Telelogic
Statemate®

Administrator's Guide

IBM.

Statemate®

Administrator's Guide

IBM

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

Installation and Upgrade Information

This section provides installation requirements and upgrade information for Statemate. For more information on installing Statemate, refer to the *Statemate Installation Guide*.

Installation Requirements and Restrictions

The following table lists the platforms on which you can install Statemate 4.5.

Platform	Window System	Software Language Compilers
Sparc Solaris 2.8/2.9/2.10	CDE * OpenWindows: 3 * Motif *	SunWorkshop C/C++ 4.2 GNAT Ada gcc 3.12
Windows 2000 (SP4), Windows XP (SP2)	MKS XServer or XVision	Microsoft Visual C/C++ V6.0, .Net

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

Hardware Requirements

The recommended memory (RAM) for Windows is 256 MB. When working with large models on Windows platforms, you should allow more memory to enhance tool performance. When working with models that contain 200 or more charts and 2500 or more dictionary elements (textual elements), allow at least 1 GB of physical memory.

Updated Software

The MKS XServer replaces the XVision server used in previous Statemate versions. However, XVision can still be used for both Statemate 4.5 and for previous 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 Statemate 4.5.

Refer to the **XServer's Display on the Local Computer** section for more information.

Limitations

The following limitations apply to software and configurations available in the Statemate 4.5 version.

NuTCRACKER Versions Older than 4.2

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

XServer's Display on the Local Computer

MKS's 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 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 Statemate Version

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

When you open a workarea of Statemate 3.3.1 (DB Version 31) or a higher version with 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 Statemate version.

Once the workarea DB format conversion is complete, previous versions of 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

Statemate offers a file-update service. When opening a workarea, 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 may 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.
```

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 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 Statemate users:

- Project member
- Project manager
- Statemate manager (SMAN)

The following table lists the privileges for each 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 *not* delete the databank or workareas.

Statemate Manager (SMAN)	SMAN users can delete or modify all Statemate projects, change system preferences, and add other users to the SMAN list. The default list of SMAN user names includes: • Root • Administrator • Stm

Management Files

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

- ◆ `pm.dat`
- ◆ `preferences`
- ◆ `stmlockman`

These files require special attention before you begin using Statemate.

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 Statemate root by default, and contains the following information:

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

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

If 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 Statemate operates.

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

If 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 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 Statemate is running.

It is typical to start stmlockman on the license server during the startup routine. 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 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 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

It is recommended that you 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 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 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**
- ◆ **Customizing User-List Browsing on Windows Systems**
- ◆ **Configuring the DOORS Interface on a Windows System**
- ◆ **Networking Requirements for Windows Systems**
- ◆ **Installing the Loopback Adapter**
- ◆ **Pre-Launch Script**

Configuring the run_stmm.bat Script on Windows

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

The following table lists several environment variables set by the `run_stmm.bat` script. Some environment variables were previously discussed and some are discussed in the following paragraphs.

Environment Variables	Description
STM_ROOT	Parent directory for Statemate.
STM_HELP	Parent directory for the Statemate documentation.
PATH	Adds Statemate to the path.
PM_LOGICAL_DEVICES_NAME	Location of the `logical.devices` definition file.
STM_PREFERENCES_DIR	Location of the preferences directory.
STM_LOCKMAN_HOST_PATH	Location of the `stmlockman.host` definition file.
STM_HELP_BASE	Location of the map file for the online documentation.
LM_LICENSE_FILE	Path to the `license.dat` file, including the file name.
NCDIR	Path to the NuTCRACKER application.
STM_LIB	Path to the Statemate libraries.
DISPLAY	Name of the system running Statemate.

The `run_stmm.bat` file allows you to set-up the VisSim™ interface and the Waveform tool, along with other tool options.

You do not have to be running Statemate to use a number of 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, refer to the `run_stmm.bat` file in Telelogic/stmm/<version #>/bin.

Customizing User-List Browsing on Windows Systems

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 example displays the User List section if "From File" is chosen:

