existing portals and databases in accordance with the Installation and Administration Guide, Appendix C, Migration Guide.
- The default SimManager R2 presentation layer is Java Server Faces (JSF). The Struts/Velocity based architecture is supported for legacy purposes. JSF is a well supported and documented open source standard specification. SimManager uses the Apache MyFaces implementation of the JSF 1.1 specification and the Apache Tomahawk extensions. The JSF presentation will provide additional capabilities and performance improvements. The JSF presentation tier is enabled by default. Upgrading an existing customized portal to JSF may require significant effort. Consult your MSC. Software representative before initiating this effort. Refer to the Installation and Administration Guide, Appendix C, Migration Guide for instructions on using the Struts / Velocity presentation method.
- SimManager R2 has been upgraded to use Java 5, this version is delivered with SimManager. The webserver start, stop and auxiliary scripts provided with the install will point to the Java 5 delivered software. To install R2 with the same web application name as a previous SimManager version, you must ensure that the web server's 'work'/'temp' directory is empty or a Java version mismatch error will occur.
- Apache Tomcat 5.5.23 or higher is required for SimManager R2. Apache Tomcat 5.0 is no longer supported.
- In the portal.properties files, the property, "role.nobody.visible", can be used to control the visibility of the "nobody" role. If this property is not specified, the default "true" is used. This means the "nobody" role will be visible on the web interface and will also be returned among the list of roles by the IC API.
- In the Options Menu, under Workbench, the "default" for "Filter System/Process Actions" is now set to "NO". In R1.1, it was set to "YES". In R2, by default, the System/Process Actions will NOT be filtered in the

Workbenches. Instead, they will all be displayed and when the user clicks on the individual action, an error message will be displayed if the user does not have sufficient privileges to perform the action. To obtain the same behavior as in R1.1, you may set this option to "YES". This change was done to improve performance in the case of portals with a large number of actions. Note : If you will continue to use an existing database, the value for "Filter System/Process Actions" will be obtained from the user's preferences stored in the database.

- In R2, when the user attempts to create a duplicate role, an exception will NOT be thrown. Instead, a WARN message will be displayed in the log files. The duplicate role will NOT be created.
- To enable "SimMan" to administer databases, the property, "authentication.casesensitive.enabled", in the Portal.properties file, MUST be set to "true" (this is the default setting). If the "case insensitive" behavior is preferred for an operational portal, user login and user creation in the database, you must set the "authentication.casesensitive.enabled" to "false" in the Portal.properties and ensure that all user names used in command files are lowercase (the user will be created in the database as lowercase).
- In SimManager R2 all AE scripts (procedures) with the execution mode set to "Remote" will automatically execute on the active queue.

Known Software Discrepancies

MSC.Software follows a comprehensive quality assurance program in the design and development of its software products. Under the terms of this quality assurance program, MSC.Software hereby advises customers of the following known discrepancies or functionality limitations in SimManager Enterprise R2:

- *SimManager Installer on WebSphere* – On the very first attempt to install SimManager on WebSphere Application Server, the installer may stop responding during the WebSphere server check. If this happens, kill the installer process and restart the installation process.
- *If an MSC_LICENSE_FILE value is specified, but*

the License server is invalid - a null pointer exception is thrown and the resulting error message is: type Exception report, "The server encountered an internal error () that prevented it from fulfilling this request". Reset the MSC_LICENSE_FILE to a valid license server.

- *Widget GUI* – The Widget-based GUI is set as the default interface. This interface is required as part of the JSF presentation layer. There are known limitations and some display issues with this interface. To use the standard display interface set the values of the "useWidgets" property in the Portal.properties file to "false" and configure the system to use the "struts" interface.
- *LINUX only* – When starting the Tomcat web server an error may occur finding libraries such as "MscSdmSim.so" or "liblapi.so". Ensure that the environment variable LD_LIBRARY_PATH includes <SMAPP_ROOT>/lib/dlls/linux.
- *Tomcat Web Server reports "out of memory exception"*: Running multiple web applications from the same Web server can cause an "out of memory exception". To alleviate this problem, increase the java memory size. With Tomcat, this is done by editing the <SimManager Install>/bin/start_webserver file using the following option: CATALINA_OPTS=-Xms512m -Xmx1024m.
- *Eclipse-based Studio, Activate Portal, will hang with the message "Switching to Remote File Vault implementation..." if both the local vault and remote vault locations are invalid.*
- *Configurations errors can be introduced if the as-delivered configuration files are modified:* If a configuration error occurs in the SimManager administration or portal activation process, review the message dialog for the process being executed and the command line output in the console in which the application is executed. If using Tomcat and an error is encountered on startup, review the Catalina.out file. If SimManager encounters a runtime error, review the sdm.log file.
- *If a database creation partially runs and then fails, the system may not be able to delete the database and it will have to be removed manually.* If the Eclipse-based Studio portal activation fails because an existing database cannot be deleted after several attempts, it will be

necessary to manually remove the database and the vault contents. Notice: When deleting an active database and the procedure returns "failed" to delete the database, the vault contents may have been deleted. If the delete database procedure returns a "cannot drop user" error, you can stop the Web server or exit the current procedure and reinitiate the procedure to delete the database.

