Exceed onDemand®

Administrator's Guide

Hummingbird®

Related Documentation and Services

Manuals

Hummingbird manuals contain conceptual information on your product, procedural information on installing and using the product and related applications, and some manuals contain programming reference, interface reference, and troubleshooting information.

All manuals are available in print and PDF. The PDF versions require Adobe Acrobat Reader, and are installed only if selected during installation. Your Hummingbird product comes with the following manual(s):

Exceed onDemand Administrator's Guide	Contains information for administrators about installing and managing Exceed onDemand.

Help

The Help is a comprehensive, context-sensitive collection of information regarding your Hummingbird product. It contains conceptual and reference information, and detailed, step-by-step procedures to assist you in completing your tasks.

Release Notes

The release notes for each product contain descriptions of the new features and details on release-time issues. They are available in both print and HTML. The HTML version can be installed when you install the software. Read the release notes before installing your product.

Hummingbird Exposé Online

Hummingbird Exposé Online is an electronic mailing list and online newsletter. It was created to facilitate the delivery of Hummingbird product-related information. It also provides tips, help, and interaction with Hummingbird users. To subscribe/unsubscribe browse to the following web address:

```
http://www.hummingbird.com/expose/about.html
```

User Groups and Mailing Lists

The user group is an unmoderated, electronic mailing list that facilitates discussion of product-related issues to help users resolve common problems and to provide tips, help, and contact with other users.

To join a user group:

Send an e-mail to `listserv@hummingbird.com`, leaving the Subject line blank. In the body of the e-mail message, type the following:

```
subscribe exceedusers Your Name
```

To unsubscribe:

Send an e-mail to `listserv@hummingbird.com`, leaving the Subject line blank. In the body of the e-mail message, type the following:

```
unsubscribe exceedusers Your Name
```

To post a messages to the user group:

Send your e-mail to:

```
exceedusers@hummingbird.com
```

To search the mailing list archives:

Go to the following web site:

```
http://www.hummingbird.com/support/usergroups.html
```

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Chapter 1

Installing Exceed onDemand

About Exceed onDemand

Welcome to Exceed onDemand, the Hummingbird ultra-thin connectivity solution. This stand-alone product delivers X11R6.6 X access with minimal overhead. A small client-side installation lets you access business-critical X applications on UNIX, Linux, VMS, and other X Window System hosts.

Typically, X clients communicate with X Display Servers to display the output and receive input. In the case of Exceed onDemand, X clients communicate with Exceed onDemand Proxy via the X protocol. In turn, Exceed onDemand Proxy communicates with Exceed onDemand Client via the Thin X Protocol (TXP).

Exceed onDemand offers a number of startup modes, which enable two types of connectivity: direct client-server connectivity,

UNIX/Windows Host

X applications
Exceed onDemand Server

Exceed onDemand Clients
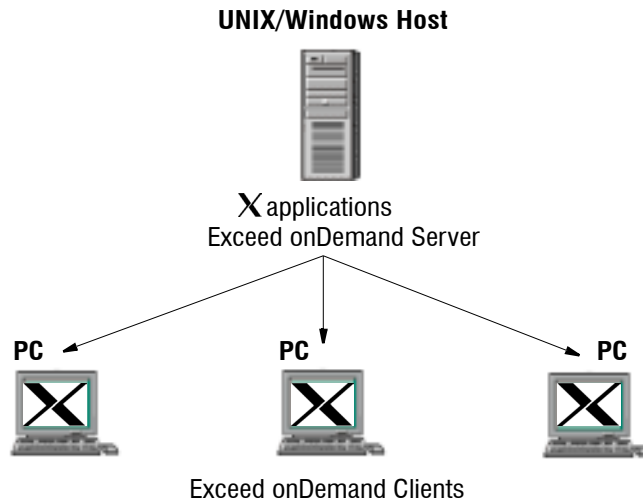
and gateway server connectivity.

UNIX Host   **UNIX Host**   **UNIX Host**

X applications   X applications   X applications

UNIX/Windows

Exceed onDemand Server

PC   **PC**   **PC**

Exceed onDemand Clients
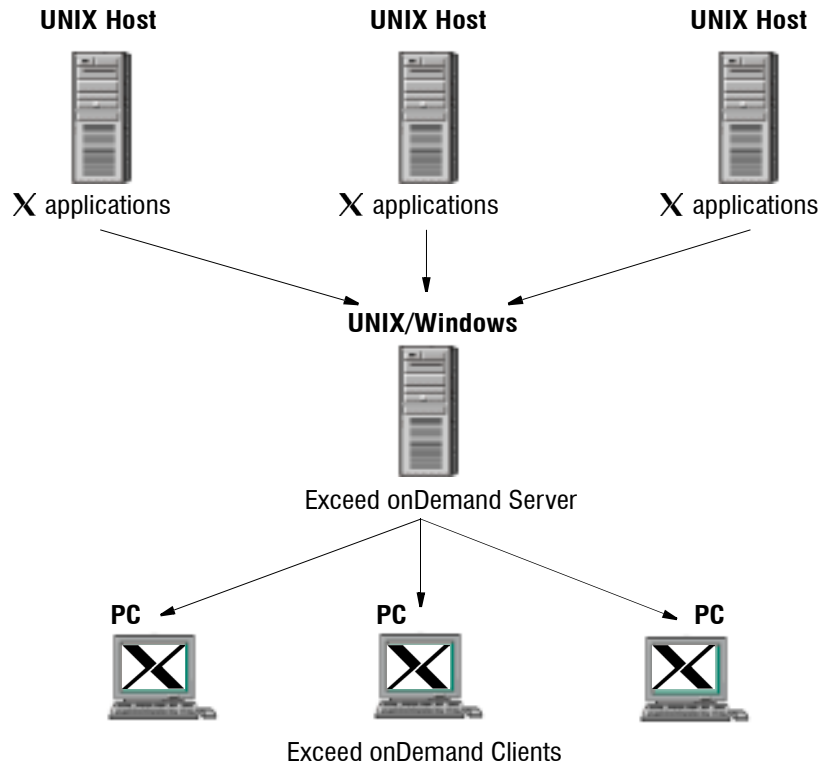
A number of features ensure secure, consistent, and dependable X connections:

- Exceed onDemand authenticates user names and passwords for all host connections.

- Secure Sockets Layer (SSL) options ensure secure communication between Exceed onDemand Server and Exceed onDemand Client or Server Manager.

- An optional SSH startup mode extends security by encrypting user credentials and X11 traffic.

- Centralized management results in a uniform end-user experience.

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Overview of Installation

Installing Exceed onDemand is a three-part procedure:

1   Install Exceed onDemand Server on a UNIX or Windows platform. If you install Server on Windows, you can select and install other Exceed onDemand Server components.

2   Install the following Exceed onDemand Server components as required on other network machines.

- Exceed onDemand Server Manager
- Exceed onDemand Deployment Tools
- Exceed onDemand Print Utility (elpr)
- Exceed onDemand Keyboard Editor (XKeys)

For more information, see "About Server Components" on page 17.

3   Make Exceed onDemand Client available to users. To do this, you have the option of using the Deployment Tools mentioned in step 2 above.

Preserving Files When Upgrading

Exceed onDemand 4.5 is backward compatible with version 4.0. When you install Exceed onDemand 4.5 on a machine where an earlier version was installed, both the Hummingbird Setup Wizard and the UNIX installer preserve some directories and files to avoid the need to reconfigure the product and to maintain existing profiles.

Exceed onDemand Server

The Exceed onDemand Server installation (Windows and UNIX) preserves the following when you upgrade from version 4.0 to 4.5:

- Global Xinitrc configuration file
- new-user (default) account settings
- global and user-specific configuration profiles
- user-specific account settings
- SSL keys
- any manually added fonts (not originally installed with version 4.0)

Exceed onDemand Server Manager

Hummingbird Setup preserves your SOCKS configuration. The file is saved in the version 4.5 default location.

Exceed onDemand Client

Exceed onDemand Client version 4.5 is backwards compatible with version 4.0. When you install the new version, Hummingbird Setup migrates any connection documents (`.eod` files) saved in the default location, and then uninstalls version 4.0. The SOCKS configuration file is also preserved.

If you upgrade from Exceed onDemand Client version 3.2 to 4.5, Hummingbird Setup does not uninstall the older version. Instead, it copies the connection documents and SOCKS configuration file saved with version 3.2 to the version 4.5 default location, and both versions of the client co-exist on your machine.

Registering

You can register this product by:

- running `Msetup.exe` from the product CD, then clicking Register Online
- completing and registering the form at the following URL:

  `http://www.hummingbird.com/register/`

- completing the registration card provided in the product package and mailing it to Hummingbird Ltd.

After registering, you and your organization are recognized as a licensed product owner with all rights and privileges. This makes you eligible to receive a wide range of customer services, such as a free subscription to our quarterly newsletter, *Hummingbird Exposé Online*, as well as notification of software upgrades and new products. If you and your organization move to a new location, complete and mail the change of address card included in the product package. This ensures you will continue receiving update notices and other important information.

System Requirements

Exceed onDemand Server

A host with 256 MB RAM and 140 MB of disk space is recommended. Exceed onDemand Server supports the following platforms:

- Sun (SPARC) Solaris 2.51, 2.6, 2.7, 2.8, 2.9
- Solaris Intel 2.8
- HP-UX 10.20, 11.0
- IBM AIX 4.2, 4.3, 5.2
- Linux kernel level 2.4 or greater
- Windows:
    - NT 4.0 Server (Service Pack 6a or greater)
    - NT 4.0 Workstation (Service Pack 6a or greater)
    - 2000 Server
    - 2000 Advanced Server
    - 2000 Professional
    - Server 2003
    - XP Professional

Exceed onDemand Client and Components

A Pentium or higher with 64 MB RAM is recommended. Exceed onDemand Client, Server Manager, and Deployment Tools support the following Windows platforms:

- NT 4.0 Server
- NT 4.0 Workstation
- 2000 Server
- 2000 Advanced Server
- 2000 Professional
- Server 2003
- XP Professional
- 98
- Me

Installing Exceed onDemand Server on a UNIX Platform

You must have root or superuser access on the machine on which you want to install Exceed onDemand Server. Make sure you have sufficient disk space.

> **Note:** Exceed onDemand Print Utility (elpr) is part of the Exceed onDemand Server for UNIX installation. However, you may have to install it independently on other machines. For more information, see, "Installing Exceed onDemand Print Utility" on page 18.

To install Exceed onDemand Server:

1 Log in as root user:

    $su root

    passwd: *Password*

2 Go to the `Exceed_onDemand/Server` directory on the CD. From the folder that coincides with your operating system, copy the self-extracting executable to a local directory. These files are named according to platform and operating system.

3 Run the executable from its new location.

4 Specify a location to which the installer should extract the files, or accept the default location, which is the current directory.

5 Once all necessary files are extracted, the license agreement appears. Read the agreement and type `y` to accept the terms.

> **Note:** Failure to read the license agreement does not affect the terms and conditions of the agreement.

6   When prompted, provide the following information:

  •   Server Port—Specify the port number on which the Server listens. Press Enter to select the default port: 5500.

  > **Note:** If you change the default port number, you must provide your users with the new number to enable them to connect to the server.

  •   Proxy Port—Specify the number of the port through which the proxy transfers X session data. The default is 5501. This port number must be different from the server port number. Unlike the server port, changing this port from the default has no effect on users.

  •   Starting Display ID—Specify the display number for the first Exceed onDemand Client session. All subsequent displays are numbered accordingly. Press Enter to select the default first display: 1.

7   On the confirmation screen, type y to confirm the settings.

8   If you installed version 4.0 prior to this installation, indicate whether you want to copy settings from that installation.

9   Specify an installation directory. If a default location is provided, indicate whether you want to use it.

10   If a GlobalXinitrc file does not exist from a previous installation, one is generated. Press Enter to continue.

11   The Activation Key utility opens. Select one of the five options by typing the number and pressing Enter. When you have performed all the required tasks, select option 4 to save the changes and exit the utility.

12 If version 4.0 was not installed prior to this installation, you must enter the account name for the first Exceed onDemand administrator. The administrator you designate can then add other accounts to the administrative group. Press Enter to select the default option of root.

> **Note:** Superuser accounts are not added to the Exceed onDemand administrative group automatically.

