



Administrator's Guide

Rational StateMate Administrator's 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**.

This edition applies to IBM® Rational® Statemate® 4.6 and to all subsequent releases and modifications until otherwise indicated in new editions.

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Installation and Upgrade Information

This section provides installation requirements and upgrade information for IBM® Rational® Statemate®. For more information on installing Rational Statemate, see the *IBM Rational Statemate Installation Guide*.

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. However, XVision can still be used for both Rational Statemate and for previous Rational Statemate versions. If there are previous STM installations on the user's system with XVision installed, the user is not required to remove XVision and install the MKS XServer for Rational Statemate.

Limitations

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

NuTCRACKER Versions Older than 4.2

Software products that use versions of NuTCRACKER older than 4.2, might not work after Rational Statemate is installed.

MKS XServer Display on the Local Computer

The MKS XServer can only accept connections from the local computer on which it is running. This means that the DISPLAY environment variable cannot be set to a remote computer.

Therefore, when Rational Statemate is running 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.

Upgrading Workarea Data from an Earlier Rational Statemate Version

Workarea data formats are not carried over from version to version of Rational Statemate. The following sections describe how to convert existing workareas to your new Rational Statemate version.

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 will not be able to read the workarea format.

The automatic workarea DB conversion steps are:

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 go to 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.

Updating Files when Opening a Workarea

Rational Statemate offers a file-update service. When opening a workarea, Rational Statemate checks the availability of newer versions for a list of files. This service allows various file-updates to be easily propagated into the workarea, and might be used, for example, to deliver new template files. After opening a workarea, an update occurs according to rules defined in the `files2copy_list.txt` in the `$STM_ROOT/etc` directory.

Files Format:

Each line represents a copying rule with the one of the following syntax:

```
-- comment text
ALL "<SOURCE>" "<TARGET>"
FILE "<SOURCE>/<FILENAME>" "<TARGET>/<FILENAME>"
TYPE "<SOURCE>" "<TARGET>" <EXTENSION>
SOURCE - path to the source files directory.
TARGET - path to the destination directory.
FILENAME- file name.
EXTENSION - copy only files with the defined extension.
SOURCE and TARGET can use the following predefined values as prefix
<STM_ROOT>,
<WA_PATH >, <OSI_PATH>.
```

File Example:

```
-- Version 1.0
ALL "<STM_ROOT>/etc/rapid" "<WA_PATH>/prt"
-- The line above will result in updating all the files
-- found in the WA/prt against those found in the
-- root/etc/rapid directory.
FILE "<STM_ROOT>/etc/inc/std_template_rtf.dgl"
"<WA_PATH>/tml/std_template_rtf.dgl"
-- The line above will result in updating std_template_rtf.dgl
-- found in the WA/tml directory against the
-- std_template_rtf.dgl found in the root/etc/inc/ directory.
TYPE "<OSI_PATH>" "<WA_PATH>/prt" mak
-- The line above will result in updating all the makefiles
-- ending with the extension ".mak", found in
-- the WA/prt directory against those found in the root/etc....directory.
```


Rational StateMate Configuration

This section describes how to set up your project, enable access to your project by other team members, and configure the files used by Rational StateMate. The following topics are discussed:

- ♦ [Workgroup Administration](#)
- ♦ [Management Files](#)
- ♦ [Configuring a Windows System](#)
- ♦ [Configuring a UNIX System](#)
- ♦ [Cross-Platform Projects](#)

Workgroup Administration

There are three types of Rational StateMate users:

- ♦ Project member
- ♦ Project manager
- ♦ StateMate manager (SMAN)

The following table lists the privileges for each Rational StateMate user type

User Type	Privileges
Project Member	Users who have been added to the list of members for a project can create workareas for themselves to work in that project. They can browse files using the databank browser and check them out to their workareas.
Project Manager	The creator of a project, the Project Manager can add or remove project members and can modify aspects of the project, such as the databank location. The Project Manager can also delete the project. Note: Deleting a project from the project management list does <i>not</i> delete the databank or workareas.

StateMate Manager (SMAN)	SMAN users can delete or modify all Rational StateMate projects, change system preferences, and add other users to the SMAN list. The default list of SMAN user names includes: <ul style="list-style-type: none">• Root• Administrator• Stm
---------------------------------	--

Management Files

This section provides information on the purpose and setup of parts of the Rational StateMate management scheme, including the following files:

- ♦ `pm.dat`
- ♦ `preferences`
- ♦ `stmlockman`

These files require special attention before you begin using Rational StateMate.

Rational StateMate keeps track of project information, and information about users preferences within the `pm.dat` file and preference files. `stmlockman` is a daemon program that controls access to the `pm.dat` file and workareas.