```
@REM SET STMM_USER_MANAGER_PROTOCOL=STMM_NO_SERVER_PROTOCOL

@REM SET STMM_USER_MANAGER_PROTOCOL=STMM_PDC_USER_MANAGER_SERVER_PROTOCOL

@REM SET STMM_PDC_PRIMARY_SERVER=

@REM SET STMM_BDC_BACKUP_SERVER=

@REM SET STMM_USER_MANAGER_SERVER_GROUP=NONE

@REM SET STMM_USER_MANAGER_SERVER_GROUP=LOCAL_GROUP

@REM SET STMM_USERGROUP_NAME=

@REM SET STMM_USER_MANAGER_SERVER_GROUP=NET_GROUP

@REM SET STMM_USERGROUP_NAME=

SET STMM_USER_MANAGER_PROTOCOL=STMM_USER_MANAGER_USE_FILE

SET STMM_USER_MANAGER_FILE=C:\Telelogic\stmm\4.5\pub\UsersList.txt
```

Configuring the DOORS Interface on a Windows System

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

For Statemate to interface with DOORS, you must replace the placeholders listed in the following table with the correct values.

File	Placeholder Value to Set
run_stmm.bat	DOORSHOME
doorss.bat	• LM_LICENSE_FILE • STM_ROOT in the DXL server invocation command
run_doorss.bat	LM_LICENSE_FILE

The following sections describe these changes in detail.

Editing the run_stmm.bat File

The following example shows the section of the run_stmm.bat file that configures the interface to DOORS:

```
@rem Start of DOORS section
@rem Remove the @rem from the following lines
@rem and edit to fit you installation of doors
@rem Port number of Doors, no need to modify.
@rem SET DXLPORTNO=5093
@rem SET DXLIPHOST=%COMPUTERNAME%
@rem SET RT_INTERFACE=ON
@rem SET STM_RT_TOOL=DOORS
@rem SET RT_MAIN_TOOL=%STM_ROOT%\BIN\RUN_DOORS
@rem SET DOORSHOME=<doors home>
@rem SET DOORSS_BATCH_FILE=doorss.bat
@rem SET PATH=%PATH%;%DOORSHOME%\bin
@rem remove the @rem only if you DON'T want to
@rem insert the plot as an OLE object in DOORS.
@rem SET RT_NO_OLE=ON
@rem End of DOORS section
```

Remove the comments from the DOORS section according to the instructions and replace the placeholder for DOORSHOME.

> **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 sets the environment variable LM_LICENSE_FILE
@rem and starts the Doors dxl server in batch mode
@rem Modify the line which sets LM_LICENSE_FILE to fit your @rem
environment
@rem Replace the "<$STM_ROOT>" with full path of your STM_ROOT
@rem e.g. if your STM_ROOT is D:\stmm you should modify it to:
@rem ... -batch "D:\stmm\etc\pc_server.dxl"

@echo off
set LM_LICENSE_FILE=<full-path of your doors license file>
%1 -user %2 -password %3 -project %4 -cli "pragma runLim, 0; string
ReadyName = \"%5\" ; int Portno = %6 " -batch
"<$STM_ROOT>\etc\pc_server.dxl"
```

Replace the placeholders for LM_LICENSE_FILE and STM_ROOT.

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 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 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` may be invoked from the `run_stmm.bat` just before Statemate is invoked. This enables various process automation utilities. The `pre_launch.bat` script distributed with Statemate is empty.

Configuring a UNIX System

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

- **Configuring the run_stmm Script on UNIX**
- **Configuring the DOORS Interface on a UNIX Systems**

Configuring the run_stmm Script on UNIX

Execute the script `$STM_ROOT/run_stmm` to start 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 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 Statemate.
STM_HELP	Stores the Statemate documentation.
LM_LICENSE_FILE	Path to the `license.dat` file, including the file name.
STM_LOCKMAN_PORT_NUMBER and STM_SWITCH_PORT_NUMBER	Required to configure Statemate to connect with `stmlockman`.
XKEYSYMDB	Path to the alternate keymapping file included in Statemate software.
XNLSPATH	Required X environment variable for the proper operation of 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

It is recommended that you do **NOT** make copies of `run_stmm` in users' home directories, or setting variables in `.cshrc` or `.login`. This keeps the environment consistent for all Statemate users.