The installer generates an installation log file and displays its location. You can refer to this file to ensure that the installation was successful.

13 When prompted to start Exceed onDemand Server, type y. The Server is now installed and started.

Uninstalling Exceed onDemand Server on UNIX

To uninstall Exceed onDemand Server:

1 Stop the server by running the ttxpmstop utility.

2 Delete the Exceed onDemand Server installation directory from the UNIX host.

Installing Exceed onDemand Server and Other Components on Windows

Before installing Exceed onDemand Server, you must log on with Administrator authority, and ensure that you have write access to the Windows system directory and registry. This is not the case for other Server components.

By default, Exceed onDemand Server includes the following components in addition to Exceed onDemand Server itself:

- Exceed onDemand Server Manager

- Exceed onDemand Deployment Tools

- Exceed onDemand Print Utility (elpr)

- Exceed onDemand Keyboard Editor (XKeys)

- Hummingbird Update

You can modify the installation and install any component independently on other network machines where necessary. For more information, see "About Server Components" on page 17.

To install Exceed onDemand Server on a Windows platform:

1   When you insert the CD into the drive, autorun launches the Hummingbird Master Setup application. If Master Setup does not launch automatically, run Msetup.exe from the root directory of the CD.

2   In the Hummingbird Master Setup application window, click Install Exceed onDemand Server Components.

3   In the next window, select the installation type. Hold the mouse pointer over the installation type to view a brief description of it.

Exceed onDemand Setup prepares Setup Wizard, checks the operating system, and checks the current Windows Installer version.

- If necessary, the version is updated and the Setup Wizard continues.

- If Windows Installer is not present on your operating system, or if the existing version is not 2.0, Setup Wizard installs the latest version of the service.

4   After configuring Windows Installer and preparing to install, Setup Wizard proceeds to the Welcome dialog box. Click Next.

> **Note:** To quit installation, click Cancel in any Setup Wizard dialog box. Your computer is not affected if you do this before the Setup Wizard copies files. To review or change settings in a previous dialog, click Back.

The Next button is unavailable if the terms of the license agreement are not accepted.

5   Read the license agreement. If you accept the terms, click Next.

> **Note:** Failure to read the license agreement does not affect the terms and conditions of the agreement.

6   The Customer Information dialog box opens. Type the required information and indicate who may access this installation of Exceed onDemand Server. Click Next.

7   The Custom Setup dialog box opens. Select the features you want to install and click Next. You can view more information about features and perform the following customization:

- Expand a feature category by clicking the plus icon ⊞ to view a tree of features or sub-features. Similarly, click the minus icon ⊟ to collapse the feature tree.

- Click a feature icon to display a pop-up menu of icons and install options. Click a pop-up menu icon. The icon in the feature tree changes according to your selection. Click Help to view a dialog box with tips.

- Click Change to open the Change Current Destination Folder dialog box and install the feature to a folder other than the default.

- Click Space to open a dialog box listing all local drives (logical partitions) and mapped drives on the machine. The dialog box provides detailed information about available disk space.

> **Note:** If you did not select the Exceed onDemand Server feature (component), proceed to step 10.

8   In the Server Settings dialog box, specify the following, and click Next.

   •   Starting Display ID—Specifies the display number for the first
       Exceed onDemand Client session. All subsequent displays are
       numbered accordingly.

   •   Server Port—This is the port number on which the Server listens.
       Press Enter to select the default port: 5500.

   > **Note:** If you change the default port number (5500), you must
   > provide your users with the new number to enable them to
   > connect to the server.

   •   Proxy Port—Specify the number of the port through which the
       proxy transfers X session data. This port number must be different
       from the server port number. The default is 5501. Unlike the server
       port, changing this port from the default has no effect on users.

9   The Exceed onDemand Server Administrator Settings dialog box opens.
    Enter the activation key, and then enter the account name of the first
    Exceed onDemand administrator. You are allotted 10 attempts to enter
    the correct activation key before Setup closes.

10 The Ready to Install the Program dialog box opens. Click Install to
    continue.

11 When the installation is complete, click Finish. You may be prompted to
    restart your computer.

   > **Note:** For information on uninstalling Exceed onDemand Server
   > for Windows, see "Program Maintenance" on page 14.

Program Maintenance

Program maintenance lets you modify, repair, or uninstall existing Hummingbird products and components installed on a Windows platform. You can access Program Maintenance from either the product CD or by clicking Add/Remove Programs in Control Panel.

To modify the install state of program features and components:

1   Open Program Maintenance by running `Msetup.exe` from the product CD. Alternatively, double-click Add/Remove Programs in Control Panel, select the Hummingbird program in the Add/Remove Programs dialog box, and click Change. The Setup Wizard Welcome dialog box opens.

2   Click Next. The Program Maintenance dialog box opens.

3   In the Program Maintenance dialog box, select Modify and click Next. The Custom Setup dialog box opens.

4   Expand the feature tree and change the install state, as necessary, and then click Next.

   • Expand a feature category by clicking the plus icon ⊞ to view a tree of features or sub-features. Similarly, click the minus icon ⊟ to collapse the feature tree.

   • Click a feature icon to display a pop-up menu of icons and install options. Click a pop-up menu icon. The icon in the feature tree changes according to your selection. Click Help to view a dialog box with tips.

5   In the next dialog box, click Install and the install state of program features changes according to your specifications.

6   Installation (modification) proceeds to completion. Click Finish to exit.

To repair a program:

1   Open Program Maintenance by running `Msetup.exe` from the product CD. Alternatively, double-click Add/Remove Programs in Control Panel, select the Hummingbird program in the Add/Remove Programs dialog box, and click Change. The Setup Wizard Welcome dialog box opens.

2   Click Next. The Program Maintenance dialog box opens.

3   In the Program Maintenance dialog box, select Repair and click Next.

4   The Ready to Repair the Program dialog box indicates Setup Wizard is
     ready. Click Install to repair errors such as missing or corrupt files,
     shortcuts, and registry entries.

5   Program repair proceeds to completion. Click Finish to exit.

To remove a program:

1   Open Program Maintenance by running `Msetup.exe` from the product
     CD. Alternatively, double-click Add/Remove Programs in Control Panel,
     select the Hummingbird program in the Add/Remove Programs dialog
     box, and click Change. The Setup Wizard Welcome dialog box opens.

2   Click Next. The Program Maintenance dialog box opens.

3   Select Remove and click Next.

4   The Remove the Program dialog box indicates Setup Wizard is ready.
     Click Remove to uninstall the program.

5   Program removal proceeds to completion. Click Finish to exit.

Silent Installation

A silent installation runs in the background. You can perform silent
installations for Exceed onDemand Server and Exceed onDemand Client.

> **Note:** To install Exceed onDemand Server, you must log into the
> PC as the (local) administrator.

To run a silent installation:

1   Launch Setup Wizard from the command line using the syntax for the
     specific Exceed onDemand component you want to install:

     •   Server:

         ```
         E:\Exceed_onDemand\Server\Win32\Setup.exe /S /V"/qn
         EOD_SERIALNUM=activationkey"
         ```

     •   Client:

         ```
         E:\Exceed_onDemand\Client\EoD-4.5-Client.exe /S
         ```

where `E:\` is the CD-ROM drive. The following describes the silent installation options:

Option	Description
`/S`	Specifies a silent installation.
`/V/qn`	`/V` passes parameters to `Msiexec.exe`. **Note:** There are no spaces between the `/V` and `/qn` options and that `V` is upper-case. If a character string contains a space, put quotes around it. For example: `/V"parameter space"`
`EOD_SERIALNUM`	Specifies the activation key, located on the product CD package.

2   Installation proceeds to completion.

Updating the Product

Hummingbird Update lets you check for Exceed onDemand Server updates issued by Hummingbird Ltd. The connection settings for Hummingbird Update are preconfigured. If necessary, you can edit the connection settings from the Settings page after you open the WebUpdate dialog box as described in the following procedure.

To update the product:

1   From the Windows Start menu, run Hummingbird Update. It is located in Administrative Tools in the Hummingbird Exceed onDemand 4.5 program group. The WebUpdate dialog box opens.

2   Select Hummingbird Exceed onDemand Server 4.5 and then click Check For Updates. If an update is available, you are prompted to install it. Click Yes.

The update downloads and Setup Wizard prepares the setup process.

3   You are informed when Setup Wizard is ready. Click Next.

4   Installation proceeds to completion.

About Server Components

After you install Exceed onDemand Server (on UNIX or Windows), you have the option of installing the server components elsewhere on the network as required to suit your needs.

You can install the following components:

Exceed onDemand Server Manager   Server Manager lets you remotely manage any Exceed onDemand Server (UNIX or Windows) on the network. You can install this tool on any network PC running a supported Windows platform.

Exceed onDemand Deployment Tools   These three tools let you generate, distribute, and maintain web-deployable installations of Exceed onDemand Client, so that your users can install the client from the Web. Install this tool set on any PC running a supported Windows platform, but you must also install Exceed onDemand Client.

Exceed onDemand Print Utility (elpr)   This utility lets users print from the X applications they run with Exceed onDemand. You must install the printing utility on each machine running X applications from which users need to print. The utility is installed with Exceed onDemand Server. However, in cases where users will use Exceed onDemand Server to connect to and print from X applications that are running on other machines, you must install the print utility on each of the peripheral machines as well. This component is available for UNIX and Windows.

> **Note:** A readme for the print utility is located in the `\Utilities\elpr` directory on the CD.

Exceed onDemand Keyboard Editor (XKeys)   XKeys is a keyboard editor that simplifies the job of creating customized keyboard definition files. To distribute the custom files you create, you can add them to global or user-specific configuration profiles. Install this tool on any PC running a supported Windows platform.

Installing the Components on Windows

To install an Exceed onDemand component on a supported Windows platform, follow the procedure for installing Exceed onDemand Server for Windows. When Hummingbird Setup Wizard presents the Custom Setup dialog box, select only the component(s) you want to install.

For an alternative method of installing Exceed onDemand Print Utility, or to install the utility on a UNIX platform, see below.

Installing Exceed onDemand Print Utility

Exceed onDemand Print Utility (elpr) is installed automatically with Exceed onDemand Server for UNIX, and is an optional installation when you install Server for Windows.

A stand-alone version is also available on the product CD. You must install the stand-alone version on any machine (other than the Exceed onDemand Server machine) that runs X applications from which your users need to print.

> **Note:** For an alternative method for installing Exceed onDemand Print Utility on Windows, see "Installing the Components on Windows" on page 18.

To copy Exceed onDemand Print Utility from the CD:

1   In the /Exceed_onDemand/Utilities/elpr directory, open the folder that coincides with the operating system of the machine on which you want to install the Print Utility.

2   Copy the `elpr` file to a local directory. Ensure that the directory is accessible to Exceed onDemand Client users.

Uninstalling Components

If you installed components using Hummingbird Setup Wizard:

Select Exceed onDemand Server in the Windows Add/Remove Programs dialog box, and then click Remove. If Exceed onDemand Server is installed on the same machine, and you do not want to uninstall it along with the components, click Change instead of Remove. For more information on changing or removing an installation, see "Program Maintenance" on page 14.

If you copied Exceed onDemand Print Utility from the CD:

Delete the `elpr` file from the installation location.

Installing Exceed onDemand Client

The Exceed onDemand system administrator makes the Client installation available to users. Because the installation is small, you may opt to distribute the file over the network, or by e-mail or browser download. An end user can install Client as long as that user has write permission for the destination folder.

> **Note:**
>
> - You can use Exceed onDemand Deployment Wizard to create an installation package to deploy Exceed onDemand Client over the web. For more information, install the Deployment Tools and refer to the Help.
> - You can also perform a silent installation. For more information, see "Silent Installation" on page 15.

To install Exceed onDemand Client:

1   Insert the product CD into your CD ROM.

2   In the Master Setup window, click Install Exceed onDemand Client, and then click Install Exceed onDemand Client.

3 In the Welcome window, click Next.

4 Read the license agreement. Click Yes to accept the terms.

> **Note:** Failure to read the license agreement does not affect the terms and conditions of the agreement.

5 In the Destination Folder dialog box, confirm the folder destination. To install in a different directory, click Browse and select another directory. If you want an Exceed onDemand Client shortcut to appear on the Desktop, click the appropriate check box. Then click Next.

