Rational. Statemate

IBM

Installation Guide

Rational Statemate Installation Guide

Before using the information in this manual, be sure to read the "Notices" section of the Help or the PDF file available from **Help > List of Books**.

Contents

Starting Rational Statemate and troubleshooting the installation 31

Preparing for Rational Statemate installation

This section contains information on planning your IBM® Rational® Statemate® installation. To support the development of large, complex systems, Rational Statemate is designed to operate in a networked environment with multiple users sharing resources on one or more servers. In addition, Rational Statemate can be configured to run stand-alone.

Before installing the Rational Statemate, read the release notes for important instructions.

Depending on the platform and configuration, the Rational Statemate installation includes various other components, all of which are provided in the Rational Statemate distribution kit:

- ◆ MKS XServer for Windows systems
- ◆ NuTCRACKER - Operating environment for the XServer

Requesting a Rational Statemate license

When you purchased Rational Statemate, you should have received an e-mail with instructions on how to request a license. If you did not receive an e-mail, contact IBM customer support.

For more information, see **Obtaining your license key**.

Configuration components

Before you install Rational Statemate, plan your configuration. The installation procedure inputs the names of various site-specific locations and defines corresponding environment variables in `run_stmm.bat` (Microsoft Windows®) or `run_stmm` (Solaris™), the script that launches Rational Statemate.

By using shared directories, you can locate any or all of the following components on one or more servers:

- ◆ Rational Statemate software
- ◆ Documentation
- ◆ Preferences data
- ◆ Project management daemon (`stmlockman`) and `pm.dat` file
- ◆ Project databanks

Locate individual project workareas on client systems or centralize them on a server, according to your own policy.

On Windows systems, the following additional components must be located on the client:

- ◆ NuTCRACKER and XServer
- ◆ The Rational Statemate `bin` directory, which contains specific files necessary to run Rational Statemate

The following sections describe how to configure each component.

Application software (STM_ROOT)

The top-level, platform-specific directory within the Rational Statemate file structure is defined in the environment variable STM_ROOT.

For example, on Windows systems, STM_ROOT could be defined as:

```
C:\IBM\Rational\Statemate\4.6
```

For example, on Solaris systems, $STM_ROOT could be defined as:

```
/usr/tools/stmm4.6/SOL
```

STM_ROOT can be located on a read-only directory or device.

Documentation (STM_HELP)

By default, the documentation is located in STM_ROOT. You can locate it elsewhere using the environment variable STM_HELP.

To examine the PDF file versions of Rational Statemate documentation, use Adobe Acrobat Reader version 6.0 or later. Download the current version of the free Acrobat Reader from **http://www.adobe.com/products/reader.**

Preferences (STM_PREFERENCES_DIR)

Three levels of preferences (system, project, and user) are stored in *.pref files in the preferences directory of the Rational Statemate installation file structure. The file names can be user names, project names, or system.

Rational Statemate requires the following permissions to the preferences files:

- ◆ **Windows systems** - full control
- ◆ **Solaris systems** - read/write access

During the installation, you can set the location for the preferences directory outside the main Rational Statemate file structure. The environment variable STM_PREFERENCES_DIR is set based on the assigned location.

Project management data (PMDB_NAME)

The basic unit of work in Rational Statemate is the project. Project definitions, including the location of shared data, individual workareas, lists of members, and other attributes, are stored in the pm.dat file. To set up individual working environments, all users must write to this file.

Rational Statemate requires the following permissions for pm.dat:

- ◆ Windows systems - full control
- ◆ Solaris systems - read/write access

During the installation, you can set the location for pm.dat outside the main Rational Statemate file structure. The environment variable PMDB_NAME is set based on the assigned location.

Project management daemon (stmlockman)

To control access to pm.dat, Rational Statemate uses a Windows service or a UNIX daemon called stmlockman, which must run at all times. The stmlockman daemon serializes access to pm.dat and prevents conflicting write requests from corrupting the file.

All Rational Statemate hosts must connect to `stmlockman` through a TCP/IP port. By default, `stmlockman` listens on port 54321.

The name of the server that runs stmlockman is stored in the text file `stmlockman.host`. By default, this file is in the same directory that is assigned to the environment variable `PMDB_NAME`. You can point to an alternative location by setting the environment variable `STM_LOCKMAN_HOST_PATH`.

Project databanks

Each project stores design specification data (such as charts) in a shared directory structure called a *databank*. Typically, all Rational Statemate databanks are on remote servers (along with other software repositories). You can choose a location for databanks after you run the Rational Statemate installation.

Note

If you locate databanks on a Windows server, you must use the same mapped drive letter on each client. The location of each project databank is defined in `pm.dat` using a specific drive letter. For example, a databank might be defined as `G:\databanks\abc`, in which case, all members of project `abc` would access the databank on drive `G`.

Select a simple name for the databanks directory, such as:

```
statematedb
```

If the databank is on a drive formatted with NT File System (NTFS), you must set permissions:

- **All Statemate users** - full control
- **Administrators** - full control

Note

Do *not* add other groups with lesser permissions.

