

Exceed onDemand®

Administrator's Guide

8607-5M



Exceed onDemand Administrator's Guide

Version 5

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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 |
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|--|
| Contains information for administrators about installing and managing Exceed onDemand. |
|--|

Help

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```
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```

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Chapter 1

Introducing Exceed onDemand

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About Exceed onDemand

Exceed onDemand is a server-based PC X server designed and optimized to run on intranet, internet, and extranet network connections. It delivers X11R6.6 X access with minimal overhead, and requires only a small client-side installation that enables users to access business-critical X applications on UNIX, Linux, VMS, and other X Window System hosts.

Features and Functionality

A number of key features ensure secure, consistent, and dependable X connections for end users, a scalable and expandable architecture, and a centralized management environment for administrators.

Authentication and Encryption

Exceed onDemand authenticates user names and passwords for all host connections, but you can configure additional security options. Some are available only with the Strong Encryption version of Exceed onDemand.

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

Secure Shell Startup Mode Extends security by encrypting user credentials and X11 traffic that pass between Exceed onDemand Server and the host on which X applications are located.

RSA Authentication Extends security by authenticating users based on RSA SecurID patented technology.

Session Suspend and Resume

Users can suspend their X sessions instead of closing them and terminating all X applications. When they reconnect to the host, Exceed onDemand gives them the option of resuming the suspended session. Users can set an additional option that allows the X application to continue functioning while the X session is suspended. If enabled by the administrator, users can resume suspended sessions remotely from different client PCs.

Auto-Suspend upon Disconnection

In the event of an X session connection failure, Exceed onDemand Server maintains the session. When the user reconnects, he or she may resume the session without having to reload applications.

X Session Sharing

Exceed onDemand lets users share their X session to one or more users. Users with whom sessions are shared may either view or participate in the session from their computers depending on the permissions granted to each user by the session owner. This feature is useful when providing a demonstration, working remotely, or getting technical support.

Load Balancing

Administrators can install more than one Exceed onDemand Server on a network to form a cluster. Each node in the cluster is linked to and controlled by one node that is designated the cluster manager node. Exceed onDemand Clients attempting to initiate a session connect to the cluster manager node, which distributes the new sessions to the nodes that have the least load.

Global X Configuration Files

Administrators can create any number of global Xconfig files (.cfg) to provide users with standardized session configurations. After you create a global Xconfig file, it is available for use by any user with an active account. These users cannot edit this new file unless you distribute it to them directly or they make a copy of it. The Server Manager lets you manage user and global Xconfig files.

Global Xstart Files

Xstart lets you automate the process of connecting to a host and starting X applications that reside on it. With Xstart, users can create, configure and manage their Xstart files (.xs). As with Xconfig files, administrators can use Server Manager to create any number of global Xstart files to provide users with standardized X application startup.

Server Management

With Exceed onDemand Server Manager, administrators can configure Server and user settings, manage licenses, and view information about Exceed onDemand Client sessions currently running or suspended on any local or remote Exceed onDemand Server.

Exceed onDemand Components

Exceed onDemand Client Exceed onDemand Client is the client portion of the software responsible for displaying X applications and allowing users to interact with them. Administrators distribute Client to each end user. You can also use the Exceed onDemand Deployment Wizard to create Client deployment packages to deploy Client to any PC using a web browser.

Exceed onDemand Server Exceed onDemand Server is the processing hub of Exceed onDemand. It is the link between X applications and Exceed onDemand Client. By default, Exceed onDemand Server is configured to operate as a stand-alone server, but administrators can set up clusters. For more information, see “Exceed onDemand Server Architecture” on page 9.

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.

Exceed onDemand Deployment Wizard This component is comprised of three wizards:

- **Project Deployment Wizard**—Lets you create Exceed onDemand Client deployment packages. You can use the packages to make Exceed onDemand Client installation available to in-house and remote end users over the Web.
- **Index Page Wizard**—Lets you generate an HTML web page that contains links to multiple deployment projects created with Project Deployment Wizard.
- **Projects Update Wizard**—Lets you update Exceed onDemand Client files within selected deployment projects without having to manually apply changes to each individual project.

Exceed onDemand Print Utility With Exceed onDemand Client, users can access remote files and print them as they would local files. Exceed onDemand Print Utility facilitates this functionality and is provided on the Exceed onDemand CD. In order to enable printing, system administrators must copy or install it on each machine running X applications from which users need to print.

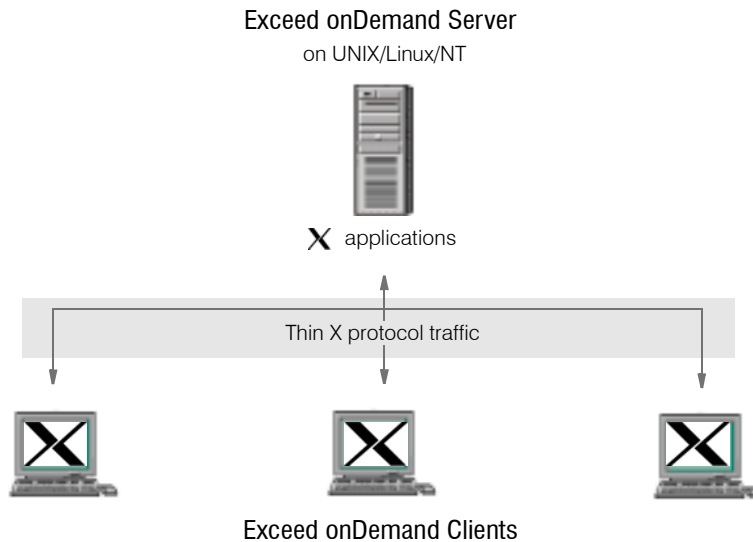
Exceed onDemand Keyboard Editor This tool simplifies the job of creating and modifying keyboard definition files.

Types of Connectivity

Exceed onDemand enables two types of connectivity: direct client-server connectivity and gateway server connectivity.

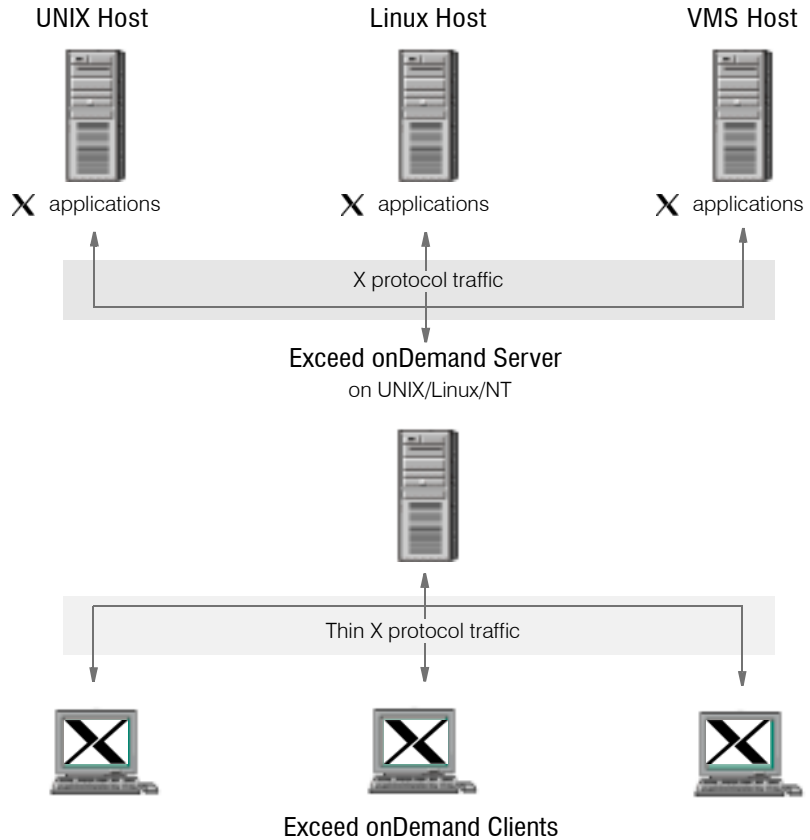
Direct Client-Server Connectivity

Exceed onDemand Client users access X applications that reside directly on an Exceed onDemand Server machine, be it stand-alone or part of a cluster.



Gateway Server Connectivity

Exceed onDemand Server is not required to be installed on every machine on which X applications reside. Instead, Exceed onDemand Server, whether stand-alone or part of a cluster, can act as a gateway between Exceed onDemand Clients and X applications running on other machines.



Exceed onDemand Server Architecture

By default, Exceed onDemand Server is configured to operate as a stand-alone server, but administrators can link together multiple installations of Server to form a cluster. Regardless, of how Exceed onDemand Server is configured, however, the underlying architecture of the Server components is the same. That is, stand-alone installations of Exceed onDemand Server operate as local, one-node clusters.

Exceed onDemand Server is comprised of three main components:

Exceed onDemand Cluster Manager The Cluster Manager component runs on stand-alone installations of Exceed onDemand Server or on the cluster manager node in a cluster environment. Cluster Manager is responsible for authentication, licensing, user and server configuration, load balancing, and X session initialization and configuration.

Exceed onDemand Proxy Manager The Proxy Manager component runs on all installations of Exceed onDemand Server, whether stand-alone or part of a cluster. Proxy Manager receives Exceed onDemand Client requests to start X sessions and proceeds to start a proxy with a unique display ID for each X session request. In some cases, it may reuse an existing proxy to handle the new X clients.

Exceed onDemand Proxy Exceed onDemand Proxy is an X server that is launched on demand by Proxy Manager to handle all the X protocol requests for an X session. One installation of Exceed onDemand Server can run multiple proxies at once, each uniquely identified by a display number. The proxy does not handle drawing requests or keyboard and mouse input natively. Instead, it translates them to equivalent Thin X Protocol commands before transmitting the requests to Exceed onDemand Client.

Overview of Cluster Architecture

You can link together multiple installations of Exceed onDemand Server to form a cluster. You must designate one instance of Server to be the cluster manager node, and then configure all other installations of Exceed onDemand Server, referred to as nodes, within the cluster.