6 Select the languages you want to include. To select the default language, double-click that language. Then click Next. The Ready to Install dialog box appears.

7 Click Install to begin the installation.

8 After Setup completes all operations, click Finish. When the installation is finished, an Exceed onDemand Client shortcut appears in the Hummingbird Exceed onDemand 4.5 program group on the Start menu, and, if you opted to create a shortcut on the Desktop, a shortcut appears there too.

Uninstalling Exceed onDemand Client

To uninstall Exceed onDemand Client, you must remove the following two application using the Add/Remove Programs feature in Windows Control Panel:

• Hummingbird Exceed onDemand Client
• Hummingbird Component Deployment

After uninstalling the Hummingbird Component Deployment, you must reboot the PC.

Chapter 2

Deploying Exceed onDemand Client

About Exceed onDemand Deployment Tools

Hummingbird Exceed onDemand Deployment Tools consists of the following components:

Exceed onDemand Deployment Wizard   You can use the Deployment Wizard to create a web-deployable installation of Exceed onDemand Client for your end users.

Exceed onDemand Index Page Wizard   The Index Page Wizard lets you create a single web page that contains links to multiple deployment packages.

Exceed onDemand Package Update Wizard   Exceed onDemand Package Update Wizard simplifies the task of updating the Exceed onDemand Client version within existing deployment packages.

About Exceed onDemand Deployment Wizard

Exceed onDemand Deployment Wizard simplifies the task of Exceed onDemand administration. With it, you can do the following:

- Distribute Exceed onDemand Client to both in-house and remote end users over the Web.
- Update your users' Exceed onDemand Client software automatically by deploying the latest version from the web server.
- Control feature availability to provide users with a uniform work experience.
- Preconfigure Exceed onDemand Client sessions that are launched from the web page to ensure optimal performance. For example, you can automate the connection to the host so that when users launch a session from the web page, they are logged into a specific host using the connection parameters and configuration profile you specify.

Overview of the Deployment Process

The following is a summary of key steps in the deployment of Exceed onDemand Client over the web.

To deploy Exceed onDemand Client:

1   Use Exceed onDemand Deployment Wizard to generate an HTML page and a deployment package.

2   If you did not generate the files directly on the web server, move the generated files to the server.

3   The package, a collection of compressed files, is accessed by end users through the URL you provide them.

4   The content of the package is extracted and installed on users' machines and used to launch Exceed onDemand Client sessions.

Creating a Deployment Package

To deploy Exceed onDemand Client over the web, create a deployment package by configuring the settings in the Deployment Wizard window.

To create a deployment package:

1   To create a new deployment package, using the Deployment Wizard default settings, click New on the File menu.

2   Configure the Deployment Wizard settings.

3   When you have configured all the required settings and want to generate the deployment package, click Create on the File menu. Deployment Packager generates the package and saves the package settings as a project.

To open a deployment project:

1   To open an existing project, click Open on the File menu. The Exceed onDemand Deployment Projects dialog box opens.

2   Select a project and click Select to open it. The Deployment Wizard displays the package settings specified in the selected project.

> **Note:** You can also use the Deployment Projects dialog box to delete a selected project by clicking Delete. The project and associated package files are deleted from the default EoD Packages and EoD Projects folders.

Configuring Deployment Wizard Settings

The Deployment Wizard is divided into three settings areas, each responsible for a different stage of deployment.

General Area

These settings let you specify the project name, and the HTML file name and page title. You must also specify a destination path for the deployment package. If you do not specify a web server directory as the destination, you must move the package there after it is generated.

Launch Parameters Area

These settings let you specify the parameters for launching an Exceed onDemand session. What occurs after users click the deployment link on the HTML page depends on how much information you provide in this area:

- If you provide all of the information necessary to start a session, the session will be launched automatically as per the parameters you specify.

- If you provide some or none of the information, Exceed onDemand Client will prompt the user for any missing information before starting the session.

Deployment Settings Area

These settings let you configure options for the web-deployed Client. You must also specify the location on the users' machines where you want Exceed onDemand Client to be installed.

Exceed onDemand Directory Variables

Exceed onDemand Deployment Wizard directory variables are similar to Windows environment variables except they are supported in the same way on all platforms. The directory variables are also prefixed and suffixed with $ instead of %.

The following variables are supported:

Variable	Description
$PROGRAMFILES$	This variable will resolve to the full path of the `Program Files` directory on the target machine.
$APPDIR$	This variable will resolve to the application directory as specified in the Installation area of the Deployment Settings.
$SYSDIR$	This variable will resolve to the full path of the Windows System directory. For example: `c:\windows\system32` on Windows XP, `c:\windows\system` on Win98.

Variable	Description
$WINDRIVE$	This variable will resolve to the drive that Windows is installed to on the target machine. For example `c:`, `d:` (note, trailing backslash is removed).
$USERWINAPPDATA$	This variable will resolve to the full path of the user's `Application Data` directory on the target machine. For example, on Windows XP: `c:\documents and settings\`*`username`*`\application data`
$ALLUSERWINAPPDATA$	This variable will resolve to the full path of the All Users `Application Data` directory on the target machine. For example, on Windows XP: `c:\documents and settings\`*`all users`*`\application data`
$DESKTOP$	This variable will resolve to the full path of the currently-logged in user's `desktop` directory on the target machine. For example, on Windows NT: `c:\winnt\profiles\`*`user`*`\desktop` and on Windows XP, `c:\documents and settings\`*`user`*`\desktop`

Making the Package Available

The following procedure is best suited to cases where you want to make only one deployment package available to all your users. If you create more than one deployment package (for different groups or users), consider using Exceed onDemand Index Page Wizard to simplify the task of distribution. For more information, see "About Exceed onDemand Index Page Wizard" on page 28.

To make a package available:

When you generate a deployment package, Exceed onDemand Deployment Wizard creates a *projectname* folder with the name you specified in the Project Name box. To locate this folder, refer to the Location box within the General settings area of the wizard.

The *projectname* folder contains the following:

- a `Package` folder
- an HTML file (with the name you specified in the HTML File Name box)

Place both of these items on the web server and provide users with the URL to access the HTML file.

About Exceed onDemand Index Page Wizard

Exceed onDemand Index Page Wizard lets you generate an HTML web page that contains links to multiple deployment packages created in the Exceed onDemand Deployment Wizard. The Index Page Wizard lets you specify multiple existing deployment packages, and then generates a single HTML page that contains multiple links, one for each package. You can then move the index page (with all of the packages to which the index page points) to a web server and distribute the URL to users.

For example, if you use the Deployment Wizard to create deployment packages for each department in your company, and then use the Index Page Wizard to create an index page that contains links to all of the deployment packages you created, you can then distribute one index page URL to all departments. Users from each department can open a deployed package on their machine by selecting the appropriate link on the index page.

Creating an Index Page

Before you create an index page, you must first use the Deployment Wizard to create all the projects to which the index page will point.
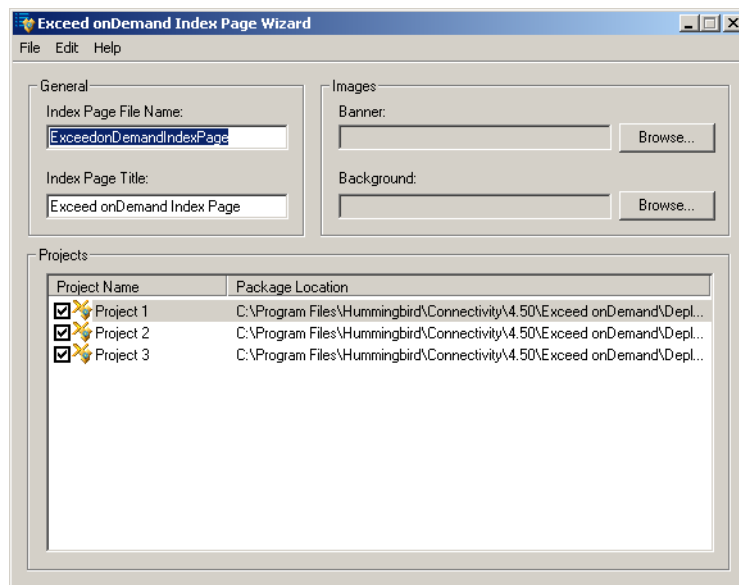
To create an Index Page:

1   In the Index Page File Name box, specify a name for the wizard-generated `.html` file.

2   In the Index Page Title box, specify a title for the HTML page. The title appears at the top of the index page and in the title bar of the browser window containing the HTML page.

3   If you want to include a banner or background image for the HTML page, specify an image file in each of the appropriate boxes.

> **Note:** If you specify a `.bmp` file for the background image, it will not appear if the user is using Netscape 4.x. to view the index page.

4   Select the deployment package(s) to include on the index page. Select the check box beside each package you want to include in the index, or click Select All or Clear All on the Edit menu.

5   Click Generate on the File menu. The Index Page Wizard saves the index page as an `.html` file in the `EoD Packages` folder.

6   Copy the `.html` file, as well as the deployment package folders to which the index page points, to a web server directory. If you included a banner or background image, you must also copy the Images folder.

7   Distribute the URL for the index page to end users. The user can open the deployed package on the client machine by selecting the appropriate link on the index page.

About Exceed onDemand Package Update Wizard

With Exceed onDemand Package Update Wizard, you can update the Exceed onDemand Client version within selected deployment packages without having to manually apply changes to each individual package.

Updating Exceed onDemand Client for Deployment

Exceed onDemand Package Update Wizard simplifies the task of updating the Exceed onDemand Client version within existing deployment packages. You can use the Package Update Wizard to select deployment packages that you want to upgrade.
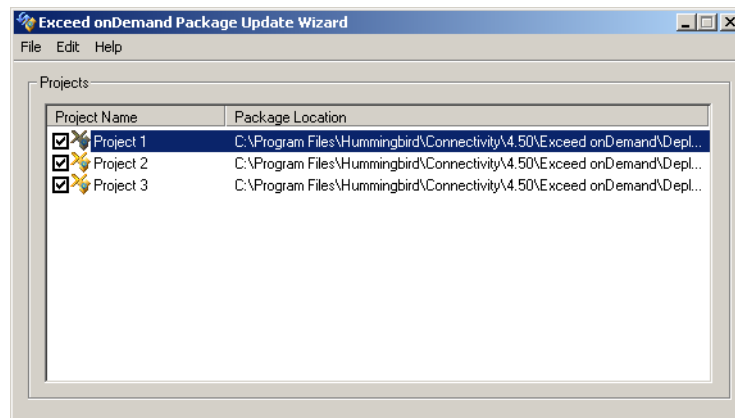
To update existing deployment packages:

1   Install the updated version of Exceed onDemand Client.

2   Launch the Package Update Wizard. In the list of existing deployment packages (previously created with Exceed onDemand Deployment Wizard), select the check box beside each project name that you want to update, or click Select All or Clear All on the Edit menu.

3   Click Update on the File menu.

4   Copy the updated packages to the web server.

Chapter 3

Managing Exceed onDemand Server

About Exceed onDemand Administration

The task of managing Exceed onDemand includes:

- configuring Exceed onDemand Server by specifying port numbers, or enabling/disabling security features
- configuring user account settings that permit or restrict Exceed onDemand users access to specific functionality
- tracking session information such as which users are currently running client sessions, or how many sessions are currently suspended
- creating and distributing configuration profiles to users
- managing licenses
- troubleshooting

In this chapter, you will find information on performing Exceed onDemand Server management tasks for both Windows and UNIX installations of Exceed onDemand Server.

About Exceed onDemand Server Manager

Exceed onDemand Server Manager is a management tool for Exceed onDemand administrators. You can install it on any network PC, and use it to remotely manage any Exceed onDemand Server (UNIX or Windows) installed on the network.

