TriTeal Enterprise Desktop (TED™) 4.2

TED Enhancements

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Contents

Preface

The *TED Enhancements* guide provides an overview of the additional features that TriTeal has added to the Common Desktop Environment (CDE) to form the TriTeal Enterprise Desktop (TED). Additional enhancements may also be found in the other documents accompanying TED 4.2.

Who Should Use This Guide

This guide is intended for users and system administrators.

How This Guide Is Organized

Chapter 1, "Overview of Enhancements" provides a brief look at the added features of the TriTeal Enterprise Desktop beyond the standards of the Common Desktop Environment.

Chapter 2, "Window and Session Management Tools" describes the enhancements that have been made to session and window management including the Graphical Workspace Manager (GWM), Workspace Control, and Workspace Menu.

Chapter 3, "Using TEDscape" describes how TEDSCAPE helps the Netscape Navigator act like a CDE compliant application. Web documents can be dragged and dropped to and from Netscape Navigator Version 1.12 and up.

Chapter 4, "Using the Mailer" describes the enhancements that have been made to the Mailer, including the new icon bars.

Chapter 5, "Using WinTED" describes WinTED, a feature of TED that provides interoperability between TED and Microsoft Windows environments.

Chapter 6, "PAM Administration" describes the framework that lets new authentication technologies be "plugged-in." PAM can be used to integrate UNIX login with other security mechanisms, such as DCE.

Chapter 7, "Key Binding Enhancements" lists all the key binding enhancements that have been added to the TriTeal Enterprise Desktop.

Chapter 8, "Resource and Environment Variable Enhancements" lists all resource enhancements that have been added to the TriTeal Enterprise Desktop.

Related Books

The following books provide information on Motif, the Xt Intrinsics, and Xlib:

- *OSF/Motif Reference Guide*, by Douglas A. Young, published by Prentice-Hall, Englewood Cliffs, NJ 07632.
- *The Definitive Guides to the X Window System, Volume 3: X Window System User's Guide*, by Valerie Quercia and Tim O'Reilly, published by O'Reilly and Associates, Sebastopol, CA 95472.

What Typographic Changes and Symbols Mean

The following table describes the type changes and symbols used in this book.

Table P-1 Typographic Conventions

Typeface or Symbol	**Meaning**	**Example**
`AaBbCc123`	The names of commands, files, and directories; onscreen computer output	Edit your `.login` file. Use `ls -a` to list all files. `system% You have mail.`
AaBbCc123	Command-line placeholder: replace with a real name or value	To delete a file, type `rm` *filename*.
AaBbCc123	Book titles, new words or terms, or words to be emphasized	Read Chapter 6 in *User's Guide*. These are called *class* options. You *must* be root to do this.
Code samples may display the following:		
`%`	UNIX C shell prompt	`system%`
`$`	UNIX Bourne and Korn shell prompt	`system$`
`#`	Superuser prompt, all shells	`system#`

Overview of Enhancements 1

This chapter describes an overview of all TED Enhancements.

Introduction

The Common Desktop Environment

The Common Desktop Environment (CDE) is a technology specification developed jointly by Hewlett-Packard Company, IBM Corporation, Novell, Inc., and SunSoft, Inc. It defines a consistent set of application programming interfaces (API) for a Common Desktop Environment (CDE) that can be implemented on operating environments that support X Window desktop computers and OSF Motif. CDE provides users with a consistent graphical user interface across workstations, X-Terminals, and PCs, and provides software developers with a single set of programming interfaces for HP-UX, IBM AIX, Solaris, UnixWare, and other platforms running UNIX. This advanced environment lets users access data and applications from anywhere in the network.

The CDE specification incorporates and integrates technology from participating vendors and has been designed to support distributed, enterprise-wide applications. As such, it will scale across a range of client/server platforms, support small workgroups to large enterprises, and support simple text and data as well as advanced collaborative multimedia applications.

TED: CDE and much more

The TriTeal Enterprise Desktop (TED) is an implementation of CDE that includes a number of enhancements to the CDE specification. TED is developed to provide the most complete, productive desktop environment for the entire enterprise, whether it be composed of UNIX workstations, servers, X-Terminals, or PCs.

TED 4.2 is composed of the CDE 1.0.10 specification, some feature enhancements and desktop services, as well as optional add-on applications.

The enhancements and additional services that have been added to CDE to make up the TriTeal Enterprise Desktop are broken down into the following categories:

Feature enhancement

A TED feature enhancement is an improvement to the CDE technology, or a new feature added to enhance the desktop. A feature enhancement, though, is not typically a stand-alone product or feature. Feature enhancements are installed by default during the TED installation. An example of a feature enhancement is the Graphical Workspace Manager (GWM). Feature enhancements are part of the core TED product.

Desktop service

A TED desktop service is a complete product that has been seamlessly integrated into TED. An example of a desktop service is TEDFAX, an integrated fax tool. Desktop services are bundled with TED and can be optionally installed during installation and configuration (see *TriTeal Enterprise Desktop: Installation Guide*).

Add-on application

A TED add-on application is an independent application that augments and adds value to the core functionality of the TED product. An example of an add-on application is TEDSECURE or NTED 2.0. Add-on applications must be purchased and installed separately from TED.

What's New in TED 4.2?

A number of additions and enhancements have been made to the TriTeal Enterprise Desktop since version 4.0. TED 4.2 contains the following new features:

TEDVISION

TEDVISION has been enhanced since its first release with TED 4.0. The new release, includes HTML 2.1 support, partial HTML 3.0 support, as well as an enhanced Preferences panel for customizing TEDvision, and other improvements. See the new *TEDvision User's Guide* for more information.

TEDSCAPE

TEDSCAPE helps the Netscape Navigator act like a CDE compliant application. Web documents can be dragged and dropped to and from Netscape Navigator Version 1.12 and up.

Graphical Workspace Manager (GWM)

The new GWM, which appears in the switch area of the Front Panel by default, provides more flexibility, a pop-up menu, and a Properties panel for customizing the GWM to your use. New resource variables let you change the default settings for the GWM. See Chapter 2, "Window and Session Management Tools" for details.

Pluggable Authentication Module (PAM) Administration

This release of TED 4.2 includes the CDE 1.0.10 maintenance release, which contains support for PAM. PAM can be used to support alternative forms of user authentication, such as DCE. See Chapter 6, "PAM Administration" for details.

What were the enhancements to CDE for TED 4.0?

The following listing includes the major feature enhancements, desktop services and add-on applications that were enhancements to CDE for TED 4.0. These features are all available in TED 4.2.

Session and Window Manager Tools

Session Manager Enhancement

The Session Manager has been modified to allow for an alternate method of specifying the command string used to regenerate an application after a TED session is restarted.

Multiple Screen Support

TED includes multiple screen support, which lets you display TED on more than one monitor, thus expanding the number of applications and workspaces immediately available.

Workspace Menu Enhancement

The Workspace Menu has two new options added to it. The Show GWM option displays the Graphical Workspace Manager (GWM), and the Application List option displays a window listing all currently running applications on the desktop.

Productivity Tools

Mail Tool Enhancements

The CDE specification, and therefore TED, comes equipped with a standard mail application, `dtmail`. TriTeal has improved the editing capabilities of this application and added an icon bar. The TED enhanced mail application lets you select an original mail message, make changes to it, and save those changes back to the original mail message. You can edit the content of the message only and not the header information, then save any editing back to the original message without having to create a copy of the original message. An icon bar has also been added to access commonly used features. Please see the *TriTeal Enterprise Desktop 4.0 User's Guide* for more information on editing your mail messages.

TEDFAX

TEDFAX is an integrated desktop service in TED. It lets you send and receive faxes directly from the desktop running on any UNIX workstation, server, or X-Terminal. It also can be used from a PC running WinTED. TEDFAX is seamlessly integrated into the TED desktop. For example, with TEDFAX you can simply drag a document onto the TEDFAX tool for faxing. Please refer to the *TEDFAX User's Guide* for further description of the features of TEDFAX.

Interoperability Tools

WinTED

WinTED provides interoperability between a TED environment and a Microsoft Windows environment. WinTED facilitates TED Front Panel display on a PC running Windows. The Front Panel provides access to all UNIX applications running on the UNIX Host system as well as local Windows applications. WinTED requires that a PC X display server product also be running on the PC. See Chapter 5, "Using WinTED" for details.

Key Bindings and Resources

Key Binding Enhancements

TED provides advanced key, button, and menu binding functions. You can use key binding enhancements as short-cuts to commonly used functions. See Chapter 7, "Key Binding Enhancements" for details.

Resource and Environment Variable Enhancements

TED provides new Resources and Environment Variables that let you customize your environment more efficiently. See Chapter 8, "Resource and Environment Variable Enhancements" for details.

Add-on applications

NTED 2.0

NTED 2.0 is a set of tools and actions that provides complete PC connectivity to TED users. That is, you can access Windows application files and applications on your Windows NT server, and create actions and datatypes for Windows applications not already defined. You can also manipulate PC files from the TriTeal Enterprise Desktop.

Note – The NTED 2.0 client is included with TED 4.2 and the required server add-on application is available as an option. Please refer to the *NTED 2.0 Installation and User's Guide* for more information.

TEDSECURE

With TEDSECURE, users can secure e-mail communications, and protect and authenticate archived messages using data encryption and digital signatures. Users can encrypt and sign files for secure data storage in the UNIX file system.

Note – TEDSECURE is an add-on application to TED 4.2, and must be purchased in addition to TED. Please refer to the *TEDSECURE User's Guide* for more information.

If you are interested in either NTED or TEDSECURE, you may contact your TriTeal Sales Representative for more information.

Window and Session Management Tools

2

This chapter outlines the session and window management enhancements to the TriTeal Enterprise Desktop.

Graphical Workspace Manager (GWM™)

For quick and more efficient access to your applications, a Graphical Workspace Manager (GWM) has been added to the Front Panel, as part of the TED Workspace Manager. The Graphical Workspace Manager shows a miniature view of the contents of each workspace in your session. You can display different workspaces with a button click and also select which application you want to be active. With the GWM, you can do the following:

- View workspace contents and navigate through multiple workspaces.
- Move applications from one workspace to another.
- Put copies of applications on multiple workspaces.
- See full application names by simply placing the pointer over the application icon.

The new release of the Graphical Workspace Manager provides the following new features:

- You can change the size and layout of the workspaces.
- You can display the name and backdrop of the workspaces.
- You can change the position and font size of the workspace names.
- You can easily move the Graphical Workspace Manager from the Front Panel to a separate window, if you prefer.

- You can add, rename, and delete workspaces from the GWM.
- You can change workspaces with keyboard short cuts, or by clicking with the mouse.
- You can add new resource variables to your X resources file to change the default settings for the GWM.

Figure 2-1 displays the Graphical Workspace Manager window in the Workspace and in the Front Panel.

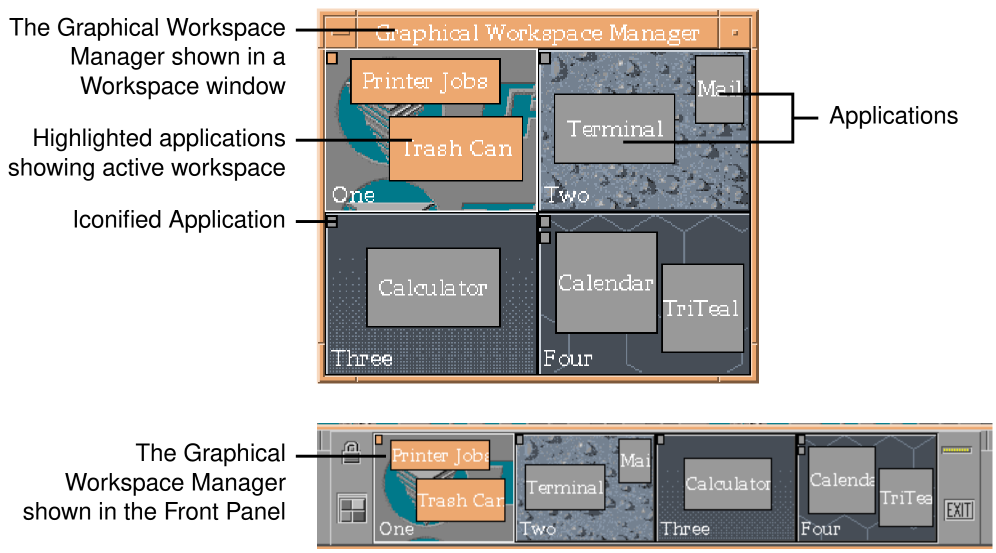

Figure 2-1 Graphical Workspace Manager, shown in the Front Panel and in a window

Moving from workspace to workspace

You can easily change the current workspace using the GWM with a click of the mouse. You can also add new window manager functions to your `dtwmrc` file to use keyboard shortcuts to change workspaces.

The following options are available for the f.workspace_change <*direction*> function:
- left
- right
- up
- down
- left_up
- right_up
- left_down
- right_down

See Chapter 7, "Key Binding Enhancements," for more information about changing workspaces with key bindings.

▼ *To Change Workspaces*

♦ To change the workspace that is displayed, do one of the following:

- Click with mouse button 2 in the desired GWM workspace.
  If you click on an application using mouse button 2, that application will be brought to the top of the stack when the new workspace is displayed.
- Double-click with mouse button 1 in the desired GWM workspace.
- Use the keyboard shortcuts you set up in your `dtwmrc` file.

Working with applications in the workspace

The GWM gives you easy access to the applications you have running in different workspaces. Using the GWM, you can do the following:

- Move applications from one workspace to another.
- Copy applications to other workspaces using the Control key.

▼ *Moving Applications*

♦ Using mouse button 1, drag the application window or minimized application (icon) to the desired workspace.

▼ *Copying applications*

♦ Press the Control key, and using mouse button 1, drag the application window to the desired workspace.

This action has the same effect as the Occupy Workspace option on the icon pop-up menu or the application's system menu.

Note – You can press or release the Control key while moving or copying applications to change from one to the other and vice versa. You can also press the Esc key to cancel.

Adding and deleting workspaces

You can easily add, rename, and delete workspaces using the GWM pop-up menu.