One of the benefits of implementing a Server cluster is that it offers automatic load balancing, whereby Exceed onDemand Clients attempting to initiate X sessions connect to the cluster manager node, which is always aware of the CPU loads of all nodes in the cluster. Cluster Manager distributes the new sessions to the nodes that have the lowest CPU load in order to maximize stability and performance.

About the Cluster Manager Node

What distinguishes the cluster manager node from other Exceed onDemand Server nodes in the cluster is that it is the point of entry for all Exceed onDemand users and administrators.

Note: Stand-alone installations of Exceed onDemand Server operate as local, one-node clusters. Therefore, Exceed onDemand Cluster Manager runs on each non-cluster installation of Server.

Whether you want to start an X session with Exceed onDemand Client or an Exceed onDemand Server management session with Server Manager, you always connect to the cluster manager node, more specifically, to the Exceed onDemand Cluster Manager component. The cluster manager node also houses all Xconfig (.cfg) and Xstart (.xs) files, both global and those that belong to users.

About Nodes

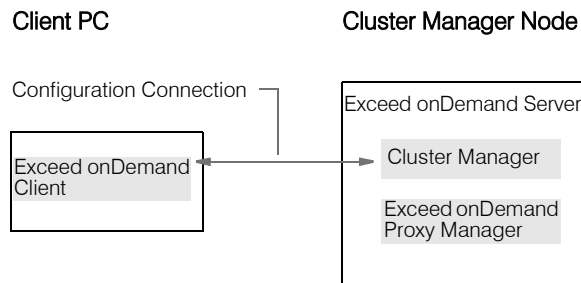
A node is any instance of Exceed onDemand Server that belongs to a cluster but is not configured to be the cluster manager node. Users of Exceed onDemand Client or Server Manager never connect directly to a node. Instead, they connect to the cluster manager node.

The primary components running on any node are Exceed onDemand Proxy Manager and the proxies it establishes to run X sessions and to which it assigns a unique display ID. When users connect to the cluster manager node (Cluster Manager), it assigns the startup request to the node (Proxy Manager) in the cluster with the most available resources based on CPU usage. Proxy Manager then starts a proxy or reuses an existing one for the session.

How a Cluster Works

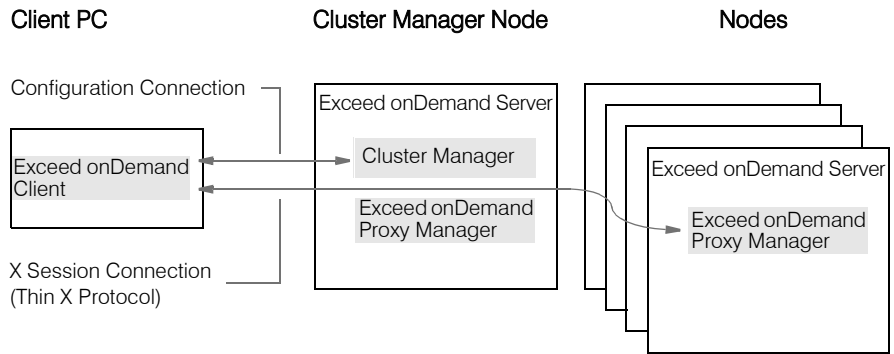
1. Connect to Exceed onDemand Cluster Manager

When Exceed onDemand Client attempts to initiate an X session, it connects to Cluster Manager, which runs on the cluster manager node. Cluster Manager receives the request, authenticates the user, and checks the license information.



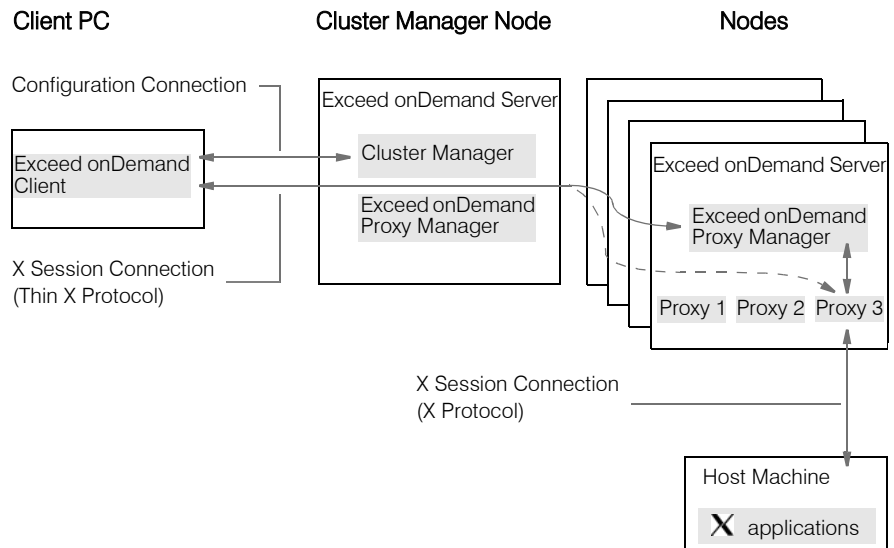
2. Redirect to Exceed onDemand Proxy Manager

Cluster Manager then redirects Exceed onDemand Client to connect to the Exceed onDemand Proxy Manager running on the node with the most available resources (based on CPU usage). If the cluster manager node itself has the most available resources, its own Proxy Manager receives the Client connection. Cluster Manager also sends to Proxy Manager the Xconfig settings specified by the user.



3. Start Proxy

Proxy Manager then starts a local proxy to run the X session, assigns it a unique display ID and sends startup information to the client. The X application connects to the proxy. All X session communication between Exceed onDemand Client and the X application is mediated by the proxy. X applications communicate with the proxy using the X protocol, and the proxy communicates with Exceed onDemand Client using the Thin X Protocol (TXP).



About Node Synchronization

In a cluster environment, node synchronization is an important administrative consideration. It ensures that X sessions launch successfully and work in a consistent manner regardless of the node that receives the connection request.

System clocks You must synchronize the system clocks on all nodes. If a node's system clock is not synchronized with the clock on the cluster manager node, X session startup may fail.

Font databases The font database must be identical on all cluster nodes to avoid unwanted font substitutions. For more information, see "Managing Fonts" on page 80.

SSL keys and certificates All cluster nodes must have the same SSL keys and certificates to optimize SSL security. X sessions started on nodes without the required keys use anonymous SSL authentication. For more information on SSL keys and certificates, see "About Exceed onDemand SSL Features" on page 76.

Directory Services If you use Secure Shell startup method, all nodes in a cluster should share the same user database (NIS, NIS+, or LDAP) to ensure successful X application startup with Xstart.

Chapter 2

Installing Exceed onDemand

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Overview of Installation

For more information on supported platforms, see “System Requirements” on page 19.

Installing Exceed onDemand is a three-part procedure:

- 1 Install Exceed onDemand on a UNIX, Linux, or Windows platform. If you install Exceed onDemand on Windows, you can select and install other Exceed onDemand components.
- 2 Install the following Exceed onDemand components as required on other network machines:
 - Exceed onDemand Server Manager
 - Exceed onDemand Tools, including Print Utility (elpr) and XKeys

For more information, see “About Exceed onDemand Components” on page 29.

- 3 Make Exceed onDemand Client available to users.

Migrating Files When Upgrading

Exceed onDemand 5 is not backward compatible with version 4.x. When you install Exceed onDemand 5 on a machine where an earlier version was installed, both the Hummingbird Setup Wizard and the UNIX installer migrates some directories and files to avoid the need to reconfigure the product and to maintain existing profiles.

Exceed onDemand Server

When you upgrade from version 4.x to 5, the Exceed onDemand installation (Windows and UNIX) migrates the following:

- 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.x)

Exceed onDemand Server Manager

Hummingbird Setup preserves your SOCKS configuration. The file is saved in the version 5 default location.

Exceed onDemand Client

Exceed onDemand Client version 5 is not backwards compatible with version 4.x. When you install the new version, Hummingbird Setup migrates any connection documents (.eod files) saved in the default location, and then uninstalls version 4.x. The SOCKS configuration file is also preserved.

If you upgrade from Exceed onDemand Client version 3.2 to 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 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 2.6, 7, 8, 9, 10
- Sun Intel Solaris 8, 9, 10
- HP-UX 11.x
- IBM AIX 5.x
- Linux kernel level 2.4 or greater
- Windows 2000
- Windows Server 2003
- Windows XP Professional

Exceed onDemand Components

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

- Windows 98/Me
- Windows 2000
- Windows Server 2003
- Windows XP Professional

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 30.

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.
- 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:
 - **Cluster Manager Port**—Specify the port number on which the Cluster Manager 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.
 - Exceed onDemand installs as a stand-alone server. Use Exceed onDemand Server Manager to add this server to a cluster if necessary.
- **Proxy Manager 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 Cluster Manager 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.x prior to this installation, indicate whether you want to copy settings from that installation.
 - 9 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.

Note: You do not necessarily need to specify an activation key at this time. You can later use Server Manager to enter the key.

- 10 If version 4.x was not installed prior to this installation, you must enter the Exceed onDemand administrator account name. The administrator you designate can then add other accounts to the administrative group. Press Enter to select the default option.

Note: Users running the installation as 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.

- 11 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 `eodstop` utility.
- 2 Delete the Exceed onDemand Server installation directory from the UNIX host.

Installing Exceed onDemand on Windows

Before installing Exceed onDemand, 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 components.

You can modify the installation and install any component independently on other network machines where necessary. For more information, see “About Exceed onDemand Components” on page 29.

To install Exceed onDemand 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.
- 3 In the next window, select the installation type. Hold the mouse pointer over an 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.

- 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. Click Next.

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

- 7 The Custom Setup dialog box opens. Select the features you want to install and click Next. You can view 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:

Note: For Windows XP (Service Pack 2), configure the firewall such that Cluster Manager and Proxy Manager ports are accessible, as well as a series of ports beginning with *6nnn* where *nnn* represents port numbers starting with the initial display ID (for example, if the starting display ID is 100, then make accessible ports 6100, 6101, 6102, and so on).

- **Cluster Manager Port**—This is the port number on which the Cluster Manager 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 Manager 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.
- **Starting Display ID**—Specify the display number for the first Exceed onDemand Client session. All subsequent displays are numbered accordingly.
- **Activation Key**—Type the activation key (located on the product CD package). You are allotted 10 attempts to enter the correct activation key before Setup closes.