With Exceed onDemand Server Manager, you can configure server settings, manage licenses, and view information about Exceed onDemand Client sessions currently running or suspended on a particular Exceed onDemand Server. You can also use Server Manager to access Exceed onDemand Server Configuration Manager, which lets you configure user account settings, and create configuration profiles and manage their distribution.
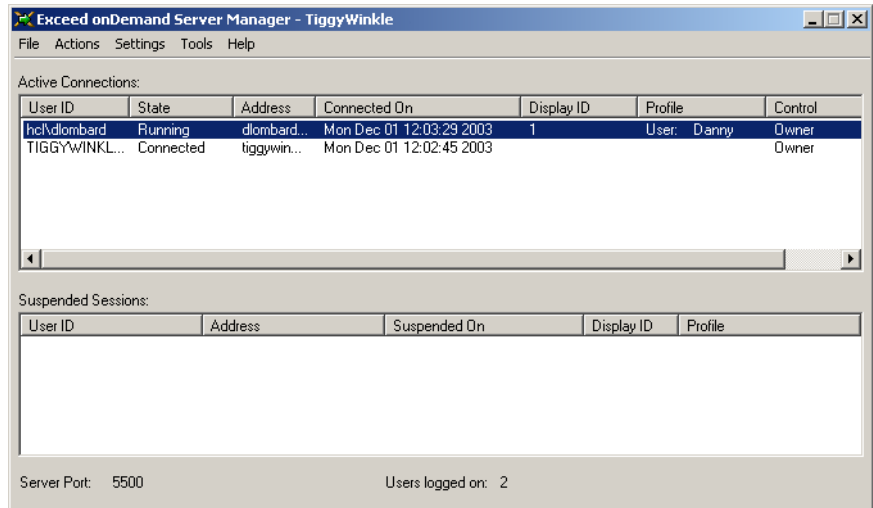
The Server Manager window displays information about users and about client sessions. The server status information displayed in the title bar is refreshed automatically. To update all other displayed information, click Refresh on the Actions menu.

You can show/hide columns in both view areas by right-clicking a column heading.

If you want to print information displayed in the Server Manager window, you can save the information and print it from the saved file. To save, click Save As on the File menu. In the Save As dialog box, specify a location, type a file name, and specify a file type. You can save the file in Comma Separated Values (*.csv) or HTML (*.html) format. Click Save.

Connecting to the Server

After you install Exceed onDemand Server Manager, you can launch it from the Windows Start menu. When you do, the Connect To Exceed onDemand Server dialog box opens, which lets you connect to the Exceed onDemand Server you want to manage. You can also access this dialog box by clicking Connect on the Server Manager Actions menu.

If you experience problems logging into an Exceed onDemand Server installed on Windows XP or Windows Server 2003, see "Troubleshooting Connections to Exceed onDemand Server" on page 36.

To connect to an Exceed onDemand server:

1   In the Connect to Exceed onDemand Server dialog box, provide the following information:

   •   Host—Type, or select from the drop-down list, the name of the Exceed onDemand Server you want to manage. If that server has been configured to use a server port number other than the default (5500), you must type a colon and the customized port number after the host name:

       hostname:*portnumber*

   •   User ID—Type your user ID for the specified server. When connecting to Exceed onDemand Server installed on Windows, provide the domain name and your user name as follows:

       domain\username

   •   Password—Type your password.

2   If SSL is enabled for Exceed onDemand sessions, then you must select the Use SSL option in the Connection area. For information on SSL settings, see "Configuring Server Settings" on page 37.

3   Click OK.

To end the Server Manager session, click Disconnect on the Actions menu.

Troubleshooting Connections to Exceed onDemand Server

There are two common reasons for encountering a failure while attempting to establish a connection to the server:

- an SSL setting conflict
- an operating system setting that limits the use of blank passwords

SSL Setting Conflict

If SSL is enabled on the server, you must select the Use SSL option in the login dialog box in order to connect successfully. If this does not alleviate the problem, then the problem may be related to the server operating system settings.

Server Platform Limitation

If the Exceed onDemand Server you want to log into is installed on Windows XP or Windows Server 2003, you cannot start a client or administrative session if you are using a local account with no password. This is a result of a Windows XP/Server 2003 feature that limits the use of blank passwords on local accounts to console logon only.

To remove this limitation:

1   In Control Panel, select Switch to Classic View, if necessary.

2   In Administrative Tools, open Local Security Policy.

3   Expand Local Policies and select Security Options.

4   Disable the following option—Accounts: Limit Local Account Use Of Blank Passwords To Console Logon Only.

Configuring Server Settings

You can access the Exceed onDemand Server options by clicking Server Settings on the Server Manager Settings menu.
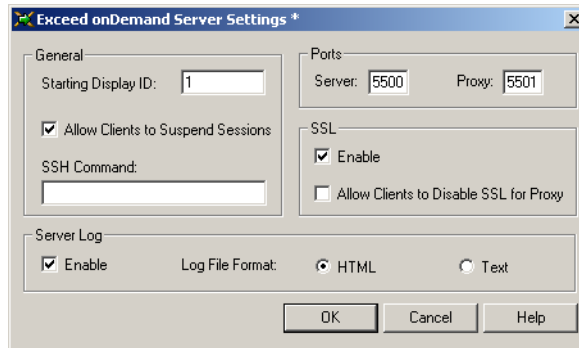
In the Exceed onDemand Server Settings dialog box, you can configure the following options.

> Note: Option changes require a server restart to take effect. To restart the server, click Restart on the Server Manager Actions menu. Restarting the server ends the current Server Manager Session. A server restart also ends all client sessions. Administrators and Client users must reconnect.

General Area

Starting Display ID   Specify the number at which Exceed onDemand begins incrementing server displays for clients. You can specify a starting display ID from 1 to 9999 inclusive. The default is 1. Use this option to avoid occupied server display ports.

Allow Clients to Suspend Sessions   Enable this option if you want to let clients suspend sessions on the server and resume them later.

> Note: Suspended sessions occupy resources on the server. If a large number of sessions are suspended, server performance can be affected.

SSH Command   For Exceed onDemand Client users to make use of the SSH startup mode, you must make the SSH client available for their sessions. Use this area to specify the location of the SSH client executable on the server.

Server Log Area

Enable this option if you want the server to generate a log file. You can also specify a file format by selecting either HTML or Text. To view the log, click View Server Log on the Tools menu.

Ports Area

Exceed onDemand Server makes use of two ports to mediate the communication between Exceed onDemand Clients and hosts.

Server   Specify the number of the port on which the server listens for startup and configuration data (Configuration connection). You can specify a port number from 1024 to 5999. The default is 5500.

> **Note:** If you change the default port number, you must notify your users. When connecting to the host, users will have to specify the new port number in the Host box as follows:
>
> *HostName:PortNumber*

Proxy   Specify the number of the port through which the proxy transfers X session data. You can specify any number from 1024 to 5999, excluding the number of the Server port. The default is 5501. Changing this port from the default has no effect on users.

SSL Area

If you installed either the Strong or the Weak SSL version of Exceed onDemand Server, you can configure these SSL options. For more detailed information on configuring Exceed onDemand Secure Sockets Layer options, see "Configuring Secure Sockets Layer (SSL) Options" on page 49.

- Enable—This option applies to all Configuration connections between the client and the server port.
- Allow Clients to Disable SSL for Proxy—This option applies to all X Session connections between Exceed onDemand Client and the proxy port.

If you enable SSL, the server log lists the available ciphers.

Managing User Accounts

The user account settings let you configure user accounts and control user access to certain functionality. To manage user accounts, you can configure settings on a default as well as a per-user basis.

Default accounts are created for users the first time they log onto Exceed onDemand. All new users receive the default settings you specify in the New User Settings dialog box.
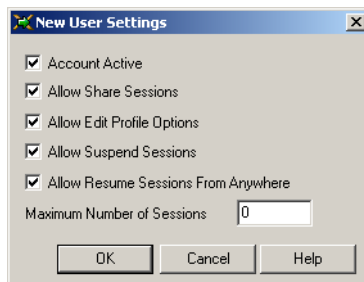
You then have the option of customizing the settings on a per-user basis using Exceed onDemand Server Configuration Manager. For more information, see the following procedures.

Note: Administrators cannot edit their own account settings.

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To configure the default account settings for new users:

1   On the Settings menu of the Exceed onDemand Server Manager window, click New User Settings.

2   In the New User Settings dialog box, you can enable or disable the following settings:

- Account Active—Enable this option if you want new user accounts to be active. If you disable this option, accounts are created for new users, but they are not active. In this case, first-time users cannot start an Exceed onDemand Session until you activate their accounts on a per-user basis using the Exceed onDemand Server Configuration Manager. For more information, see the next procedure.

- Allow Share Sessions—Enable this option if you want to let new users share their sessions with other users.

- Allow Edit Profile Options—Enable this option if you want to let new users create user-defined profiles and edit them with the client-side Exceed onDemand Configuration Manager. For more information, see "Distributing Global Profiles to Users" on page 47.

- Allow Suspend Sessions—Enable this option to let new users suspend their X sessions. For more information on Suspend/Resume functionality, see "Suspending and Resuming Sessions" on page 70.

- Allow Resume Sessions From Anywhere—Enable this option to let new users resume suspended sessions from machines other than the one on which the session was suspended.

- Maximum Number of Sessions—Specify the maximum number of sessions the new user may run at once. Specifying zero (0) lets the user run an unlimited number of sessions.

3   Click OK.

To configure user-specific account settings:

1   On the Tools menu of the Server Manager window, click Configuration Manager. Exceed onDemand Configuration Manager opens.

2   In the User area, click Users.

3   In the Exceed onDemand Users dialog box, use the Show area to specify the type of users from which you want to select. The related list appears in the User pane.

4   Click the user whose account you want to configure, and click Select.

5   In the Exceed onDemand Server Configuration Manager dialog box, use the Settings area to configure the selected user's account:

   • Server Administrator Account—Enable this option to give the selected user administrative privileges. Administrators can create and edit Global profiles as well as user-specific profiles. They can also configure user account settings.

   • Account Active—Disable this option to deactivate an account and prevent the selected user from starting an X session and/or managing his or her profiles.

   • Allow Share Sessions—Enable this option if you want to let the user share sessions with other users.

   • Allow Edit Profile Options—Enable this option if you want to let the user create user-defined profiles and edit them with the client-side Configuration Manager. For more information, see "Distributing Global Profiles to Users" on page 47.

   • Allow Suspend Sessions—Enable this option to let the user suspend X sessions. For more information on Suspend/Resume functionality, see "Suspending and Resuming Sessions" on page 70.

   • Allow Resume Sessions From Anywhere—Enable this option to let users resume suspended sessions from machines other than the one on which the session was suspended.

   • Maximum Number of Sessions—Specify the maximum number of sessions the user may run at once. Specifying zero (0) lets the user run an unlimited number of sessions.

6   Click OK.

Managing Global Xinitrc Startup

When a user starts a client session with a configuration profile that specifies Run Global Xinitrc as the startup mode, Exceed onDemand Server refers to the administrator-managed `GlobalXinitrc` file. This file lets administrators specify which X applications should launch automatically upon connection.

UNIX/Linux   On UNIX/Linux servers, a default file called `GlobalXinitrc` is created during installation, and the location of the file is provided so that you can edit it using the syntax provided in the file.

Windows   On Windows servers, you must edit the `GlobalXinitrc.cmd` file using the syntax provided in the file.

If you distribute a configuration profile that specifies Run Global Xinitrc as the startup mode (or, if a user selects this startup mode for a user-specific configuration profile), you must edit the `GlobalXinitrc` file, adding the information required to automatically start the required X application(s).

If you do not configure the `GlobalXinitrc` file, Exceed onDemand Server on Windows does not launch applications and starts in Passive mode instead. Exceed onDemand Server on UNIX attempts to use the installed default file. If it is not successful, it starts the session in Passive mode as well.

To edit the GlobalXinitrc file:

1   On the Tools menu of the Exceed onDemand Server Manager window, click Configuration Manager.

2   In the Exceed onDemand Server Configuration Manager dialog box, click Edit Global Xinitrc in the bottom, left-hand corner.

3   The file opens in a text editor. Use the syntax described in the file to add commands. Click Save.

Viewing .xinitrc Logs

UNIX/Linux   The output of commands is logged on the server. If any errors occur during client startup in either Run Global Xinitrc or Run Xinitrc startup mode, you can refer to the corresponding log file:

• Run Global .xinitrc error log—To view the log, see the `.global_xinitrc_errors` file, found in your home directory.

• Run .xinitrc log file—To view the log, see the `.xinitrc_errors` file, found in the same directory as your `.xinitrc` file.