▼ *To add workspaces*

1. Place your cursor over a workspace in the GWM.

Press mouse button 3 to display the GWM pop-up menu, as shown in Figure 2-2:

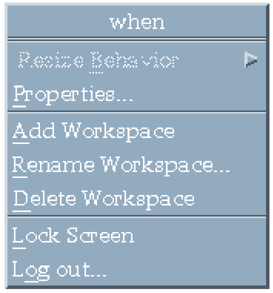

Figure 2-2 GWM Pop-up Menu

2. Choose Add Workspace from the pop-up menu.

   The workspace is given the name New, or New1, New2... and so on, if New already exists.

▼ *To rename a workspace*

1. Place your cursor over the workspace that you want to rename.
2. Press mouse button 3, and choose Rename Workspace from the pop-up menu. Figure 2-3 shows the Rename Workspace dialog box.

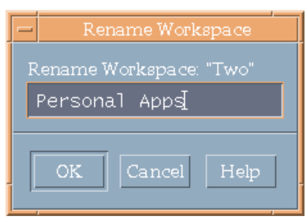

Figure 2-3 Rename Workspace Dialog Box

▼ *To delete a workspace*

1. Place your cursor over a workspace in the GWM.
2. Press mouse button 3, and choose Delete Workspace from the pop-up menu.

Displaying the GWM in the Workspace

You can change the GWM so that it appears in the Workspace rather than the Front Panel. You can easily change this setting using the Properties dialog box.

▼ *To display the GWM in the Workspace*

1. Place your cursor over a workspace in the GWM.

2. Press mouse button 3, and choose Properties from the pop-up menu. Figure 2-4 shows the GWM Properties dialog box.

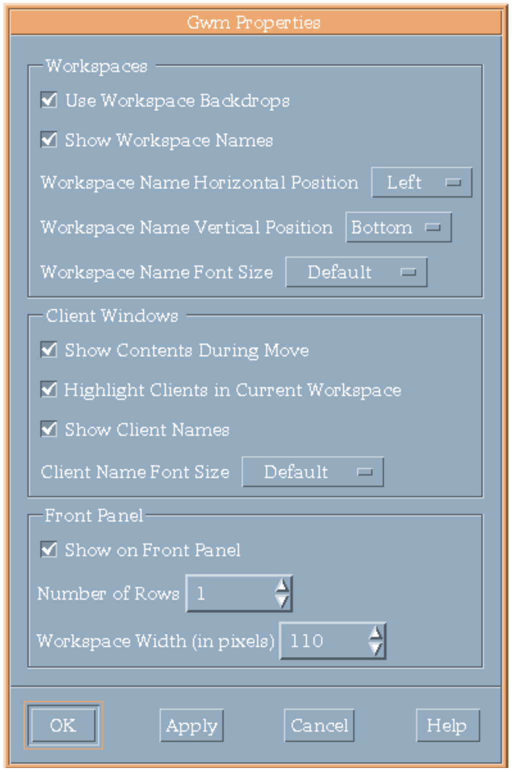

Figure 2-4 GWM Properties Dialog Box

3. Click the Show on Front Panel check box.

4. Click OK.

   The following dialog box appears.

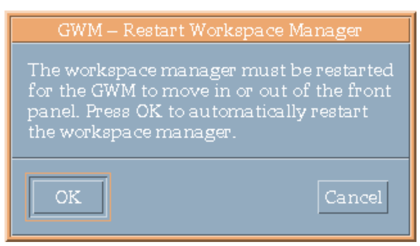

Figure 2-5 Restart Workspace Manager dialog box.

5. Click OK to restart the Workspace Manager.

   When the Workspace Manager restarts, the GWM will appear in the Workspace as a separate window.

If you close the GWM window, you can display it using one of the following two procedures:

▼ *To show the GWM using the Workspace Menu*

1. Place the pointer over an unoccupied area of the desktop and press mouse button 3.

   The Workspace menu appears as shown in Figure 2-6.

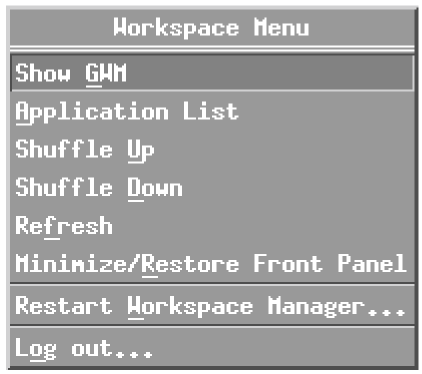

Figure 2-6 Workspace Menu

2. Choose Show GWM.

   The Graphical Workspace Manager appears.

Note – If you choose this command when the GWM is in the Front Panel, it will have no effect.

▼ *To start the GWM from the Front Panel*

1. Click the GWM control in the Front Panel.

   The GWM control is shown in Figure 2-7.

Figure 2-7 Front Panel GWM Control

Note – If you click this control when the GWM is in the Front Panel, it will have no effect.

Changing the appearance of the GWM

▼ *To Set GWM Properties*

1. Place your cursor over a workspace in the GWM.
2. Press mouse button 3, and choose Properties from the pop-up menu.
3. Do any of the following to make Workspace changes:
   - Check Use Workspace Backdrops if you want each workspace backdrop displayed in the GWM workspaces.
   - Check Show Workspace Names if you want the names of the workspaces displayed in the GWM workspaces.
   - If you choose to display workspace names, you can also specify the location of the text. Select a vertical and horizontal position for the names by selecting from the appropriate pop-up list.
   - Choose a font size for the workspace name text. Note that the Default text is the font specified in your Style Manager Font control.
4. Do any of the following to make changes to the appearance and behavior of client application windows in the GWM:
   - Check Show Contents During Move if you want to see the application's name as you move it from one workspace to another.
   - Check Highlight Clients in Current Workspace to make all applications in the current workspace use the highlight color. This is in addition to the white workspace border and makes it easier to determine which is the active workspace.
   - Check Show Client Names to display the names of the client applications in the GWM workspaces.
   - Choose a font size for the application name text. Note that the Default font is the font specified in your Style Manager Font control.

▼ *To Change the Size of the GWM in the Front Panel*

1. Choose Properties from the GWM pop-up menu.
2. Choose the Number of Rows by clicking on the spin box.

   The number you select determines the "desired" number of rows, not necessarily the exact number. Depending on how many workspaces you have, the number of rows will change, but will try to approximate the number of rows you chose.
3. Choose the Workspace Width by clicking on the spin box.

   Because you can not visually adjust the size of the workspaces when they are in the Front Panel, you have to choose the size in pixels.
4. Click Apply.
5. Click OK to close the Properties dialog box.

▼ *To Change the Size and Layout of the GWM in the Workspace*

The new GWM makes significant improvements to your ability to modify the size and shape of the GWM in the Workspace. Where previously you could change only the overall size of the GWM window, you can now change the size and orientation of the workspaces themselves. Figure 2-8 shows some of the variations of the GWM, changing both size and layout. You can make these changes by choosing different Resize Behavior settings from the GWM pop-up menu.

The default setting for Resize Behavior is Changes Size. By dragging a corner of the GWM window, you can change the size of the workspaces. Their layout remains the same.

If you choose the Changes Layout setting for Resize Behavior, the size of the workspaces remains the same, but the layout changes. Instead of the standard 2 by 2 layout, you can resize the GWM window, to create 1 by 4 or 4 by 1 layouts. If you add more workspaces, you will have even more possibilities.

Figure 2-8 Different GWM Size and Layout Settings

1. Do one of the following:
   - Choose Changes Size from the Resize Behavior option to keep the same layout and resize the workspaces.
   - Choose Changes Layout from the Resize Behavior option to keep the same size workspaces and change their layout.
2. Drag the GWM window to the desired size and shape.

Note – You may need to switch back and forth between changing layout and size of the GWM to get the GWM window to look the way you want it to.

Configuring GWM Resources

A number of new resources have been added to make using the GWM more customizable. Most of the resources are duplicates of options on the Properties panel, but a few can be set only by adding resources to any of the following files:

- `/etc/dt/config/`*language*`/sys.resources`
- `/etc/dt/app-defaults/`*language*`/Dtwm`
- `$HOME/.dt/.Xdefaults`

Changes to `sys.resources` or `Dtwm` will affect all accounts on a system, and changes to `.Xdefaults` will affect individual accounts.

For a list of resources and descriptions please see “Graphical Workspace Manager (GWM)” in Chapter 8, “Resource and Environment Variable Enhancements.”

Multiple Screen Support

To address the needs of users who have multiple screens on a single workstation, TriTeal has enhanced multiple screen support in `dtwm`. You no longer have to start applications by hand to display them on a non-primary screen.

- TED sessions can be configured to run with either an independent Front Panel on each screen, or a single Front Panel on the primary screen. Both Window Manager configurations are discussed below.
- The TED clients, `dtfile`, `dtstyle`, and so on, have also been extended to account for increased multiple screen functionality.
- File Manager views may be displayed on screens other than the primary screen.
- Colormaps, backdrops and so on, may be changed on any screen without stopping and restarting `dtstyle` on the target screen.

Along with these obvious enhancements, many subtle improvements have been made to allow for easier control of desktop attributes and resources.

The files that are affected are:

`/etc/dt/app-defaults/C/Dtwm`

This configuration of `Dtwm` creates a Front Panel on each screen of the display. While all Front Panels are identical, using the same `dtwmrc` file, they can be configured differently and function independently.

Each screen of the display functions as a unique desktop environment, however all screens are governed by a single user session. Resources, application hints and presence, and so on, are all saved in the same manner as in a standard TED session.

The Window Manager can run on any display device that the X display server controls.

If you specify more than one display device, you must also specify the physical configuration of the displays using the appropriate X display server flags. To run the X display server on all the display devices, follow the procedure below:

▼ To Run TED on Multiple Displays

1. Read the manual pages for the X display server of your system.

Note – It is important to identify the X display server flags you need to use. The manual pages will explain what steps you need to take in order to select your primary display device, and to set the orientation of the devices (left to right, or top to bottom.) All the display devices should be defined and available to the system.

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2. Verify that you can start the X display server on all display devices by simply executing the X display server using the flags you have identified from the man pages.

3. Stop all TED processes on your system.

4. Modify the `/etc/dt/config/Xservers` file to include the flags in the X display server line.

   For example, the following change will display the Login Manager on the IBM AIX platform with two display devices:

   Comment out the line

   ```
   # :0 Local local@console /usr/bin/X11/X -T -force :0
   ```

   and insert the following line:

   ```
   :0 Local local@console /usr/bin/X11/X -T -force -P11 1 -P12 2
   ```

   The following example illustrates the changes required to display the Login Manager on the Sun Solaris platform with two display devices (for example, `/dev/cgsix0` and `/dev/cgsix1`):

   Comment out the line

   ```
   * Local local_uid@console root /usr/openwin/bin/X :0 -nobanner
   ```

   and insert the following line:

   ```
   * Local local_uid@console root /usr/openwin/bin/X -nobanner -dev \
                                  /dev/fb0 -dev /dev/fb1
   ```

5. Start the Login Manager (`dtlogin`).

   The Login Manager will appear on the primary display device and the Session Manager will run on all display devices.

Workspace Menu Enhancements

The Workspace Menu has been enhanced with the following additions, to make window management easier:

- The Show GWM option displays the Graphical Workspace Manager. For more information on the Show GWM option, please see "To show the GWM using the Workspace Menu" on page 12.
- The Application List option displays a window that lists all currently running applications on TED.

▼ *To Display a List of Running Applications*

1. Place the pointer over an unoccupied area of the desktop and press mouse button 3.

2. Select Application List.

   A window appears with a list of all currently active applications. The Application List window is shown in Figure 2-9.

Figure 2-9 Application List Window

3. Double-click an application to go to the workspace where the application is running.

   The application you selected also becomes the active window.

Note – If an application list window is open, it will not automatically update when an application is closed. To see a revised list, open a new application list window.

Style Manager Enhancements

The Style Manager has been enhanced with two new controls: the Workspaces control, which is optional, and the Browsers control.

Adding the Workspaces Control

The Workspaces control is an optional control that you can add to the Style Manager by modifying the `Dtstyle*componentList` resource in the `Dtstyle` file of the `/etc/dt/app-defaults/`*language* directory.

Although the Workspaces control is similar in appearance to the Graphical Workspace Manager (GWM) button on the Front Panel, it provides different functions from that of the GWM.

You can do the following after adding the Workspaces control:

- Synchronize workspaces across screens (for multiple screen display).
- Hide or show the workspace switch area.
- Add a workspace slider control to specify the number of workspaces, and change the number of workspaces, if desired.

When the Workspaces control is added, the Style Manager will show the new control next to the Startup control.

The Workspaces control is shown in Figure 2-10.

Figure 2-10 Workspaces Control

▼ *To Add the Workspaces Resource Control to the Style Manager*

1. Change directory to: `/etc/dt/app-defaults/`*language*`/`
2. Use a text editor to open the file `Dtstyle`.

   Copy the file from `/usr/dt/app-defaults/`*language*`/` if it does not exist.
3. Find the resource: `Dtstyle*componentList.`

   The `Dtstyle*componentList` will list all the controls presently included in the Style Manager.
4. Add `Workspaces` to the end of the list after the word `Startup`.
5. Save the changes you have made.

You should now see the Workspaces control in the Style Manager when you open it. The Workspaces control is shown in the Style Manager in Figure 2-10.

▼ *To Enable Synchronized Workspaces*

Note – This option will be available only if you have a multiple screen display.

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1. Locate the Workspaces control at the far right of the Style Manager, and click the control.

   The Workspaces dialog box will appear as shown in Figure 2-11. The dialog box may also display a Number of Workspaces slider if you added the resource as described in “To Add the Workspaces Slider” on page 20.

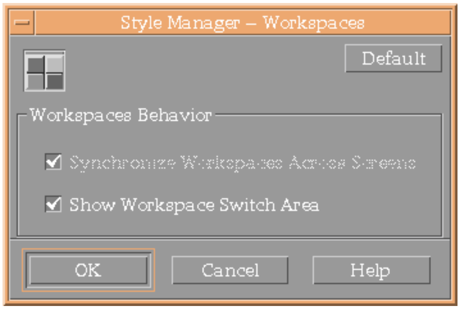

Figure 2-11 Workspaces Dialog Box

2. Click the Synchronize Workspaces Across Screens checkbox to turn on the feature.

3. Click OK.

   The dialog box shown in Figure 2-12 appears, informing you that the Workspace Manager must be restarted for the new changes to take effect.