The pm.dat File

The `pm.dat` file resides in the `pm` directory under the Rational StateMate root by default, and contains the following information:

- ◆ Project descriptions (name, databank location, members, etc.)
- ◆ List of Rational StateMate users and their privileges.
- ◆ Location of project members' data (workareas).

All Rational StateMate users must have Full Access (Windows) or Read/Write permissions (UNIX) to make changes to the `pm.dat` file.

If Rational StateMate is installed on a read-only file system, relocate the `pm` directory to a writable file system and add the following line to:

On Windows - `run_stmm.bat`

```
SET PMDB_NAME <path to the pm.dat on file system>
```

On UNIX - `run_stmm`

```
setenv PMDB_NAME <path to the pm.dat on file system>
```

preferences

Preference files reside in the `preferences` directory and contain the following information:

- ◆ Preferred drawing styles, fonts, and colors.
- ◆ Preferred text editors and compilers.
- ◆ General preferences of how Rational StateMate operates.

All Rational StateMate users must have Full Access (Windows) or Read/Write permissions (UNIX) to make changes to the preferences file.

If Rational StateMate is installed on a read-only file system, relocate the preferences directory to a writable file system and add the following line to:

On Windows - `run_stmm.bat`

```
SET STM_PREFERENCES_DIR <path to the preferences directory>
```

For Unix - `run_stmm`:

```
setenv STM_PREFERENCES_DIR <path to the preferences directory>
```

When you first start Rational StateMate, a preference file is automatically created.

Set stmlockman

`stmlockman` protects both the `pm.dat` file and pages of data within workareas from multiple write access. Therefore, `stmlockman` must be running at all times while Rational StateMate is running.

It is typical to start `stmlockman` on the license server during the startup routine. Rational StateMate workstations must be able to connect to this server through a TCP/IP port.

stmlockman.host

The file `stmlockman.host` (in the `pm` directory under your Rational StateMate installation) contains the name of the server where `stmlockman` runs. On UNIX systems, the `INSTALL` and `INSTALL.NR` scripts prompt for a system name to place in `stmlockman.host`. You can change this later manually.

On Windows systems, the installation program prompts the user to enter the name of the system running the `stmlockman` process. However, this is not necessarily the system on which the installation is running.

By default, the name of the system running the `stmlockman` server is defined in the `stmlockman.host` file, located in the `pm` directory. You can control both the location and the name of the file (that defines the server), by setting the following environment variable:

On Windows - `SET STM_LOCKMAN_HOST_PATH = <my path\my_file_name>`

On UNIX - `setenv STM_LOCKMAN_HOST_PATH = <my path\my_file_name>`

The `my_file_name` file should have the same format as the default `stmlockman.host` file.

File Location and Permissions

`stmlockman` is installed into the `bin` directory under your Rational StateMate installation. On UNIX systems, permissions should be limited to what is necessary to start the daemon on the server. On Windows systems, permissions should be set to read-only.

Note

There is a check in `stmlockman` to avoid network problems. To suppress this check, use this command:

```
SET CDR_DISABLE_DETECT=ON
```


Starting stmlockman

Start `stmlockman` during the startup routine of the server on which `pm.dat` resides.

On UNIX systems, create a system startup script, using the following command to start `stmlockman`:

```
$STM_ROOT/bin/stmlockman
```

On Windows systems, `stmlockman` runs as a service and is started automatically at system startup. During installation, you can define a remote `stmlockman` server, in which case Rational StateMate tries to communicate with the `stmlockman` server that runs on the system whose name is defined in the `stmlockman.host` file in the `pm` directory.

On standalone system, restart `stmlockman` by selecting **Start > Control Panel > Administrative Tools > Services** (on Windows XP) or **My Computer > Manage > Services and Applications > Services**. The installation program places the name of your standalone system in `stmlockman.host`, so no editing is required.

Permanent stmlockman Server Setup

It is convenient to start `stmlockman` during the startup routine of the server where `stmlockman` runs. If the server is rebooted, `stmlockman` is also restarted.

Configuring a Windows System

This section describes how to configure Rational StateMate on a Windows system, lists the networking requirements, and describes how to install a loopback adapter. It includes the following sections:

- ♦ [Configuring the run_stmm.bat Script on Windows](#)
- ♦ [StateMate user-name](#)
- ♦ [Command-line interface options](#)
- ♦ [Editing the run_stmm.bat File](#)
- ♦ [Installing the Loopback Adapter](#)
- ♦ [Pre-Launch Script](#)

Configuring the run_stmm.bat Script on Windows

The `run_stmm.bat` file, created when you install Rational StateMate, is the script that sets up the necessary environment variables before executing the kernel of Rational StateMate, `$STM_ROOT/bin/stm`. It is configured based upon the install options you chose and can be modified after installation.