If you leave this box blank, you receive a limited license. You can use Server Manager to install a valid activation key.

- **Administrator Account**—Displays the machine name and the Administrator account name. If you want to specify another account that has administrator privileges, type that account name.

Click Next.



- 9 The Ready to Install the Product dialog box opens. Select whether or not to launch the Exceed onDemand Client installer after the current installation. Click Install to continue.
- 10 When the installation is complete, click Finish. You may be prompted to restart your computer.

Note: For information on uninstalling Exceed onDemand for Windows, see “Program Maintenance” on page 26.

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-side) and Exceed onDemand Client.

Note: To install Exceed onDemand, you must log into the PC as the (local) administrator. This is not necessary to install Exceed onDemand Client.

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-side:

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

- Client:

```
E:\Exceed_onDemand\Client\EoD-5-Client.exe /S
```

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

| Option | Description |
|----------------------------|---|
| <code>/S</code> | Specifies a silent installation. |
| <code>/V/qn</code> | <code>/V</code> passes parameters to <code>Msiexec.exe</code> . Note: There are no spaces between the <code>/V</code> and <code>/qn</code> options and that <code>v</code> is upper-case. If a character string contains a space, put quotes around it. For example: <code>/V"parameter space"</code> |
| <code>EOD_SERIALNUM</code> | 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 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 5 program group. The WebUpdate dialog box opens.
- 2 Select Hummingbird Exceed onDemand 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 Exceed onDemand Components

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

You can install the following components independently:

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 Wizard This wizard lets you generate, distribute, and maintain web-deployable installations of Exceed onDemand Client, so that users can install the client from the Web.

Exceed onDemand Tools

- 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. However, in cases where users will use Exceed onDemand to connect to and print from X applications that are running on other machines, you must install the print utility on each of these machines as well. This component is available for UNIX and Windows.

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

- Exceed onDemand 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 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 Exceed onDemand 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 30.

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:

To remove all, select Hummingbird Exceed onDemand in the Windows Add/Remove Programs dialog box, and then click Remove. If you do not want to remove all components installed on the machine, click Change instead of Remove and select the components you want to remove. For more information on changing or removing an installation, see “Program Maintenance” on page 26.

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 28.

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 Change and select another directory. To create a desktop shortcut, click the check box. Click Next.
- 6 In the Language Selection dialog box, select the languages you want to the product to support. To select the default language, double-click that language. Click Next.

- 7 The Ready to Install dialog box opens. 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 5 program group on the Start menu (and on the desktop if that option was previously selected).

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 3

Deploying Exceed onDemand Client

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About Exceed onDemand Deployment Wizard

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

- Distribute Exceed onDemand Client to both local and remote end users over the Web.
- Preconfigure Exceed onDemand Client sessions that are launched from a 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 that you specify.
- Create an HTML index, which contains links to multiple Client sessions on a single web page.
- Update your users' Exceed onDemand Client software automatically by deploying the latest version from the web server.

The Exceed onDemand Deployment Wizard consists of the following components:

Project Deployment Wizard You can use the Project Deployment Wizard to create a web-deployable installation of Exceed onDemand Client for end users. When you build a deployment project and place it on a web server, the end user can access Exceed onDemand from the specified URL.

Index Page Wizard The Index Page Wizard lets you create a single web page that contains links to multiple deployment projects previously created in the Project Deployment Wizard. You can then move the index page (with all of the projects to which the index page points) to a web server and distribute the URL to users.

Projects Update Wizard The Projects Update Wizard simplifies the task of updating the Exceed onDemand Client version within existing deployment projects. You can use this wizard to select deployment projects that you want to upgrade from one product version to another, so that the contents of the generated directory structure contain the new or changed files. If you install an update patch of Exceed onDemand on your machine, and then recreate one or more deployment projects, the updated Exceed onDemand components are included.

Getting Started

To launch Exceed onDemand Deployment Wizard:

From the Start menu, navigate to the Hummingbird Exceed onDemand program group, and then click Exceed onDemand Deployment Wizard.

To create a deployment project, on the Welcome page of the Exceed onDemand Deployment Wizard, select Project Deployment Wizard from the Wizard Type drop-down list.

When you have created several projects, you can use the Index Page Wizard to create an HTML index that contains links to multiple projects on a single web page. You can also use the Projects Update Wizard to select deployment projects that you want to upgrade from one version to another.

For example, you could use Project Deployment Wizard to create different deployment projects of Exceed onDemand Client 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 projects you created. You could then distribute one index page URL to all departments. Users from each department could open a deployed Client project on their machine by selecting the appropriate link on the index page.

Deploying Exceed onDemand Client consists of three basic steps:

- 1 Use Exceed onDemand Deployment Wizard to generate an HTML page and a deployment package.
- 2 Move the generated files to the web server.
- 3 Distribute the URL of the project location (on the web server) to end users.

When a user clicks the URL link, the content of the project is extracted and deployed to the user's machine and is used to launch an Exceed onDemand Client session.

About Deployment Projects

If you choose (on the Deployment Project Information page) to create and save a deployment project, Project Deployment Wizard takes the information you provide and generates a completed deployment project.

A deployment project contains the following elements:

A *ProjectName* Directory This directory is saved to the location you specified in the Project Destination Directory box and contains the following:

- A `Package` folder, which contains Package Assembly (.dpf) files. These files describe all Exceed onDemand components, regardless of the settings in the deployment project, and are deployed to the end user's PC.
- An `Images` folder, which contains the Exceed onDemand Client banner, as well as any image files that you specify to be included in the project.
- A generated web page (.html file) that combines all of these components. When the end user clicks the link on this web page, the files that are needed to start an Exceed onDemand session are deployed to their PC.

A Deployment Project (.edp) file This file is saved in the `EoD Projects` folder and describes the deployment project.

To create a deployment project, use Project Deployment Wizard to create a web page, and then transfer the output files to a web server and distribute the URL to specific users.

End users access the web page and click the link to access a deployed Exceed onDemand session. If any component installations or updates are necessary, they happen at this time.

The first time the end user clicks a particular project link, the Deployment Runtime component deploys the necessary components to the user's machine. If the end user has previously clicked a project link, the Deployment Runtime component determines if any component updates are necessary and makes those changes before launching the session.

About HTML Indexes

If you choose to create an index page, the Index Page Wizard lets you specify multiple existing deployment projects and then generates a single web page (an .html file) that contains multiple links, one for each project. You can then distribute this single URL to end users.

You can create multiple web pages in each project.

For more information, see "Using the Index Page Wizard" on page 48.

Using the Deployment Wizard

Exceed onDemand Deployment Wizard lets you create or edit deployment projects, which users can use to access Exceed onDemand Client from a specified URL on a web server.

To launch the Deployment Wizard:

From the Start menu, navigate to the Hummingbird Exceed onDemand program group, and then click Exceed onDemand Deployment Wizard.

Step 1: Selecting a Wizard Type

The Welcome To The Exceed onDemand Deployment Wizard screen lets you select from the following wizard types:

- Project Deployment Wizard—To build a deployment project.
- Index Page Wizard—To build an index web page for selected deployment projects.
- Projects Update Wizard—To update selected deployment projects.



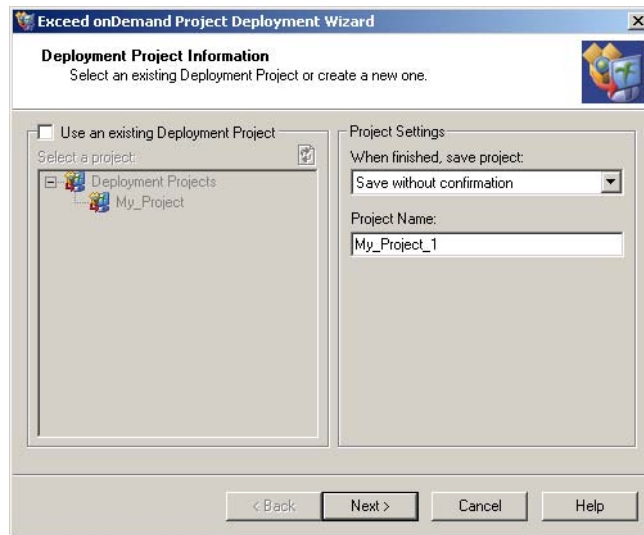
Note: For detailed information about the three wizard types, see “About Exceed onDemand Deployment Wizard” on page 37.

To create a deployment project:

- 1 If necessary, select Project Deployment Wizard in the Wizard Type box.
- 2 Click Next to specify project information.

Step 2: Specifying Deployment Project Information

The Deployment Project Information screen lets you work with an existing deployment project or create a new project.

**To create a new project:**

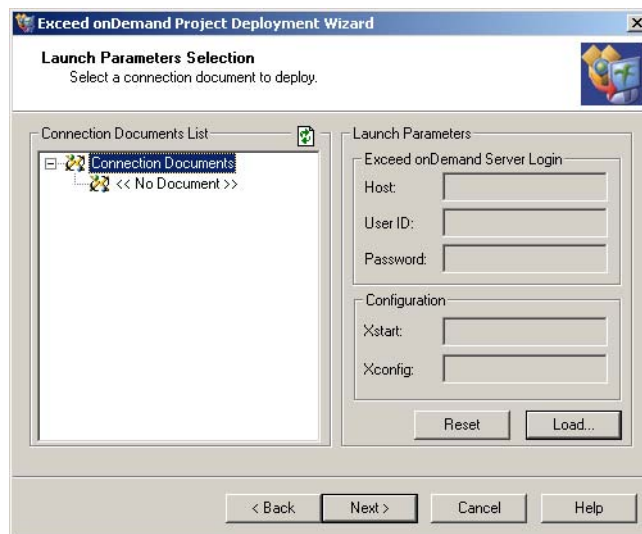
- 1 If necessary, clear the Use An Existing Deployment Project box.
- 2 In the When Finished, Save Project list, select a save method.
- 3 In the Project Name box, type a new name for the project, or accept the suggested name.
- 4 Click Next to specify connection information.