An exception to this rule is two variables needed to run Dataport programs. These programs run independently of Statemate. If you are using Dataport programs, you must set the STM_ROOT variable (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, refer to the run_stmm file in your Statemate installation.

Configuring the DOORS Interface on a UNIX Systems

For Statemate to interface with DOORS, replace the placeholders <...> with the correct values in the following lines of the doors.env file:

```
setenv DOORSHOME <doors-home>
setenv RT_MAIN_TOOL <doors-tool-command>
setenv DOORSDATA <doors-data path>
setenv DXLIPHOST <local host IP address>
```

The following example shows a sample doors.env file:

```
#!/bin/csh
# Make sure that a link named run_stmm.DOORS
# has been created that points to run_stmm

# Set up the needed DOORS environment variables,

# Please fill in the following line

setenv DOORSHOME /tools/DOORS
setenv RT_MAIN_TOOL $DOORSHOME/bin/doors5
setenv DOORSDATA $DOORSHOME/data
setenv DXLPORTNO 5093
setenv DXLIPHOST 11.355.10.7
if (! $?LD_LIBRARY_PATH) then
setenv LD_LIBRARY_PATH $DOORSHOME/lib/solaris
else
setenv LD_LIBRARY_PATH $DOORSHOME/lib
solaris:$LD_LIBRARY_PATH
endif
set path = ($path $DOORSHOME/bin)
```

Cross-Platform Projects

You can open the same project by accessing it from either a UNIX or Windows version of 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 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 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 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

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

- ◆ Statemate does not print to most Novell printer queues.
- ◆ 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 may want to change the plotted font scale. For more information, refer to **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 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 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 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 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 Statemate server. This involves the following procedures:

- ◆ Determine whether the Microsoft TCP/IP printing service is installed on your Statemate server. If it is not, you must install it. Refer to **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. Refer to **Setting Up the LPR Port and Print Queue**.

- ◆ Create a Statemate output device profile. Refer to **Creating a 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 Statemate Output Device

To create a Statemate output device, open 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 Statemate.

   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 may encounter when using Statemate and how you can solve them:

- **Error Messages**
- **User Names on Windows Systems**

If you are experiencing licensing problems, refer to the *Telelogic Lifecycle Solutions Licensing Guide* or contact customer support.

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**
- **Statemate Closes Immediately**

Cannot Add Certain Users to Projects

Affected Platform:

UNIX

Problem:

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

Explanation:

There is an error somewhere in your network password file. 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

Affected Platform:

Solaris

Problem:

When opening and running 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.
```

Explanation:

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

Solution 1:

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

```
setenv STM_ALTERNATE_COLORMAP 1
```

Generated code runs outside of 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"

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:

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.

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

Affected Platforms:

UNIX and Windows

Problem:

One of the following occurs:

◆ Certain keys do not work in Statemate.

◆ When you try to run a Dataport program, Statemate issues warnings similar to the
following:

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

Explanation:

The key mappings on your system are not compatible with Statemate.

UNIX Solution:

The `run_stmm script` includes the following line:

```
#setemv 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 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.

Statemate Closes Immediately

Affected Platform:

Windows

Problem:

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

Solution:

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

1. Open an application window

2. Change to the `bin` directory of your 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

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: 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.

It is recommended that you either:

*   Be careful when entering the names of project managers and members.
*   Change all Windows user names to lowercase characters.

Technical Support and Documentation

Statemate software continues to be supported by the Telelogic support group for customers who licensed Statemate before November 1, 2008. If you are one of these "heritage" customers, you may use the familiar support procedures described in **Contacting Telelogic Statemate Support**.