Project workareas

To optimize performance, locate workareas on client workstations; Rational Statemate graphical editors make frequent saves to the workarea. Therefore, if you locate workareas on the client workstations, no network traffic is required to access them.

If you locate workareas on a file server, use the following guidelines (that are similar to those for setting up databanks):

- ◆ Map the drive on the client workstation.
- ◆ Set NTFS permissions to "full control" for the owner of the workarea.

XServer and NuTCRACKER on Windows systems

Rational Statemate is essentially a UNIX application that has been ported to Windows. Although part of the user interface is native to Windows, most of it is based on Motif (X Windows). XServer on which the Motif-based part of the Rational Statemate user interface runs on Windows systems. The NuTCRACKER operating environment provides run-time support for XServer. Both XServer and NuTCRACKER must run on Windows client or stand-alone workstations.

> **Note**

- ◆ XServer requires a valid IP address for installation and normal operation. If your system does not have an IP address, add the Microsoft Loopback Adapter to your system. For more information, see the *Rational Statemate Administrator's Guide*.
- ◆ Software products that use versions of NuTCRACKER that are earlier than version 4.2 might not work after the Statemate installation program runs.

Installing Rational Statemate

This section describes installing Rational Statemate and performing an upgrade on Windows and Solaris systems.

Installation requirements and restrictions

The following table lists the platforms on which you can run Rational Statemate.

Operating System	Required Software	Supported Compilers	Hardware
Solaris 5.10	OpenWindows*	Sun Studio 12 Update 1 GNAT Ada gcc 2.8.1	sun4u sparc SUNW,A70 1 GB RAM Approximately 500Mb free disk space
Windows XP SP3 Windows 7	MKS XServer 8.5 MKS Platform Components 9.4	Microsoft Visual C++ 2008	Intel® Core™2CPU, 2 GHz Minimum 1 GB, recommended 2 GB RAM Approximately 600Mb free disk space

* This products is shipped in conjunction with the operating system. Rational Statemate supports the version that is shipped with the related OS version that Rational Statemate supports.

Updated software

The MKS XServer replaces the XVision server used in previous Rational Statemate versions. For more information, see the **XServer on the local computer** section.

Limitations

The following limitations apply to software and configurations available in Rational Statemate.

NuTCRACKER versions

Software products that use versions of NuTCRACKER that are earlier than version 4.2, might not work after the current Rational Statemate installation runs.

XServer on the local computer

The MKS XServer can accept connections only from the local computer on which it runs. You cannot set the DISPLAY environment variable to a remote computer.

When Rational Statemate runs on a specific computer, it cannot be displayed on a different machine. In addition, the Analysis tools (simulation and generated code) cannot display panels on a remote computer.

Windows XP firewall settings

The following programs must be unblocked in the Windows XP firewall:

- ◆ Stm
- ◆ XServer
- ◆ XServer Audio Server
- ◆ XServer Communication

Note

To unblock these programs, use either of the following methods:

- – During the first login after installation and running Rational Statemate for the first time, the Windows firewall displays a dialog box asking whether to unblock the programs. Choose to "unblock."
- – Add the programs to the firewall list as "allowed" programs.

Obtaining your license key

To obtain your Rational Statemate license key:

1. Go to Rational support at **http://www.ibm.com/software/rational/support/licensing/**.

2. Click **License Key Center**.

3. Click **Continue**.

4. To log into the center, type your e-mail address and your password. This password was sent to your e-mail address when your name was added to the License Key Center at the time of purchase or by your system administrator.

5. Follow the instructions for your IBM Rational software.

Installing Rational Statemate on Windows

To install Rational Statemate on a Windows system, set up either of the following configurations:

- ◆ Networked (with shared projects and license server) to support the development of very large and complex system specifications with multiple users sharing resources
- ◆ Stand-alone workstation without a network

For all of the hardware and software prerequisites, see the *Release Notes*.

Starting the installation

To begin the installation:

1. If you are installing Rational Statemate from a CD, insert the disk into the CD-ROM drive.

    If installing from a Web download, run `setup.exe` from the extracted folder.

    The installation program starts and opens the InstallShield® Wizard. The wizard guides you through the installation process.

2. Click **Next**. The License Agreement screen opens. You must accept the license agreement to continue with the installation.

3. Select **I accept the terms of the license agreement**. Click **Next**. The Choose Software to Install screen opens.

4. Select whether to add the Xserver along with Rational Statemate. If Rational Statemate does not detect an existing installation of the MKS XServer, it puts a check by the missing software and it is listed to be added with Rational Statemate.

5. Click **Next**. The Choose Local Location screens opens.

6. Specify the destination for the Rational Statemate installation. To change the default location, click **Browse**. Click **Next**. The Setup Type screen opens.

7. Select the installation type:

    - ◆ **Client** - select this type to install on a local system that runs Rational Statemate from a network. For instructions on a client installation, see **Completing a client installation.**
    - ◆ **Custom** - select when installing Rational Statemate on a network server or stand-alone workstation when you need to customize IBM® Rational® DOORS®, `run_stmm.bat`, the reserved words file, or the method for receiving and setting

user profiles. For instructions on a custom installation, see **Completing a custom installation**.