- *Duplicate Object Names* - To prevent the creation of duplicate objects in the database, upon loading the schema the system checks for duplicate object names, including object types. If duplicate objects are identified, the system will abort the database creation. If duplicate object names are encountered you MUST correct the problem prior to database creation. Do not change the object names in the core schema. This will result in unexpected behavior.
- *In the Classic Studio, Portal.properties Editor, if the "Manage User defined properties" is initiated, the pop-up window appears and the properties can be added, edited or deleted.* The pop-up window blocks the editor window and inhibits the refresh of this window. Manually switch the view and proper operation will resume.
- *InitializeKnowledgeBase.xml* – the licensetype attribute has been deprecated and does not effect the system, but a valid licensetype attribute is required for the "CreateUser" and "CreateUserProfile" commands in the InitializeKnowledgeBase.xml file.
- *Delete user* - if a user has been created and has accessed the system and executed "any" action, this user can not be deleted. The user object ownership can be transferred and the user access can be disabled by removing the user from the appropriate "password" file.
- *Classic Studio does not start if edit window is open:* If an "edit" command is executed in Studio that opens a separate window, and the window remains open when the Studio is exited, the Studio cannot be reopened until the separate window is closed.
- *Dash in db name returns exception:* If a dash (-) is included in the config file for dbname (e.g. DB.dbName = SDM_TEST-1), a dbexception syntax error is returned, but the database is created with the name including the dash.
- *Webserver* - if "socket" errors are encountered when running multiple processes, consult the Installation and Administration Guide,

Chapter 6, "Application Connection Pooling", and increase the max active connections parameter.

- *If a database connection is attempted and there are no more connections in the pool, a Null Pointer Exception will be returned for the getConnection() method.*
- *Duplicate names in tree* - If two or more items exist with the same names in the same branch, the first item is always opened no matter which item is selected. Navigate the items using the SOD or modify tree display to avoid duplicate entries.
- *Changing the "options" active domain does not force refresh of the tree.* The tree must be manually refreshed to reflect the current state.
- *Tree specification* - for the <RootNode> element embedded in a <Folder>, the "displayEmptyFolders" MUST be specified and its value MUST be true or the left hand tree will fail when the folder is expanded.
- *Workbench / parameter input* - if the length of the input text exceeds 120 characters, the action and the subsequent display will fail.
- *Persistent status for abnormally terminated or suspended processes:* If a Publish or Retrieve process abnormally terminates or suspends during execution due to an out-of-memory condition, the reported status will be persistent (i.e. queued or running). This process can be killed/terminated and when the status is failed it can be deleted.
- *Process status other than done/failed/saved* - If an action is interrupted (typically an invalid or illegal argument error) and creates a process with status of "running", this process can be terminated and then discarded. A "null" object may appear in the tree and will be removed when the process is discarded.
- *If the ftp connection is lost during a session, no error message is returned*
- *Remote Execution* – Continue target for AE remote execution does not switch user.
- *Client Side Execution* - If the ActionRunner is not installed on the client side, no error message is returned to the server and the process object returns status "created" and cannot be discarded. The result will be a java.lang.RuntimeException:
java.io.IOException
- *Action Sequence* – the AutoRelease and

promote operations do not work within Action Sequence.

- *ExecOnQueue Task* - if the "interval" time is set to a value which is less than the time required to launch the job, the action may be relaunched. Increase the time "interval" specified in the AE script.
- *AE script syntax* - All components of an Expression Language (EL) path or identifier must adhere to the Java naming convention for variable, member, or class names. I.e., they have to start with a letter or underscore and be followed only by letters, digits, or underscores. That means an EL component must match the following expression `/^[A-Za-z_][A-Za-z0-9_]*$/`. Syntax errors will not be reported on registration, but will return an error on execution.
- *Differences between Internet Explorer and Netscape browsers:* The use of the browser back button may create an out-of-sync condition and unexpected results. The use of the browser back button is therefore discouraged. Internet Explorer and Netscape browsers may display pages and perform differently depending on the file extension of the link being displayed.
- *Error with Navigation->print:* When printing from the Navigation menu, the pull-down menu is included in the printed page.
- *The ActionSequence function supports STRING, DOUBLE, LONG, ONE_REFERENCE process parameters, exclusively. The FILE, DATE and MANY_REFERENCE parameters are not supported.*
- *Process parameter type "FILE" is not supported in process parameter "LIST" type.*
- *If the database sever is stopped, the action sequence monitor must be manually restarted to restore the connection*

Supported Hardware Platforms

SimManager is a Java-based application which complies with JDK 5. Specifically, this version of SimManager was validated using WebSphere Application Server v6.1.0.5 and Apache Tomcat 5.5.23 on the following platforms:

<i>Manufacturer</i>	<i>Operating System</i>	<i>Version</i>
Intel x86	Windows	2000 Server, 2003 Server
Intel x86	Red Hat Linux	Enterprise 4.3
IBM	AIX	5.3 TL 4

For more information on supported platforms, refer to the *MSC SimManager Enterprise Installation and Administration Guide*

Prerequisite Server Software

Certain third-party software applications must be installed, prior to installation of SimManager Enterprise. Please refer to the *MSC SimManager Enterprise Installation and Administration Guide* for applications, application versions and installation sequence.

Where to Get Help

The SimManager installation and software components have undergone extensive functional and ease of use review. If more information is required about the system, please refer to the *MSC SimManager Enterprise Installation and Administration Guide* and the *MSC SimManager Configuration and Deployment Guide*. For your convenience, the documentation is available in PDF format on the SimManager Enterprise CD-ROM(s). Please check with your local MSC.Software sales personnel for further updated documentation.