Managing Activation Keys

To add a new activation key, click Activation Keys on the Server Manager Tools menu. In the Activation Keys dialog box, type the new key, and click Add. The Total Number of Licenses value is updated to reflect the newly entered activation key.

Viewing the Server Log

You can view the server log file by clicking View Server Log on the Server manager Tools menu. The server log opens in either HTML or text format depending on the setting specified in the Server Settings dialog box.

Exceed onDemand UNIX Server Commands

While you can use Exceed onDemand Server Manager to manage UNIX Servers, you can also use server commands to view server and user information. You can also perform tasks such as starting and shutting down the server. The administrative tools are located in the `Exceed_onDemand_4.5/bin` directory.

Starting Exceed onDemand Server

You can start the server by running the `ttxpmstart` utility. For more information, refer to the manual pages in the `Exceed_onDemand_4.5/help` directory.

Managing Activation Keys

You can change the activation key without reinstalling Exceed onDemand Server. Use the `keymanager` utility to do the following:

- add an activation key
- remove expired evaluation keys
- list installed activation keys

Saved changes take effect immediately.

Stopping Exceed onDemand Server

You can stop the server by running the `ttxpmstop` utility. For more information, refer to the manual pages in the `Exceed_onDemand_4.5/help` directory.

Viewing Server Information

You can view information such as when the server was last started, the number of users currently logged into the server, and their session information.

To view this information, use the `ttxpminfo` utility. For more information, refer to the manual pages in the `Exceed_onDemand_4.5/help` directory.

Troubleshooting

Viewing the Server Log

If you need to view the sever log file, you can access it in the `Exceed_onDemand_4.5/log` directory. If you chose to generate the log file in text format, the file name will be `ttxpm.txt`. If you chose to generate the log file in HTML format, the file name will be `ttxpm.html`.

Managing Configuration Profiles

You can access Exceed onDemand Server Configuration Manager by clicking Configuration Manager on the Tools menu.
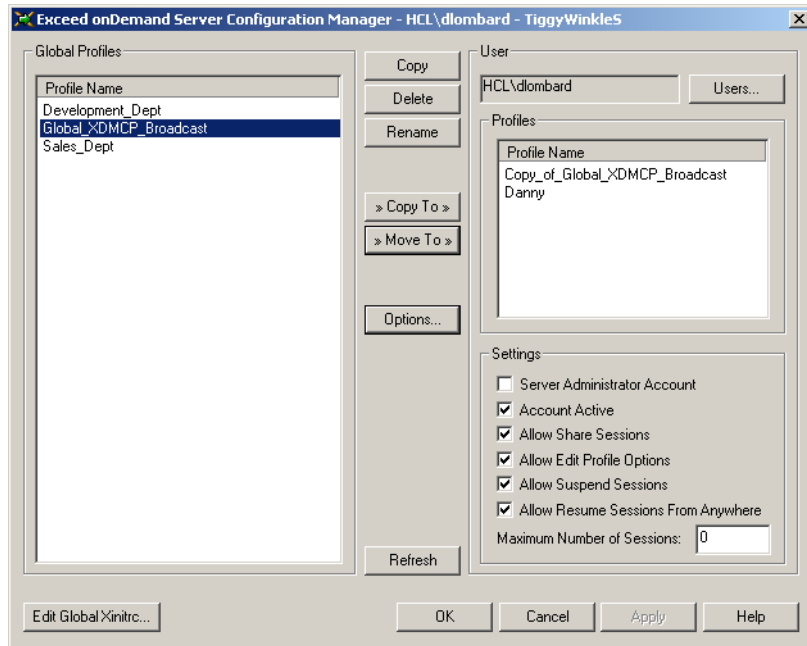
As the administrator, you can use the server-side Configuration Manager to create, edit, and delete configuration profiles (global and user-defined). You can also manage the distribution of global configuration profiles to Exceed onDemand users.

> **Note:** Administrative functionality is available only on the server-side Configuration Manager. The client-side Configuration Manager lets users manage only their own profiles.

Creating Global Configuration Profiles

You can create any number of global configuration profiles if you want to provide users with more than one standardized configuration. After you create these profiles you can manage their distribution. For example, you can create two profiles, each with different security settings, and distribute them to users accordingly.

To create a global configuration profile:

1   On the Server Manager Tools menu, click Configuration Manager. The Exceed onDemand Server Configuration Manager dialog box opens.

2   In the Global Profiles area, select an existing global profile to use as the basis for the new profile.

> **Note:**
>
> • There must be at least one global profile at all times.
> • The Global_XDMCP_Broadcast profile is installed with Exceed onDemand Server.
> • Two additional global profiles are installed with Exceed onDemand Server for UNIX only.

You can change the name of a profile at any time; however, the name must follow certain rules. For more information, see "Changing the Name of a Configuration Profile" on page 64.

3   Click Copy. A copy of the selected global profile appears in the list.

4   Rename the profile.

5   Select the newly created copy and click Options. The Exceed onDemand Profile Options dialog box opens.

6   Set the required options for this profile and click OK.

7   In the Exceed onDemand Server Configuration Manager dialog box, click OK.

Distributing Global Profiles to Users

The server-side Configuration Manager lets you manage user access to global configuration profiles. After you create a global profile, it is available for use by any user with an active account. The new profile cannot be edited by these users unless you distribute it to them directly or designate them as administrators.

To distribute global configuration profiles to users:

1   On the Server Manager Tools menu, click Configuration Manager. The Exceed onDemand Server Configuration Manager dialog box opens.

2   In the User area, click Users.

3   In the Exceed onDemand Users dialog box, use the Show area to specify the type of users from which you want to select. The related list of users appears in the User list.

4   Click the user to whom you want to distribute a global profile and click Select. The Users dialog box closes. The selected user's name, account information, and profiles appear in the User area of the Configuration Manager.

5   From the Global Profiles list, select the profile you want to distribute to the selected user.

6   Do one of the following:

   •   Click the >>Copy To>> button to place an editable copy of the global profile in the selected user's profile list. The original global profile is still available to other users.

   •   Click >>Move To>> to move the global profile to the selected user's profile list. Doing so makes the profile available only to the selected user.

   Note: You can move or copy the profile back to the Global Profiles list by selecting it in the user list and clicking <<Move To<< or <<Copy To<<.

7   Repeat steps 2-6 for each user to whom you want to distribute global profiles, and then click OK in the Configuration Manager.

Editing Configuration Profiles

After you create a configuration profile, you can edit the profile's option settings at any time with the Configuration Manager. You can also edit the options in existing, user-defined profiles.

To edit a configuration profile:

1   On the Server Manager Tools menu, click Configuration Manager. The Exceed onDemand Server Configuration Manager dialog box opens.

2   Do one of the following:

   •   To edit options in a global configuration profile, select the profile from the Global Profiles area.

   •   To edit options in a user-defined configuration profile, click Users. In the Users dialog, use the Show area to specify the type of users from which you want to select. Select the user from the list that appears in the User pane and click Select. In the Exceed onDemand Server Configuration Manager dialog box, select the user-defined profile in the Profiles area.

3   Click Options. The Exceed onDemand Profile Options dialog box opens.

4   Configure the option settings for this profile, and click OK.

5   Click OK.

> **Note:** The changes you make to profile option settings will not be implemented in client sessions that are currently running. They will take effect in subsequent sessions.

Configuring Secure Sockets Layer (SSL) Options

The Secure Sockets Layer options for Exceed onDemand relate to two client/server network connections.

Exceed onDemand Client   **Exceed onDemand Server**

Configuration connections   These connections, between the Exceed onDemand Server *server* port (default 5500) and Exceed onDemand clients, (Server Manager or Exceed onDemand Client) transfer client startup and configuration information.
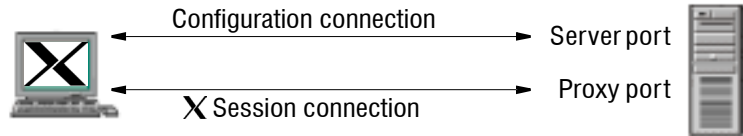
The server and proxy ports are set during Server installation. You can change the port settings using Exceed onDemand Server Manager.

X Session connections   These connections, between the Exceed onDemand Proxy port (default 5501) and Exceed onDemand Client, transfer X session data.

If certificates are present, they will be used for any SSL connection.

Both types of connections can occur over Secure Sockets Layer (SSL) depending on how server-side and client-side settings are configured.

If you install Exceed onDemand Server with strong or weak encryption, you should configure the SSL settings before making the client available to users. The SSL settings you set on the server affect what users must do when using Exceed onDemand Client, and the options available to them.

Server-Side SSL Settings

To modify server-side SSL options, you must install Exceed onDemand Server Manager on any network PC and use it to log into the Exceed onDemand Server you want to configure. After you log into the server, click Server Settings on the Server Manager Settings menu to view the following SSL options in the Server Settings dialog box:

• Enable—Enables SSL for Configuration connections.

• Allow Clients To Turn Off Proxy's SSL—Allows users to determine SSL usage for X session connections.

The way you configure these options has direct implications for your users. For more information, see the table in the next topic.

Client-Side SSL Settings

There are two client-side SSL settings. Their use depends on server-side SSL settings.

- Use SSL—When selected, this option secures the Configuration connection between these clients and Exceed onDemand Server to protect login and startup information. It appears in the connection dialog boxes that open when you launch a client session (Exceed onDemand Server Manager or Exceed onDemand Client).

- Use SSL Between Desktop And Proxy—If this option is enabled in the profile selected for the Exceed onDemand Client session, then the X session connection between the Exceed onDemand Proxy and the Exceed onDemand Client desktop will be secured with SSL. This is a configuration profile option. It appears on the Exceed onDemand Specific tab of the Profile Options dialog box, which you access with the Configuration Manager.

The following table summarizes the server-side/client-side SSL setting dependencies:

If Server-side SSL settings:		Then Client-side SSL settings:	
Enable	**Allow Clients To Turn Off Proxy's SSL**	**Use SSL**	**Use SSL Between Desktop And Proxy**
Selected	Selected	User must select	User can select
Selected	Not Selected	User must select	Forced SSL for X session connection
Not Selected	Not Available	User must not select	User can select

Configuring the Server-Side SSL

When using ciphersuites that use the Digital Signature Standard (DSS), the client verifies the identity of the server before establishing an SSL-encrypted session. For verification, the server needs a private key file and a certificate file. The private key file must be named ewebpriv.pem, and the certificate file must be named ewebcert.pem. If you are using anonymous authentication, these two files are unnecessary.

Generating the Private Key and Certificate Files

To generate the private key and the certificate file, use the `openssl` utility.

> **Note:** openssl creates a file called `.rnd` in the current user's HOME directory (UNIX), or in the root of the `C:` drive (Windows).

Windows **Before running the openssl utility on Windows:**

1 Start a `cmd` window. On the Start menu, click Run. In the Run dialog box, type `cmd`.

2 Type the following command:

```
PATH install location\bin\sys;%path%
```

where `install location` is the directory in which Exceed onDemand is installed.

UNIX/Linux **Before running the openssl utility on UNIX/Linux:**

If you are running this utility on a Solaris, AIX, Linux, or HP machine, ensure that the HOME environment variable is defined, and then define the following environment variables before running the utility.

On Solaris, AIX, or Linux, if you are using C shell, specify:

`<CR>` indicates that the given text must be entered as one line with a carriage return at the end.

```
setenv LD_LIBRARY_PATH install location/
Exceed_onDemand_4.5/bin/sys:$LD_LIBRARY_PATH <CR>
```

On HP, if you are using C shell, specify:

```
setenv SHLIB_PATH install location/
Exceed_onDemand_4.5/bin/sys:$SHLIB_PATH <CR>
```

> **Warning!** On HP systems, you must also define the HOME environment variable in order to successfully run the openssl utility. You can set it to any directory.

On Linux, if you are using BASH shell, specify:

```
LD_LIBRARY_PATH=install location/
Exceed_onDemand_4.5/bin/sys:$LD_LIBRARY_PATH

export LD_LIBRARY_PATH <CR>
```

To run the openssl utility:

1   Type the following command using the appropriate slash character:

```
cd install location\bin
```

2   At the prompt, type the following command to generate random data. This command saves the random data to the `rand.dat` file. You can delete or refresh the `rand.dat` file at any time.

```
openssl md5 temporary directory/* >rand.dat
```

where *temporary directory* is a directory that contains system log files or other temporary files. For example, you can use the /tmp directory on UNIX or the system temp directory on Windows.