- ◆ **Typical** - select when installing Rational Statemate on a network server or stand-alone workstation without customizing the tool settings. This is the default setting. For instructions on a typical installation, see **Completing a typical installation.**

Note: All configuration settings can be modified manually after installation.

Completing a typical installation

To complete a typical installation:

1. Select **Typical** as the installation type. Click **Next**. The Help directory screen opens.

2. Specify a location for the Rational Statemate Help files. To change the default location, click **Browse**. Click **Next**. The Select Program Folder screen opens.

3. Specify a name for the Rational Statemate program folder or to change the default location, select a different folder from the **Existing Folders** list. Click **Next**. The Preferences Directory location screen opens.

4. Specify a location for your preferences files. To change the default location, click **Browse**. Click **Next**. The Project Management folder location screen opens.

5. Specify a location for your project management files. To change the default location, click **Browse**. Click **Next**. The Select the type of license you want to configure screens opens.

6. Select one license configuration:

    - ◆ **Local/Server License** runs your license server on the system of the current installation or when using a node-locked/demo license.
        - – Click **Next**. The License Management file location screen opens.
        - – Specify a location for your license file. To change the default location, click **Browse**. Click **Next**. Continue to **Step 7**.
    - ◆ **Client License** - use this option when the license server runs on a remote license system.
        - – Click **Next**.The Enter License Details screen opens.
        - – Enter the **HostName** of the license server for the current client. To specify a port number, use the format `port@servername`; otherwise, use the server name.
        - – Click **Next**. The Enter Stmlockman Hostname screen opens. Continue to **Step 7**.

◆ **Configure Later** - use this option to configure your license after you install Rational Statemate. Click **Next**. The Enter Stmlockman Hostname screen opens. Continue to **Step 7**.

7. Enter the host name of the Stmlockman server. The Start Copying screen opens with the settings you specified earlier.

8. To confirm your selections, click **Next**. The installation wizard shows the status of the process while it adds Rational Statemate and the third-party software that you selected.

9. If you are prompted to select the NuTCRACKER installation directory, select the path. Click Next.

10. When the XServer installation begins, you can specify whether to add XServer now (Yes) or install it manually later (No). For the "typical" installation type, add XServer automatically (Yes).

11. After the installation is complete, select **Restart**.

Completing a custom installation

To complete a custom installation:

1. Select **Custom** as the installation type. Click **Next**.The Select Features screen opens.

2. Select the components to add:

    ◆ **Statemate (Classic)** - Traditional Rational Statemate. This version does not contain Micro C components.

    ◆ **Statemate 4.6** - Rational Statemate plus Micro C components.

    – **OS Definition Tool** - Optional. Custom operating system configuration.

    – **Statemate MicroC OSI's** - if using the Automotive Open System Architecture (AUTOSAR) or more OS implementations, select this option.

    ◆ **Help Files** - These are the Rational Statemate documentation and Help files.

    ◆ **Stmlockman -** Required to run the stmlockman daemon on the current system. This Windows service serializes access to the file pm.dat and prevents conflicting write requests from corrupting the file.

    ◆ **Encrypted Files -** Optional. These are additional source files and libraries, some of which are encrypted and require an encryption key from Customer Support to extract them.

    ◆ **Nutcracker Service** - Required. This provides the porting environment from UNIX-based software to the Microsoft Windows operating system.

    ◆ **Support Info**

    Note: The amount of disk space required and available is displayed on this screen. A Rational Statemate Setup message opens if there is not enough disk space on the selected disk.

3. Click **Next**. The Help directory screen opens.

4. Select a location for the Rational Statemate Help files. To change the default location, click **Browse.** Click **Next**. The Select Program Folder screen opens.

5. Choose a name for the Rational Statemate program folder. Select a folder from the Existing Folders list or to change the default, enter the name. Click **Next**. The Tool Settings File (run_stmm.bat) screen opens.

6. Select whether to use the pre-configured run_stmm.bat file or to configure it.

    The run_stmm.bat file contains several environment variables and is used to start Rational Statemate.

- ◆ To configure the `run_stmm.bat` file manually, select **Configure the run_stmm.bat file now** and click **Next**. The Set Tools Flag screen opens. Continue to **Step 7**.

- ◆ To use a pre-configured `run_stmm.bat` file:

  - – Select **Use Pre-configured run_stmm.bat File**. Click **Next**. The Tool Settings File (run_stmm.bat) screen opens.

  - – Select the location where the `run_stmm.bat` file is located. If necessary to locate the file, click **Browse**. Click **Next**.

    If you choose to add Rational Statemate plus Micro C components, the OSEK Path Setting screen opens.

  - – Select **Define OSEK path** or **Use default OSEK path**. Click **Next**.