You do not have to be running Rational StateMate to use a number of Rational StateMate utilities, including Dataport or Data Import. These utilities do require certain environment settings that are configured within the `run_stmm.bat` file. Some of these variables are included in the following list. You can set these variables or you can create your own `<my_vars.bat>` file that is a subset of the `run_stmm.bat` file to use the particular utility.

- ◆ `STM_ROOT`
- ◆ `STM_LIB`
- ◆ `PMDB_NAME`
- ◆ `PATH` (append the StateMate bin directories)
- ◆ `NCDIR` (Windows platforms only)
- ◆ `PM_LOGICAL_DEVICES_NAME`
- ◆ `STM_PREFERENCES_DIR`

For the definitions of these variables, see the `run_stmm.bat` file in `stmm/<version #>/bin`.

Parent directory for Rational StateMates

```
SET STM_ROOT=<Rational StateMate installation root>
```

StateMate user-name

```
SET USER=%USERNAME%
```

Name of display machine

```
SET DISPLAY=%COMPUTERNAME%.0.0
```

Enable case-sensitivity in user-names

```
SET STM_IGNORE_USER_CASE=ON
```

StateMate license path/server

```
SET LM_LICENSE_FILE=<StateMate license path/server>
```

Customizing User-List Browsing on Windows Systems

Rational StateMate supports browsing for user-names in a users-list on Windows. The definition of the user-list is customizable, with three methods to provides the users-list. The various options are defined during installation and set various environment variables in the `run_stmm.bat` file:

- ♦ **None** - No external user-list extraction. With this method, the users-list is built using the defined users in the `pm.dat` file.
- ♦ **Windows Domain Users** - This is the standard Windows environment users-management method. With this method, the users-list is built using the domain users and the defined users in the `pm.dat` file.
- ♦ **From File** - The users-list is built from the content of a text file, named `UsersLists.txt`, in which each non-empty line is considered to be a user-name, and the defined users in the `pm.dat` file:

The following settings in the `run_stmm.bat` file reflect the selected user-name selection mechanism

```
SET STMM_USER_MANAGER_PROTOCOL=<STMM_NO_SERVER_PROTOCOL |  
STMM_PDC_USER_MANAGER_SERVER_PROTOCOL |  
STMM_LDAP3_USER_MANAGER_SERVER_PROTOCOL | STMM_USER_MANAGER_USE_FILE>  
  
SET STMM_PDC_PRIMARY_SERVER=<domain primary server>  
  
SET STMM_BDC_BACKUP_SERVER=<domain backup server>  
  
SET STMM_USER_MANAGER_SERVER_GROUP=<NONE | LOCAL_GROUP | NET_GROUP>  
  
SET STMM_USERGROUP_NAME=<User group file>  
  
SET STMM_USER_MANAGER_FILE=<User manager file>
```

Command-line interface options

```
SET STM_CLI_FLAGS=<command-line interface flags>
```

StateMate documentation path and help index file

```
SET STM_HELP=<documentation installation path>  
SET STM_HELP_BASE=<path of stm_help_base file>
```

StateMate graphics files location

```
SET XAPPLRESDIR=%STM_ROOT%\pub
```

Motif keyboard and display files location

```
SET XKEYSYMDB=%STM_ROOT%\x11r5\XKeySymDB  
SET XNLSPATH=%STM_ROOT%\x11r5\nls
```

X Color Management System

SET XCMSDB=%STM_ROOT%\pub\stm_colors

Statemate color definitions

SET STM_COLOR_BASE=I:\IBM\Rational\Statemate\4.6.1\pub\stm_color_base

Enable DS1103 remote debugger support

SET GEN_STATIC_DBG_TABLE=ON

Font-size factor for plots

SET GE_PLOT_FONT_SIZE_FACTOR=%STM_ROOT%\etc\plotsize.txt

Allow GE font size correction to suit screen resolution

SET STMM_ENABLE_FONTSIZE_CORRECTION=ON

MKS Platform Components path

SET NCDIR=<MKS Toolkit installation path>

Allow access to Samba drives

SET SET NUT_SEC_ATTR_OFF=1

Statemate Project Management file

SET PMDB_NAME=<pm.dat file path>

Printer settings file

SET PM_LOGICAL_DEVICES_NAME=<logical.devices file path>

Statemate Preference files directory

SET STM_PREFERENCES_DIR=<preference files directory>

Statemate lock-manager host file

SET STM_LOCKMAN_HOST_PATH=<stmlockman.host file path>

Statemate runtime libraries directory

SET STM_LIB=%STM_ROOT%\lib

Display PVCS messages (when PVCS is the CM tool)