To make changes to an existing project:

- 1 Select Use An Existing Deployment Project, and then select a project in the tree.
- 2 In the When Finished, Save Project list, select a save method.
- 3 If you do not want to overwrite the original project, type a new name in the Project Name box.
- 4 Click Next to specify connection information.

Step 3: Specifying Connection Settings

The settings in the Launch Parameters area let you specify the parameters for launching Exceed onDemand Client. If you provide all the information that is required to establish a connection, Client automatically launches based on the parameters you specify. If you do not provide some or all of the connection parameters, Client prompts the user for missing information before connecting.



To specify connection settings:

Right-click a Connection Document name to cut, copy, delete or rename it.

For more information, see Exceed onDemand Client Help.

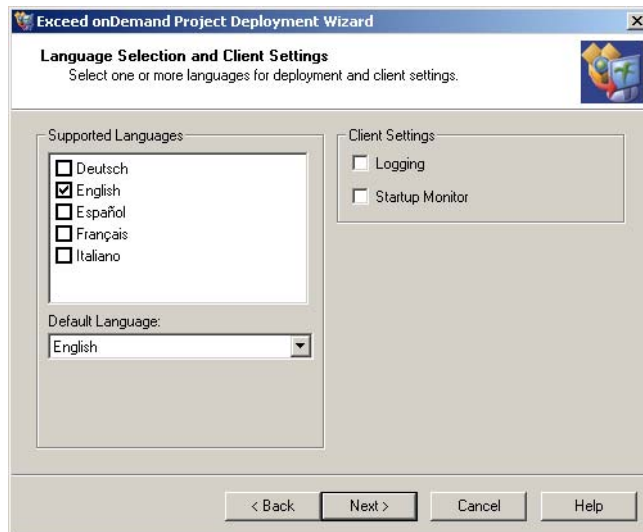
- 1 Select a connection document to provide connection information. The launch parameters specified in the connection document are automatically displayed in the Launch Parameters area.

If there are no connection documents listed, you can create one using Exceed onDemand Client. Click the Refresh button to update the directory tree after creating a new connection document.

- 2 To clear the connection document selection, click Reset. Click Load to browse for a connection document.
- 3 Click Next to select language options.

Step 4: Selecting Language Options

The Supported Languages area shows a list of available languages that you can include in the deployment project. This area lets you specify or change the language(s) as well as set the default language.



To select deployment languages:

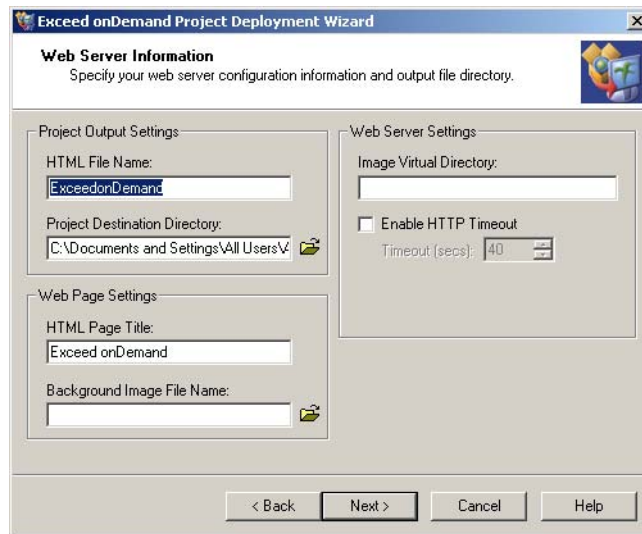
- 1 In the Supported Languages area, select one or more languages to be made available to the user.
- 2 In the Default Language box, select one language to be the default.

To specify client settings:

- 1 Select Logging to let users generate a log file that records the actions they perform.
- 2 Select Startup Monitor to enable the progress monitor, which lets the users view information about the Client connection to the server during startup.
- 3 Click Next to provide web server information.

Step 5: Providing Web Server Information

These settings let you specify project output settings, web page information, and web server settings.



For more information, see “Deploying a Project” on page 53.

To specify project output settings:

- 1 In the HTML File Name box, type a name for the HTML file that Project Deployment Wizard generates to contain the project link.
- 2 In the Project Destination Directory box, specify a directory in which you want to place all of the wizard-generated content. Click the browse button to search for a location.

To specify web page settings:

- 1 In the HTML Page Title box, specify the name you want to appear in the title bar of the browser when end users access the web page. This name is also used as an identifying string on any index page that includes this project.
- 2 If you want to display a background image while installation files are deploying to the end user’s machine, specify a location for an image file (or browse to one) in the Background Image File Name box.

To specify web server settings:

Project Deployment Wizard lets you specify a directory on the web server that points to your web images.

- 1 If you specify a background image in the Web Page Settings area, you can specify the directory on the web server that points to your web images in the Image Virtual Directory box.

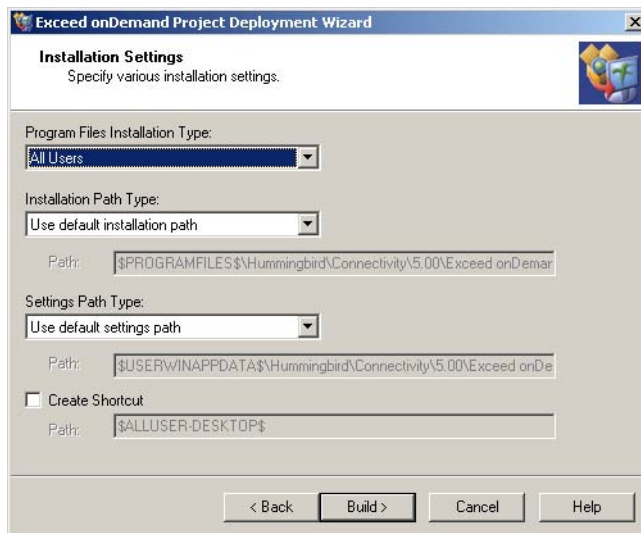
By default, the HTML code looks for image files in the `Images` folder. If you specify a virtual directory in the Image Virtual Directory box, the HTML code is modified to point to that location. Therefore, you do not have to manually edit each HTML file to update the image location.

Note: If you specify a virtual directory, you must transfer your images from the `Images` folder in the project destination directory to the specified folder on the web server.

- 2 To avoid being disconnected as a result of a network timeout, select `Enable HTTP Timeout` and specify a timeout value that is less than the network idle timeout.
- 3 Click `Next` to specify installation settings.

Step 6: Specifying Installation Settings

The Installation Settings screen lets you specify how Exceed onDemand Client is deployed to the end user's machine.



To change the installation settings:

- 1 In the Program Files Installation Type list, select one of the following options:
 - All Users—Deploys Exceed onDemand Client to the target computer for anyone who uses it, and applies the installation settings to everyone using that machine.
 - Per-User—Applies installation settings to the user logged onto the target machine at the time of deployment. Access to the Exceed onDemand Client session is restricted to this user.

- 2 In the Installation Path Type list, select one of the following options to specify a location for the Client deployment on the end users' machines.
 - Use Default Installation Path—Exceed onDemand Client is deployed to the end user's machine in the default location.
 - Prompt User for Installation Path—End users are prompted to browse to an installation directory.
 - Use Specified Installation Path—Enables the Path box, in which you can specify a directory where Exceed onDemand Client is deployed on the end user's machine.

Note: After the end user deploys Exceed onDemand Client, you cannot change the installation path. For example, if two projects are deployed—each containing a different installation path—the installation path specified in the first project is applied to both.

- 3 In the Settings Path Type list, select one of the following options:
 - Use Default Settings Path—Installs Exceed onDemand user files in the default location on the end user's machine.
 - Use Specified Settings Path—Enables the Path box, in which you can specify a directory where Exceed onDemand user files are installed on the end user's machine.
- 4 Select **Create Shortcut** if you want a shortcut to Exceed onDemand Client to appear on each end user's desktop. You can specify an alternate location for the shortcut.
- 5 Click **Build** to build your deployment project. When the project is completed, click **Finish** to save the deployment project and close the Deployment Wizard.
- 6 Copy the wizard-generated files from your output folder to a web server directory. Make sure to include the HTML file and the contents of the Package and the Images folders.

For a list of replacers that you can use to specify an installation path or a shortcut location, see the Directory Variables table in Deployment Wizard Help.

Using the Index Page Wizard

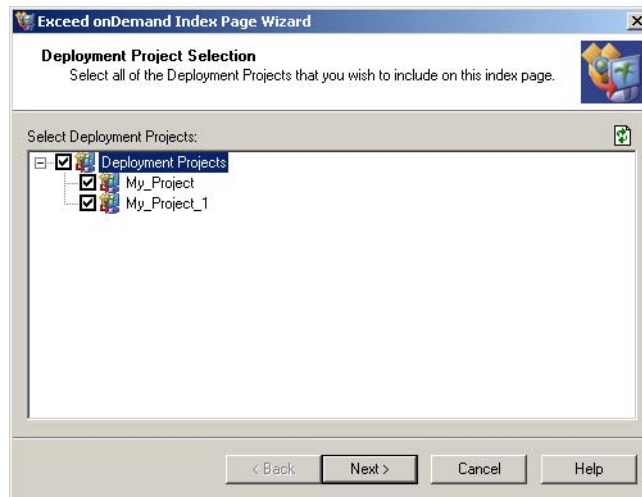
To create index pages, launch Deployment Wizard from the Start menu. Select Index Page Wizard in the Wizard Type box on the Welcome screen.

The Index Page Wizard process consists of the following steps:

- selecting a deployment project
- specifying HTML page information

Step 1: Selecting a Deployment Project

The Deployment Project Selection screen lets you choose the deployment project(s) that you want included in the HTML index.