    If you select **Define OSEK path**, the Set OSEK Path (OSEK Application Only) screen opens. Select the OSEK path to be used when building an OSEK application. Click **Next**. The Start Copying screen opens. Continue to step **Step 26**.

    If you select **Use default OSEK path,** the Start Copying screen opens. Continue to **Step 26**.

7. Select the tool flags options for your Rational Statemate system in this dialog box.

   Note: Select both options.

8. Click **Next**. The Preferences Directory locations screen opens.

9. Specify a location for your preferences files. To change the default location, click **Browse**. Click **Next**. The Project Management folder location screen opens.

10. Specify a location for your project management files. To change the default location, click **Browse**. Click **Next**. The Configure C Code Generator Reserved Words file to use screen opens.

11. Specify the location of the reserved words file for code generation.

    Note: To ignore this setting, leave the field blank.

12. Click **Next**. The Configure Rational DOORS Settings screen opens.

    - ◆ To configure the Rational DOORS interface later, select **Configure Later**, then click **Next**. The Select the type of license you want to configure screen opens. Continue to **Step 20**.

    - ◆ To configure the Rational DOORS interface, select the **Configure Now** and click Next. The Configure Rational DOORS Settings screen opens.

13. Edit the existing settings for the Rational DOORS integration. To disable a setting, add `@REM` before the value. Possible settings:

- ◆ `SET DXLPORTNO=5093` - sets the port number for communication between the Rational DOORS server and Rational Statemate.

- ◆ `SET DXLIPHOST=%COMPUTERNAME%` - must be set on the local machine and the path cannot contain any spaces in the settings. (Use the 8.3 syntax; for example, "progra~1" instead of "program files")

- ◆ `SET DOORSS_BATCH_FILE=doorss.bat` - sets the path to the batch file used by Rational Statemate to run Rational DOORS. By default, Rational Statemate creates the file `DOORS.bat`.

14. Click **Next.** The second Configure DOORS Settings screen opens.

15. Edit the existing settings for the Rational DOORS integration. To disable a setting, add `@REM` before the value. Possible settings:

- ◆ `@REM SET RT_NO_OLE=ON` (When commented out, exports objects as OLE objects. By default, this line is commented out.)

- ◆ `SET PATH=%PATH%;%DOORSHOME%\bin` (specifies the path to the Rational DOORS application)

16. Click **Next**. The DOORS Invocation File (run_doors.bat) screen opens.

17. Specify a location for the file `run_doors.bat`. To change the default location, click **Browse**. Click **Next**. The DOORS Home Path Setting screen opens.

18. Specify the home path for Rational DOORS. To change the default location, click **Browse**. Click **Next**. The DOORS License File Path screen opens.

19. Specify the full path to your Rational DOORS license file. Click **Next**. The Select the type of license you want to configure screen opens.

20. Select a Rational Statemate license configuration:

- ◆ **Local/Server License** use this option to run your license server on the system of the current installation. Complete the following steps:
  - – Click **Next**. The License Management file location screen opens.
  - – Specify the default location for your license file. To change the default location, click **Browse**. Click **Next**. The Enter Stmlockman Hostname screen opens.
  - – Continue to **Step 21**.

- ◆ **Client License** use this option when the license server runs on a remote license system. Complete the following steps:
  - – Click **Next**. The Enter License Details screen opens.

– Enter the name of the license server for the current client. To specify a port number, use the format port@servername; otherwise use the server name. Click **Next**.

– Continue to **Step 21**.

◆ **Configure Later** use this option to configure your license after running the Rational Statemate installation. Click **Next**. The Enter Stmlockman Hostname screen opens. Continue to **Step 21**.

21. Enter the host name of the Stmlockman server. Click **Next**. The OSEK Path Setting screen opens.

22. Specify a location for the OSEK (Operating System Embedded Kernel).

◆ **Define OSEK Path** - Complete the following steps:

– Select Define OSEK Path. Click **Next**. The Set OSEK Path (OSEK Applications Only) screen opens.

– Specify the OSEK path. To change the default location, click **Browse**. Click **Next**. The Set Users-List Browse Information screen opens.

◆ **Use Default OSEK Path** - Select Default OSEK Path. Click **Next**. The Set Users-List Browse Information screen opens.

23. Specify the method to use to select user names from the list:

◆ **None** - No external user list extraction. The list of users is built from the defined users in the pm.dat file. Click **Next**. The Start Copying Files Screen opens.

◆ **Windows domain users** - This is the standard Windows environment users management. The users list is built by using the domain users and the defined users in the pm.dat file. Click **Next**. The Windows Domain Controller Setting screen opens. Continue to **Step 24**.

◆ **From file** - The users list is built from the content of a text file, named UsersList.txt, in which each non-empty line is considered to be a username, and the defined users in the pm.dat file. Complete the following steps:

– Click **Next**. The User-List File Name screen opens.

– Specify the location of the text file listing the possible users. Click **Next**. The Start Copying Files screen opens. Continue to Step **Step 26**.

24. Add the primary and secondary domain controller names beginning with double backslashes (\\). Click **Next**. The Group Type Information screen opens.