SET STM_PVCS_MESSAGES=ON

Waveform related settings

Display time stamps in waveforms

SET TIME_STAMP_WF=ON

Set displayed time units

SET TIME_STAMP_UNIT=<SEC | MS | US | NS>

Suppress the Waveform scale

SET TIME_STAMP_NO_UNIT_TAG=ON

Set time-stamp density

SET TIME_STAMP_DENSITY=<LOW | HIGH>

Configuring the Rational DOORS Interface on a Windows System

This section describes how to configure Rational StateMate on Windows so it can work with the Data Object Oriented Repository System (Rational DOORS®) interface.

The following sections describe these changes in detail.

Editing the run_stmm.bat File

Enable DOORS interface

```
SET STM_RT_TOOL=DOORS
```

Port number for connection with Doors

```
SET DXLPORTNO=5093
```

DOORS application host

```
SET DXLIPHOST=%COMPUTERNAME%
```

File which invokes DOORS from within StateMate

```
SET RT_MAIN_TOOL=%STM_ROOT%\BIN\RUN_DOORS
```

DOORS installation path

```
SET DOORSHOME=<DOORS installation path>
```

File to invoke the StateMate-DOORS bridge

```
SET DOORSS_BATCH_FILE=doorss.bat
```

Don't insert plots to DOORS as OLE objects

```
SET RT_NO_OLE=ON
```

Disable the DOORS login Window in the STM bridge

```
SET STM_DOORS_USE_SYS_LOGIN=ON
```

Note

You can also edit the run_stmm.bat during a custom installation.

Editing the doorss.bat File

The following is an excerpt from the doorss.bat file:

```
@rem This file starts the Doors dxl server in batch mode

@rem When DOORS is configured to "Use system usernames", remove the "-
user %2" from the command line

@echo off

%1 -user %2 -password %3 -project %4 -cli "pragma runLim, 0; string
ReadyName = \"%5\" ; int Portno = %6 " -batch %7
```

When DOORS is configured to "Use system usernames", remove the "-user %2" from the command line

Editing the GetDoorsVer.bat file

The GetDoorsVer.bat is located in the bin directory of the StateMate installation path.

When DOORS is configured to "Use system usernames", remove the "-user %1 -password %2" from the command line in this file.

Editing the run_doorss.bat File

The following is an excerpt from the run_doorss.bat file:

```
@rem Modify the setting of LM_LICENSE_FILE to point to your Doors
license

@echo off
SET LM_LICENSE_FILE=<full-path of your doors license file>
doors.exe
```

Replace the placeholder for LM_LICENSE_FILE.

Networking Requirements for Windows Systems

You must have the following protocols installed:

- ♦ TCP/IP
- ♦ NetBEUI or IPX/SPX
- ♦ IP address

MKS's XServer, a special application required to display Rational StateMate graphics, requires a valid IP address for installation and normal operation. If your system is not on a network, you probably do not have an IP address. In this case, you should install the Microsoft Loopback Adapter. Typically, this is required when Rational StateMate is installed on a laptop computer that is normally disconnected from the network.

Installing the Loopback Adapter

To install the Loopback Adapter on Windows systems, complete the following steps:

1. Select **Start > Control Panel**.
2. In Windows XP, click **Switch to Classic View**.
3. Click **Add Hardware**
4. Click **Next**.
5. Select the option **Add/Troubleshoot a device**, and click **Next**
6. In Windows XP, wait until the list is created, and select the line **Add new device** and click **Next**.

In Windows 2000, click **Next** in the Wizard's dialog.

7. In Windows XP, select the option **No, I want to select the hardware from a list**, and click **Next**,

In Windows 2000, select the option: **Display a list of the known drivers for this device that I can choose a specific driver**.

8. In Windows 2000, click **Next**, and select the following from the tables:
 - ♦ Manufacturers: Microsoft
 - ♦ Network Adapter: Microsoft Loopback Adapter
9. Click **Next**.
10. Click **Yes, I have already connected the hardware**. Click **Next**.
11. Click **Add a new hardware device** at the bottom of the list. Click **Next**.
12. Click **Install the hardware that I manually select from a list**. Click **Next**.
13. Click **Network adapters**. Click **Next**.
14. Click **Microsoft** in the **Manufacturer** box.
15. Click **Microsoft Loopback Adapter** in the **Network Adapter** box. Click **Next**.
16. Click **Finish**.