3   Type the following command to create the `dsaparams` file. This file contains the information required for generating a private key.

```
openssl dsaparam -rand rand.dat -out dsaparams <number of
bits>
```

> **Note:**
>
> • The *<number of bits>* parameter indicates the number of bits to generate in the private key. For US/Canadian domestic installations, 2048 bits is the maximum, but 1024 bits is common. For export (outside the US and Canada) installations, this number is limited to 512 bits or less.
>
> • This step may take some time to complete depending on the speed of your machine and the number of bits you have specified.

4   Type the following command to generate the key file (`key.pem`).

```
openssl gendsa -rand rand.dat -out ewebpriv.pem dsaparams
```

5 Type the following command to generate a Certificate Signing Request (CSR). You require a CSR file if you want your certificate signed by a certificate authority (CA).

```
openssl req -config openssl.cnf -new -key ewebpriv.pem -out
csr.pem
```

> **Note:** This command prompts you for information, such as your city, state/province, department, and e-mail address. When prompted for the Common Name, type the fully qualified domain name of the host you are planning to use as your server, for example, `eod.hcl.com`. If you would like to change the default responses for this information, edit the `[req_distinguished_name]` section of the `openssl.cnf` file.

6 If you want to have your certificate signed by a CA, contact your CA for instructions on how to send them your CSR file.

If you do not want a CA to sign your certificate:

a) Type the following command to generate a self-signed certificate.

```
openssl req -new -x509 -key ewebpriv.pem -out ewebcert.pem
-config openssl.cnf <CR>
```

<CR> indicates that the given text must be entered as one line with a carriage return at the end.

b) Move the files as follows:

Move `ewebpriv.pem` to `install location/conf/home/keys/ewebpriv.pem`

Move `ewebcert.pem` to `install location/conf/home/keys/ewebcert.pem`

Configuring the Client-Side SSL

When the SSL (Secure Sockets Layer) protocol is enabled, Exceed onDemand Server, and the proxy act as an SSL server, and Exceed onDemand Server Manager and Client act as SSL clients.

> **Note:** If the administrator enables SSL, then users must select Use SSL in the Client or Server Manager connection dialog box when they connect to the server or start a session. The Server Manager and Client will not run otherwise.

Exceed onDemand negotiates a number of ciphersuites. To view a list of available ciphersuites, consult the server log. For more information on viewing the server log, see "Viewing the Server Log" on page 43.

Managing Fonts

Exceed onDemand administrators can manage the availability of fonts for Client sessions. During an X session, Exceed onDemand Client searches the database of fonts and font servers that you make available.

For more information on the Font Editor, see Exceed onDemand Help.

Exceed onDemand Client users can use the Font Editor to view the list of available fonts and font servers. They can enable or disable a font folder or server and set the search priority. When Exceed onDemand Client searches the database for a font, it searches only user-enabled font folders or font servers. It searches them in the order in which they appear in the Font Editor.

On the Exceed onDemand Server, fonts are stored in one or more folders located in the font directory:

    install directory/conf/home/font/font folder

where:

- *install directory* is the path created during Exceed onDemand Server installation.
- *font folder* is the name of the folder that contains:
  - One or more font files—These can be `.bdf` or `.pcf` files.
  - A `fonts.dir` file—This file lists all font files located in the font folder.
  - A `fonts.alias` file—This file lets you alias font names.

Controlling Font Availability

There are a number of ways in which administrators can determine which fonts are available to users. You can:

- modify the contents of existing font folders
- add new font folders/servers
- delete font folders/servers

To modify the contents of an existing font folder:

1   Copy new fonts into the font folder, or delete existing fonts from the folder.

The fonts.dir file located in the User font folder updates automatically.

2   Update the `fonts.dir` file located within the modified font folder by adding or removing the relevant font information.

3   If you need to give the font another name (alias), modify the `fonts.alias` file as well.

To add a new font folder:

1   Create a font folder directly in the `font` directory. This folder must contain the `fonts.dir` and `fonts.alias` files. Alternatively, you can create a copy of the `user` font folder and rename it.

2   Copy fonts into the font folder.

The fonts.dir file located in the User font folder updates automatically.

3   Update the `fonts.dir` file located within the modified folder by adding to it the required information for each font in the folder.

4   If you need to give the font(s) another name (alias), modify the
     `fonts.alias` file as well.

To remove a font folder, delete it from the `font` directory.

> **Note:** When you add a font folder, it appears in the user's Font
> Editor, but is disabled by default. To use the fonts in the newly
> added folder, users must enable it.

To add or remove a font server:

Configuration profiles are the means by which you can make a font server
available to your users.

When configuring a profile, the Font tab of the Profile Options dialog box lets
you add font servers to the font database. You can either create or edit a
configuration profile so that it specifies the font server. Users can then select
the profile for their sessions and access the font server.

For more information on configuration profiles and adding font servers to
the database, see Exceed onDemand Server Manager Help.

Creating and Distributing Custom Keyboards

XKeys, the Exceed onDemand keyboard editor, lets you create customized
keyboards. The keyboard files provided with Exceed onDemand contain
keyboard layout and symbol mappings. You can create an entire custom
keyboard manually, but usually it is better to start with one of the existing
keyboard files, then customize it to suit your needs.

After you create a keyboard file, you must place it in a profile folder. The
profile in which you place the keyboard file will determine which users have
access to it.

Keyboard files are located on the server, in the user-defined and global
profile folders. For example:

```
C:\Program files\Hummingbird\Connectivity\4.50\ExceedonDemand\
Server\conf\admin\profiles\profilename
```

To access `.kbf` files in user-defined profiles, follow the `users` directory, instead of the `admin` directory.

> **Note:** This procedure assumes you have installed the editor. If you have not, please refer to the installation chapter for information on how to install this utility.

To customize a keyboard file:

1   Navigate to the location of the keyboard files on the server as described above.

2   Use Save As to rename and save a copy of one of the original keyboard files (`.kbf`). You will use this copy to create a custom keyboard. This is a precaution in case you change a setting and it does not work, or you do not like the new settings.

3   Navigate to the `Tools` folder in the installation path, and double-click `xkeys.exe` to open the keyboard editor application.

4   On the XKeys File menu, click Open and navigate to the newly created file.

5   After you have made your changes, save the `.kbf` file. For detailed information on customizing keyboards, see XKeys Help.

6   Copy the file to the profile folder or folders where the other `.kbf` files are stored.

> **Note:** You can copy the new keyboard file to a global profile to give all users access to it. Otherwise, you can distribute it on a per-user basis by placing the file in specific, user-defined profiles.

Chapter 4

Starting Exceed onDemand Client Sessions

About Exceed onDemand Sessions

Exceed onDemand offers a number of launch methods for starting a session. You can launch a session from the application interface, from Windows Explorer, from a web page, or from a command line. You can automate startup by creating connection documents. You can also specify X session behavior by creating and modifying configuration profiles.

Before you connect to a host, it is helpful to understand concepts related to X session configuration. For more information, see below.

About Configuration Profiles

Configuration profiles contain settings that Exceed onDemand uses to configure the look and behavior of X sessions. You can create any number of configuration profiles to accommodate different session requirements.

Configuration profile options are grouped into 14 categories. Each group of options is displayed on its own tabbed page in the Profile Options dialog box.
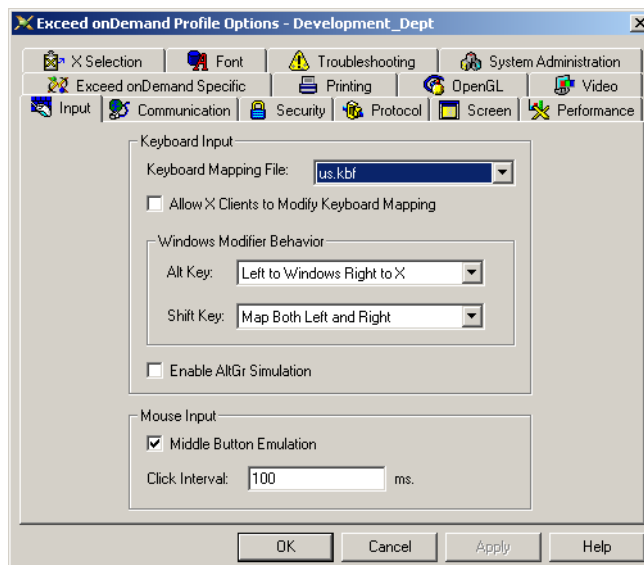
The following table lists and describes profile option categories:

	Input	These settings let you configure your input devices—keyboard and mouse.
	Communication	These settings let you select a startup mode for your session. You can also use the options on this page to configure all of the startup modes.
	Security	These settings let you restrict X client access to your Exceed onDemand Desktop. Using the Host Access Control List, you can configure Exceed onDemand Desktop to accept only X clients from certain hosts. Using the Authorization File, you can configure Exceed onDemand Desktop to accept only X clients started from certain host logins/accounts.
	Protocol	These settings let you configure certain X protocol-related settings and determine which X protocol extensions are enabled or disabled.
	Screen	These settings let you define various screen-related options. Some of the options you can configure include: • the server visual model • exit settings • the window mode (single or multiple window mode) • the window manager for use in multiple window mode
	Performance	These settings let you enable or disable Backing Store and/or Save Unders. If Backing Store is enabled, you can define under what circumstances it is used. Enabling Backing Store or Save Unders reduces network traffic and improves window refresh speed at the expense of window drawing speed and memory.
	X Selection	This setting lets you specify the X Selection used in Exceed onDemand and X client copy/paste operations. You can also automate copy/paste functions.
	Font	These settings let you customize the font database and specify the default text and cursor fonts. For information on making fonts available to users, see "Managing Fonts" on page 54.

	Troubleshooting	These settings let you enable the logging of certain troubleshooting information to the log file. You can also enable trace from initial startup.
	System Administration	These options enable/disable the availability of some product features.
	Exceed onDemand Specific	These settings are for advanced users. The default settings are suitable for most situations. For detailed information, see Exceed onDemand Help.
	Printing	These settings let you enable and disable the print feature. You can also manage printing behavior and specify job size limits.
	OpenGL	These settings let you enable and disable GLX extensions and OpenGL features.
	Video	These settings let you define various video-related options. Some of the options you can configure include: • the root window size • the screen size • the color database

There are two types of configuration profiles:

- Global—These profiles are created, managed and distributed exclusively by administrators. Exceed onDemand is installed with one default global profile on Windows and three default global profiles on UNIX. These profiles are available to all users the first time they connect to a host. Administrators can create additional global profiles and make them available as well. All global profiles reside on the server in:

  [*install path*\]conf\admin\profiles

- User-defined—These profiles are created and/or managed by users. (User-defined profiles also include profiles that administrators create and distribute to users.) Only administrators can access, edit, and delete the profiles of another user. All user profiles reside on the server in:

  [*install path*\]conf\users*username*\profiles

  Note: Profile names are case sensitive on UNIX servers.

When starting a Client session from the Exceed onDemand Client dialog box, you can view a list of the configuration profiles that are available to you and select the one you want Exceed on Demand to use during the session. The Exceed onDemand Client dialog box also lets you do the following:

- Access the Configuration Manager dialog box, which lets you create and delete configuration profiles.
- Access the Profile Options dialog box, which lets you edit the profile options in an existing configuration profile before selecting the profile for use in your X session.

Only the server-side Configuration Manager provides administrative functionality. For more information, see "Managing Configuration Profiles" on page 45.

Creating a User-Defined Profile

Exceed onDemand provides users with a client-side profile manager. Users can create their own configuration profiles as required. These profiles are user-specific, so they are not accessible to any other users except those who are designated administrators. For more information, see Exceed onDemand Client Help.

Changing the Name of a Configuration Profile

When naming a profile, keep the following rules in mind:

- You can use the following characters: Aa-Zz, '_', '-' and '.'.
- You cannot use names that consist solely of dots (.).
- You cannot use a name if it already exists (that is, two global profiles or two user-defined profiles cannot share a name, but a global profile can have the same name as a user-defined profile).
- You cannot use letter case to differentiate profiles on Exceed onDemand Servers for Windows. Only UNIX servers are case sensitive.