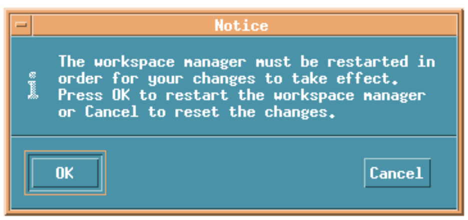

Figure 2-12 Restart Workspace Manager Dialog Box

4. Click OK to restart the Workspace Manager and apply the changes you have made or Cancel to stop the changes from being made.

▼ *To Hide or Show the Workspace Switch Area*

1. Locate the Workspaces control at the far right of the Style Manager, and click the control (see Figure 2-10).

2. Click the Show Workspace Switch Area checkbox to show or hide the Workspace switch area.

3. Click OK.

4. When the dialog box appears, click OK to restart the Workspace Manager and apply the changes you have made, or click Cancel to stop the changes from being made.

Note – If you have the GWM in your Front Panel, and you turn off the Workspace Switch Area, the GWM will automatically be displayed in a workspace window.

▼ *To Add the Workspaces Slider*

1. Change directory to: `/etc/dt/app-defaults/`*language*`/`
2. Use a text editor to open the file `Dtstyle`.

   Copy the file from `/usr/dt/app-defaults/`*language*`/` if it does not exist.
3. Add the following line below the `Dtstyle*componentList` entry:

   ```
   Dtstyle*useNumWsScale: True
   ```
4. Save the changes you have made and restart the Style Manager.

   The Workspace Manager dialog box appears as shown in Figure 2-13 with the slider control.

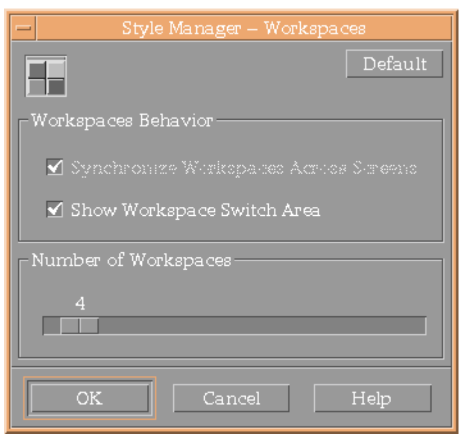

Figure 2-13 Workspace Manager Dialog Box with Slider

▼ *To Add Workspaces with the Workspaces Dialog Box*

1. Locate the Workspaces control at the far right of the Style Manager, and click the control.

   The Workspaces dialog box appears as shown in Figure 2-13.
2. Move the slider to display the total number of workspaces that you want.
3. Click OK.
4. When the dialog box appears, click OK to restart the Workspace Manager.

Note – You can use a resource to limit the number of workspaces that you can add with the slider. If you limit the workspaces in your switch area, the actions you take in the Workspaces dialog box will have different effects. See the following procedure for more information.

▼ *To Change the Switch Area Button Limit*

The slider on the Workspaces dialog box lets you add a large number of workspaces instantly, which can save you time. However, large numbers of workspaces may create a huge, unmanageable Front Panel if you display all the workspace buttons. The Switch Area Button Limit resource lets you limit the number of buttons in the switch area so that if you want to work with large numbers of workspaces, you won't end up with an unwieldy Front Panel. All workspaces will be displayed in the GWM exclusively.

This procedure is completely optional. You don't have to limit the switch area if you don't want to.

1. Change directory to: `/etc/dt/app-defaults/`*language*`/`
2. Use an editor to open the file `Dtstyle`.

   Copy the file from `/usr/dt/app-defaults/`*language* if it does not exist.
3. Add the following line:

   ```
   Dtstyle*switchButtonLimit: <limit>
   ```

   where <*limit*> is a number. The default is 0.
4. Save the changes you have made and restart the Style Manager.

   This resource limits the number of workspaces you can add using the slider that will display in the Front Panel only. It does not limit the workspaces you can add using the pop-up menus in the GWM or in the switch area of the Front Panel.

Now, if you display the Workspaces control and attempt to use the slider to set the number of workspaces, you may detect different behavior. If you use the slider to increase the number of workspaces and you exceed the limit set by the resource, the Show Workspace Switch Area checkbox will be unchecked and made unavailable. If you restart the Workspace Manager, the buttons in the switch area will not appear. You will see the specified number of workspaces in the GWM only.

The Show Workspace Switch Area check box will become available when you move the slider below the limit specified by the resource.

Choosing a Default Browser

If you have both TEDVISION and NetscapeNavigator installed, you can choose the default Web browser by using the Browser control in the Style Manager. If both applications are not installed, the browser control will not be available.

Note – In order for the Browser control to appear, you must have TEDVISION installed in `/usr/dt/bin` and Netscape Navigator must be in your executable path.

See Chapter 3, “Using TEDSCAPE” for more information about using TriTeal’s Netscape Navigator add-on, TEDSCAPE.

▼ *To Select the Default Web Browser*

1. Click the Style Manager control on the Front Panel.

   The Style Manager will appear as shown.

Figure 2-14 TED Style Manger

2. Click the Browser control.

   This will open the Style Manager Browser dialog box.

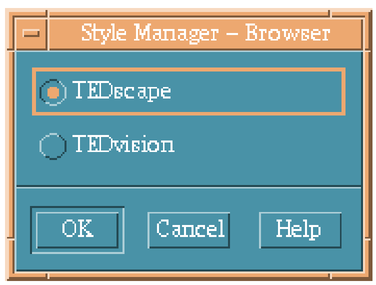

Figure 2-15 TED Style Manager Browser Dialog

3. Choose either TEDscape or TEDvision.
4. Click OK.

   The browser you selected will become the default browser for the current (and any subsequent) sessions.

Session Manager Enhancements

Alternate Command String for Regenerating Applications

The TED session manager has been modified to allow for an alternate method of specifying the command string used to regenerate an application after a TED session is restarted.

Formerly, the contents of the WM_COMMAND property were queried for each top level window on the root window for the purpose of saving the user's session at logout time. The contents of the WM_COMMAND property were used to build a dtsmcmd command string that was saved in the dt.session file. The dt.session file is read when a TED session is resumed. All applications referenced in the file are restarted with the command derived from the WM_COMMAND window property. Applications started from shell scripts, or in any other manner that requires some preliminary setup, would fail to be restarted properly under the default dtwm.

To allow users to specify an alternate startup string to be used in place of the contents of WM_COMMAND, the WM_COMMAND_STR resource was created. By specifying this resource for a given application, the user causes the session manager to ignore the contents of WM_COMMAND and use the string specified in the appname*WM_COMMAND_STR resource in its place.

An example shell script that starts an X application is shown below:

```
#!/bin/sh
echo "table*WM_COMMAND_STR:    /home/fred/TABLE/run" | xrdb -merge
XAPPLRESDIR=/home/fred/TABLE/APP
export XAPPLRESDIR
/home/fred/TABLE/table
```

Notice the call to xrdb -merge that sets the WM_COMMAND_STR resource. The shell script run starts the X program table. After logging out and logging back in again, the shell script run will be invoked to start table instead of table being invoked directly, as would be the case if WM_COMMAND_STR was not set.

Session Log Files

Random stdout and stderr output from applications started by the Session Manager, the Front Panel, or Workspaces menu can be directed into your $HOME/.dt/sessionlogs directory. By default, this output is not recorded, but is instead sent to /dev/null.

If you want to see this random application output (usually only for debugging purposes), edit your .dtprofile file and comment out the dtstart_sessionlogfile lines to send the output to your $HOME/.dt/sessionlogs directory.

Alternatively, you can change /dev/null to /dev/console to see the debugging output on your console device.

Using TEDSCAPE 3

What does TEDSCAPE do?

TEDSCAPE helps Netscape Navigator act like a CDE compliant application. Web documents can be dragged and dropped to and from Netscape Navigator Version 1.12 and up.

Features

TEDSCAPE has the following features:

- Documents can be saved as a URL file or as HTML source.
- Only one TEDSCAPE process runs on a display, regardless of how many browser windows are opened.
- TEDSCAPE can be used simultaneously with TEDvision.

System Requirements

- Netscape Navigator Version 1.12 or higher

Enabling TEDSCAPE

The option to choose TEDSCAPE or TEDvision exists only if Netscape and TEDvision are both installed (in appropriate paths). If only one is installed, no browser control will appear in the Style Manager.

You can decide which browser to use as the default using the Style Manager. If TEDvision has not been installed, TEDSCAPE will become the default browser. If this is the case, the browser control found in the Style Manager will not be available.

▼ *To select TEDSCAPE as the default Web browser*

1. Click the Style Manager control in the Front Panel.

The Style Manager will appear as shown in Figure 3-1.

Figure 3-1 TED Style Manager

2. Click the Browser control.

   The Style Manager Browser dialog box appears as shown in Figure 3-2.

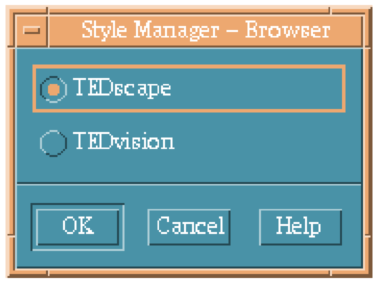

Figure 3-2 TED Style Manager Browser Dialog Box

3. Select the TEDscape toggle button.
4. Click OK.

   TEDSCAPE is now the default browser and will start when either an HTML or URL file is opened.

Starting TEDSCAPE

You can start TEDSCAPE in a number of ways as described in the following procedures:

▼ *To start TEDSCAPE from the Application Manager*

1. Click the Application Manager control in the Front Panel.
2. Double-click the TEDscape folder.

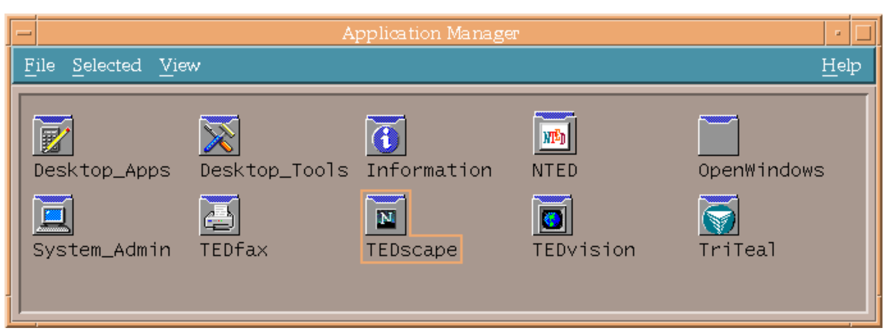

Figure 3-3 TEDscape Folder in the Application Manager

3. Double-click the TEDscape icon.

▼ *To start TEDSCAPE by drag and drop*

♦ Drag and drop a document onto the TEDscape icon in the Application Manager.

The document must be a file type that is recognized by TEDSCAPE and TEDSCAPE must be defined as the default browser.

▼ *To start TEDSCAPE from a file*

♦ Double-click on a URL document icon within the File Manager or as an attachment in the Mailer.

The document must be a file type that is recognized by TEDSCAPE and TEDSCAPE must be defined as the default browser.

▼ *To start TEDSCAPE from the command line*

1. Change directory to `/usr/dt/bin.`
2. Type the following command:

```
tedscape
```

Using TEDSCAPE

This section describes how to open and save files in TEDSCAPE.

Opening Files in TEDSCAPE

With TEDSCAPE, you can drag and drop files from anywhere in the TriTeal Enterprise Desktop to Netscape Navigator to open or display them.

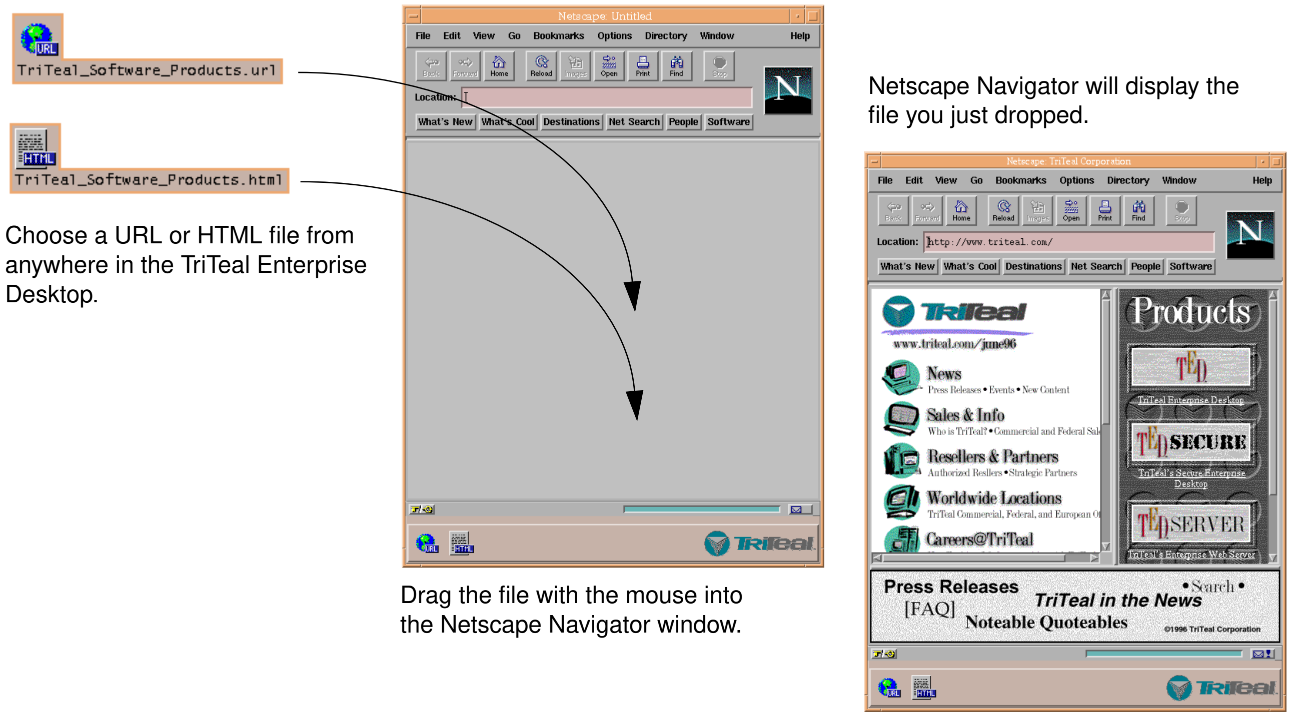

Figure 3-4 Opening files in TEDSCAPE with drag and drop

Note – Only URL files or HTML source can be dragged from the desktop to TEDSCAPE.