After November 1, 2008, all Telelogic Statemate customers also have access to the IBM technical support team and resources, as described in **Contacting IBM Rational Software Support**.

Contacting Telelogic Statemate Support

The Telelogic Statemate technical support group assists heritage Statemate customers through the online problem report form, direct contact by **Calling Telelogic Statemate Technical Support** or contacting them through IBM's Support site, as described in **Contacting IBM Rational Software Support**.

Note

Assistance from the technical support staff for purchased products is only available to companies that have paid for ongoing maintenance.

Sending a Detailed Problem Report

For all problem reports and questions, send a detailed report using the Statemate online form.

To send an automated problem report to the Technical Support staff, follow these steps:

1. In Statemate, from the menu bar, select **Help > Email Technical Support**.

2. The following dialog box appears with some of your product information filled in. Review the product information to be sure it is accurate.

3. From the **Impact** drop-down list box, select the severity of the problem.

4. In the **Summary** box, summarize the problem.

5. In the **Problem** box, type a detailed description of the problem.

6. If available, attach a snapshot. Click the **Screen Snapshot** button, whichever is applicable, and select the snapshot wherever you have it on your machine.

7. If possible, add the workarea, files, and/or a video capture by using the buttons in the **Attachment Information** area.

8. Add any additional items or information to help the Technical Support staff resolve the problem.

9. Click **Preview and Send** to submit the report.

The problem is recorded in the Statemate case tracking system and put into a queue to be assigned to a support representative. This representative works with you to be certain that your problem is resolved.

Calling Telelogic Statemate Technical Support

If your company has a current Statemate maintenance agreement purchased before November 1, 2008, you may call the Telelogic Technical Support staff directly using the appropriate telephone number for your region listed below.

Support Location	Telephone Number	Availability
United States	(800) 577-8449	8:30 a.m. to 8:00 p.m. EST
Europe	00800 57784499	8:00 a.m. to 5:00 p.m. GMT
Europe (alternative number)	+353 1 2090154	8:00 a.m. to 5:00 p.m. GMT

Contacting IBM Rational Software Support

The IBM Rational Software Support team provides the following resources for your assistance:

- For contact information and guidelines or reference materials that you need for support, read the **IBM Software Support Handbook**.

- For FAQs, lists of known problems and fixes, documentation, and other support information, visit the **Telelogic Statemate Support Site**.

- Voice support is available to all current contract holders by dialing a telephone number in your country (where available). For specific country phone numbers, go to **http://www.ibm.com/planetwide/**.

Before you contact IBM Rational Software Support, gather the background information that you will need to describe your problem. When describing a problem to an IBM software support specialist, be as specific as possible and include all relevant background information so that the specialist can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?

- Do you have logs, traces, or messages that are related to the problem?

- Can you reproduce the problem? If so, what steps do you take to reproduce it?

- Is there a work-around for the problem? If so, be prepared to describe the work-around.

For Rational software product news, events, and other information, visit the **IBM Rational Software Web site**.

Accessing the Statemate Documentation

Statemate documentation is accessible from three locations:

- ◆ Web site at **Telelogic Statemate Support Site**.
- ◆ Windows **Start > Programs > Telelogic > Statemate <version #> > Statemate Help**.
- ◆ Statemate interface Help menu

The documentation is available in two formats: PDF and online. The online documentation displays in a Web browser. The PDF format displays using the Adobe® Acrobat Reader™.

Help Menu Options

The Statemate Help menu, shown here, lists all of the available documentation for the product.

```
List of Books...
Index...
Contents...                    F1
On Help...
On Window...
Email Technical Support
About Statemate
```
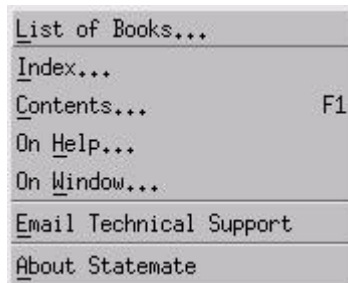
Help Topics

The **Help Topics** is the Help system version of the *Statemate User Guide*.