Pre-Launch Script

A new script named `pre_launch.bat` can be invoked from the `run_stmm.bat` just before Rational StateMate is invoked. This enables various process automation utilities. The `pre_launch.bat` script distributed with Rational StateMate is empty.

Configuring a UNIX System

This section describes how to configure Rational StateMate on a UNIX system. It contains the following sections:

- ◆ [Configuring the run_stmm Script on UNIX](#)

Configuring the run_stmm Script on UNIX

Execute the script `$STM_ROOT/run_stmm` to start Rational StateMate on UNIX systems. Set the permissions on `run_stmm` to read and execute.

The `run_stmm` script sets several environment variables before executing the kernel of Rational StateMate, `$STM_ROOT/bin/stm`. The following table lists several environment variables set by the `run_stmm` script.

Environment Variables	Description
STM_ROOT	Parent directory for Rational StateMate.
STM_HELP	Stores the Rational StateMate documentation.
LM_LICENSE_FILE	Path to the <code>license.dat</code> file, including the file name.
STM_LOCKMAN_PORT_NUMBER and STM_SWITCH_PORT_NUMBER	Required to configure Rational StateMate to connect with <code>stmlockman</code> .
XKEYSYMDB	Path to the alternate keymapping file included in Rational StateMate software.
XNLSPATH	Required X environment variable for the proper operation of Rational StateMate.
STM_HELP_BASE	Location of the map file for the online documentation.

You can add any additional variables needed to `run_stmm`. You can define symbolic links to `run_stmm` in commonly used `bin` directories. And, other users can define their own symbolic links.

Note

To keep the environment consistent for all Rational StateMate users, do **NOT** make copies of `run_stmm` in users' home directories, or set variables in `.cshrc` or `.login`.

An exception to this rule is two variables needed to run Dataport programs. These programs run independently of Rational StateMate. If you are using Dataport programs, you must set the `STM_ROOT` variable (Rational StateMate parent directory) in its environment (but not in `run_stmm`).

To execute a Dataport program, set the following additional environment variables:

- ◆ STM_CLI_FLAGS
- ◆ PMDB_NAME
- ◆ PATH (append the StateMate bin directories)
- ◆ PM_LOGICAL_DEVICES_NAME
- ◆ STM_PREFERENCES_DIR

For the definitions of these variables, see the `run_stmm` file in your Rational StateMate installation.

Cross-Platform Projects

You can open the same project by accessing it from either a UNIX or Windows version of Rational StateMate, provided that the project files (databank, workarea, and project management (`pm.dat`) file) are accessible from both platforms. You can choose not to share all the project files. For example, you can share the databank between users of the two platforms, but not the workareas and project management file.

Note

The following items cannot be shared across platforms:

- ◆ Preferences
- ◆ Code generation profiles
- ◆ Generated code

Sharing Project Files Between Platforms

If the project files are located on a UNIX system, you can use Samba to make them accessible to Windows users. If the project files are located on a Windows system, you can use NFS Maestro[™] to make them accessible to UNIX users.

Sharing the Project Management File

The project management file (`pm.dat`) can be shared between UNIX and Windows versions of Rational StateMate, provided that the file is accessible from both platforms.

Note

- ◆ Make sure you have the same username when accessing from the different platforms.
- ◆ Output devices differ in queue definitions. Therefore, two sets of output devices should be defined in the `pm.dat` file.

Sharing Daemons and Servers

You can share `lmgrd` daemons and `stmlockman`, provided that they can be accessed by TCP/IP network protocol from both platforms.

Sharing Databank and Workarea Files

Databanks and workareas can be shared between UNIX and Windows versions of Rational StateMate, provided that the files are accessible from both platforms. This is not dependent on sharing the `pm.dat` file. You can have two `pm.dat` files: a Windows version with Windows-style paths and a UNIX version with UNIX-style paths, both of which point to the same files.

To share the databank and workarea, you must define the path to the workarea or the databank. The following sections explain how to do this.

Windows Systems

For Windows systems, complete the following steps to define the paths:

1. Set the `PMDB_NAME` variable in the `run_stmm.bat` file to the same one referred to when running Rational StateMate on a UNIX system.
2. Map a drive from your Windows client to the UNIX system. For example, map drive G to `/home/david`.
3. In the `run_stmm.bat` file, set the `WA_PATH` variable. For example:

```
WA_PATH=G:\data in the "run_stmm.bat" file
```
4. Open the project and the workarea.

UNIX Systems

For UNIX systems, complete the following steps to define the paths:

1. Set the `WA_PATH` environment variable. For example:

```
setenv WA_PATH=/home/david/data
```
2. Create a new project and define the path to the databank as `"$WA_PATH/<bank>".`
3. Create a new workarea, `"$WA_PATH/<workarea>".`

Printing

Rational StateMate requires PostScript level II capable printers for printing charts from both UNIX and Windows. Printer definitions are stored in the logical devices file.