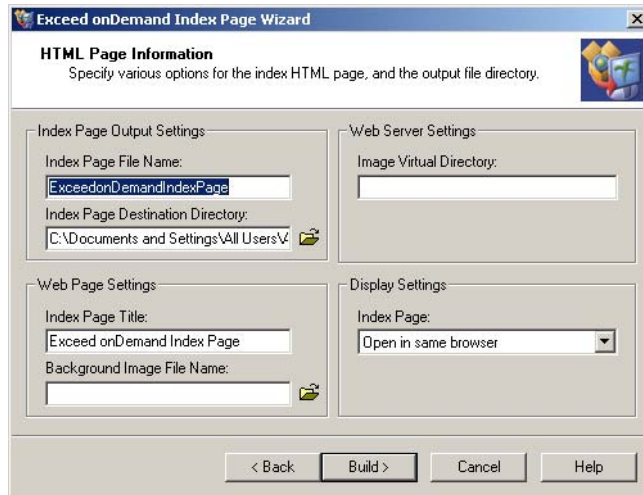
On this screen, the wizard lists all deployment projects previously created and saved in the EoD Projects directory.

To select projects to include on the index page:

- 1 Select the check box beside each project you want to include in the index. To include all the projects in the list, select Deployment Projects.
- 2 Click Next to specify information for the HTML page of the index.

Step 2: Specifying HTML Page Information

The HTML Page Information screen lets you specify settings for the index page output and the web page. You can also specify web server and display settings.



For more information, see “Step 5: Providing Web Server Information” on page 44.

When you are finished creating an index, the wizard places an HTML file in the output directory you specify. You can then move the index file to a web server directory.

To configure index page output settings:

- 1 In the Index Page File Name box, specify a name for the wizard-generated HTML file.
- 2 In the Index Page Destination Directory box, specify a directory in which you want to place the HTML file. Click the browse button to search for a location.

For more information, see “Issuing the URL for an Index Page” on page 54.

The relative locations of the output directory for the index page and for the associated deployment project(s) must be preserved on the web server for the index page links to remain valid.

To configure web page settings:

- 1 In the Index Page Title box, specify a title to appear in the title bar of the browser window containing the index page.
- 2 In the Background Image File Name box, you can specify an image file to appear in the background of the index page. Click the browse button to search for an image file.

To configure web server and display settings:

The Index Page Wizard lets you specify a directory on the web server that points to your web images.

- 1 If you specify an image file in the Web Page Settings area, you can specify the directory on the web server that points to your web images in the Image Virtual Directory box.

By default, the HTML code looks for image files in the `Images` folder. If you specify a virtual directory in the Image Virtual Directory box, the HTML code is modified to point to that location. Therefore, you do not have to manually edit each HTML file to update the image location.

Note: If you specify a virtual directory, you must transfer your images from the `Images` folder in the project destination directory to the specified folder on the web server.

- 2 In the Index Page box, you can choose whether you want the deployed Exceed onDemand Client to open in the same browser window as the index page. If you want to keep the index page and the deployed project open at the same time, select `Open in New Browser`.
- 3 Click `Build` to create the index page.

Copy the following files to the virtual directory on the web server:

- The HTML file for the index.
- The HTML file for the project.
- All of the files in the `Package` folder and the `Images` folder.

The relative locations of the output directory for the index page and for the associated deployment project(s) must be preserved on the web server for the index page links to remain valid.

Based on your specifications, the wizard generates an HTML web page and places a link on this page to each deployment project you specified during the process. The generated HTML file is located in the output folder that you specified in the Project Destination Directory box.

Using the Projects Update Wizard

For information about accessing the Projects Update Wizard, see “About Exceed onDemand Deployment Wizard” on page 37.

The Exceed onDemand Projects Update Wizard simplifies the task of updating the Exceed onDemand Client version within existing deployment projects.

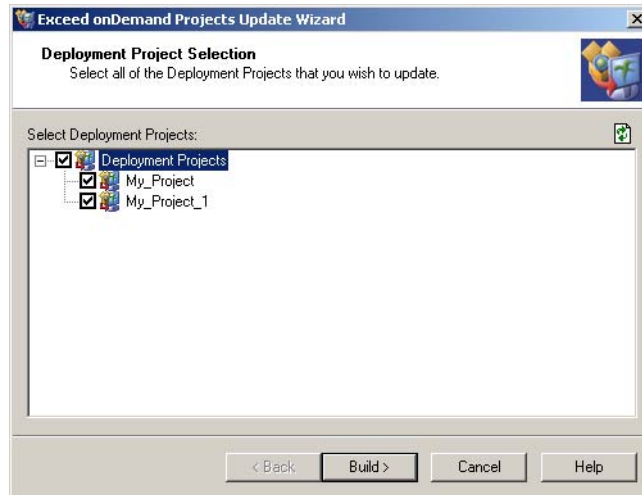
For example, you can use Projects Update Wizard to upgrade from one version of selected deployment projects to another without having to manually apply changes to each individual project.

To launch the Projects Update Wizard:

To update deployment projects, launch Exceed onDemand Deployment Wizard from the Start menu. Select Projects Update Wizard in the Wizard Type box on the Welcome screen.

Updating Deployment Projects

The Deployment Project Selection screen lets you choose the deployment project(s) that you want to upgrade.



On this screen, the Projects Update Wizard lists all previously created deployment projects.

To update deployment projects:

- 1 Select the check box beside each project that you want to update. Select Deployment Projects to update all of the projects in the list.
- 2 Click Build to update the specified deployment project(s). Deployment Packager generates and saves the updated output files.
- 3 Click Finish to close the wizard.
- 4 Copy the updated contents of the project destination directory, including the Package and the Images subfolders, to the virtual directory on the web server.

Deploying a Project

The deployment project and index output files are located on your local machine in the specified destination directories.

When you have copied the generated files from the output folder to the web server, distribute the URL of the web server virtual directory to end users.

Note: Make sure that the output directory for the index page and for the associated deployment project(s) are the same. The relative locations of these files must be preserved on the web server for the index page links to remain valid.

Issuing the URL for Deployment Projects

You can place the project files in any web server directory. Internally, HTML files and deployment components use relative URLs to locate other objects, enabling you to move the deployed files to another web server without having to edit the file location path.

Copy the output files (preserving directory structure) to the HTML Virtual Directory Path. The project URL that you distribute to end users is as follows:

```
http://ServerAddress/HTMLVirtualDirectoryPath/HTMLFileName.html
```

where:

- *ServerAddress* is the server address (domain name or IP address) of your web server.
- *HTMLVirtualDirectoryPath* is the name of the directory path that you created for the HTML files.
- *HTMLFileName* is the file name of the generated HTML file that contains the download link to the project. Enter this name in the HTML File Name box on the Web Server Information screen.

If you create a deployment project named *YearEnd* for the Finance department, and you place the project in the *PROJ\Finance* directory on a server named *WebServer*, you would distribute the following URL to the end-users in the Finance department:

```
http://WebServer/PROJ/Finance/YearEnd.html
```

After copying the output files to the web server, distribute the project URL to end users.

Issuing the URL for an Index Page

Copy the index page output files (preserving the directory structure) to the HTML Virtual Directory Path. The index page HTML file and all projects included on the index page must be in the same directory on the web server for the links to remain valid.

The index page URL that you distribute to end users is as follows:

```
http://ServerAddress/HTMLVirtualDirectoryPath/IndexPageFileName.html
```

where:

- *ServerAddress* is the server address (domain name or IP address) of your web server.
- *HTMLVirtualDirectoryPath* is the name of the directory path that you created for the index page.
- *IndexPageFileName* is the file name of the generated HTML file that contains links to the projects. Enter this name in the HTML File Name box on the HTML Page Information screen.

If you create an index page called `Finance.html` that contains links to all of the deployed projects for the Finance department, and you locate this index page in the `PROJ\Finance` directory on the server called `WebServer`, you would distribute the following URL to end users in the Finance department:

```
http://WebServer/PROJ/Finance/Finance.html
```

When you have finished copying the output files to the web server, you can distribute the URL for the index to end users.

Chapter 4

Managing Exceed onDemand Server

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About Exceed onDemand Administration

The task of managing Exceed onDemand includes:

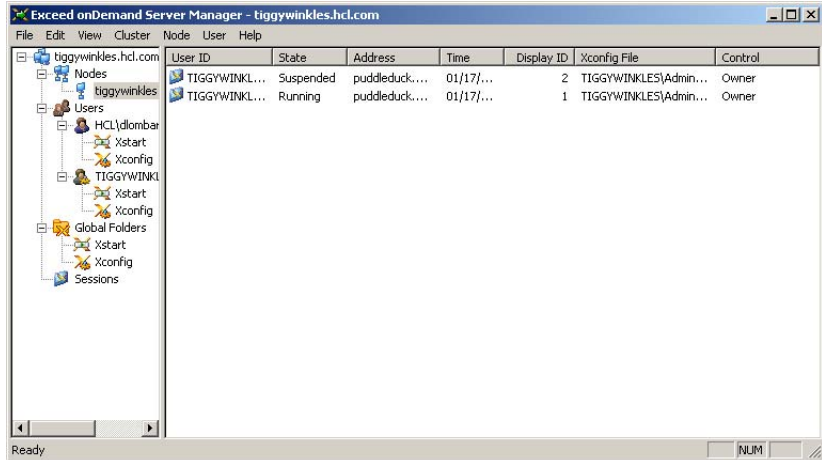
- configuring Exceed onDemand Server by specifying port numbers, or enabling/disabling security features
- cluster administration (if applicable)
- configuring user account settings that permit or restrict Exceed onDemand users access to specific functionality
- tracking session information such as which users are currently running client sessions, or how many sessions are currently suspended
- creating and distributing Xconfig files to users
- creating and distributing Xstart files 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. You can configure server and user settings, manage licenses, and view information about and manage Exceed onDemand Client sessions currently running or suspended on a particular Exceed onDemand Server.

You can also use Server Manager to configure user accounts, and to create and manage the distribution of Xstart files and Xconfig files.



Connecting to the Server

After you install Exceed onDemand Server Manager, you can launch it from the Windows Start menu. When you do, the Exceed onDemand Server Manager window opens, which lets you connect to and manage any Exceed onDemand Server on the network.

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 59.

To connect to Exceed onDemand Server:

- 1 In the Server Manager window, click Connect on the File menu. The Connect dialog box opens.



- 2 Provide the following information:
 - Host—Type, or select from the drop-down list, the name of the Exceed onDemand Server machine. 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.
- 3 Click OK.