You can navigate the Help system using Contents or Index.

Search Facility

To search for information, type a word or words into the search field, select which manuals to search, and click **Go**. The system searches specified books and lists all of the items that match the search items. The facility locates the text that contains any of the words entered for the search and prioritizes the results with a percentage probability that it is the desired information.

To find a specific instance of the search term in any of the search results, you can perform a "find in browser," which is unique to every browser, but usually accomplished by pushing Ctrl+F.

1. Type the search term in the search box that appears in your browser window and click "Find" to find the first instance of the search term in the window.

2. Clicking "Find Next," brings up the next instance of the term, if there is one.

If no instance of the search term can be found, open another document from the search results in the left pane and repeat steps 1 and 2.

List of Books

The **List of Books** contains links to the Statemate manuals, primarily reference manuals, that are available as PDF files for easy printing. The User Guide is included on that list.

You may search all of the PDF files available on the List of Books using the browser Adobe Search facility. This facility includes a Boolean search capability.

Statemate Reference Documentation

The following reference manuals are available as PDF files with the Statemate software on the **Help > List of Books**, from IBM, or from third-party product suppliers:

- *Installation Guide* - Describes how to install, launch, and upgrade Statemate. Licensing information is provided in the separate *Telelogic Lifecycles Solutions Licensing Guide*.

- *Statemate Administrator's Guide* - Provides installation, upgrade, configuration, printing, and troubleshooting information.

- *CG Builder API Reference Manual* - Provides information about the code generator builder APIs.

- *Continuous Modeling* - Provides information about Statemate's continuous time modeling capability, using Visual Solutions' VisSim.

- *Command Line Interface Guide* - Provides a list of commands that can be entered into the CLI.

- *Date Import API Reference Manual* - Provides details on how to import information into the Statemate database from a C++ language program.

- *Methodology and Style Guidelines* - Explains the V-process model for system development and style guidelines for creating Activity charts.

- *MicroC Programming Style Guide* - Provides information about generating code with MicroC, a graphical software design and implementation tool that supports the development of embedded real-time software for micro-controllers.

- *MicroC Tutorial* - Walks through the process of creating MicroC code using Statemate

- *Porting Embedded RTL* - White paper that describes how to integrate ERP run-time libraries into new embedded environments.

- *Software Code Generator Interface Manual* - documents the pre-Statemate 1.2 method for supplementing user code to the generated code.

- *Statemate Modeling Tutorial* - Teaches the Statemate design fundamentals.

- *Standard Template* - Provides information about the standard template provided with the Statemate Documentor that generates a Rich Text Format (RTF) report and RTF plots.

- *Check Model Guide* - Provides information on the error-handling tool that enables system engineers to check for errors and warnings in Statemate models.

- *Documentor Reference Guide* - Provides information on using Documentor to design and produce documentation for the system you are designing.

- *Code Generation Reference Manual* - Provides information on generating code. it includes information about compiling, adding, and debugging code. An example is also provided.

- *Dataport Reference Manual* - Provides information on the Dataport library. It also includes a sample program.

- *MicroC Code Generator* - Provides information for developing embedded real-time software for micro-controllers. In addition to generating the code, tools are provided for debugging and testing the software.

- *Simulation Reference Manual* - Provides information on using the Simulation tool. It takes you through the different stages of simulation by using a simple example.

- *Quick Reference Guide* - Provides a list of reserved words and expressions, and information about functions, operators, switch cases, and truth tables.

Statemate Version Release Documents

Each new release of the product includes information specific to that release. These documents are available in the release kit, from the Telelogic Web site, and from the Statemate **Help** menu.

- **Release Notes** documents what is new in a release, the supported environments for Statemate, known restrictions, and any additional information for a specific release of the product. This information is available in the `readme.htm` file installed with Statemate.

- **Notices** provides detailed IBM copyright, licensing, and trademark information.

Index