25. Select the group type for the User-List browse information:

- ◆ **All -** Select **All** to include all group types in the User-List browse information. Click Next. The Start Copying Files screen opens. Continue to **Step 26**.

- ◆ **Local Group**
  - – Select **Local Group**. Click **Next**. The Local Group Information screen opens.
  - – Enter the name of the Local Group. Click **Next**. The Start Copying Files screen opens.
  - – Continue to **Step 26**.

- ◆ **Network Group**
  - – Select **Networks Groups.** Click **Next**. The Network Group Information screen opens.
  - – Enter the name of the Network Group. Click **Next**. The Start Copying Files screen opens.
  - – Continue to **Step 26**.

26. The Start Copying screen opens with the settings you specified. Click **Next** to confirm your selections. The installation wizard adds Rational Statemate and the External Software (third-party) that you selected.

27. If you chose to add the NuTCRACKER service, the Choose Destination Location screen opens so that you can select the directory for the NuTCRACKER installation. Either accept the default location or click **Browse** to select an different directory. Click **Next**.

The Setup Status screen opens and shows the files being copied to the selected directory.

28. When the XServer installation begins, you can add XServer now (Yes) or add it manually later (No).

29. If you are prompted to select the NuTCRACKER installation directory, select the path. Click **Next**.

30. Click **Yes**. If you must run the XServer installation manually, click **No** and see the instructions in the **Manually installing the MKS XServer** section.

31. After the installation is complete, select **Restart**.

Completing a client installation

To run this installation on a client, a complete installation on a network server is required.

For client installations only, map network drives as needed to the following locations on the server. Select **Reconnect at Logon** for each.

- ◆ STM_ROOT - Rational Statemate root directory
- ◆ STM_HELP - Documentation and online Help
- ◆ PMDB_NAME - Project management data
- ◆ STM_PREFERENCES_DIR - Preferences directory

To complete a client installation:

1. Select **Client** as the installation type. Click **Next**.

   The Rational Statemate <version> Server Location screen opens.

2. Specify the location of the mapped drive path of the remote server where Rational Statemate is added. To change the default location, click **Browse**. Click **Next**. The Get Help files directory screen opens.

   > **Note:** The remote server should have the full installation of Rational Statemate.

3. Select a location for the Rational Statemate Help files. To change the default location, click **Browse**. Click **Next**.

   The Select Program Folder screen opens.

4. Select a location for the Rational Statemate program folder. Click **Next**.

   The Preferences Directory location screen opens.

5. Specify a location for your preferences files. To change the default location, click **Browse**. Click **Next**.

   The Project Management Folder location screen opens.

6. Specify a location for your project management files. To change the default location, click **Browse**. Click **Next**.

   The Select the Type of License screen opens.

7. Select a Rational Statemate license configuration:

◆ **Local/Server License** use this option to run your license server on the system of the current installation or to use a node-locked/demo license. Complete the following steps

– Click **Next**. The License Management file location screen opens.

– Specify the location of your license file. To change the default location, click **Browse**. Click **Next**.

◆ **Client License** use this option when the license server runs on a remote license system.

– Enter the name of the license server for the current client. To specify a port number, use the format port@servername; otherwise, use the server name.

– Click **Next**.

◆ **Configure Later** use this option to configure your license after running the Rational Statemate installation. Click Next to continue the process.

8. The Start Copying screen opens with the settings that you specified. Click **Next** to confirm your selections. The installation wizard adds Rational Statemate and any External Software (third-party) that you selected.

9. If you selected to add NuTCRACKER, select the path when you are prompted to select the NuTCRACKER installation directory. Click **Next**.

10. If you selected XServer to add and that installation begins, you can either add XServer now (Yes) or add it manually later (No).

11. After the installation is complete, select **Restart**.

Manually installing the stmlockman service

To install the stmlockman service on a windows server, without a full installation of Statemate, copy the stmlockman.exe file from the stmlockman\Program Files directory of the Statemate distribution kit to the server machine, and execute:
stmlockman.exe -install
Start the stmlockman service from the control panel.

Manually installing the MKS XServer

To install the XServer manually, see the **Starting the installation** and **Starting the installation** sections.

> ### Note
> NuTCRACKER must be running to perform this installation.

Installing XServer separately

To install XServer after completing the Rational Statemate installation:

1. Locate the XServer directory and launch the `setup.exe` file.

2. The XServer installation program prepares files for the installation. Click **Next** to start the installation process and follow the instructions in the **Installing XServer during the Rational Statemate installation** section.

Installing XServer during the Rational Statemate installation

To run the XServer installation manually while you install the Rational Statemate, follow these steps during the Rational Statemate External Software (third-party) installation:

1. When the XServer installation begins, click **No** in this dialog box.

2. A warning message opens. Click **OK** to continue.

   The installation program prepares the installation.

3. Click **Next** to start the manual software installation. The license agreement opens.

4. Select **I accept the terms in the license agreement** and click **Next**.

5. Click the **I have a PIN** button. The PIN is automatically supplied in this installation program.

6. Enter any **User Name** and **Organization** information that is not automatically entered on the next screen. Click **Next**. The Setup Type screen opens.