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

Troubleshooting Connections to Exceed onDemand Server

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:

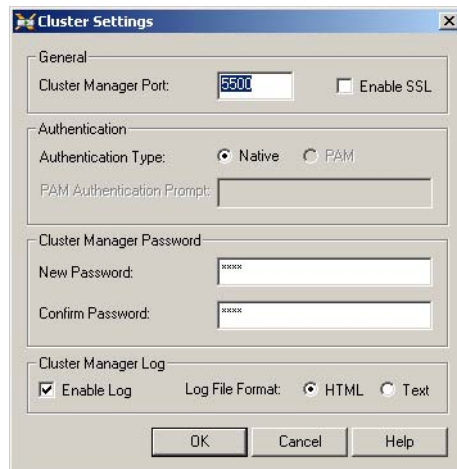
- 1 In Control Panel, select Switch To Classic View, if necessary.
- 2 In Administrative Tools, open Local Security Policy.
- 3 Expand Local Policies and select Security Options.
- 4 Disable the following option—Accounts: Limit Local Account Use Of Blank Passwords To Console Logon Only.

Configuring Cluster Settings

To set up a cluster, you must configure the Cluster Manager settings for the cluster manager node. These settings include connection, security and logging settings.

To configure cluster settings:

- 1 With Exceed onDemand Server Manager, connect to the cluster manager node.
- 2 On the Cluster menu of the Exceed onDemand Server Manager window, click Settings. The Cluster Settings dialog box opens.



3 Configure the necessary settings.

Cluster Manager Port—Specify the number of the port on which the Exceed onDemand Cluster Manager listens for startup requests from Exceed onDemand Client or Server Manager. You can specify a port number from 1 to 65655. The default value 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

Enable SSL—Enable this option if you want all Exceed onDemand Client connections (to Cluster Manager, Proxy Manager, and the proxy) to use SSL security.

Warning!

- Exceed onDemand Client is available in three versions. Only the Strong and Weak encryption versions are compatible with an SSL-enabled cluster. Users who install the version of Client with no encryption cannot connect to the cluster.
- All cluster nodes must have the same SSL keys and certificates. For information on SSL keys, see the *Exceed onDemand Administrator's Guide*.

Authentication Type

Native—Select this option if you want Exceed onDemand Server to authenticate users based on their user name and password.

PAM—The PAM (Pluggable Authentication Modules) option is available only for Exceed onDemand Servers installed on Solaris and Linux. Select this option if you want Server to pass users' Exceed onDemand Client credentials to a PAM module for verification.

PAM Authentication Prompt—In most cases, PAM prompts users for their passwords before permitting the connections. You can prevent this prompt by typing the PAM authentication prompt in the box. For example, if PAM prompts users with the word “Password:”, then type `Password:` in the PAM Authentication Prompt box. If a prompt from PAM matches the one you specify, Exceed onDemand Server automatically responds with the user's Exceed onDemand Client password.

Note: The PAM service name for Exceed onDemand, which is used when configuring PAM settings on the server, is `exceedondemand`. Consult your vendor's documentation for information on PAM configuration.

Cluster Manager Password—Type a password. When you add a node to the cluster, it is this password that you will configure the node to use to gain access to Cluster Manager.

Enable Log—Enable this option if you want Exceed onDemand Cluster Manager to generate a log. If you enable the log, select either HTML or Text as the log file format.

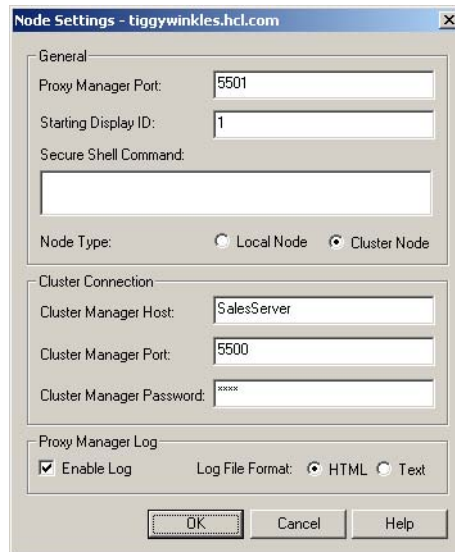
- 4 Click OK to apply the settings.

Configuring Node Settings

This procedure guides you through the process of configuring node settings for Exceed onDemand Server. If there is more than one Server on the network, you should repeat this procedure for each. After you modify these settings, you must restart the Exceed onDemand Proxy Manager running on the newly configured node.

To configure node settings:

- 1 In the Exceed onDemand Server Manager window, click Nodes in the tree pane. The information pane displays the names of one or more Exceed onDemand Server hosts.
- 2 In the information pane, select the node you want to configure by clicking its name in the Host Name column.
- 3 On the Node menu, click Settings. The Node Settings dialog box opens displaying the name of the selected node in the title bar.



- 4 Make the necessary setting changes. Click Help to view descriptions of each setting.
- 5 When you have completed the modifications, click OK.
- 6 Restart Proxy Manager. For more information, see “Restarting Proxy Manager” on page 73.

Adding Nodes to a Cluster

After you add a new node, you must restart its Proxy Manager to make it available to the cluster. For this reason, it is recommended that no X session be running prior to adding the new node, as the sessions are terminated upon restarting the Proxy Manager.

You must also add the new node's license activation key(s) to the cluster manager node. If you do not, the licenses from the newly added node will not be made available in the cluster.

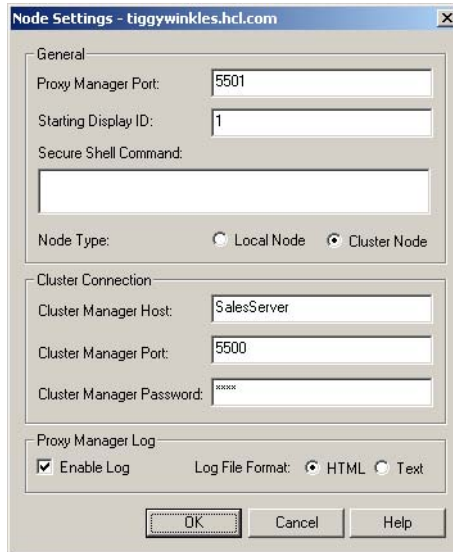
Warning!

- You must synchronize the system clocks on all nodes. Nodes that are not synchronized with the cluster manager node may not start sessions.
- Font database must be identical on all cluster nodes.
- All cluster nodes must have the same SSL keys and certificates.

To add a node to a cluster:

- 1 With Exceed onDemand Server Manager, connect to the Exceed onDemand Server machine you want to add to the cluster.
- 2 In the tree pane, click **Nodes**. The information pane displays the stand-alone Server machine status table.
- 3 In the information pane, click the host in the **Host Name** column.

- 4 On the Node menu, click Settings. The Node Settings dialog box opens displaying in the title bar the name of the host you want to add to the cluster.



- 5 In the Cluster Connection area, select Cluster Node and provide the cluster connection information. Click Help to view descriptions of each setting.
- 6 Click OK.
- 7 On the Node menu, click Restart Proxy Manager.

The node is now part of the cluster. You can no longer connect directly to it. To manage this node or to start an Exceed onDemand Client session, connect to the cluster manager node.

Removing Nodes from a Cluster

You can remove a node from a cluster by making it a stand-alone Exceed onDemand Server again. After you remove a new node, you must restart its Proxy Manager. For this reason, it is recommended that no X session be running prior to removing the node, as the sessions are terminated upon restarting the Proxy Manager.

To remove a node from a cluster:

- 1 In the Exceed onDemand Server Manager window, click **Nodes** in the tree pane. The information pane displays the name of one or more nodes.
- 2 In the information pane, select the node you want to remove by clicking its name in the **Host Name** column.
- 3 On the **Node** menu, click **Settings**. The **Node Settings** dialog box opens displaying the name of the selected node in the title bar.
- 4 In the **Cluster Connection** area, click **Local Node**, and then click **OK**.
- 5 With the node still selected in the **Server Manager** window, click **Restart Proxy Manager** on the **Node** menu.

Managing Licenses

Exceed onDemand offers two types of licenses:

Shared One license is used per active X session. When a user ends or suspends his or her session, the occupied license is released and can then be re-used by any other user. When all licenses are in use, no other user can start an X session until a license becomes available.

Assigned The number of active user accounts cannot exceed the number of licenses purchased. If, for example, five assigned licenses are installed, the first five users that are granted an active account are the only users who can start X sessions. These five users then share the five licenses as described above. If any other user needs access, then the administrator must deactivate one of the five user accounts and activate the new user's account.

Note: When you configure default settings for new user accounts, you can specify that accounts are not automatically activated for users who log in for the first time. Then you can activate accounts on a per-user basis. This may be useful in relation to license management.

Licensing in a Cluster Environment

When adding a new Exceed onDemand Server node to a cluster, the licenses on the newly added node are not added to the cluster's license pool. That is, Exceed onDemand does not transfer the new node's licenses to the cluster manager node, which is responsible for licensing all users that connect to the cluster. Administrators must add the activation keys to the cluster manager node.

Managing Activation Keys

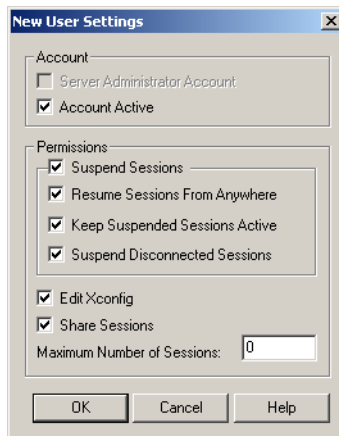
To add a new activation key, click **Activation Keys** on the **Server Manager Cluster** menu. In the **Exceed onDemand Activation Keys** dialog box, type or paste the key into the **New Key** box, and click **Add**.

To delete an activation key, select it in the key list, and click **Delete**.

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 the User Settings dialog box. For more information, see the following procedures.

Note: Administrators cannot edit their own account settings.

