Chapter

4 *System Setup*

In this chapter, you will find information about what UNIX command-line tools and what OS environment variables Telelogic Tau takes advantage of.

You can also find information about factors in X Windows, OSF/Motif and Microsoft Windows that may affect the behavior of Telelogic Tau.

For UNIX, some of the setup information in this chapter is applicable on a user level and may thereby be required to be performed by each Telelogic Tau user on UNIX.

UNIX Command-Line Tools

All the Telelogic Tau tools that are possible to start from the UNIX prompt are invoked via commands in the `$telelogic/bin` directory (`$telelogic` is the Telelogic Tau installation directory). By adding this directory to the `PATH` variable, the user will be able to conveniently start all the Telelogic Tau tools with exception for stand-alone generated Simulators and Validators; see "Source Files" on page 45.

The start script `$telelogic/bin/.tlwrapper` is a common start script for Telelogic products that make use of the PostMaster, the integration mechanism of the SDL suite and the TTCN suite. It also sets up all environment variables needed to run the Telelogic products.

Caution!

The `.tlwrapper` script should never be invoked manually; it is only supposed to be executed via the Telelogic Tau commands.

The following table lists the most important command-line tools to use for controlling licensing and starting Telelogic Tau.

Command	Description
`gethostinfo`	Obtain useful system information for FLEXlm licensing. See the box Important! on page 17 in chapter 2, *Installation Procedure for UNIX* for more information.
`startlicd`	Start license server. See "Manually Starting the FLEXlm Server (UNIX)" on page 56 in chapter 5, *Licensing Management* for more information.
`updatelicd`	Reread the `license.dat` file, useful after the license file has been edited. See "Updating the FLEXlm Server (UNIX)" on page 54 in chapter 5, *Licensing Management* for more information.
`stat`	Show statistics about the license server; useful optional parameters [`-a | -A | -f 'feature'`]. See step 4. on page 25 in chapter 2, *Installation Procedure for UNIX* for an example.

Command	Description
`tau`	Start the Telelogic Organizer.
`sdt`	Start the Telelogic Organizer.
`itex`	Start the Telelogic Organizer.

UNIX User Setup

For each Telelogic Tau user **on UNIX**, the following setups should be made.

Source Files

The Telelogic Tau installation provides a file which is suitable to be "sourced" at login, when the user's `.cshrc` or `.profile` file is executed. This source file will make the following environment variables visible in the terminal shell:

```
telelogic
telelogicbin
sdtrelease
sdtdir
sdtbin
itexrelease
itexlib
itexaccess
itexaccessroot
itexaccesscompiler
```

These environment variables are useful for the Telelogic Tau users. They can easily be used as pointers into the Telelogic Tau installation, without knowing were the installation is placed in the file system.

> **Note:**
>
> You do not need to set these variables to be able to run the SDL suite or the TTCN suite, except if you want to run a generated SDL Simulator or SDL Validator stand-alone, that is, run from the UNIX prompt without the graphical user interface.

To read the source file (`/appl/telelogic` is assumed to be the installation directory for Telelogic Tau):

If you run	Type
C shell-compatible shell (e.g. csh or tcsh)	`source /appl/telelogic/bin/telelogic.sou`
Bourne shell-compatible shell (e.g. sh, ksh, zsh or bash)	`. /appl/telelogic/bin/telelogic.profile`

Path and Display Variables

For each user, the Telelogic Tau `bin` directory should be contained in the list of directories defined by the `PATH` environment variable:

```
set path = ( $path $telelogic/bin )
```

This should be done in the shell startup files, as described above.

In the case the computers on which you run the X Windows server and the client (the Telelogic Tau tools) coincide, the environment variable `DISPLAY` should be set to `unix:0.0` before starting Telelogic Tau. **Do not** use the notation `hostname:0.0`

Environment Variables

Environment variables common to UNIX and Windows:

- HOME is used by the SDL suite applications to find preference files. **On UNIX**, it is also used to find validator/simulator command and button files and other files.
- TMPDIR is used by Telelogic Tau applications when temporary files are created.