7. Select **Custom** and click **Next**.

8. The Custom Setup screen opens. Expand the X/Server tree in the window to show the **Fonts** directory. To add fonts, you must select all of the available fonts in that directory. Click **Next** when you have selected all of the fonts.

> **Note:** Before you click Next, no font directory should remain marked with the red "X."
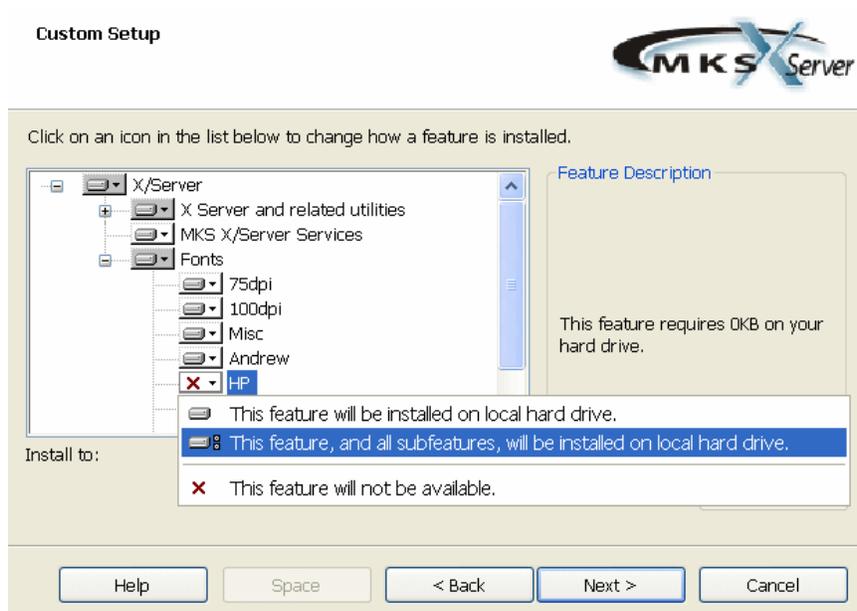
9. The Firewall Configuration screen opens, as shown here. Make the firewall selections for your environment and click **Next.**
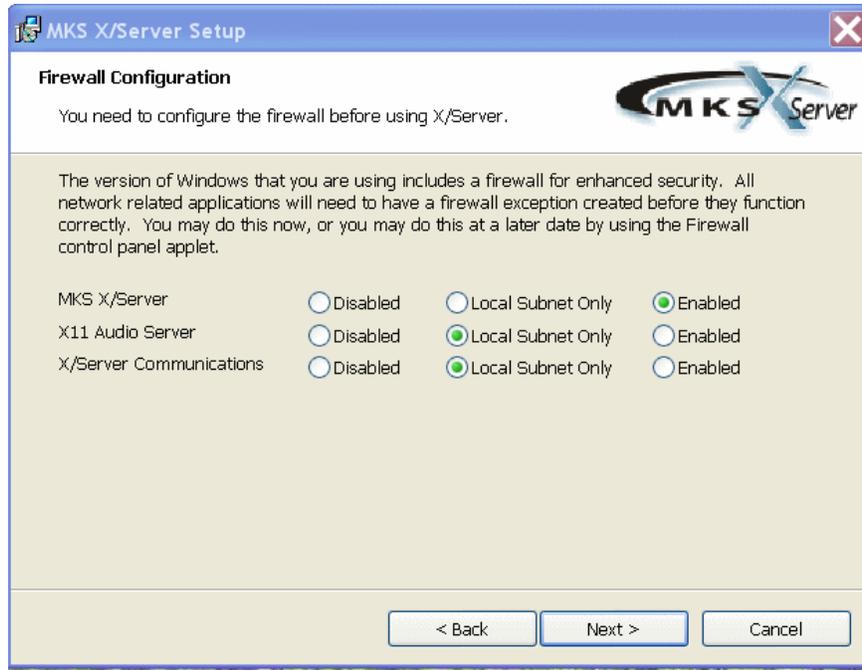
10. The XServer installation program prepares to add based on your selections. To begin the installation process, click the **Install** button. The Status of the installation opens as XServer is added.

11. After the installation is complete, click **Finish**.

Installing Rational Statemate on Solaris

Before you begin to install Rational Statemate, see the *Release Notes* for any additional hardware and software prerequisites.

You must be logged in as a superuser to perform parts of the installation, such as:

- ◆ Mounting the CD–ROM
- ◆ Copying files to the installation directory
- ◆ Applying operating system patches (if necessary)

To install Rational Statemate on Solaris systems:

1. Log in as `root`.

2. If you install Rational Statemate from a CD, insert the disk into the CD-ROM drive, and change to the directory `/cdrom/cdrom<number>/STMM`.

   or

   If you install Rational Statemate from a Web download, navigate to the `STMM` directory.