Note

- ♦ Rational StateMate does not print to most Novell printer queues.
- ♦ Rational StateMate exports the document to RTF, invokes Microsoft Word, then prints to the default printer (which does not have to be a PostScript printer) if you print to the “WORD” device on Windows systems.
- ♦ It is possible to use a virtual PostScript printer.
- ♦ You might want to change the plotted font scale. For more information, see [Scaling Fonts in Printed Charts](#)

Printing on UNIX Systems

Before printing on a UNIX system, make sure:

- ♦ The target printer has been successfully installed on the network according to the manufacturer's instructions.
- ♦ The printer has been tested by printing to it from another application.

Complete the following steps to set up the printer queue:

1. Start Rational Statemate and select **Utilities > Output Devices** from the menu bar.
2. Click **New**. Fill in the following fields:
 - ♦ **Name** - Name the printer whatever you want.
 - ♦ **Format** - Specify **Postscript**.
 - ♦ **Paper Size** - Select the appropriate paper size.
 - ♦ **Command Line** - Specify `lp`, the printing command on UNIX systems. You can specify a command line to pass to the printer.

Printing on Windows Systems

When you install Rational Statemate on Windows systems, the following output devices are defined:

- ♦ **DEFAULT_PRINTER** - Prints to the default Windows printer.
- ♦ **LOCAL_PRINTER** - Prints to a local printer.
- ♦ **ASCII** - Prints ASCII files.
- ♦ **WORD** - Uses WORD as a virtual printer. This device is used to print graphics to a Windows non-PostScript default printer.

In addition, you can create a new output device that prints to another printer. For example:

```
Name: HP4050
Format: PostScript
Device Name: /D:\\BANANA\\HP4050
Paper size: A4
Command Line: print
```

Printing to this device calls the following Windows command line:

```
print <exported postscript file name> /D:\\banana\\HP4050
```


The output device `DEFAULT_PRINTER` (which is defined automatically during installation) is defined as follows:

```
Name: DEFAULT_PRINTER
Device Name: /D:DEFAULT_DEVICE
Paper size: A4
Command Line: print
```

The keyword `DEFAULT_PRINTER` is replaced with the “share name” of the default printer, which is retrieved from Windows.

Note

Some print operations (such as printing a chart from the workarea) allow you to choose an output device, whereas other print operations (such as printing the workarea tree) use the definition in the preferences Default Postscript Device and Default ASCII Device as the output device.

Setting Up Additional Output Devices

There are two ways to set up additional printers for use with Rational Statemate: using an existing print queue and the Line Printer Remote (LPR) method.

Using an Existing Windows Printer Queue

1. Click **Utilities > Output Devices** in the Rational Statemate main window.
2. Click **New**.
3. Fill in the following fields:
 - ♦ **Name** - Name the printer whatever you want.

Note: Do not use spaces in the printer name.

 - ♦ **Format** - Specify **Postscript**.
 - ♦ **Device Name** - The server and printer share names. For example:
 - ♦ `/D:\\PEACH\\HP4050`
HP4050 is the network printer share name.
 - ♦ **Paper Size** - Select the appropriate paper size.
 - ♦ **Command Line** - `print`.
4. Click **OK**.

Using the LPR Method on Windows Systems

The LPR method builds a queue on the Rational StateMate server. This involves the following procedures:

- ♦ Determine whether the Microsoft TCP/IP printing service is installed on your Rational StateMate server. If it is not, you must install it. See [Check for TCP/IP Printing Service](#).
- ♦ Set up an LPR port directly to the IP address of a PostScript printer, build a queue on that port, and share it. See [Setting Up the LPR Port and Print Queue](#).
- ♦ Create a Rational StateMate output device profile. See [Creating a Rational StateMate Output Device](#).

Check for TCP/IP Printing Service

Complete the following steps to check for the service:

1. Right-click **Network Neighborhood**.
2. Select **Properties**.
3. Select the **Services** tab.
4. Scroll through the list of services and select **Microsoft TCP/IP Printing**.

If you do not find the service, leave the window open so you can install Microsoft TCP/IP printing.

Note

This requires the workstation or server CD-ROM, or access to an i386 directory copied to a hard drive. You must have administrator-level privileges.

Complete the following steps to install the Microsoft TCP/IP Printing service:

1. Click **Add on the Services** tab.
2. Select **Microsoft TCP/IP Printing**. Click **OK**.
3. Confirm the location of the i386 directory. Click **Continue**.