TEDSCAPE can handle all CDE and TED file types. However, they will be displayed as source unless there is internal support for a particular file type (such as GIF and JPEG images).

Printing Files in TEDSCAPE

TEDSCAPE lets you print a URL file or HTML source file simply by drag and drop. When you run Netscape Navigator with TEDSCAPE you will notice URL and HTML icons at the bottom of the browser.

URL and HTML

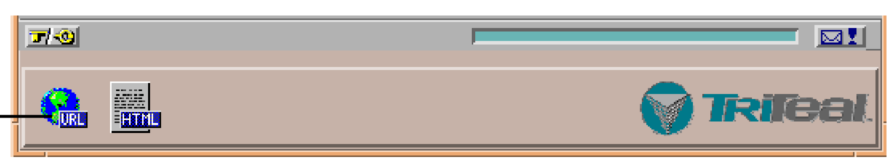

Figure 3-5 TEDSCAPE: URL and HTML Drag and Drop Icons

For more information on URL or HTML files please see the new *TEDVISION User's Guide.*

▼ To print the URL of a document

1. Open TEDSCAPE.
2. Open a document (either local or remote).
3. When the document is loaded, place the pointer on the URL icon at the bottom of TEDSCAPE and press mouse button 1. The URL icon is shown in Figure 3-5.
4. Drag the URL icon to the Print Manager icon on the Front Panel.

   The URL of the document is printed.

▼ To print the HTML source of a document

1. Open TEDSCAPE.
2. Open a document (either local or remote).
3. Once the document is loaded, place the pointer on the HTML icon at the bottom of TEDSCAPE and press mouse button 1. The HTML icon is shown in Figure 3-5.
4. Drag the HTML icon to the Print Manager icon on the Front Panel.

   The HTML source of the document is printed.

Saving Files in TEDSCAPE

With TEDSCAPE, you can save URL, HTML, and image files using the drag and drop features of the TriTeal Enterprise Desktop.

▼ To save the URL of a document

1. Open TEDSCAPE.
2. Open a document (either local or remote).
3. When the document is loaded, place the pointer on the URL icon at the bottom of TEDSCAPE and press mouse button 1. The URL icon is shown in Figure 3-5.
4. Drag the URL icon to the desktop, Mailer, or File Manager.

   The URL of the document is saved.

▼ To save the HTML source of a document

1. Open TEDSCAPE.
2. Open a document (either local or remote).
3. Once the document is loaded, place the pointer on the HTML icon at the bottom of TEDSCAPE and press mouse button 1. The HTML icon is shown in Figure 3-5.

4. Drag the HTML icon to the desktop, Mailer, or File Manager.

   The HTML source of the document is saved.

Saving Image Files

It is not possible to use the URL or HTML icons to save image files that are contained in larger documents. To save image files, you will need to isolate the image onto its own page and then drag the URL or HTML icon to the desktop, Mailer, or File Manager.

▼ *To save image files in TEDSCAPE*

1. Position the pointer over the image you want to save, and press mouse button 3.

   This will open the Netscape Command menu. The Netscape Commands menu is shown in Figure 3-6.

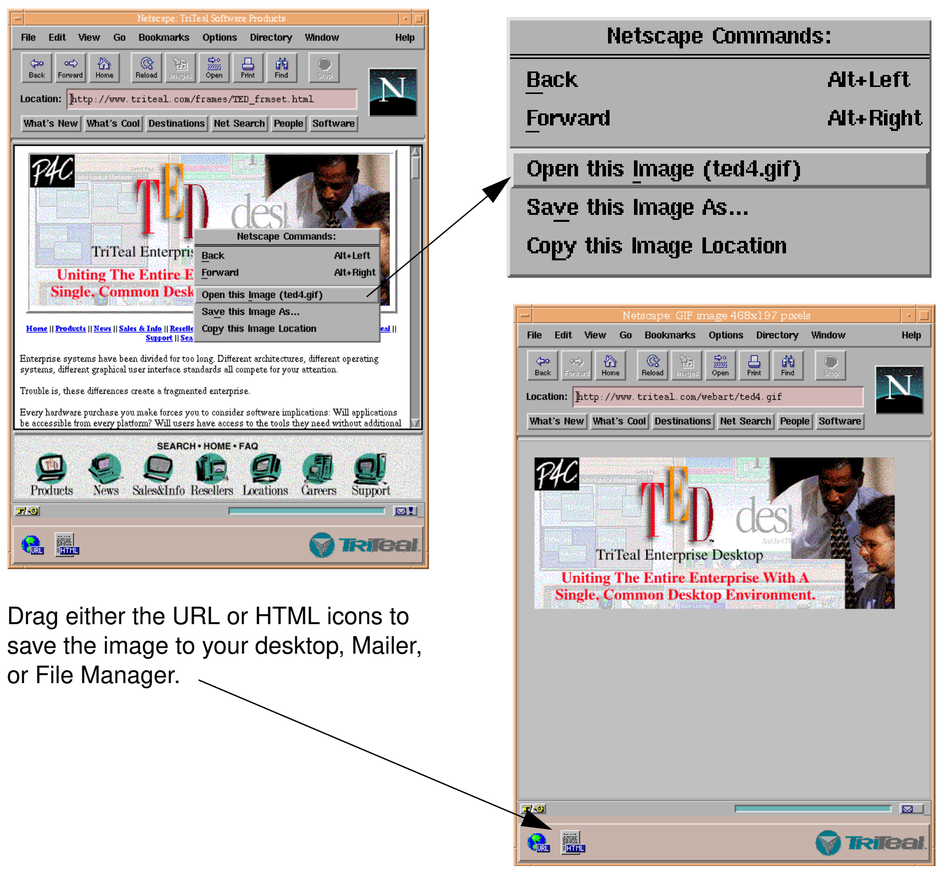

Figure 3-6 Saving an image

2. Choose Open this Image from the Netscape Commands menu.

   The image will now appear by itself in the TEDSCAPE window.

3. Drag the URL or HTML icon to the desktop, Mailer, or File Manager.

Configuring TEDSCAPE

TEDSCAPE does not have a configuration file. You should configure Netscape Navigator settings according to Netscape guidelines. The only configuration necessary for TEDSCAPE is whether or not you want to set it up as the default browser.

Setting Xresources

Since setting the default browser sets an X resource value designating the default browser, no configuration file is needed. The default browser selection is stored in the `$HOME/.dt/sessions/current/dt.resources` file. All other resources are managed by Netscape.

Using the Mailer 4

This chapter describes an overview of the TED 4.2 enhancements to the Mailer.

Introduction

The TED enhanced mail application lets you select an original mail message, make changes to it, and save those changes back to the original mail message. An icon bar has also been added to access commonly used features. Please see *TriTeal Enterprise Desktop 4.0 User's Guide* for more information on editing your mail messages. This chapter contains information on Mailer features enhanced for TED 4.2 only.

Use the Mailer to perform the following tasks:

- Browse and view messages.
- Compose new messages.
- Send messages to various recipients with or without attachments.
- Respond to messages.
- Forward messages to others not on the original mailing list.
- Print messages.

Please refer to the *TriTeal Enterprise Desktop: User's Guide* for complete information about standard Mailer features.

Composing messages

Figure 4-1 below shows the new Mailer compose window toolbar, which lets you use icons to access Mailer features.

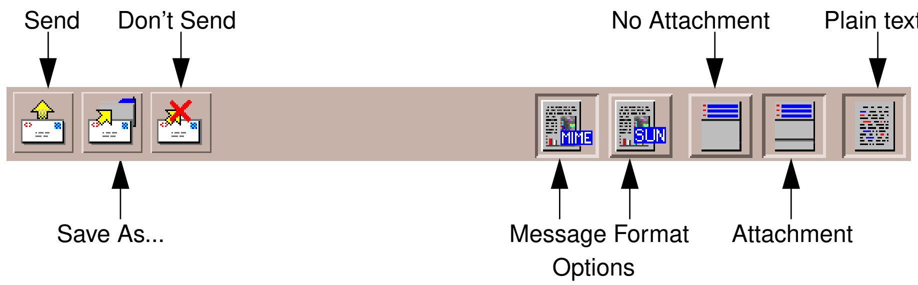

Figure 4-1 The Mailer toolbar

▼ *To compose a message*

1. If the Mailer is not already started, click the Mailer control in the Front Panel.

   The mailbox appears.

2. Choose New from the Compose menu.

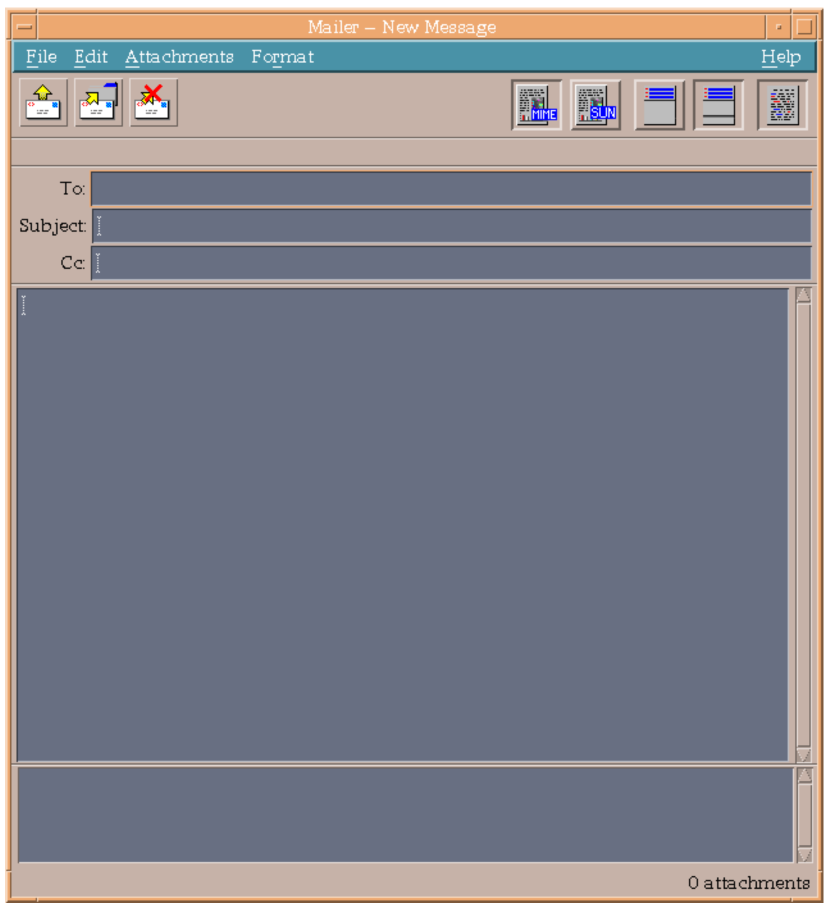

Figure 4-2 The Mailer Compose Window

3. Type the e-mail address of the recipient in the To field and press Return.

4. Type the topic of the message in the Subject field and press Return.

5. *Optional*. Type the e-mail addresses of the users you want to be carbon copy recipients of this message in the Cc field.

6. Click the MIME or Sun button to choose the format for the message.

7. Type the body of the message and add attachments or include files as you normally would.

8. Click the Send button or choose Send from the File menu.

Editing e-mail messages

Figure 4-3 shows the toolbar for the Edit window. The buttons on the left duplicate the menu items on the File menu.

Figure 4-3 Mailer Edit Window Toolbar

▼ *To make changes to messages in your mailbox*

1. To make changes to messages in your mailbox, do one of the following:
   - Double-click the message header in the Message Header list.
   - Select the message, then choose Open from the Message menu.

   The message appears as shown in Figure 4-4.

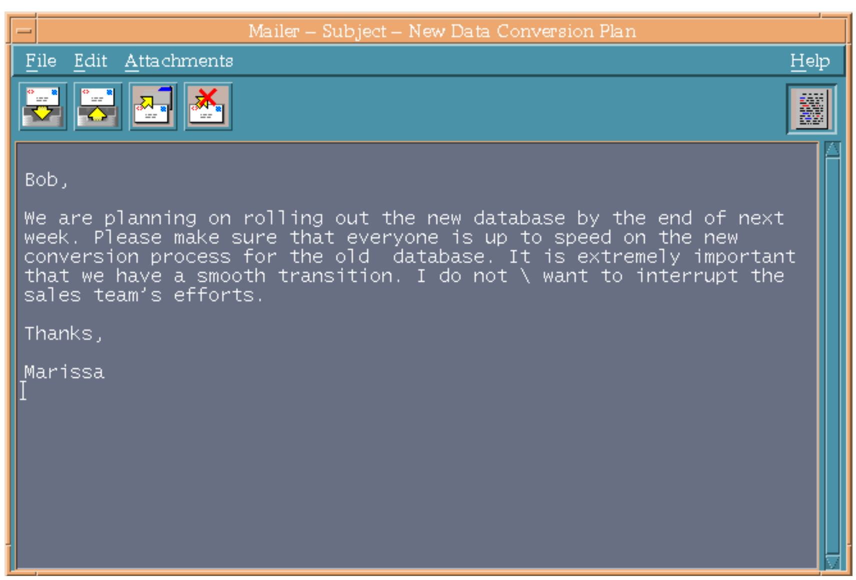

Figure 4-4 The Mailer Edit Window

2. Make changes to the message as desired.
3. Click the Save button or choose Save from the File menu.

Saving e-mail Messages

▼ *To save e-mail messages as files*

1. To save an e-mail message as a file, do one of the following:
   - Double-click the message header in the Message Header list.
   - Select the message, then choose Open from the Message menu.
2. Click the Save As button or choose Save As ... from the File menu.

   The Save As dialog box appears as shown in Figure 4-5.