> **Note:**
> An ending slash ('/') or backslash ('\') is **mandatory**. Example:
>
> **On UNIX:** `setenv TMPDIR /usr/tmp/`
>
> **In Windows:** `set TMPDIR=c:\tmp\`

- SDT_STORAGE_FORMAT is used by the SDL suite applications to decide what format to use when storing diagrams. The value ASCII means to use only printable ASCII characters in stored diagrams. Otherwise, the diagrams are binary files.
- LM_LICENSE_FILE is used by the FLEXlm license mechanism in the Telelogic Tau tools.

  If this variable is set, the Telelogic Tau tools will append the search path to the license file in LM_LICENSE_FILE. If it is not set, the Telelogic Tau tools start-up command sets the variable.

UNIX-specific environment variables, in addition to the ones listed in "Source Files" on page 45:

- TeleLOGIC_USEEXTVAR is used to make it possible to use already existing settings for the environment variables LM_LICENSE_FILE, sdtrelease and itexrelease. If the variable is set (it may be set to any value), the Telelogic Tau tools start-up script will not overwrite these variables.
- XFILESEARCHPATH is used by X applications in the Telelogic Tau tools to find X resources. If it is set (before starting Telelogic Tau) the Telelogic Tau tools will append the search path to the Telelogic Tau tools resource files in XFILESEARCHPATH. If it is not set, the Telelogic Tau tools start up command sets the variable.

- SDTTMPMNT is used by Telelogic Tau applications to strip the prefix which is added to directory names by some auto-mounters. When this variable is not set /tmp_mnt is stripped from directory names. Setting SDTTMPMNT to, for example /my_prefix, will strip /my_prefix from directory names.
- SDLENOGRAPHICS is used by the SDL Editor's Signal Dictionary window to turn off the use of SDL icons and to use textual notation instead. This variable should be used when running the SDL suite on terminals with limited graphical capabilities.

Preferences

You may specify the default behavior of the SDL suite tools, and also for the Telelogic Tau common tools (such as the Organizer), by using the *Preference Manager*. You may define preferences in such way that they apply to an entire company, a specific project that uses Telelogic Tau, or to an individual user only. See chapter 4, *Managing Preferences, in the User's Manual* for how to customize Telelogic Tau.

Microsoft Windows System Factors

The SDL suite for Windows requires a display resolution of at least 640 * 480 pixels (VGA resolution).

The SDL suite for Windows can use any of the TrueType fonts that are installed in Microsoft Windows. For more information, see "Font Preference (Windows only)" on page 217 in chapter 3, *The Preference Manager, in the User's Manual*.

Bindings between Microsoft Windows Explorer file types and the SDL suite for Windows files is performed through system files (with the .sdt extension).

X Window System Factors (UNIX only)

Display Resolution

The SDL suite relies on the display resolution reported by the X Server for mapping between screen (pixel) coordinates and diagram unit coordinates. If the X Server has erroneous resolution information, the screen image of an SDL suite document will have the wrong scale.

If required, the X Server must be adjusted to report the correct display resolution. See the documentation from the computer/software vendor for instructions.

Installed Fonts

The Telelogic Tau tools assumes that the fonts included in the MIT distribution of X11R5 are available.

Font Scaling

Note:

Font scaling is used by the SDL suite only – not the TTCN suite.

To achieve WYSIWYG between screen and printout, the SDL suite can use scalable fonts in conjunction with AFM (Adobe Font Metrics) files. Not all fonts scale well without the use of an X11R5 font server. Therefore, it is possible to turn off font scaling (at the price of the WYSIWYG capabilities), in which case the SDL suite will try to use only pre-scaled X fonts.