For more information on renaming a profile, see Exceed onDemand Client Help.

Editing an Existing Configuration Profile

Users can edit settings in their profiles at any time before or after starting the X session. In most cases, if you edit the settings after you connect, you must reset the server in order for the new settings to take effect. Some changes require you to restart Exceed onDemand Client. For more information, see Exceed onDemand Help.

Connecting to a Host

The Exceed onDemand Client dialog box appears when you start Exceed onDemand. Use it to start an X session. You can also access and edit configuration profiles before starting an X session.

If you experience problems connecting to an Exceed onDemand Server installed on Windows XP or Windows Server 2003, see "Troubleshooting Connections to Exceed onDemand Server" on page 36.

For detailed information about the Exceed onDemand Client dialog box, see Client Help.

To start an Exceed onDemand session:

1   Double-click Exceed onDemand Client 4.5 on the Windows desktop, or, on the Windows Start menu, open the Hummingbird Exceed onDemand 4.5 program group and click Exceed onDemand Client.

2   In the Exceed onDemand Client dialog box, fill in the login information. If you are connecting to a Windows host, and your computer is on a domain, provide the domain name and user name as follows:

   domain*username*

   If your computer belongs to a work group, specify the group in place of the domain.

3   In the Profile area, select a configuration profile from the drop-down list. If the profile you want is not listed, click List to view the profiles that are available to you.

   Note: When editing configuration options, you can select one of ten startup modes, each of which looks and behaves differently. Some launch UNIX applications automatically. Others require you to select and login to a UNIX host before you can launch X applications.

4   If necessary, configure the settings in the Connection area.

   Note: If the system administrator enables SSL on the Exceed onDemand Server, you must select Use SSL in the Connection area of the Exceed onDemand Client dialog box to connect successfully.

5   Click Connect.

   •   If the Suspended Sessions dialog box opens, you can select a session to resume or start a new session. For more information, see Help.

   •   If the Active Sessions dialog box opens, you can select a currently running session to start the X client, or you can start another session. For more information, see Client Help.

Changing the Interface Language

You have the option of changing the language of the user interface before you connect to the host. The languages from which you can choose are determined during installation.

> **Note:** Only the Exceed onDemand Client interface reflects your choice of language.

To change the language of the Exceed onDemand Client interface:

1   In the Exceed onDemand Client dialog box, open the Settings menu and click Language.

2   On the Language sub-menu, select the language you want Exceed onDemand Client to display on the interface.

3   Proceed with connecting to the host.

Automating Host Log In

In the Exceed onDemand Client dialog box, you can create and edit connection documents (.eod). These files store the information you specify for connecting to a host. By default, the connection documents are saved in the Exceed onDemand Client data directory.

To create a new connection document:

1   In the Exceed onDemand Client dialog box, specify the connection parameters necessary to connect to the host. For more information, see "Connecting to a Host" on page 65.

2   On the File menu, click Save. The Save As dialog box opens.

3   Provide a name for the connection document by editing the default file name, NewConnection.eod, which appears in the File Name box.

4   If necessary, change the default file location.

> **Note:** Selecting the default location ensures that future versions of Exceed onDemand Client can access it.

5   Click Save.

Editing a Connection Document

After you create a connection document (.eod), you can edit it from the Exceed onDemand Client dialog box at any time.

To edit a connection document:

1   In the Exceed onDemand Client dialog box, click Open on the File menu.

2   Select the connection document you want to edit, and then click Open. The Exceed onDemand Client dialog box displays the connection parameters as saved in the connection document you selected.

3   Edit the parameters you want to change.

4   On the File menu, click Save.

Launching Exceed onDemand from a Command Line

Apart from starting an Exceed onDemand session from the desktop or from Windows Explorer, you can also start a session from a command line. To do this, you must create a connection document. These files have the extension .eod and contain all of the parameters you specify in the Exceed onDemand Client dialog box.

When you use the connection document to launch a session, Exceed onDemand uses the connection parameters saved in the file to start the session.

The command line syntax is as follows:

```
[path1/]ExceedonDemand.exe [path2/]connect.eod
```

where:

- *path1* is the directory where Exceed onDemand Client is located.
- *path2* is the directory where the connection document is located.
- *connect.eod* is the connection document which contains all connection parameters for starting the X session.

> **Note:** If a file name contains spaces, you must enclose it in quotation marks.

Launching a Session from a Web Page

You can place a link on any web page to start an Exceed onDemand session according to the parameters set in a saved connection document. Use the following syntax in the link definition:

```
<a href="connect.eod" type=application/eod>Run EOD</a>
```

where:

- *connect.eod* is the connection document you want Exceed onDemand to use when launching the session.
- *Run EOD* is the text link that appears on the web page.

Suspending and Resuming Sessions

Users can suspend and resume sessions if the system administrator enables Suspend/Resume on the server and for the user.

This feature lets you suspend a X session instead of closing it and terminating all X client applications. When you reconnect to the host, Exceed onDemand gives you the option to resume the suspended session.

If enabled by the administrator, you can also resume the suspended session remotely from a different client computer.

> **Note:** Suspended sessions occupy resources on the server. If a large number of sessions are suspended, server performance can be affected.

To suspend a session, do one of the following:

- On the Exceed onDemand Desktop menu, point to Session, and click Suspend.
- When closing the session, click Suspend in the confirmation dialog box. This confirmation dialog box appears only when Close Warning on Exit is selected on the Screen page of the Profile Options dialog box.

To resume a suspended X session:

1   In the Exceed onDemand Client dialog box, specify the login information for the host on which you suspended the session. You do not have to specify the same profile used in the suspended session.

2   Do one of the following:

- Click Connect. If there are no suspended sessions, Exceed onDemand connects to the specified host.
- Click Resume.

> **Note:** You can also resume a session from the connection document context menu.

3   The Suspended Sessions - *HostName* dialog box opens and displays all of your suspended sessions. The icons indicate whether you can resume a session. Select the session you want to resume and click Resume.

> **Note:** You cannot resume a session if:
>
> • You used a different version of Exceed onDemand Client to start and suspend the session.
>
> • The IP address of the suspended session does not match the local address, and your user account does not permit you to resume such sessions. See your Exceed onDemand administrator for more information.

To terminate a suspended X session:

1   Open the Suspended Sessions - *HostName* dialog box as you would to resume a session.

2   Select the unwanted session and click Terminate.

Logging Off Exceed onDemand

When you are ready to end an Exceed onDemand session, exit all X clients and managers first. You do not have to log off Exceed onDemand to perform a server reset. If you want to reset the server, point to Tools on the Exceed onDemand Desktop menu and click X Server Reset.

To log off:

1   Exit all X clients. Click the Exit, Close, or Quit menu command for each X client.

2   Exit your desktop/window manager. The method you use to do this depends on your specific desktop/window manager. If you are running the Common Desktop Environment (CDE), click Exit on the desktop front panel.

3   Click Close on the Exceed onDemand Desktop menu.

4   If a confirmation dialog box opens, click OK. A confirmation prompt appears only when Close Warning on Exit is selected on the Screen page of the Profile Options dialog box.

Troubleshooting Exceed onDemand Client

If you experience any difficulties starting an X session, you can generate and view information that is useful for troubleshooting client-side issues.

Exceed onDemand Client provides two resources to help you determine the cause of a problem: a client log file that records the actions you perform using Exceed onDemand Client, and a startup progress monitor that lets you view information related to the Client connection to the server.

To generate troubleshooting information for Client:

1   In the Exceed onDemand Client dialog box, on the Settings menu, select one or both of the following options:

•   Enable Logging—When this option is selected, Exceed onDemand records information to a client log file. This file is placed in the data directory, found in the program destination folder you selected when you installed Exceed onDemand. For example:

```
C:\Program Files\Hummingbird\Connectivity\4.50\
Exceed onDemand\Client\data\Exceed onDemand Client.html
```

To view the remote command log file from an X session, point to File then View Log, and click Client Log from the Exceed onDemand Desktop menu.

Note: Enabling logging can increase connection time. Use this feature only when debugging a connection problem.

•   Show Startup Monitor—When this option is selected, a startup monitor appears when you connect to a host, which shows the progress of the client connection to the Exceed onDemand Server. This monitor closes upon connection.

2   Specify all the information necessary to connect to the host. For more information, see "Connecting to a Host" on page 65.

3   Click Connect.

About the Exceed onDemand Interface

You can change modes on the Screen tab of the Profile Options dialog box.

Exceed onDemand offers two ways of viewing and working with X clients:

Single window mode   Each X client you start is displayed in one window: the Exceed onDemand Desktop.

Multiple window mode   Each X client you start is displayed in its own window.

Working in Single Window Mode

Exceed onDemand Desktop opens when you successfully start an Exceed onDemand session in single window mode. The Desktop serves as the primary workspace where you launch and display X clients.

> **Note:** At startup, Exceed onDemand Desktop appearance may differ depending on the startup mode selected.

Exceed onDemand Desktop consists of:

X client

Title bar
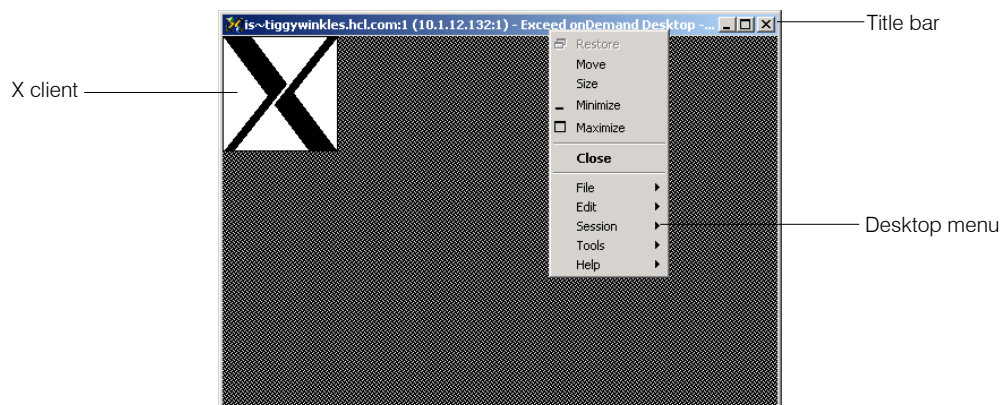
Desktop menu

Working in Multiple Window Mode

If you enable multiple window mode, the Exceed onDemand Desktop is not displayed when you launch X clients. Instead, each X client you start creates its own new window on your display. The menus and information provided by the Desktop, however, are still available in multiple window mode. You can access them from the taskbar icon.

Viewing X Session Information

The title bar, located at the top of the Exceed onDemand Desktop, displays session information. In multiple window mode, you can view this information by placing the mouse pointer over the Exceed onDemand taskbar icon.

Use the title bar to view the following:

- Information you can use to determine the display specification you need to specify when starting an X client. The information is in the following form:

      hostname:*displayID*(*ipaddress*:*displayID*)-Exceed onDemand
      Desktop-*profilename*-*owner*

  For example:

      eodhost:2(123.183.33.17:2)-Exceed onDemand Desktop-
      GlobalProfile-psmith

- Information you can use to determine whether or not the connection is SSL encrypted. When encryption is on, the word secure appears in parentheses on the Exceed onDemand title bar.

> **Note:** To view SSL cipher information, consult the client or proxy log file, which you an open from the Exceed onDemand desktop menu. For more information, see "Displaying the Exceed onDemand Desktop Menu" on page 75.

Displaying the Exceed onDemand Desktop Menu
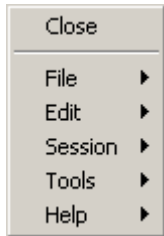
The Exceed onDemand Desktop menu provides server reset and trace tools. It also lets you perform copy and paste functions and provides access to Exceed onDemand options which let you configure and share your X session.

> **Note:** Most menu items are not available if you are running a session that has been shared to you.

To display the Exceed onDemand Desktop menu, do one of the following:

- right-click the title bar
- right-click the Exceed onDemand Desktop taskbar icon

In multiple window mode, you can access this menu only by right-clicking the Exceed onDemand Desktop taskbar icon.

Displaying the Connection Document Context Menu

To view this menu, right click the connection document (.eod file) or the profile icon if you have created one on your desktop.