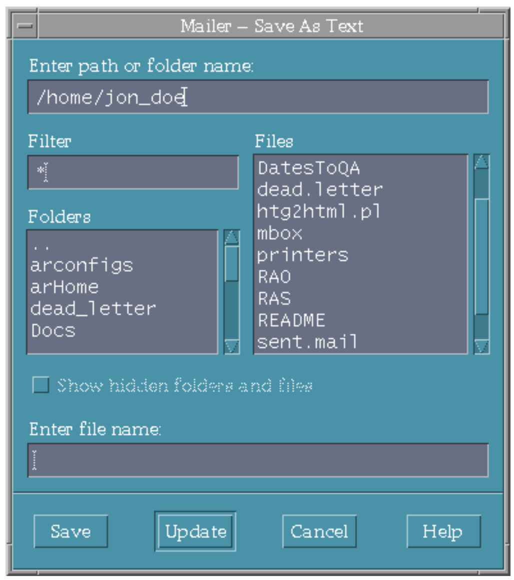

Figure 4-5 The Mailer Save As Dialog Box

3. Choose a location for the file.
4. To save the file as a text file, choose a name and add the extention `.txt`.

   If you do not choose an extension, the file will be saved as a mail icon.
5. Click Save.

Printing messages

You can print an e-mail message in the following ways:

- Print the e-mail message from the Mailer Message Menu.
- Drag the message from the Mailer Header List to the Print Manager control on the Front Panel or to the Print Manager icon in the Application Manager or subpanel.

- Drag the e-mail message's attachment icon to the Print Manager control in the Front Panel or to the Print Manager icon in the Application Manager or the Printer subpanel.

▼ *To print messages from the Mailer*

1. Select an e-mail message in the Mailer Header List or its attachment from the Attachment List.

2. Choose Print from the File menu or click the Print button on the Mail Manager Main Window.

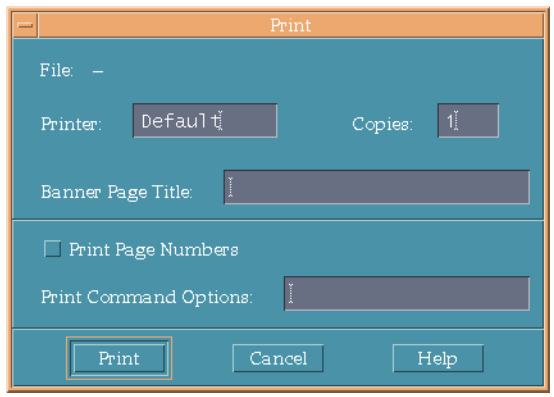

Figure 4-6 The Mailer Print Dialog Box

3. *Optional*. Set any of these printing options:
   - Type the number of copies to print.
   - Type text to appear on the printer banner page. The banner page is printed in addition to the burst page.
   - Click Print Page Numbers if you want to number the pages.
   - Type command-line printer options.

4. Click Print.

   The e-mail message is printed with the chosen options. The Print dialog box closes when you print the e-mail message. To close the dialog box without printing your e-mail message, click Cancel.

Using WinTED 5

This chapter provides an overview of WinTED. It includes information on configuration, system requirements for both the PC and UNIX host, as well as use, customization, and troubleshooting.

What is WinTED?

WinTED provides the ability to display the TriTeal Enterprise Desktop on a PC screen under a local PC X-server and window manager. WinTED runs on a UNIX host and is displayed remotely on the PC using standard X protocol. All standard TED features are supported from the Front Panel and associated TED clients, including application launching, multiple workspaces, and drag-and-drop among TED clients.

WinTED separates the Front Panel application launching and workspace functionality from the window management functions of the TED window manager. This lets you work in an environment with a TED look and feel but uses a local Motif or Microsoft Windows style window manager. In some cases, window management is left entirely to Microsoft Windows.

This separated interface client is started by default when you log in to the UNIX host using the TED display manager with XDMCP. A handshake is implemented to allow WinTED to operate using the X protocol, which detects a supported PC X-server.

System Requirements

WinTED has both PC and UNIX host requirements that must be met in order for WinTED to function correctly.

PC System Requirements

There are several requirements for the PC:

- There are no disk space requirements for the PC. However, 16 MB of RAM is required. Adding more RAM to the PC will generally improve the X-server's performance.
- WinTED runs on any MS Windows Intel 80486 or Pentium platform that runs the Exceed or PC-Xware software, including supported versions of Windows, Windows NT, and Windows for Workgroups.
- WinTED runs on either NCD's PC-Xware version 2.0 and up, or Hummingbird's Exceed version 4.0 or 5.0 Windows X-servers.
- PCs should be configured with an Ethernet card. The X-server provides the network protocol stack for the PC.
- WinTED works on PCs that are connected to UNIX systems using SLIP, PPP, ISDN, or ATM. However, performance depends on the speed of the connection.

UNIX Host Requirements

The UNIX Host has the following requirements:

- 2 MB additional disk space.
- 32 MB of RAM is required for the UNIX Host.
- The TriTeal Enterprise Desktop 4.2 (minimum installation, and WinTED package) should be installed on the UNIX Host.

Starting WinTED

▼ *To start the WinTED client*

1. From the PC, start either PC-Xware or Exceed.
2. Start the software chooser. PC-Xware's display manager is shown in Figure 5-1.

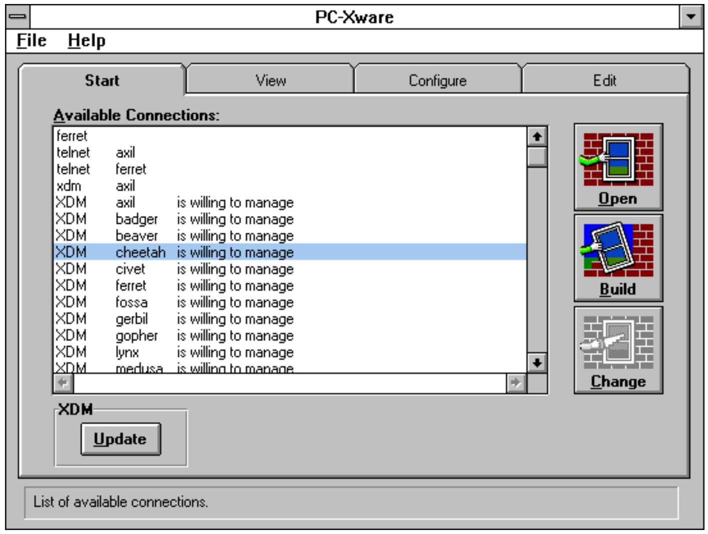

Figure 5-1 A Typical Display Manager

3. Select a UNIX Host system from the list of available hosts.

   The host you select must be running TED, as well as have the WinTED package installed.

Note – If you selected the "Typical" or "Full" installation options, WinTED was installed on your system. Only the "Minimum" option excludes the WinTED package.

---

4. After you make a selection from the chooser, the login screen is displayed as shown below:

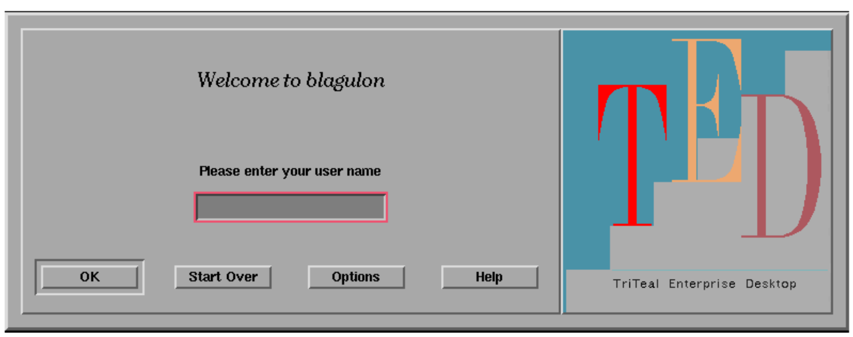

Figure 5-2 TED Login Screen

5. Log in to the UNIX Host.

   The TED Session Manager starts, and the TED look and feel is presented on your PC. The TED Front Panel will appear as shown in Figure 5-3 while allowing a local Motif or Microsoft Windows style window manager to be used on the PC.

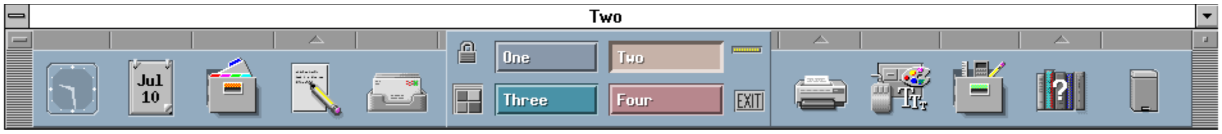

Figure 5-3 TED Front Panel within a Microsoft Windows Environment

WinTED Configuration

Consider the following sections when setting up WinTED:

- Using the Alt key
- Configuring WinTED for the PC
- Configuring WinTED for the UNIX Host

Using the Alt key

Most PC keyboards have two Alt keys, one on the left of the spacebar and one on the right. In the TriTeal Enterprise Desktop, the Alt key can be used to access menus on most applications. If you are using WinTED with a PC keyboard, you must use the Right Alt key only to access menu commands.

Configuring WinTED for the PC

You will need to make some small changes to take advantage of certain PC features. The Windows Task List and desktop tiling pattern require that you make minor changes after the TED Front Panel is up and running on the PC.

▼ *To access the Windows Task List dialog*

1. Open the Style Manager in the TriTeal Enterprise Desktop.
2. Click the Backdrops button.
3. Change the desktop background selection to "NoBackdrop."

▼ *To expose the Microsoft Windows desktop tiling pattern*

♦ Run `xsetroot` with no parameters.

While this step is not necessary, it is cosmetically appealing to the user who is familiar with the appearance of the Microsoft Windows desktop.

Note – The "NoBackdrop" option should always be used with Exceed.

Configuring WinTED for the UNIX Host

A small amount of setup is involved for the UNIX host to enable WinTED to display on a PC from a user's TED account.

▼ *To setup a user's account to display on a PC*

1. Change directory to `$HOME/.dt/bin`
2. Create a directory with a command patterned as follows:

   mkdir <*UNIX hostname*>/<*PC Display Name*>

   For example, in the case where the TED host was named "eagle," and the PC's network name was "micron100," the command would be:

   ```
   mkdir eagle/micron100
   ```

Note – Depending on how machines resolve their names, you may need to fully qualify the PC display name. In the example above, you would change `micron100` to `micron100.smith.com`.

---

3. Change directory into the lowest level of the directory path you just created, and create a symbolic link named "dtwm," which points to the WinTED startup script (`dtwm.sh`) as follows:

   ```
   ln -s /usr/dt/WinTED/bin/dtwm.sh ./dtwm
   ```

When this user logs into the TED host from a PC, via a supported PC X-server and the TED login screen, the `dtwm` client will be started instead of the standard TED Window Manager (`/usr/dt/bin/dtwm`).

Customizing WinTED

WinTED lets you to combine your Microsoft applications with the TriTeal Enterprise Desktop Front Panel. You can also take advantage of standard keyboard shortcuts under Windows as well as other PC features.

Including Microsoft Applications in the TED Front Panel

Any Microsoft application can be integrated into WinTED, and therefore be launched from the WinTED Front Panel on the PC. The Microsoft client is launched using `rsh` or `rexec` protocol. The `rsh` protocol should be used with PC-Xware, while the `rexec` protocol should be used with Exceed.

Note – Exceed users must start the `Xstartd` daemon to handle the `rexec` requests. The Xstartd daemon is started by double-clicking the Xstartd icon in the Exceed main program group.

▼ *To integrate Microsoft applications into the WinTED Front Panel*

1. Create an action definition that does an `rsh` command (PC-Xware) or an `rexec` command (Exceed) on the Microsoft windows executable.

For example, you could define an action called “winapp” as follows:

```
ACTION winapp
{
  LABEL       winapp
  TYPE        command
  EXEC_STRING sh -c ‘dis=’echo $DISPLAY | cut -d: -f1’; rsh
             \$dis winfile’

  ICON        winapp.pm
  WINDOW_TYPE NO_STDIO
  DESCRIPTION Starts MS windows application
}
```

2. The icon “winapp.pm” could be created by choosing Grab Screen Image from the icon editor’s Edit menu.
3. Now create an executable file with the same name as the action defined above, that is, “winapp”.

   The contents of the file do not matter in this case, so you could use the command `touch winapp` to create an empty file.
4. Change permissions on the file you created to 755 using the `chmod` command. For example,

   ```
   chmod 755 winapp
   ```
5. Incorporate the action/icon for the application into the Front Panel.

▼ *Adding Microsoft’s File Manager to the Front Panel*

The example in Figure 5-4 shows the Microsoft Windows File Manager installed in the personal applications subpanel.

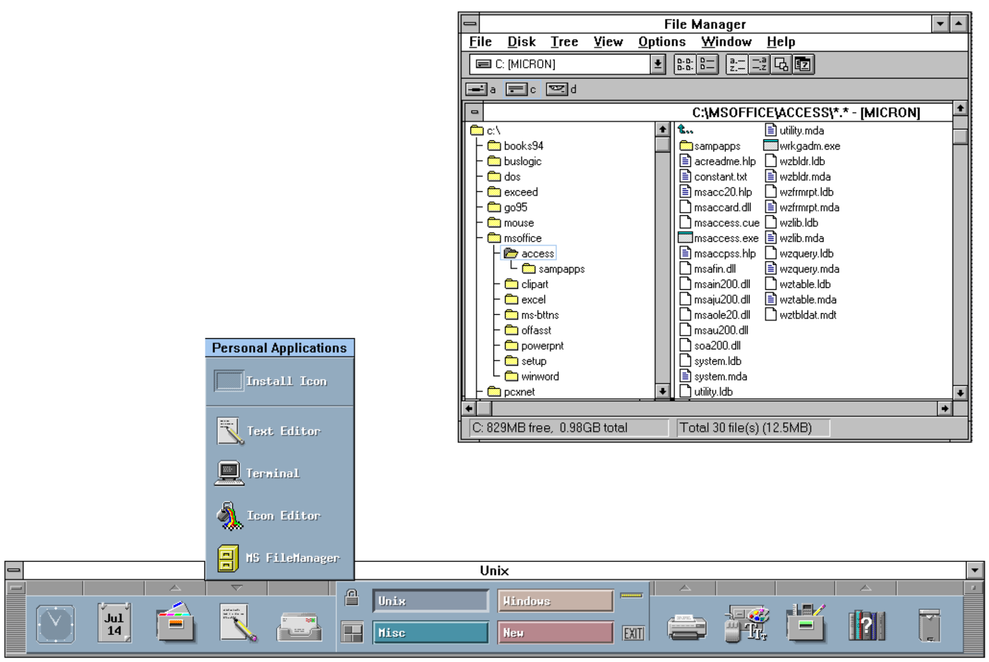

Figure 5-4 Adding a File Manager to the Front Panel

♦ Create an executable file with the same name as the action name. The content of the file does not matter.