If the system cannot find the i386 directory, click **Browse** to select the correct location.

4. Follow the prompts to finish the installation.
5. Restart your system.

Setting Up the LPR Port and Print Queue

Complete the following steps to build a printer queue to the IP port on the server:

1. Select **Start > Settings > Printers**.
2. Double-click **Add Printer**.
3. Select **My Computer** to manage the printer. Click **Next**.
4. Click **Add Port**.
5. Select an LPR port. Click **New Port**.
6. Fill in the following fields in the Add LPR compatible printer window:
 - ♦ **Name or address of server providing lpd** - Specify the IP address of the printer.
 - ♦ **Name of printer or print queue on that server** - Name the printer.
7. Click **OK**.
8. Click **Close**. The port you created is checked.
9. Click **Next**.
10. Choose an appropriate driver. Click **Next**.
11. Select your own options in the next window. Click **Next**.
12. Select **Shared**.
13. Edit the **Share Name, if necessary**. Click **Next**.
14. Click **Finish** to complete this step.

Creating a Rational Statemate Output Device

To create a Rational Statemate output device, open Rational Statemate and follow the directions specified in [Using an Existing Windows Printer Queue](#). Use the same format for the command line, where `\\server` names the server where you built a queue on the LPR port, and `\sharename` is the sharename of the printer queue.

Outputting Text Format Files

To output files for a format other than PostScript (for example, Word), complete the following steps:

1. Define a new output device.
2. Select your target format from the list of supported formats (Word, FrameMaker, and so on).

Note: When printing to one of these alternate formats, specify the path and file name to be used for the new output file.

Scaling Fonts in Printed Charts

If the font scale in the plotted chart is inadequate, you can scale the fonts. Complete the following steps to scale the fonts:

1. Open the text file %STM_ROOT%\etc\plotsize.txt.

Note: Do not press **Enter** while editing this file, because carriage returns make the file unusable by Rational Statemate.

Rational Statemate reads number “60” in this file and uses it as a percentage to scale the fonts in printed charts. The default scales fonts down to 60% of their size.

2. Set the factor up or down as needed. Values over 100 are allowed.
3. Save and close the file.

Troubleshooting

This section describes the following problems that you might encounter when using Rational StateMate and how you can solve them:

- ♦ [Error Messages](#)
- ♦ [User Names on Windows Systems](#)

Error Messages

This section explains the following error messages:

- ♦ [Cannot Add Certain Users to Projects](#)
- ♦ [Color Problems on Solaris](#)
- ♦ [\(e43XX\) <Message>](#)
- ♦ [“Error: Can’t Open Display”](#)
- ♦ [Fatal System Error](#)
- ♦ [Key Mapping Warnings](#)
- ♦ [NuTCRACKER Fatal Error: Unable To Connect To Kernel Service](#)
- ♦ [Rational StateMate Closes Immediately](#)

Cannot Add Certain Users to Projects

When you create or add members to a project, only a partial list of users is available to add to the project.

Affected Platform:

UNIX

Explanation:

There is an error somewhere in your network password file. Rational Statemate reads this file to determine who is available, but stops if it encounters problems.

Solution:

Verify that all the information in your password file is valid. Use `pwck(1M)` to check the syntax of a `passwd` style file (which can be the output of `ypcat passwd`). Normally, too many or too few fields are the problem.

Color Problems on Solaris

When opening and running Rational Statemate in Solaris CDE, you might see error messages similar to the following:

```
Warning: Cannot allocate colormap entry for "msg_area_bg"  
Xserver could not allocate color: "TAN."  
Another application might have allocated this color in  
read/ write mode. This is done usually for modifying the  
colors. If you are running such an application, please  
close it.
```

Affected Platform:

Solaris

Explanation:

The Solaris CDE default desktop reserves colors that Rational Statemate attempts to use. This conflict causes some elements of Rational Statemate to appear black, making Rational Statemate difficult to use.

Solution 1:

Use an alternate colormap, supplied with your Rational Statemate software, by adding the following line to `$STM_ROOT/run_stmm`:

```
setenv STM_ALTERNATE_COLORMAP 1
```

Generated code runs outside of Rational Statemate and is not affected by the `STM_ALTERNATE_COLORMAP` variable.

Solution 2:

Change the CDE color settings so the desktop uses fewer colors. Complete the following steps to change the color settings:

1. Open the CDE Style Manager.
2. Open the Color settings.
3. Select **Number of Colors**.
4. Select **Most Colors for Applications** in the Number of Colors window. Click **OK**.
5. Exit the Style Manager.
6. Log out of the CDE.
7. Log back in.