To turn on font scaling, edit the X resource file `$telelogic/X11/app-defaults/SDT` and change the line:

```
SDT*sdtUseScalableFonts: false
```

into:

```
SDT*sdtUseScalableFonts: true
```

X Server Version

The Telelogic Tau tools have been tested with the MIT X11R5 server. No interoperability with earlier or later versions of X11 is guaranteed.

Window Manager

The Telelogic Tau tools are tested with Mwm, the Motif window manager, version 1.2. It is the recommended window manager to use with the Telelogic Tau tools.

Color Allocation

In the case of another X application having allocated all available color cells, the Telelogic Tau tools might fail to allocate colors for its windows and icons. The Telelogic Tau tools will try to allocate colors as close as possible to the ideal in the case of icons, but window colors cannot be guaranteed. To avoid this problem, a user might consider closing color-intensive applications that are not necessary to run in conjunction with the Telelogic Tau tools.

Changing the Color Settings

The color settings for the SDL suite are specified in the file `$telelogic/X11/app-defaults/SDT` and the color settings for the TTCN suite are specified in the file `$telelogic/X11/app-defaults/Itex`. You can change the colors by modifying the color resources settings; the color settings are found at the end of this file. When changing the colors, you may find some help about usable color names in the file `$telelogic/X11/rgb.txt`

How to modify resources is described in "Work Order for Modifying the Telelogic Tau Tools Resources" on page 51.

OSF/Motif Factors (UNIX only)

Event Translations

The X resource files `SDT` and `Itex` uses both OSF/Motif virtual bindings and ordinary X event specifications in translation tables. Refer to the OSF/Motif documentation for a discussion of virtual bindings.

Work Order for Modifying the Telelogic Tau Tools Resources

Modification of the Telelogic Tau tools resources is only recommended for users who have good knowledge about the X Window System.

1. Exit the Telelogic Tau tools.
2. Copy the resources you wish to modify from the default resource file(s) `$telelogic/X11/app-defaults/SDT` and/or `$telelogic/X11/app-defaults/Itex` and paste them into the file `$HOME/.Xdefaults`, or into local files `$HOME/SDT` and/or `$HOME/Itex`, by using a text editor.
3. Restart the Telelogic Tau tools by typing either of the following:
   `tau`
   `sdt`
   `itex`

The X-resources will now be taken from the default `SDT` and/or `Itex` files. The modified resource values in `.Xdefaults`, `SDT` or `Itex` will then override the values from the default resource file(s).[1]

The system.mwmrc File

The `/usr/lib/X11/system.mwmrc` file is the default Motif Window Manager startup file. In this file, which contains definitions of the button bindings and the root menu, your system manager may, for instance, add a menu choice for starting the Telelogic Tau tools.

Any user can override the settings in this file by creating his own `.mwmrc` file in his login directory.

1. It is also possible to use the `XAPPLRESDIR` and `XUSERFILESEARCHPATH` to control X resources. Please refer to the X11 manuals for more information.

Note:

On Sun workstations you will find the `system.mwmrc` file in the Telelogic Tau distribution. This file is placed in `$telelogic/X11` and is only used if you run the X Window and Motif software provided by the Telelogic Tau tools.

The app-defaults/Mwm File

The `/usr/lib/X11/app-defaults/Mwm` file contains the default resource specifications for Motif Window Manager. This file contains the names of the button bindings which are defined in the `system.mwmrc` file, mentioned above.

If you want to add resources to Mwm, you can create your own `.Xdefaults` in your home directory, containing your personal resource definitions.

Example 1: Changing pointer focus policy ––––––––––––––––––––

For example, to indicate the current window by pointing to it with the cursor, instead of clicking in the window, add the following line to `.Xdefaults`

```
Mwm*keyboardFocusPolicy:      pointer
```

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Note:

On Sun workstations you will find the `Mwm` file in the Telelogic Tau distribution. This file is located in `$telelogic/X11/app-defaults` and is only used if you run the X Window and Motif software provided by the Telelogic Tau tools.