For example, if the action definition is:

```
ACTION msfile
{
     LABEL          msfile
     TYPE           COMMAND
     EXEC_STRING    sh -c 'dis=`echo $DISPLAY | cut -d: -f1` ; \
                                          rsh \$dis winfile'
     ICON           msfile.pm
     WINDOW_TYPE    NO_STDIO
     DESCRIPTION    Starts the MS Windows file manager
}
```

then the action file would be an executable file named `msfile`. In File Manager and Application Manager, the `msfile` file would use the icon image `msfile.`*size*`.`*type*. Double-clicking `msfile`'s icon would run the action's execution string, and the icon's On Item help would be the contents of the `DESCRIPTION` field (Starts the MS Windows file manager).

Note – The icon for the Microsoft Windows file manager was created with the Grab Screen Image command in the icon editor's Edit menu.

▼ *To specify the icon image used by an action*

Use the `ICON` field to specify the icon used in File Manager and Application Manager for the action icons created for the action.

If you do not specify an icon, the system uses the default action icon image files `/usr/dt/appconfig/icons/`*language*`/Dtactn.*`.

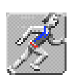

Figure 5-5 Default action icon image

The default action icon can be changed using the resource:

`*actionIcon:` *icon_file_name*

where *icon_file_name* can be a base name or absolute path.

Note – Microsoft Windows icons can be captured by using the Grab Screen Image command from the icon editor's Edit menu.

For additional information on creating icons for actions, please see Chapter 10 of the *TED Advanced User's and System Administrator's Guide*.

Keyboard Shortcuts for Microsoft Windows

Help

♦ Do one of the following:
  - Press F1 to start the Help.
  - Press Alt + F4 to quit Help.

Program Manager

♦ Do one of the following:
  - Press Ctrl + F6 or Ctrl + Tab to move between groups.
  - Press an arrow key to move between items in a group window.
  - Press Enter to start the selected application or restore the selected group icon.
  - Press Ctrl + F4 to close an active group window.

Switching Between Applications

♦ Do one of the following:
  - Press and hold down Alt or Shift + Alt, and repeatedly press Tab.
  - Press Alt + Esc to switch to the next application.
  - Press Ctrl + Esc to bring up the Task List.

Microsoft Windows contents and associated actions are defined in the *Microsoft Windows User's Guide* Version 3.1.

The Front Panel contents and associated actions are defined exactly as in the standard TED setup. Please refer to the *TED User's Guide* and *TED Advanced User's and System Administrator's Guide* for more information.

Troubleshooting

Verifying User Setup

If you find that startup of WinTED on the PC essentially "hangs" at the blue copyright screen after login, this may indicate that the `dtwm.sh` WinTED startup script has not been found. This will result in a failed attempt to start the default TED window manager (`/usr/dt/bin/dtwm`).

Check to see if a statement similar to "...another window manager running..." is in your `$HOME/.dt/errorlog` file:

This would most likely result from an error in creating the symbolic link `$HOME/.dt/bin/`<*`UNIX hostname`*>`/`<*`PC displayname`*>`/dtwm`; if either <*`UNIX hostname`*> or <*`PC displayname`*> does not match up exactly with the actual names, the link will not point to the `dtwm.sh` script.

▼ *To verify correct user account configuration*

1. Verify that the link was properly made and that `dtwm.sh` does exist in the directory pointed to, which is `/usr/dt/WinTED/bin` by default.
2. Also verify that issuing "hostname" from the UNIX command line matches <*`UNIX hostname`*>, and that <*`PC displayname`*> matches the designation set in the PC X-server's setup screen (either Exceed or PC-Xware).
3. Make sure that there are no typographical errors.
4. Restart the PC X-server and log in through the WinTED login screen.

Using Exceed

Because of the manner in which Hummingbird's Exceed X-server starts up, it is necessary for the WinTED startup script `dtwm.sh` to issue an explicit kill command to make the blue copyright screen exit and allow the session to start.

If you find that WinTED hangs on this screen for several minutes after login, it is possible that an older version of `dtwm.sh` is in use, which does not contain the kill statement.

1. From the command line, type: `cd /usr/dt/WinTED/bin`
2. Type: `ls -l`

   This will produce a list of the files contained within this directory.
3. Check that the date on `dtwm.sh` is approximately the same as that of the WinTED binary `dtwm` in the same directory. If it appears this may be an older script, you should obtain the latest version of this script from TriTeal's FTP site.

   Note – Contact TriTeal's technical support department for information on retrieving the latest version of this script.

   ---
4. Replace the original with the new `dtwm.sh`, verify it has proper execution attributes, then re-login to the WinTED/Exceed screen.
5. For either PC-Xware or Exceed, confirm the following:
   - Window Mode should be set to Multiple.
   - Cascade Windows should be set to Off.

PAM Administration 6

The Pluggable Authentication Module (PAM) framework allows for new authentication technologies to be “plugged-in.” It can be used to integrate UNIX login with other security mechanisms. Mechanisms for account, session, and password management can also be “plugged-in” using this framework.

Introduction to PAM

PAM lets the system administrator choose any combination of services to provide authentication. The list below includes some of the advantages of PAM to the system administrator.

- Flexible configuration policy
  - Per application authentication policy
  - Can choose a default authentication mechanism for non-specified applications
- Ease of use for the end-user
  - No retyping of passwords if they are the same
- Can pass optional parameters to the services

PAM Terminology

PAM employs run-time pluggable modules to provide authentication related services. These modules are broken into four different types based on their function: authentication, account management, session management, and password management.

- The authentication modules provide authentication for users and allows for credentials to be set, refreshed, or destroyed. These modules allow for the user to be identified.
- The account modules check for password aging, account expiration, and access hour restrictions. Once the user is identified using the authentication modules, the account modules will determine if the user can be given access.
- The session modules primarily manage the opening and closing of an authentication session. They can log activity or provide for clean-up after the session is over.
- The password modules allow for changes to the password and the password-related attributes.

PAM allows for authentication by multiple methods through stacking. When a user is authenticated through PAM, multiple methods can be selected to fully identify the user. Depending on the configuration, the user can be prompted for passwords for each authentication method. Therefore, the user will not need to remember to execute another command to get fully authenticated. The order that the methods are used is determined through the configuration file, `/etc/dt/config/pam.conf`.

How Does PAM Work?

Figure 6-1 illustrates the relationship between the applications, the library, and the modules. The login manager (`dtlogin`) uses the PAM library to access the appropriate module. The `pam.conf` file defines which modules are to be used with each application. Responses from the modules are passed back through the library to the application.

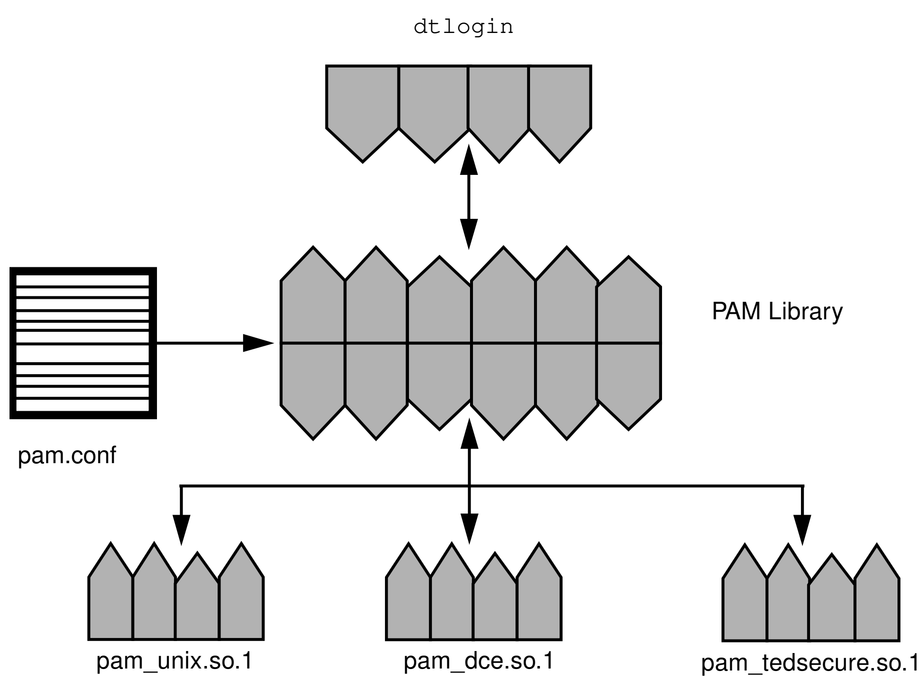

Figure 6-1 PAM relationships

PAM Files

The PAM software consists of a library, several modules, and a configuration file.

PAM Library

The PAM library, `/usr/dt/lib/libpam`, provides the framework to load the appropriate modules and manage stacking. It provides a generic structure for all of the modules to plug into.

PAM Modules

Each module provides the implementation of a specific mechanism. More than one module type (auth, account, session, or password) may be associated with each module, but each module needs to manage at least one module type. Here is a description of some of the modules:

- The `pam_unix` module, `/usr/dt/lib/security/pam_unix.so.1`, provides support for authentication, account management, session management, and password management. Any of the four module type definitions can be used with this module (see the `pam_unix(5)` man page). It uses UNIX passwords for authentication.
- The `pam_dce` module, `/usr/dt/lib/security/pam_dce.so.1`, provides support for authentication, account management, and password management. Any of these three module type definitions can be used with this module (see the `pam_dce(5)` man page). The `pam_dce` module uses DCE Registry for authentication.
- The `pam_tedsecure` module, `/usr/dt/lib/security/pam_tedsecure.so.1`, provides support for Fortezza login and the TEDsecure session. The `pam_tedsecure` module uses the Fortezza card for authentication.

For security reasons, it is required that these files be owned by `root` and for the permissions to be set such that the files are not writable through `group` or `other` permissions. If the file is not owned by `root`, PAM will not load the module.

PAM Configuration File

The PAM configuration file, `/etc/dt/config/pam.conf`, can be edited to select authentication mechanisms for each system-entry application. The file consists of entries following this syntax:

service_name module_type control_flag module_path module_options

where *service_name* indicates the name of the service, *module_type* denotes the module type for the service, *control_flag* selects the continuation and failure semantics for the module, *module_path* specifies the pathname to a library object which implements the service functionality, and *module_options* are specific options that can be passed to the service modules. The only optional component is *module_options.* All other values must be defined. Comments can be added to the file by starting the line with a #. Any white-space can be used to delimit the fields.

An entry in this file is ignored if one of the following conditions exist:

- The line has less than four fields
- An invalid value is given for *module_type* or *control_flag*
- The named module is not found

Table 6-1 shows an example for configuring the `dtlogin` service.

Table 6-1 Service Names for `/etc/dt/config/pam.conf`

Service Name	**Daemon or Command**	**Module Type**
`dtlogin`	`/usr/dt/bin/dtlogin`	`auth, account, session`

One of three *control_flags* must be selected for each entry to determine continuation or failure behavior from the module. These flags determine what the ultimate result (success or failure) will be. The values are defined below:

- `required` - this module must return success in order to have the overall result be successful
- `optional` - if this module fails, the overall result can be successful if another module in this stack returns success
- `sufficient` - if this module is successful, skip the remaining modules in the stack, even if they are labeled as `required`

If all of the modules are labeled as `required`, then authentication through all modules must succeed in order for the user to be authenticated. If some of the modules fail then an error value from the first failed module is reported. If a failure occurs for a `required` module, all modules in the stack are still tried but the access is denied.

If none of the modules are labeled as `required`, then at least one of the entries for that service must succeed for the user to be authenticated. The `optional` flag should be used when one success in the stack is enough. This flag should only be used if it is not important for this mechanism to succeed. For instance if your users need to have permission associated with a specific mechanism to get their work done, then it should not be labeled as `optional`.

The `sufficient` flag allows for one successful authentication to be enough for the user to get in. More information about these flags is given in the next section which presents the default `/etc/dt/config/pam.conf` file.

The generic `pam.conf` file looks like the following:

```
#ident  "@(#)pam.conf 1.20     TriTeal Corporation 10/25/96"
#
# PAM configuration

#
# Authentication management
#
dtlogin auth required   /usr/dt/lib/security/pam_unix.so.1
```

```
# DCE authentication module
# dtlogin     auth optional   /usr/dt/lib/security/pam_dce.so.1

# TEDsecure authentication module
# dtlogin    auth optional   /usr/dt/lib/security/pam_tedsecure.so.1

#
# Account management
#
dtlogin account required        /usr/dt/lib/security/pam_unix.so.1

#
# Session management
#
other   session required        /usr/dt/lib/security/pam_unix.so.1

#
# Password management
#
other   password required       /usr/dt/lib/security/pam_unix.so.1
```

Most of the other commands requiring authentication require successful authentication through the pam_unix module.

Selecting OTHER for the service name allows a default to be set for any other commands that need authentication that are not included in the file. The OTHER option makes it easier to administer the file, since many commands that are using the same module can be covered by only one entry. Also, the OTHER option when used as a "catch-all" can make sure that each access is covered by one module. By convention the OTHER entry is included at the bottom of the section for each module type. The *service_name* field is case-insensitive; the capitalization is included to improve readability.

The rest of the entries in the file control the account, session, and password management. With the use of the default service name, OTHER, the file could be simplified to:

```
#
# PAM configuration
#
# Authentication management
#
login   auth    required  /usr/dt/lib/security/pam_unix.so.1
login   auth    required  /usr/dt/lib/security/pam_dial_auth.so.1
rlogin  auth    sufficient/usr/dt/lib/security/pam_unix.so.1
rlogin  auth    required  /usr/dt/lib/security/pam_rhost_auth.so.1
rsh     auth    required  /usr/dt/lib/security/pam_rhost_auth.so.1
OTHER   auth    required  /usr/dt/lib/security/pam_unix.so.1
#
# Account management
#
OTHER   account required  /usr/dt/lib/security/pam_unix.so.1
#
# Session management
#
OTHER   session required  /usr/dt/lib/security/pam_unix.so.1
#
# Password management
#
```

```
OTHER    password required   /usr/dt/lib/security/pam_unix.so.1
```

Normally the entry for the *module_path* is “root-relative.” If the entry for module_path does not begin with a slash (/), the path /usr/dt/lib/security/ is prepended to the filename. Paths to modules located in other directories must start from root.