3. Enter `./INSTALL`, and click **Enter**.

4. If you run the Rational Statemate installation from a CD, enter the path for the CD-ROM mount point at the prompt. Click **Enter**.

   If you run the Rational Statemate installation from a Web download, enter the full path of STM_HOME directory.

5. Enter the directory in which to install Rational Statemate.

   The license agreement is displayed. You must accept the license agreement to continue with the installation.

6. Enter `accept`.

7. Enter the name or number of the kit you want to add.

8. Review your selections for the installation and continue by entering `y`. Otherwise enter **n**.

   Rational Statemate starts the installation.

9. Enter the path of a new or existing preferences directory.

10. Enter the path of a new or existing `pm` file.

11. Set the environment to `STM_ROOT`.

12. Change directory to `<stmm_root>/stmm<version>/SOL`.

13. At this point, you must run the installation script. Type:

```
./allinstall
```

This and all subsequent steps can be performed before or after adding the online documentation, but you must do them before you run Rational Statemate.

14. Confirm that the `$STM_ROOT` environment variable is set by using the default directory, or enter a value for `STM_ROOT`.

15. Update the `setenv LM_LICENSE_FILE` command in the `run_stmm` script.

16. Add the `license.dat` file.

17. Add `STM_ROOT/bin/stmlockman` to the system startup script on your Rational Statemate `stmlockman` host.

18. To run Rational Statemate, start the `stmlockman` manually.

Installing Rational Statemate online documentation on Solaris

To install the Rational Statemate online documentation on Solaris:

1. Log in as `root`.

2. If you install Rational Statemate from a CD, insert the disk into the CD-ROM drive, and change the directory to:

   `/cdrom/cdrom<number>/STMM`

   If you install from a Web download, navigate to the `STMM` directory.

3. Enter `./INSTALL` and click **Enter**.

4. Specify how to add or access the online documentation:

   - **Local** - Add the online documentation on the local system at:

     `<stm_root>STM_HELP.`

   - **Remote** - Add the online documenation to another location.

   - **Other** - Access the online documentation from another location or from the distribution CD.

   - **None** - Do not add the online documentation.

5. To confirm the location you selected, enter **y**.

   The installation script copies the online documentation and alerts you when the installation process is completed.

Upgrading Rational Statemate

When you upgrade a Rational Statemate installation, consider the following issues.

Software prerequisites on Windows systems

Rational Statemate requires NuTCRACKER and the MKS XServer on Windows systems. The installation of these applications starts as part of the Rational Statemate installation.

Before upgrading

You must have administrator-level permissions to run the upgraded Rational Statemate installation. Before you begin the installation program, complete these steps:

- ◆ Check in and unlock all configuration items in all workareas.

- ◆ If you are upgrading from a previous Rational Statemate version, stop all services (stmlockman and NuTCRACKER).

- ◆ Shut down any X Windows servers. If you plan to run the MKS XServer on a system that previously used XVision, you must remove XVision. This is necessary because XServer does not operate correctly if there is another X Windows server running.

- ◆ To determine if you need to perform a Typical, Custom, or Client installation, read the following installation instructions.

Hosting multiple versions of Rational Statemate

You can add and host multiple versions of Rational Statemate on the same system. Before you add a later version of Rational Statemate, you do *not* need to remove earlier versions. For example, if you currently have Rational Statemate 3.3 and/or 4.0 on your system, you can host that version on your system and add Rational Statemate. By default, Rational Statemate creates a new directory with the name of the current release number when you upgrade.

Project data

If you want all of your previous project information available in Rational Statemate, point to the location of your existing project management directory (pm) during installation. Otherwise, you can copy the pm.dat file from your previous project management directory to the new project management directory location after the installation.

Note

After you convert data to a later version, you cannot return it to an earlier version.

Upgrading workarea data from an earlier Rational Statemate version

Workarea data formats are not carried over from version to version of Rational Statemate. If need to upgrade existing workareas to the newly installed Rational Statemate version to use older data.

Using configuration management to upgrade workarea data

If your environment includes configuration management software, you can upgrade the workarea data with these steps:

1. Check in all files using your existing version of Rational Statemate.

2. Install the new version of Rational Statemate.

3. Create a new, empty workarea.

4. Check out all of the files into the new workarea.

Automatic conversion of the DB format

When you open a workarea of Rational Statemate 3.3.1 (DB Version 31) or a higher version with Rational Statemate, you are prompted for an automatic conversion of the DB format. The conversion changes the existing workarea to the new DB format, so you can use the workarea with the new Rational Statemate version.

Once the workarea DB format conversion is complete, previous versions of Rational Statemate cannot read the workarea format.

Steps to automatic workarea DB conversion:

1. The existing workarea is copied "as is" with the existing DB version number as an extension to its name (for example, `P:\work\wa_1`, using DB version 31, is copied to `P:\work\wa_1_31`).

    Note: You can skip step 1 by setting the following environment variable:

    ```
    STM_CONVERT_DB_DO_NOT_COPY_WA=ON)
    ```

2. The data is extracted from the existing workarea to a temporary subdirectory below the workarea: `<workarea>\tmp\convert_util_dir\`.