To configure the default account settings for new users:

- 1 On the User 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:
 - Server Administrator Account—This option is not available for new accounts.
 - Account Active—Activates new user accounts. If you disable this option, accounts are created for new users, but they are not active. In this case, first-time users cannot start X sessions until you activate their accounts on a per-user basis. For more information, see the next procedure.
 - Suspend Sessions—Lets new users suspend their X sessions. For more information on Suspend/Resume functionality, see Exceed onDemand Client Help.
 - Resume Sessions From Anywhere—Lets new users resume suspended sessions from Exceed onDemand Client machines other than the ones on which the sessions were suspended.
 - Keep Suspended Sessions Active—Enable this option if you want X applications to remain active on the Exceed onDemand proxy after users suspend X sessions. This feature is useful when running X application processes, such as monitoring. Users can suspend and resume such sessions without interrupting the monitoring process.
 - Suspend Disconnected Sessions—Automatically suspends users' X sessions in the event of a network connection failure or Exceed onDemand Client PC crash. Users can then resume their sessions instead of having to start new sessions and launch X applications again. This feature is useful in unstable environments as it safeguards users' work. It also saves time by avoiding lengthy X application restarts after a disconnection.
 - Edit Xconfig—Lets new users create and edit user-specific Xconfig files.
 - Share Sessions—Lets new users share their sessions with other users.
 - Maximum Number of Sessions—Specifies 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 In the Exceed onDemand Server Manager window, click Users in the tree pane. The information pane displays the names of one or more Exceed onDemand users.
- 2 Select the user whose account you want to configure.
- 3 On the User menu, click Settings.
- 4 The User Settings dialog box opens. The name of the selected user appears in the title bar. You can enable or disable the following settings:
 - **Server Administrator Account**—Automatically enables all permissions, giving the selected user administrative privileges. Administrators can create and edit global Xconfig files as well as user-specific Xconfig files. 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 managing his or her Xconfig files.
 - **Suspend Sessions**—Lets the user suspend X sessions. For more information on Suspend/Resume functionality, see Exceed onDemand Client Help.
 - **Resume Sessions From Anywhere**—Lets the user resume suspended sessions from Exceed onDemand Client machines other than the one on which the session was suspended.
 - **Keep Suspended Sessions Active**—Enable this option if you want X applications to remain active on the Exceed onDemand proxy after the user suspends an X session. This feature is useful when X application processes, such as compiling, require a lot of time to complete. Users can suspend and resume such sessions without interrupting the compiling process.
 - **Suspend Disconnected Sessions**—Automatically suspends the user's X sessions in the event of a network connection failure or Exceed onDemand Client PC crash. The user can then resume the sessions instead of having to start new sessions and launch X applications again. This feature is useful in unstable environments as it safeguards users' work. It also saves time by avoiding lengthy X application restarts after a disconnection.

- Edit Xconfig—Lets the user create and edit user-specific Xconfig files.
- Share Sessions—Lets the user share sessions with other users.
- Maximum Number of Sessions—Specifies the maximum number of sessions the new user may run at once. Specifying zero (0) lets the user run an unlimited number of sessions.

5 Click OK.

Removing Users from the Server

When you remove users from Exceed onDemand Server, their folders and files stored on the server are also removed including their Xconfig and Xstart files.

To remove a user from the server:

- 1 In the tree pane, click Users. A list of users appears in the information pane.
- 2 Select the user you want to remove.
- 3 On the User menu, click Remove.

Terminating User X Sessions

Administrators can terminate any user's X session. When you terminate a session that is not suspended, Exceed onDemand Client notifies the user that the connection has been lost.

Warning! When you terminate a user session, any unsaved work is lost.

To terminate an X session:

- 1 In the Exceed onDemand Server Manager window, click **Sessions** or select a node in the tree pane. The information pane displays a list of currently running or suspended X sessions.
- 2 In the information pane, select the X session you want to terminate.
- 3 On the **Node** menu, click **Terminate Session**.

Terminating Management Connections

Administrators can terminate management connections in addition to user X sessions. Management connections include Exceed onDemand Client configuration connections as well as Server Manager connections.

To terminate a management connection:

- 1 In the Exceed onDemand Server Manager window, click the root node in the tree pane. The information pane displays a list of connections currently hosted by Cluster Manager.
- 2 In the information pane, select the connection you want to terminate.
- 3 On the **Cluster** menu, click **Terminate Connection**.

Note: The information pane also lists the connection created for your Server Manager session. You cannot terminate this connection from the Cluster menu. You must disconnect.

Viewing the Cluster Manager Log

If you enabled the Cluster Manager log, you can view the log by clicking **View Cluster Manager Log** on the **Cluster** menu. The log is displayed in either HTML or text format depending on the format selected when configuring the log. For more information on enabling and configuring this log, see “Configuring Cluster Settings” on page 60.

Viewing the Proxy Manager Log

Each installation of Exceed onDemand Server runs a proxy manager. If you enabled the Proxy Manager log, you can view the log by selecting the node and clicking View Proxy Manager Log on the Node menu.

The log is displayed in either HTML or text format depending on the log configuration settings. For information on enabling and configuring the Proxy Manager log, see “Configuring Node Settings” on page 62.

Restarting Cluster Manager

You must restart Exceed onDemand Cluster Manager whenever you modify the cluster settings.

Warning! When restarted, Cluster Manager performs a restart of all Exceed onDemand Proxy Managers running in the cluster. This closes all running and suspended sessions on the node. Exceed onDemand Client and Server Manager users will have to restart their sessions.

To restart Cluster Manager:

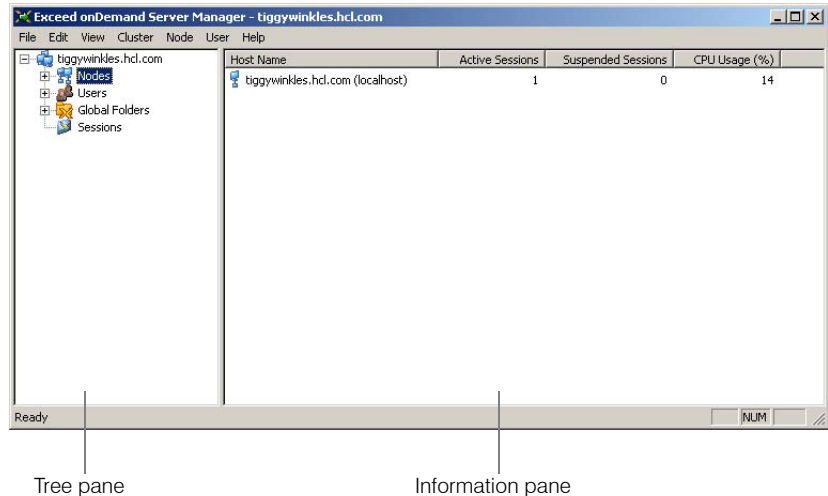
In the Exceed onDemand Server Manager window, click Restart Cluster Manager on the Cluster menu. Exceed onDemand prompts you to confirm if there are any X sessions or management connections running in the cluster.

Restarting Proxy Manager

Each installation of Exceed onDemand Server runs a proxy manager. When you restart Exceed onDemand Proxy Manager, Exceed onDemand Client sessions running on the node are disconnected. Users will have to restart their sessions.

To restart Proxy Manager:

- 1 In the Exceed onDemand Server Manager window, click Nodes in the tree pane. The information pane displays the name of one or more nodes.



- 2 In the information pane, select the node you want to restart by clicking its name in the Host Name column.
- 3 On the Node menu, click Restart Proxy Manager. Exceed onDemand prompts you to confirm.

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 `[install path]/bin` directory.

Starting Exceed onDemand Server

You can start the server by running the `eodstart` utility. For more information, refer to the manual pages in the `[install path]/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 activation keys
- remove keys
- list installed activation keys

Saved changes take effect immediately.

Note: All keys should be of the same type (shared or assigned).

Stopping Exceed onDemand Server

You can stop the server by running the `eodstop` utility. For more information, refer to the manual pages in the `[install path]/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 `eodinfo` utility. For more information, refer to the manual pages in the `[install path]/help` directory.

Troubleshooting

Viewing Server Logs

If you need to view the server log file, you can access it in the `[install path]/log` directory. If you chose to generate the log file in text format, the file name is `eodpm.txt` for the Proxy Manager log or `eodcm.txt` for the Cluster Manager log. If you chose to generate the log file in HTML format, the file name is `eodpm.html` or `eodcm.html`, depending on the log type.

About Exceed onDemand SSL Features

Exceed onDemand is available in three versions. Only the Strong and Weak encryption versions are compatible with an SSL-enabled Cluster Manager. Users who install the version of Exceed onDemand Client with no encryption cannot connect to the Cluster Manager node. Furthermore, in a cluster environment, all nodes must have the same SSL keys and certificates.

The Cluster Settings dialog box in Exceed onDemand Server Manager lets you enable SSL. When you restart Cluster Manager after enabling this security feature, Cluster Manager sends an enable-SSL instruction to Proxy Manager. In a cluster environment, the instruction is sent to each node in the cluster. SSL encryption is then enabled for all Exceed onDemand Client connections (to Cluster Manager, Proxy Manager, and to the proxy).

When using ciphersuites that use the Digital Signature Standard (DSS), 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.

Note: Exceed onDemand negotiates a number of ciphersuites. To view a list of available ciphersuites, consult the Cluster Manager log or the proxy log if you configured it to log SSL information. For more information on viewing the Cluster Manager log, see “Viewing the Cluster Manager Log” on page 72.

Generating the Private Key and Certificate Files

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

Note:

- All cluster nodes must have the same SSL keys and certificates.
- `openssl` creates a file called `.rnd` in the current user’s HOME directory on UNIX, or in the root of the `C:` drive on Windows platforms.

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

- 1 Open the Windows Command Prompt window.
- 2 Open the `Accessories` folder in the Exceed onDemand installation path.
- 3 Proceed with the procedure provided below to run the `openssl` utility.

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 path]/bin/  
sys:$LD_LIBRARY_PATH <CR>
```

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

```
setenv SHLIB_PATH [install path]/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.

To run the openssl utility:

1 Type the following command using the appropriate slash character:

```
cd [install path]\bin
```

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

- On a supported Windows platform:

```
openssl md5 file1 file2 file3 >rand.dat
```

where *file#* are files on your system, preferably files that change and are unique, such as log files.