The values for the *module_options* can be found in the man pages for the module (for example, pam_unix(5) and pam_dce(5)). The use_first_pass and try_first_pass options, which are supported by the pam_unix and pam_dce modules, allow for reuse of the same password for authentication without retyping it.

If login specifies authentication through both pam_dce and pam_unix, then the user would be prompted to type in a password for each module. In situations where the passwords are the same, the use_first_pass module option would prompt for only one password and would use that password to authenticate the user for both modules. If the passwords are different, the authentication would fail and the user would not be able to login. In general, this option should be used with an optional control flag, as shown below, to make sure that the user can still get in.

```
# Authentication management
#
login auth required/usr/dt/lib/security/pam_unix.so.1
login auth optional/usr/dt/lib/security/pam_dce.so.1 use_first_pass
```

If try_first_pass module option was used instead, the DCE module will prompt for a second password if the passwords do not match or if an error is made. If both methods of authentication are necessary for a user to get access to all the tools they need, using this option could cause some confusion with the user since the user could get access with only one type of authentication.

Configuring PAM

The section below discusses some of the tasks that may be required to allow PAM to be fully functional. In particular, you should be aware of some of the security issues associated with the configuration file.

Planning for PAM

When deciding how best to employ PAM in your environment, start by focusing on these issues:

- Determine what your needs are, especially which modules you should select.
- Decide on the order in which the modules should be run.
- Select the control flag for that module.
- Choose the options if necessary for the module.

Here are some suggestions to consider before changing the configuration file:

- Use the OTHER entry for each module type, so that each application does not have to be included.
- Make sure to consider the security implications of the sufficient and optional control flags.
- Review the man pages associated with the modules to understand how they will function and what options are available.
- Review the man pages to study the interactions between stacked modules.

Note – PAM will use the configuration file `/etc/dt/config/pam.conf` first. If that file does not exist, PAM checks `/usr/dt/config/pam.conf.` If neither file exists then the `/etc/pam.conf` file will be used.

▼ *To add the DCE PAM module*

♦ Edit the `/etc/dt/config/pam.conf` file to look like the following

```
#ident  "@(#)pam.conf 1.20     TriTeal Corporation 10/25/96"
#
# PAM configuration

#
# Authentication management
#
dtlogin auth required   /usr/dt/lib/security/pam_unix.so.1

# DCE authentication module
dtlogin       auth optional   /usr/dt/lib/security/pam_dce.so.1

# TEDsecure authentication module
# dtlogin    auth optional   /usr/dt/lib/security/pam_tedsecure.so.1

#
# Account management
#
dtlogin account required        /usr/dt/lib/security/pam_unix.so.1

#
# Session management
#
other   session required        /usr/dt/lib/security/pam_unix.so.1

#
# Password management
#
other   password required       /usr/dt/lib/security/pam_unix.so.1
```

The `sufficient` flag on the login entry indicates that if a user can be authenticated through the `pam_dce` module, it is enough. They do not have to also be authenticated through the `pam_unix` module. The only time that the `pam_unix` module will be checked is if the authentication through the `pam_dce` module fails.

The two entries for `dtlogin` authentication will allow the root user to be able to get access to the local system. This extra line is necessary because DCE does not allow for `root` access. If the normal users do not have UNIX passwords then they would still not be able to get in, but a locally defined `root` account would be able to.

Note that in this example, the DCE module is only used for login. But if you wanted to, the DCE module could be added for other services as well. If the `pam_dce` module is added as an `auth` module for login, it should also be added as an `account` module as well. The DCE entry for the `passwd` service ensures that the DCE password is also changed when the user runs the password command.

▼ *To correct problems with* `/etc/dt/config/pam.conf`

If the PAM configuration file is misconfigured or gets corrupted, it is possible that even the root user would not be able to log in with the Login Manager. To correct the problem, do the following:

1. Log in as root at the command line.
2. Edit the PAM configuration file, `/etc/dt/config/pam.conf`, and correct any problems with the file.

▼ *To add a module*

1. Study the documentation on the module and determine which control flags and other options should be used.
2. Copy the new module to `/usr/dt/lib/security`.
3. Set the permissions so that the module file is owned by root and permissions are 555. (`chmod 555`)
4. Edit the PAM configuration file, `/etc/dt/config/pam.conf`, and add this module to the appropriate services.
5. Restart the Login Manager.
6. Test the changes.

▼ *To initiate error reporting*

♦ Add entries to `/etc/syslog.conf`

The syslog daemon must be restarted or a SIGHUP signal sent to it for any changes to take effect. These selections can be added to the file to gather information about pam:

- `auth.alert` - messages about conditions that should be fixed now
- `auth.crit` - critical messages
- `auth.err` - error messages
- `auth.info` - informational messages
- `auth.debug` - debugging messages

The entry below will print all of the alert messages on the console, critical messages will be mailed to root, and informational and debug messages will be added to /var/log/pamlog.

```
auth.alert/dev/console
auth.crit'root'
auth.info;auth.debug/var/log/pamlog
```

Each line in the log contains a time stamp, the name of the system that generated it, and a message. The pamlog file can log a large amount of information.

Key Binding Enhancements 7

This chapter outlines the key binding enhancements for the TriTeal Enterprise Desktop. The features in this chapter typically would be used by a system administrator.

These capabilities are accessed by defining the specified functionality in the `dtwmrc` configuration file. The `dtwmrc` file defines default configuration parameters for the TED Window Manager. A default, system wide version of the `dtwmrc` file is located in the `/usr/dt/config/C` directory and is named `sys.dtwmrc`. Modifications made in this file will impact all users of TED on a specific system. All changes should be placed in the `/etc/dt/config/`*language* directory, so changes will not be lost. A local version of this file can be placed in the `$HOME/.dt` directory of a specific user and should be named `dtwmrc`. This local file will override the global `sys.dtwmrc` file for that specific user. By default, there is no `dtwmrc` file in a user's `$HOME/.dt` directory.

The Key Binding Enhancements are used by modifying the `sys.dtwmrc` or your own `dtwmrc` file. This file contains structures that define the button, key, and menu bindings for `dtwm`. For example, the Default Key Bindings structure defines the default actions associated with selecting a key. This structure is currently defined in the `sys.dtwmrc` file as follows:

```
Keys DtKeyBindings
{
Shift<key>Escape           icon|window       f.post_wmenu
Alt<key>space              icon|window       f.post_wmenu
Alt<key>Tab                root|icon|window  f.next_key
Alt Shift<key>Tab          root|icon|window  f.prev_key
Alt<key>Escape             root|icon|window  f.next_key
Alt Shift<key>Escape       root|icon|window  f.prev_key
Alt<key>Down               root|icon|window  f.circle_down
Alt<key>Up                 root|icon|window  f.circle_up
Alt Ctrl Shift<key>exclam  root|icon|window  f.set_behavior
Alt<key>F6                 window            f.next_key transient
Alt Shift<key>F6           window            f.prev_key transient
<key>SunFront              ifkey|icon|window f.raise_lower
<key>SunOpen               ifkey|window      f.minimize
<key>SunOpen               ifkey|icon        f.normalize
}
```

Each line within this structure binds a specific action to a key sequence. The first element in the definition is the key sequence to bind the action to. The second element defines when the context in which the binding is active. Options include:

`window`	The binding is available when a window has input focus.
`icon`	The binding is available when an icon has input focus.
`root`	The binding is available when the root window (background) has input focus.
`ifkey`	Used whenever the key sequence involves keysyms which may not exist on all platforms. It is a way to avoid printing out an error for an unknown keysym.

Multiple options are separated with the pipe (|) character. The third element in the definition is the TED Window Manager function to execute when the key sequence is input. The Key Binding Enhancements described below all define new window manager functions available in TED 4.2 `dtwm`. Each enhancement will contain an example of how to define the binding in the default key bindings structure.

Note – For all the key bindings below, the class name of an `X` client is the name of the executable (`xterm`). The application name of an `X` client is a name specified on the command line with the `-n` option (for example, `xterm -n fred`, where `fred` is the application name).

Change workspaces

The following function can change the workspace that is displayed. You could map the simple cursor keys, or use the keys in the numeric keypad for more directions.

Name	`f.workspace_change` *arg*
Description	Changes the workspace that is displayed. *arg* is one of the following: left, right, up, down, left_up, up_left, right_up, up_right, left_down, down_left, right_down, or down_right.

Example:

1. Add the following line to your `DtKeyBindings`:

   ```
   Alt<key>Left     root|icon|window   f.workspace_change left
   ```

2. Restart `dtwm` by choosing Restart Workspace Manager from the Workspace Menu.

3. Press Alt + the left cursor key. This will cause the workspace to the left of the currently displayed workspace to be displayed.

   If no workspace exists to the left of the current workspace, no change occurs. You will be able to move only in the direction where there is a workspace to display.

Raise and Focus

The following function can raise and focus an application.

Name	`f.raise_and_focus` *arg*
Description	Raises and sets input focus to the named `X` client when the key binding is input. *arg* is the class name or application name of the `X` client to raise and set focus to.

Example:

1. Start an `xterm` at the command line:

   ```
   xterm -name fred &
   ```

2. Add the following line to your `DtKeyBindings`:

   ```
   Meta<key>F5      root|icon|window   f.raise_and_focus fred
   ```

3. Restart `dtwm` by choosing Restart Workspace Manager from the Workspace Menu.

4. Press Meta + F5. This will cause the `xterm` named “fred” to raise and acquire the input focus.

Send Message

The following function can send an X protocol message to a named client.

Name	`f.send_msg_protocol` *msg*
Description	Sends a message to the named `X` client when the key binding is input. *msg* is an X Protocol message to which the `X` client responds.

Example:

1. Start an `xterm` at the command line:

   ```
   xterm -name fred &
   ```

2. Add the following line to your `DtKeyBindings`:

   ```
   Meta<key>F5 root|icon|window f.send_msg_protocol \
   fred.WM_DELETE_WINDOW
   ```

3. Restart `dtwm` by choosing Restart Workspace Manager from the Workspace Menu.

4. While holding the Meta key, press the F5 key. This will cause the `xterm` named “fred” to receive the `WM_DELETE_WINDOW` X Protocol message.

Raise, Focus and Send Message

The following function can raise, focus, and send a message to a named client.

Name	`f.raise_and_focus_send_msg` *arg.msg*
Description	Raises, sets input focus, and sends a message to the named `X` client when the key binding is input. *arg* is the class name or application name of the `X` client to raise, focus, and send the message to. *msg* is an X Protocol message to which the `X` client responds.

Example:

1. Start an application with the command line:

   ```
   my_app -name fred &
   ```

2. Add the following line to your `DtKeyBindings`:

   ```
   Meta<key>F5 root|icon|window f.raise_and_focus_send_msg
   fred.WM_NEW
   ```

3. Restart `dtwm` by choosing Restart Workspace Manager from the Workspace Menu.

4. While holding the Meta key, press the F5 key. This will cause the application named “fred” to raise, acquire the input focus, and to receive the `WM_NEW` (Note: this is not a default X protocol, it represents a protocol created by the user for an application) user defined X Protocol.

Execute Front Panel

The following function can execute any front panel action.

Name	`f.exec_fp` *arg*
Description	Executes a button in the front panel. If the button executed is a workspace button then `dtwm` will simply switch to the specified workspace. If the button executed is not a workspace button, then the action associated with the button is performed. *arg* is either the name of a workspace button or the name of a button in the front panel. The name of a workspace button should be the numeric number of the button (such as, "one", "two", "three", and so on), regardless of the name actually set for the button. The name of any other button in the front panel should be the name specified in the control construct for the button as defined in the `sys.dtwmrc` or `dtwmrc` file.

The following buttons are defined by default:

`Style`	Style Manager button.
`Help`	Help Manager button.
`Printer`	Print Manager button.
`Mail`	Mail Tool button.
`Home`	File Manager button.
`Applications`	Applications button.
`Trash`	Trash button.
`Terminal`	Terminal button.
`TextEdit`	TED Text Editor application button.

Example:

1. Add the following line to your `DtKeyBindings`:

   ```
   Meta<key>F5 root|icon|window  f.exec_fp Style
   ```

2. Restart `dtwm` by choosing Restart Workspace Manager from the Workspace Menu.

3. While holding the Meta key, press the F5 key. This will cause the Style Manager to execute as if its button was selected in the front panel.

Show GWM

The following function can start the Graphical Workspace Manager:

Name	`f.show_gwm`
Description	Starts the Graphical Workspace Manager (GWM).

Example:

1. Add the following line to your DtKeyBindings:

```
Meta&lt;key&gt;F5 root|icon|window  f.show_gwm
```

2. Restart dtwm by choosing Restart Workspace Manager from the Workspace Menu.

3. While holding the Meta key, press the F5 key. This will start the GWM.

Move Client, Raise, and Focus

The following function can raise, focus, and move an application to the current workspace.

Name	f.raise_focus_and_move *arg*
Description	Raises, sets input focus to, and moves to the current workspace the named X client when the key binding is input. *arg* is the class name or application name of the X client.

Example:

1. Start an xterm at the command line:

```
xterm -name fred &
```

2. Add the following line to your DtKeyBindings:

```
Meta<key>F5 root|icon|window  f.raise_focus_and_move fred
```

3. Restart dtwm by choosing Restart Workspace Manager from the Workspace Menu.

4. Change to a workspace which does not contain the xterm named “fred”.

5. While holding the Meta key, press the F5 key. This will cause the xterm named “fred” to move to the current workspace, raise, and acquire the input focus.

Switch Workspace, Raise and Focus

The following function can switch workspace, raise, and focus a client.

Name	f.raise_focus_and_switch *arg*
Description	Raises, sets input focus to, and switches to the first workspace which contains the named X client when the key binding is input. *arg* is the class name or application name of the X client.