3. The binary file `charts.data` in the existing workarea is renamed to include the existing DB version number as an extension to its name (for example, `charts.data` using DB version 31 is renamed to: `charts.data_31`).

4. Data is restored from the temporary directory created in step 2.

For more information on upgrading workarea data, see the *Rational Statemate Administrator's Guide*.

Chart-file format and Workarea Compatibility with Statemate 4.6.1.x

Statemate 4.6.1.4 was enhanced to support expressions in the Min/Max/Default-value property fields of Data-Items and User-Defined Types.
This enhancement is a semantic change, and there is no explicit change of the data-base version.

As there was no explicit change of the data-base version with Statemate 4.6.1.4, it shares the same database version as previous 4.6.1.x releases, and thus all 4.6.1.x versions can technically open the same work-areas (DB version 63).
The enhanced 4.6.1.4 Min/Max/Default-value expressions are not handled properly by previous versions of Statemate, and should not be used with them.

The chart format version (databank file version) in Statemate 4.6.1.4 has changed to 4.7 (from 4.6 with 4.6.1.3).
Previous versions (prior to 4.6.1.4) are not blocked, by default, from loading charts that were modified with 4.6.1.4, and include Min/Max/Default-value expressions.

When loading chart-files (import/check-out) saved in Statemate 4.6.1.4 with a previous Statemate version the tool will report:
(I3611) Checking out chart/GDS files of format version higher than 4.6. Information from advanced versions maybe lost.
Choosing 'Ignore' to continue the operation, may cause issues if Min/Max/Default-value expressions are used.

In order to prohibit loading of chart-files saved in 4.6.1.4 with prior versions of Statemate, set the environment variable STM_SUPPRESS_FORWARD_COMPATIBILITY when running the prior versions:
SET STM_SUPPRESS_FORWARD_COMPATIBILITY=ON

Starting Rational Statemate and troubleshooting the installation

This section describes how to start Rational Statemate and troubleshoot your installation.

Starting Rational Statemate

After you have added Rational Statemate license to your installation, you can start the software on your operating system.

Running Rational Statemate on Windows

The Xserver must run before Rational Statemate on Windows can start. Normally, Xserver is started in the `run_stmm.bat`.

To start Rational Statemate on a Windows system, select **Start** > **All Programs** > **IBM Rational** > **IBM Rational Statemate** (version) > **Statemate** (version).

Running Rational Statemate on Solaris

On Solaris systems, use the script `run_stmm`, to start Rational Statemate. To start Rational Statemate:

1. Set the permissions on `run_stmm` to read and run.

2. Run the following shell:

   ```
   <stm_root>/run_stmm
   ```

Troubleshooting the installation

If you cannot run Rational Statemate or encounter other problems, use these troubleshooting techniques:

Configuring XServer

If Rational Statemate fails to run, this is often due to a failure to configure the Xserver. To configure the Xserver:

1. Click on **Start > Programs > MKS XServer > Configuration.**

2. Start MKS X Server Communications.

3. Select the **Transports** tab.

4. Double-click **TCP-UNIX**.

5. Under Availability status, select **Enable this Transport**.

6. Click OK

7. Restart the Xserver.

Correcting the "Can't open display" problem

If after configuring the Xserver you receive the "Can't open display" error when you start the program, usually the Xserver has not been configured properly.

To correct this problem, check to be certain that the PC has an active TCP/IP connection and that the Xserver is running.

Index

A

Adobe Acrobat Reader
  downloading 3
  required version 3
Application software 2
  coordinating versions with NuTCRACKER 5
  Rational Statemate environment variable
    STM_ROOT 2

C

Client installation 10, 27
  on Windows systems 18
Client license 15
  configuration 11, 19
Code
  generated displaying on remote computer 8
Configuration
  client license 11, 19
  components 2
  for local/server license 11, 19
  with run_stmm.bat 13
  XServer firewall 23
Custom installation 10, 27
  on Windows systems 13
  XServer 21

D

Daemon 13
  project management (stmlockman) 3
Data design specification 4
Databanks 4
Directories
  databanks 4
  preferences 18
  root 18
  shared 2
Disk space 13
Display
  environment variable 8
Documentation
  environment variable STM_HELP 3
  on Solaris 26
  Rational Statemate Administrator's Guide 5

shared directory 2

E

Environment variables
  PMDB_NAME 3, 4
  STM_HELP 3
  STM_PREFERENCES_DIR 3
  STM_ROOT 2
External software 17, 19, 21

F

Files
  encrypted 13
  Help 13
  pm.bat 13
  run_stmm.bat 13
  tools setting 13
Firewall 8
  XServer configuration 23
Fonts 22

G

Guidelines
  preparing for installation 1
  workarea locations 5

H

Help 18
  adding files 13
  documentation environment variable 3

I

Installation 10
  available disk space for 13
  fonts for XServer 22
  NuTCRACKER 17
  on Windows systems 10
  on Windows XP 8
  online documentation 25
  prepare for 1