Appendix A

Command Line Syntax

Command Line Syntax for Starting X Clients

The command line syntax for starting X clients depends on:

- the X client host operating system (typically, UNIX/Linux, or VMS)

Exceed onDemand supports only TCP/IP.

- the transport protocol used between X client and X server
- whether you have defined certain environment variables on your X client host

Using Exceed onDemand Macros

If you are running in REXEC, RSH, TELNET, or SSH startup mode, you can specify certain display and/or login information using Exceed onDemand macros. You can use these macros when specifying commands for the following text boxes in the Exceed onDemand Startup Modes Settings dialog box:

- Command box in the REXEC/RSH/TELNET/SSH tab
- Optional Reply box in the SSH/TELNET tab
- Extra SSH Options box in the SSH tab

The following is a list of Exceed onDemand macros that can be used when specifying commands in REXEC, RSH, TELNET, or SSH:

Macro	Description
`@d`	Specifies the display specification of your Exceed onDemand Desktop in the form: *`hostname:display#`* or *`ipaddress:display#`*.
	For example, `ewebhost:5` or `123.45.67.89:1`
`@#`	Specifies the display number of your Exceed onDemand Desktop.
	For example: If `123.45.67.89:1` is your display specification, then `1` is the display number.
`@a`	Specifies the address of your Exceed onDemand Desktop.
	For example, If `ewbhost:5` is your display specification, then `ewebhost` is the address.
`@u`	Specifies the value in the User ID box of the Exceed onDemand Startup Modes Settings dialog box, depending on the startup mode you are using.
`@p`	Specifies the value in the Password box of the Exceed onDemand Startup Modes Settings dialog box, depending on the startup mode you are using.
`@h`	Specifies value in the Host box of the Exceed onDemand Startup Modes Settings dialog box, depending on the startup mode you are using.
`@@`	Specifies the `@` character.

Command Line Syntax for UNIX/Linux Hosts

This section describes the commands you use when starting X clients on UNIX/Linux hosts.

All commands consist of the following elements.

Element	Description
path	Specifies the directory where the X client you want to run is located.
	If you have preconfigured the PATH environment variable on your host, then you may not need to enter the path on the command line. For more information, see "Setting Environment Variables on UNIX/Linux Hosts" on page 82.
application	The executable name of the X client to run.
parameters	Any command line parameters you want to specify.
displayspec	The display specification of your Exceed onDemand Desktop, in the form: *hostname*:*display#* or *ipaddress*:*display#*.
	For example, `ewebhost:2` or `123.45.67.89:1`. You can determine the hostname, display number, and IP address to use by using information displayed in the Exceed onDemand Desktop title bar.
	Note: If you are using REXEC, RSH, TELNET, or SSH as your startup mode, you must specify `@d` as your command `displayspec`.
&	Indicates this application should be run in the background.
	Note: When starting X clients, it is a good idea to start them in background mode.

You can start X clients with the following command line syntax:

```
[install path/]application [parameters] -display displayspec &
```

For example, you can type the following to start the xterm X client:

<CR> indicates that the given text must be entered as one line with a carriage return at the end.

```
/usr/bin/X11/xterm -sb -ls -fg blue -bg lightgrey -display
eodhost:2 & <CR>
```

If you are using REXEC, RSH, TELNET, or SSH as your startup mode, you can specify the following command to start the xterm X client and to display the user ID and host name in its title bar in the form *userID@hostname*:

```
/usr/bin/X11/xterm -sb -ls -fg blue -bg lightgrey -display @d
-name "@u@@@h"& <CR>
```

For more information on using Exceed onDemand macros such as `@d` and `@u`, see "Using Exceed onDemand Macros" on page 79.

For more information on defining the DISPLAY and other environment variables on UNIX/Linux hosts, see below.

If you define the DISPLAY environment variable correctly at a command prompt on a particular X client host, you can omit the `-display` *displayspec* parameter for X clients you start from that shell with the following command line syntax:

```
[install path/]application [parameters] &
```

For example:

```
/usr/bin/X11/xterm -sb -ls -fg blue -bg lightgrey &
```

Setting Environment Variables on UNIX/Linux Hosts

To simplify the startup of X clients on UNIX/Linux hosts, define the following environment variables on your host:

• DISPLAY
• PATH

If you would like to start X clients on a Sun host running OpenWindows, you may also need to specify the following environment variables on your host:

• OPENWINHOME
• LD_LIBRARY_PATH

DISPLAY Environment Variable

This section describes how you define the DISPLAY environment variable for your current login session on a UNIX/Linux host. Many X clients use this variable to determine the X server display to which they should display.

> **Note:** The syntax you use to specify the DISPLAY environment variable depends on whether you are using the C shell (displays a percentage "%" prompt, by default) or the Bourne or Korn shell (displays a dollar sign "$" prompt, by default).
>
> For Run Global Xinitrc and Run Xinitrc startup modes, on UNIX, the $DISPLAY variable is set by Exceed onDemand Server. On Windows NT, it is passed as the first argument to the script, so it can be accessed as `%1%`. For example, `Xinitrc.cmd` might contain the following line: `path\Xlogo.exe -display %1%`

The table below lists the commands you need to type at the command prompt for each shell to set the DISPLAY environment variable.

Shell	Command	Example
C (%)	setenv DISPLAY *displayspec* \<CR>	setenv DISPLAY eodhost:2 \<CR>
Bourne/Korn ($)	DISPLAY=*displayspec* export DISPLAY	DISPLAY=eodhost:2 export DISPLAY

> **Note:** Do not specify the DISPLAY environment variable in your host login startup file since your *displayspec* is not necessarily the same in each session.

PATH, OPENWINHOME, and LD_LIBRARY_PATH Environment Variables

This section describes how you specify the PATH, OPENWINHOME, and LD_LIBRARY_PATH environment variables on UNIX/Linux hosts.

> **Note:** The OPENWINHOME and LD_LIBRARY_PATH environment variables are needed only for Sun OpenWindows hosts.

Using the PATH environment variable, you can add directories to your path specification. If you enter a command without specifying its full path, the shell searches each directory listed in the PATH environment variable for the application executable and executes the first one it finds. Consider specifying these environment variables in your host login startup file, so they are set each time you log in to the host.

The table below lists the commands required by each shell to set the PATH environment variable.

Shell	Command	Example
C (%)	setenv PATH *path*:*path*:*path*	setenv PATH /usr/bin/X11:/usr/bin/ jsmith <CR>
Bourne/Korn ($)	PATH=*path*:*path*:*path* export PATH	PATH=/usr/bin/X11:/usr /bin/jsmith <CR> export PATH

where *path* is a directory that you want to include on your host path. Separate multiple paths with colons (:).

The table below lists the commands required by each shell to set the OPENWINHOME and LD_LIBRARY_PATH environment variables.

Shell	Example
C(%)	setenv OPENWINHOME /*usr*/openwin
	setenv LD_LIBRARY_PATH /*usr*/openwin/lib
Bourne/Korn($)	OPENWINHOME=/*usr*/openwin
	LD_LIBRARY_PATH=/*usr*/openwin/lib
	export OPENWINHOME LD_LIBRARY_PATH

where *usr* is the directory on the host where the X Window system files reside.

To determine which environment variables are defined and their values, type the following commands at the shell prompt:

Shell	Commands
C(%)	setenv
	printenv
Bourne/Korn($)	env
	export
	printenv

To determine if a specific environment variable is defined and to determine its value, type the following command at the shell prompt:

```
echo $variablename
```

where *variablename* is the name of the environment variable.

If the environment variable is not defined or is incorrectly defined, define it properly in your host login startup file.

To define the environment variable in your host startup login file:

1   Open your host startup login file in a text editor. If you are using the C shell, the .cshrc file in your home directory is the login startup file. If you are using the Bourne or Korn shell, the .profile file in your home directory is the login startup file.

2   Find the environment variable in the file and enter the correct command as specified in the appropriate tables that precede this procedure.

> **Note:** If the environment variable is not defined, specify the environment variable by typing the command at the end of the file.

3   Save the file and exit the text editor.

The next time you start a shell session, your environment variable will be set properly. To verify this, start a new login/shell session and use the necessary commands described to determine the current value of these environment variables.

Command Line Syntax for VMS Hosts

This section describes the command line syntax you use to start X clients on VMS hosts.

If your VMS system supports REXEC, RSH, TELNET, or SSH and is running version 5.0 or higher of the PCX$SERVER command processor, you can specify a command with the following syntax to start an X client using the REXEC, RSH, TELNET, or SSH startup modes:

    @@sys$system:pcx$server 4,@#,0,tcpip,@a *application*

where *application* is the command line required to run the application.

You must use these the @# and @a macros since the display number and ipaddress are not necessarily the same for each session. For example, to start the xterm X client:

    @@sys$system:pcx$server 4,@#,0,tcpip,@a DECW$TERMINAL

If you use the Passive startup mode, and you want to specify the X display server to which the X clients should display, you need to define the DISPLAY environment variable prior to starting any X clients. You do not need to define the DISPLAY environment variable when using REXEC, RSH, TELNET, or SSH startup modes as PCX$SERVER sets DISPLAY for you. Use the following command line to set the DISPLAY environment variable:

<CR> indicates that the given text must be entered as one line with a carriage return at the end.

```
set display/create/node=ipaddress/transport=tcpip/
server=display# <CR>
```

You can determine the ipaddress and display number from the information displayed on the Exceed onDemand title bar.

For example:

```
set display/create/node=123.183.33.17/transport=tcpip/server=2
```

Do not put spaces before or after the equal (=) sign.

For more information, see "Viewing X Session Information" on page 74.

If you are using the Wollongong VMS TPC/IP transport, replace `tcpip` with `wintcp`.

> **Note:** Do not specify the DISPLAY environment variable in your host login startup file since the ipaddress and display number are not necessarily the same in each session.

After the DISPLAY environment variable is set correctly for a login session, you can start X clients from that session using the following command line syntax:

```
run sys$system:decw$application
```

For example:

```
run sys$system:decw$clock
```

Appendix B

Accessibility and Technical Support

General Accessibility

Hummingbird products are accessible to all users. Wherever possible, our software was developed using Microsoft Windows interface standards and contains a comprehensive set of accessibility features.

Keyboard Shortcuts   Keyboard shortcuts appear as underlined letters in the names of most UI items. If this is not the case, press Alt to reveal them. You can use these shortcuts instead of a mouse to navigate the user interface and access commands. For example, to open any menu, press Alt and then press the key that corresponds with the underlined letter in the menu name. In most cases, Alt+F opens the File menu.

Once you have opened a menu, you can access a menu command in the following ways:

- Press the underlined letter in the menu command name.
- Use the arrow keys to select the required command, and press enter.
- If one is provided, type the key sequence to the right of the command. You can use this key sequence at any time.

Directional Arrows   Use the directional arrows on the keyboard to navigate through menu items or to scroll vertically and horizontally. You can also use the directional arrows to navigate through multiple options. For example, if you have a series of radio buttons, you can use the arrow keys to navigate the possible selections.

Tab Key Sequence   To navigate through a dialog box, press the Tab key. Selected items appear with a dotted border. You can also press Shift+Tab to go back to a previous selection within the dialog box.

Spacebar   Press the Spacebar to toggle check boxes on and off or to select buttons in a dialog box.

Esc   Press the Esc key to close a dialog box without implementing any new settings.

Enter   Press the Enter key to select the highlighted item or to close a dialog box with the new settings. You can also press the Enter key to close all About boxes.

ToolTips   ToolTips appear for all functional icons. This feature lets users use Screen Reviewers to make interface information available through synthesized speech or through a refreshable Braille display.

Microsoft Accessibility Options

Microsoft Windows environments contain accessibility options that let you change how you interact with the software. This feature can add sound, increase the magnification, and create sticky keys.

To configure the Accessibility options:

1   In Control Panel, double-click Accessibility Options.

2   In the Accessibility Options dialog box, use the tabbed pages to configure the option settings.

3   Click OK.

Technical Support

You can contact the Hummingbird Technical Support department Monday to Friday between 8:00 a.m. and 8:00 p.m. Eastern Time.

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FTP:	ftp.hummingbird.com	
Online Request Form:	www.hummingbird.com/support/nc/request.html	
Web Site:	www.hummingbird.com/about/contact.html	

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