Example:

1. Start an xterm at the command line:

```
xterm -name fred &
```

2. Add the following line to your DtKeyBindings:

```
Meta<key>F5 root|icon|window  f.raise_focus_and_switch fred
```

3. Restart dtwm by choosing Restart Workspace Manager from the Workspace Menu.
4. Change to a workspace which does not contain the xterm named “fred.”
5. While holding the Meta key, press the F5 key. This will cause dtwm to switch to the first workspace which contains the xterm named “fred” and for “fred” to raise and acquire the input focus.

Application List

The following function can add the Application List in the Workspace Menu.

Name	f.show_app_list
Description	This resource is used to list applications running in the user’s current session and allows the user to select one. Once the user selects an application, the Application List disappears, and the selected application is raised to the top of the workspace. If the application is in a different workspace, the dtwm switches to that workspace.

1. Add the following line to your DtKeyBindings:

```
Meta<key>F5 root|icon|window  f.show_app_list
```

2. Restart dtwm by choosing Restart Workspace Manager from the Workspace Menu.
3. While holding the Meta key, press the F5 key. This will start the Application List.

Resource and Environment Variable Enhancements 8

This chapter outlines the resource and environment variable enhancements for the TriTeal Enterprise Desktop. The variables described in this chapter typically would be used by a system administrator.

TED 4.2 provides new resources and environment variables that let you customize your environment more efficiently.

Session Manager

Name	Logout Confirmation Dialog.
Description	Removes Logout Confirmation Dialog UI components from the Style Manager, thus giving users no choice to turn on or off the Confirm Logout Dialog. It is disabled when the resource is set to False.
Resource	`Dtstyle*confirmLogout`
Type	Boolean
Resource values	True (default) or False.
Files	`/etc/dt/app-defaults/C/Dtstyle`

Name	Command Prefix
Description	Appends a user-specified string (such as a script) to a command string. It is enabled when the resource `useRestartPrefix` is set to True and the prefix `restartPrefix` is specified.
Resource	`Dtsession*useRestartPrefix`
Type	Boolean
Resource values	True or False (default).
Resource	`Dtsession*restartPrefix`
Type	String
Resource values	`NULL`
Files	`/etc/dt/app-defaults/C/Dtsession`

Name	Restart of NON-ICCCM compliant applications
Description	Restarts applications that do not have the WM_COMMAND property.
Resource	<app name>`*WM_COMMAND_STR` (application's execution string)
Type	String
Resource value	non-existent (default)

Name	Automatic Session Save
Description	Saves the user's session. When this resource is turned on, UI components are added to the Style Manager's Startup Dialog that allow the user to turn automatic saves on or off and to adjust the interval between saves. The current state of the session is saved periodically, based on the interval specified. This feature is enabled when the resource is set to True.
Resource	`Dtsession*autoSaveSession`
Type	Boolean
Resource values	True or False (default).
Files	`/etc/dt/app-defaults/C/Dtsession`

Name	**Remove Help button from Logout Confirmation dialog box (NEW for TED 4.2)**
Description	Removes the Help button from the Confirmation Logout dialog box. The resource is commented out.
Resource	`Dtsession*displayExitDialogHelp`
Type	Boolean
Resource values	True or False (default).
Files	`/etc/dt/app-defaults/C/Dtsession`

Name	**Exit message for Logout Confirmation dialog box (current session) (NEW for TED 4.2)**
Description	Displays a message in the Logout Confirmation dialog box. If you have the Style Manager - Startup option set to Resume Current Session, the message you supply with `Dtsession*confirmExitMessageSave` will be displayed.
Resource	`Dtsession*confirmExitMessageSave`
Type	String
Resource values	User supplied message text.
Files	`/etc/dt/app-defaults/C/Dtsession`

Name	**Exit message for Logout Confirmation dialog box (home session) (NEW for TED 4.2)**
Description	Displays a message in the Logout Confirmation dialog box. If you have the Style Manager - Startup option set to Return to Home Session, the message you supply with `Dtsession*confirmExitMessageNoSave` will be displayed.
Resource	`Dtsession*confirmExitMessageNoSave`
Type	String
Resource values	User supplied message text
Files	`/etc/dt/app-defaults/C/Dtsession`

Window Manager

Name	**Synchronize Workspaces Across Screens**
Description	Specifies synchronization of workspace switching across multiple screens. This is specified by a toggle button located in the Style Manager's Workspaces dialog box. See "Show Workspace Control (NEW for TED 4.2)" on page 70 for information on adding the Workspaces control to the Style Manager.
Resource	`Dtwm*syncDesktopSwitch`
Type	Boolean
Resource values	True (default) or False.
Files	`/etc/dt/app-defaults/C/Dtwm`

Name	Multiple Front Panels
Description	Enables the Window manager to display a Front Panel on each screen. TED 4.x includes the ability to use multiple screens on one display.
Resource	`Dtwm*multiFrontPanel`
Type	Boolean
Resource values	True (default) or False.
Files	`/etc/dt/app-defaults/C/Dtwm`

Name	Show Workspace Control (NEW for TED 4.2)
Description	Adds the Workspaces control to the Style Manager. The Workspaces control displays a dialog box that lets the user show or hide the Front Panel workspace switch area. To add the Workspaces control, add `Workspaces` to the end of the resource `Dtstyle*componentList`.
Resource	`Dtstyle*componentList`
Type	NONE
Resource values	NONE
Files	`/etc/dt/app-defaults/C/Dtstyle`

Name	Show Workspace Slider (NEW for TED 4.2)
Description	Adds a slider control to the Workspaces dialog box, which lets you specify the number of workspace buttons or workspaces in the GWM.
Resource	`Dtstyle*useNumWsScale`
Type	Boolean
Resource values	True or False (default)
Files	`/etc/dt/app-defaults/C/Dtstyle`

Name	Busy Cursor
Description	Changes the cursor into a busy indicator, which parallels the busy light on the Front Panel. This feature is enabled when the resource is set to True.
Resource	`Dtwm*useBusyCursor`
Type	Boolean
Resource values	True or False (default).
Files	`/etc/dt/app-defaults/C/Dtwm`

Name	Reverse Key Binding Order
Description	Overrides the key bindings without having to use resources. If two key binding sets are defined with the same name, this feature uses the set last defined in the file. This feature is enabled when the resource is set to True.
Resource	`Dtwm*reverseBindingOrder`
Type	Boolean
Resource values	True or False (default).
Files	`/etc/dt/app-defaults/C/Dtwm`

Name	Alternative dtwmrc Path
Description	Changes the `$HOME/.dt/dtwmrc` file. The user specifies the path and file by setting the `DTWMRC` environment variable.
Resource	NONE
Type	NONE
Resource values	NONE
Variable	`DTWMRC`

Name	Applications List Geometry (NEW for TED 4.2)
Description	Specifies the geometry of the Application List Window. The geometry value is a standard X window geometry specification.
Resource	`Dtwm*Running Applications*geometry`
Type	X geometry
Resource values	X geometry values.
Files	`/etc/dt/app-defaults/C/Dtwm`

Name	Use Alternate Date Format for Front Panel Calendar Control (NEW for TED 4.2)
Description	Specifies the date format of the Calendar control on the Front Panel. The date will appear as follows: 11:30 Mar. 05 Weds To use the alternate date format: 1. The resource must be set to True in `the` following file: `/etc/dt/app-defaults/C/Dtwm`. 2. The `Date CONTROL` entry `DATE_FORMAT` in the `/etc/dt/appconfig/types/C/dtwm.fp` must be changed to the following: `%I:%M%n%b. %d%n%a`
Resource	`Dtwm*useAltDateFormat`
Type	Boolean
Resource values	True or False (Default)
Files	`/etc/dt/appconfig/types/C/dtwm.fp` `/etc/dt/app-defaults/C/Dtwm`

Graphical Workspace Manager (GWM)

A number of new resources have been added in TED 4.2 to make the GWM more customizable. Most of the resources are duplicates of options on the Properties panel, but a few can be set only by adding resources to any of the following files:

- `/etc/dt/config/`*language*`/sys.resources`
- `/etc/dt/app-defaults/`*language*`/Dtwm`
- `$HOME/.dt/.Xdefaults`

Changes to `sys.resources` or `Dtwm` will affect all accounts on a system, and changes to `.Xdefaults` will affect individual accounts.

Screen Resources

Screen resources can be set on a per-screen basis. If you are working with a multiple screen display, you can set up different GWMs for each screen.

Name	**Display GWM**
Description	Displays the GWM
Resource	`Dtwm*gwmVisible`
Type	Boolean
Resource values	True (default) or False

Name	**GWM Workspace Width**
Description	Standard X geometry string format. The width value indicates the desired width of each workspace. The height will be ignored to allow the screen's aspect ratio to be preserved.
Resource	`Dtwm*gwmGeometry`
Type	String
Resource values	Not set.

Name	**Iconify GWM**
Description	True if GWM should be displayed iconified.
Resource	`Dtwm*gwmIconic`
Type	Boolean
Resource values	True or False (default)

Name	**GWM Row Number**
Description	Specifies the number of rows in the GWM.
Resource	`Dtwm*gwmRows`
Type	Integer
Resource values	Not set.

Name	**Display Backdrops**
Description	Displays the workspace backdrops.
Resource	`Dtwm*gwmUseBackdrops`
Type	Boolean
Resource values	True (default) or False

Name	**Display Workspace Names**
Description	Displays the name of the workspace in each workspace.
Resource	`Dtwm*gwmWsNamesVisible`
Type	Boolean
Resource values	True (default) or False

Name	Horizontal Workspace Name Placement
Description	Determines the horizontal placement of the workspace names. - Left—XmALIGNMENT_BEGINNING - Center—XmALIGNMENT_CENTER - Right—XmALIGNMENT_END
Resource	`Dtwm*gwmWsNamesHorizontalAlignment`
Type	Label Alignment
Resource values	XmALIGNMENT_BEGINNING (default)

Name	Workspace Names Font Selection
Description	This indicates the menu position selected for the workspace names font. This should generally not be set by the user.
Resource	`Dtwm*gwmWsNamesSelectedFont`
Type	Integer
Resource values	0 (default)

Name	Display GWM in All Workspaces
Description	Forces the GWM to occupy all workspaces.
Resource	`Dtwm*gwmAllWorkspaces`
Type	Boolean
Resource values	True or False (default)

Name	Workspace Names Default Font
Description	Specifies the default font for the workspace names.
Resource	`Dtwm*gwmWsNamesFontList`
Type	FontList
Resource values	Not set.

Name	Display Client Names
Description	Displays the names of the client applications in the GWM workspaces.
Resource	`Dtwm*gwmClientNamesVisible`
Type	Boolean
Resource values	True (default) or False

Name	Client Names Font Selection
Description	Indicates the menu position selected for the client names font. This should generally not be set by users.
Resource	`Dtwm*gwmClientNamesSelectedFont`
Type	Integer
Resource values	0 (default)

Name	Client Names Default Font
Description	Specifies the default font for the client names.
Resource	`Dtwm*gwmClientNamesFontList`
Type	FontList
Resource values	0 (default)

Name	Highlight Current Workspace Applications
Description	Highlights the applications in the current workspace with the active color.
Resource	`Dtwm*gwmClientColorActive`
Type	Boolean
Resource values	True (default) or False

Name	Application List in GWM's Menu
Description	Adds an Application List (see Application List) menu item to the Graphical Workspace Manager's system menu. It is enabled when the resource is set to True.
Resource	`Dtwm*gwmAppList`
Type	Boolean
Resource values	True or False (default).
Files	`/etc/dt/app-defaults/C/Dtwm`

Global Resources

These resources affect the GWM on every screen

Name	Show Application Names During Move
Description	Shows application names as they are moved. If this resource is set to True, you will see the name of an application as you move it from one workspace to another. If this resource is set to False, just an outline of the application window is displayed.
Resource	`Dtwm*gwmOpaqueMove`
Type	Boolean
Resource values	True (default) or False

Name	Resize Behavior
Description	Determines whether Changes Size or Changes Layout is the default behavior for the Resize behavior options. The default is False, which specifies Changes Size as the default behavior.
Resource	`Dtwm*gwmResizeLayout`
Type	Boolean
Resource values	True or False (default)

Login Manager

Name	Automatic Login
Description	Logs in the user specified in the /var/dt/tmp/dtlogin.user file. This file would be created and maintained by the system administrator and would contain a single user ID. The feature is enabled when the Dtlogin*autoLogin resource is set to True and the path for the file is specified with the Dtlogin*userIdFile resource.
Resource	Dtlogin*autoLogin
Type	Boolean
Resource values	True or False (default).
Resource	Dtlogin*userIdFile
Type	String
Resource values	/var/dt/tmp/dtlogin.user
Files	/etc/dt/config/Xconfig

Name	Login Console
Description	Lets users specify an X application (such as xconsole) to be run below the login panel. The user specifies how much space below the login panel to leave uncovered and the application to start. The application is started before dtlogin, starts dtgreet and is stopped after a user has been validated. The specified X application needs to be passed the geometry option with a valid geometry, and the Dtlogin*grabServer resource in the /etc/dt/config/Xconfig, needs to be set to False.
Resource	Dtlogin*consoleHeight
Type	Integer
Resource values	0 (default)
Resource	Dtlogin*appString
Type	String
Resource values	"" (default)
Resource	Dtlogin*grabServer
Type	String
Resource values	True (default) or False.
Files	/etc/dt/config/C/Xresources (for consoleHeight) /etc/dt/config/Xconfig (for appString, grabServer)

Terminal

A new resource has been added that will let you specify whether or not you want the New command to appear on the Window menu of a terminal window (dtterm).

Name	**New menu option on Window Menu**
Description	Displays a New command on the Window menu if set to True. If set to False, the New command will not appear.
Resource	`Dtterm*allowNewWindow`
Type	Boolean
Resource values	True (default) or False.
Files	`/etc/dt/app-defaults/C/Dtterm`
Command line	A command line option was also added to support this resource: `dtterm -anw` sets allowNewWindow to False. `dtterm +anw` sets allowNewWindow to True.

Mailer

Name	**Specify temporary directory for Mail attachments**
Description	Specifies the path for the temporary directory to use for mail attachments.
Resource	`Dtmail*dtTmpDir`
Type	String
Resource values	Not set.
Files	`/etc/dt/config/Xconfig`

Index

S

T

U

W

X