If you still experience a color conflict, particularly within panel editors, try the following:

- ♦ Select a more restrictive color setting, such as **Black and White**.
- ♦ Choose different colors in your panel.

(e43XX) <Message>

Error detected near line xx of file .../pm.dat.

Affected Platforms:

UNIX and Windows

Problem:

The `pm.dat` file has been corrupted.

Solution:

Use a text editor that does not convert carriage returns to DOS format.

“Error: Can't Open Display”

This error can signal a Windows or UNIX problem.

Affected Platforms:

UNIX and Windows

UNIX Systems Problem:

The environmental variable `DISPLAY` is not set correctly.

UNIX Solution:

Set the following environment variable:

```
setenv DISPLAY <your_machine>:0.0
```

Windows Problem:

Rational Statemate cannot connect to MKS due to one of the following reasons:

- ◆ MKS is not running.
- ◆ The variable `DISPLAY` is not set in your environment.
- ◆ You are running on a stand-alone system and MKS is not configured correctly.
- ◆ You are running on a stand-alone system and there is a problem with your TCP/IP configuration.

Windows Solution:

1. Verify that the MKS XServer is running. You should see a small, green XServer icon that looks like xv, task bar. If you do not see the icon, click **Start > Programs > Vision > MKS X/Server > XServer** to start the XServer.
2. Open your system control panel and set the variable `DISPLAY` with the value:

```
<your machine name>:0.0.
```
3. Verify your MKS and TCP/IP configuration.

Fatal System Error

Could not connect to stmlockman: Too many levels of symbolic links. Please fix this problem and restart.

Affected Platforms:**UNIX and Windows****Problem:**

stmlockman is not running on the host identified in `$STM_ROOT/pm/stmlockman.host` or `%STM_ROOT%\pm\stmlockman.host`.

Solution:

Try one of the following solutions:

- ◆ Correct `stmlockman.host` to identify the `stmlockman` host.
- ◆ Start `stmlockman`, if it is not running.

Key Mapping Warnings

One of the following occurs:

- ◆ Certain keys do not work in Rational StateMate.
- ◆ When you try to run a Dataport program, Rational StateMate issues warnings similar to the following:

```
Warning: translation table syntax error
Unknown keySYM name: osfActivate
Warning: ... found while parsing
'<Key>osfActivate:ManagerParentActivate()'
```

Affected Platforms:

UNIX and Windows

Explanation:

The key mappings on your system are not compatible with Rational StateMate.

UNIX Solution:

The `run_stmm` script includes the following line:

```
#setenv XKEYSYMDB $STM_ROOT/x11r5/XkeySYMDB
```

This line is normally commented out, unless the environment needs it. If the line is commented out, remove the comment and restart Rational StateMate.

Windows Solution:

Set the environment variable `%XKEYSYMDB%` to the value `%STM_ROOT%\x11r5\XkeySYMDB`.

NuTCRACKER Fatal Error: Unable To Connect To Kernel Service

Affected Platform:

Windows

Solution:

Complete the following steps to Verify that your NuTCRACKER Service is running:

1. Complete one of the following:

For Windows XP - Select **Start > Settings > Control Panel** to access the list of services and double-click the Services icon.

For Windows 2000 systems - Select **My Computer > Manage > Services And Applications > Services**.

2. Scroll through the list of available services until you find NuTCRACKER Service.
3. To the right of the service name, check whether you see the word *started*. If you do not, click on the service name, then click **Start**.
4. Click **Close** to exit the services control panel.

Rational Statemate Closes Immediately

This can be caused by a number of problems, for example, if the X-Server is not running when you start Rational Statemate.

Affected Platform:

Windows

Solution:

Get more information by starting Rational Statemate from an application window. Complete the following steps:

1. Open an application window
2. Change to the `bin` directory of your Rational Statemate installation (`%STM_ROOT%\bin`).
3. Enter the following command:

```
run_stmm.bat
```

4. Record any error messages. Correct the problem if you can, or contact IBM Customer Support.

User Names on Windows Systems

Rational Statemate and Windows store user names differently. This can result in some confusion. Windows stores user names with specific case, but allow sloppy entry of the user name when logging in. For example, if the user name is KSmith, Windows accepts all of the following names:

ksmith

KSMITH

Ksmith

This problem commonly occurs when you create projects. If KSmith creates a project called TEST, and enters “ksmith” in the **Manager** field, when KSmith attempts to open the project, he is not offered TEST as one of the projects to open. This is due to the case of the user name: Rational Statemate queries the network and finds that the user name is KSmith, compares this against the user name entered (“ksmith”) and decides that he is not the manager of TEST.

Either be careful when entering the names of project managers and members or change all Windows user names to lowercase characters.

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