- On all other platforms:

```
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 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>
```

- b) Move the files as follows:

```
Move ewebpriv.pem to [install path]/conf/home/keys/  
ewebpriv.pem
```

```
Move ewebcert.pem to [install path]/conf/home/keys/  
ewebcert.pem
```

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

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.

Warning! In a cluster environment, the font database must be identical on all cluster nodes.

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.
- 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.

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

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.
- 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.

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

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:

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

When configuring an Xconfig file, the Font tab of the Exceed onDemand Xconfig dialog box lets you add font servers to the font database. You can either create or edit an Xconfig file so that it specifies the font server. Users can then select the file for their sessions and access the font server.

For more information on Xconfig files 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 the Common folder of the global or user-specific Xconfig directory. The folder in which you place the keyboard file will determine which users have access to it.

Global keyboard files are located on the server, in the global Common folder:

```
C:\Programfiles\Hummingbird\Connectivity\version\  
ExceedonDemand\Server\conf\admin\Xconfig\Common
```

User-specific keyboard files are located on the server, in user-defined Common folders. For example:

```
C:\Programfiles\Hummingbird\Connectivity\version\  
ExceedonDemand\Server\conf\users\username\Xconfig\Common
```

To customize a keyboard file:

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.

- 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.

Chapter 5

Configuring X Sessions

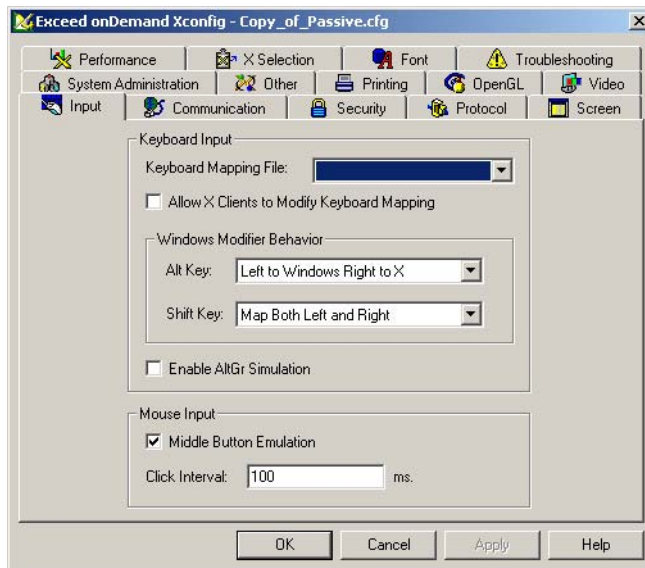
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About Xconfig






Xconfig files contain settings that Exceed onDemand uses to configure the look and behavior of X sessions. When starting an X session with Exceed onDemand Client, you must specify the Xconfig file you want to use to govern the behavior of the session. Administrators can create any number of Xconfig files to accommodate different session requirements and distribute the Xconfig files to users.

Xconfig file settings are grouped into fourteen categories. Each category is displayed on a tabbed page in the Exceed onDemand Xconfig dialog box.



The following table lists and describes Xconfig setting 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 application access to your Exceed onDemand Desktop. Using the Host Access Control List, you can configure Exceed onDemand Desktop to accept X applications only from certain hosts. Using the Authorization File, you can configure Exceed onDemand Desktop to accept X applications only if 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 | <p>These settings let you define various screen-related options. Some of the options you can configure include:</p> <ul style="list-style-type: none"> • 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 maximize performance by configuring connection speed and compression settings. You can also enable or disable backing store and save unders. If backing store is enabled, you can define under what circumstances it is used. |
|  | X Selection | This setting lets you specify the X selection used in Exceed onDemand and X application 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 80. |
|  | 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. |
|  | Other | 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 manage print behavior and specify job size limits. |
|  | OpenGL | These settings let you enable and disable GLX extensions and OpenGL features. |
|  | Video | <p>These settings let you define various video-related options. Some of the options you can configure include:</p> <ul style="list-style-type: none"> • the root window size • the screen size • the color database |

There are two types of Xconfig file:

Global—These Xconfig files are created, managed and distributed only by administrators. Exceed onDemand installs with two global Xconfig files. One is the default file configured for passive startup, the other for XDMCP Broadcast. These files are available to all users the first time they connect to a host. Administrators can create more Xconfig files and make them available to all users or to specific users as required. All global Xconfig files have a `.cfg` extension and reside on the Exceed onDemand Server machine (cluster manager node or stand-alone) in the following location:

```
[install path]\conf\admin\Xconfig
```

User-defined—These Xconfig files are created and/or managed by users. User-defined Xconfig files also include Xconfig files that administrators create and distribute to users. Only administrators can access, edit, and delete the Xconfig files of another user. All user Xconfig files have a `.cfg` extension and reside on the Exceed onDemand Server machine (cluster manager node if in a cluster environment) in the following location:

```
[install path]\conf\users\username\Xconfig
```

Note: Xconfig file names are case sensitive on UNIX servers.

Accessing Xconfig Files

Administrators can use Exceed onDemand Server Manager to view, edit, create and delete both global and user-specific Xconfig files. They can also manage the distribution of Xconfig files to Exceed onDemand users.

To access Xconfig files:

Start Exceed onDemand Server Manager and connect to Exceed onDemand Server by clicking Connect on the File menu. Do one of the following in the tree pane on the left:

- To access global Xconfig files, expand the Global Folders group and click Xconfig.

Note: Two global Xconfig files are installed by default with Exceed onDemand Server. There must always be one global Xconfig file set as the default.

- To access user-specific Xconfig files, expand the Users group, select the user, and then click Xconfig.

The Xconfig files (.cfg) are listed in the information pane on the right. You can do the following:

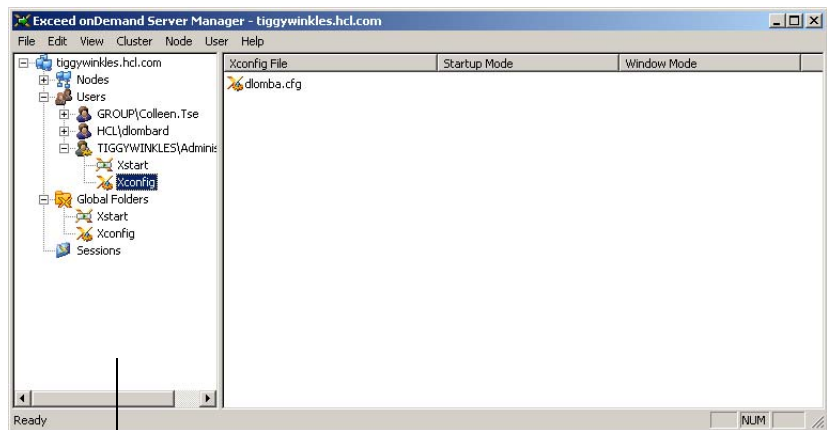
- create a new Xconfig file from a copy
- edit an existing Xconfig file
- rename an Xconfig file
- delete an Xconfig file
- manage the distribution of Xconfig files to users

Creating Xconfig Files

Create multiple global and user-specific Xconfig files to provide users with more than one standardized X session configuration. After you create the files, you can manage their distribution. For example, you can create two files with different security settings and distribute them to users as required.

To create an Xconfig file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xconfig file space in which you want to create a new Xconfig file. You can create either a global or a user-specific Xconfig file.

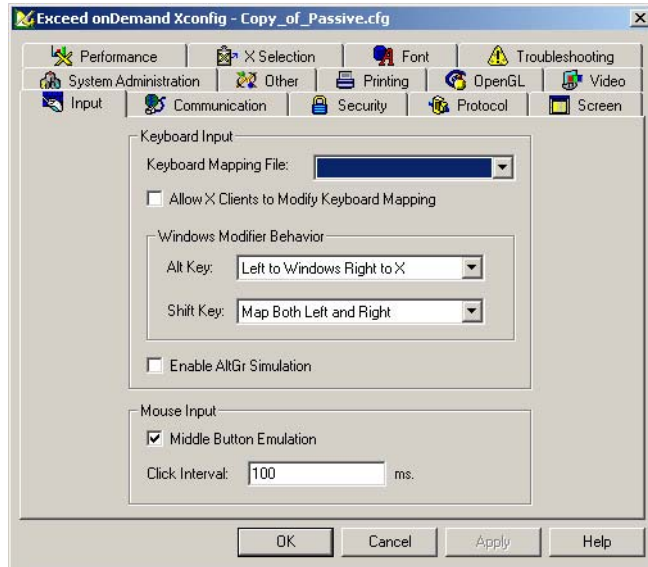


Tree pane with user-specific Xconfig file space selected

- 3 In the information pane, select an Xconfig file to use as the basis for the new Xconfig file.
- 4 On the Edit menu, click Copy. The information pane displays a new Xconfig file prefixed with the words `Copy_of`. The settings in this Xconfig file are the same as the original.

You can change the name of an Xconfig file at any time. However, the name must follow certain rules. For more information, see "Naming Xconfig Files" on page 93.

- 5 If necessary, you can type a new name. Otherwise, press Enter on your keyboard.
- 6 With the new Xconfig file still selected, click **Modify** on the **Edit** menu to customize the settings. The Exceed onDemand Xconfig dialog box opens.



- 7 Modify the settings on the tabbed pages as required and click **OK** when you have made all the necessary changes.

Modifying Xconfig Files

After you create an Xconfig file, you can edit the settings at any time. Administrators can also edit the settings in any user's Xconfig files.

To modify an Xconfig file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xconfig file you want to edit. You can modify either a global or a user-specific Xconfig file.
- 3 In the information pane, select the Xconfig file you want to modify.

- 4 On the Edit menu, click Modify. The Exceed onDemand Xconfig dialog box opens displaying the name of the selected Xconfig file in the title bar.
- 5 Modify the settings on the tabbed pages as required and click OK when you have made all the necessary changes.

Note: The changes you make to Xconfig settings will not be implemented in Client sessions that are currently running. They will take effect in subsequent sessions.

Naming Xconfig Files

When naming an Xconfig file, 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 Xconfig files or two user-defined Xconfig files cannot share a name, but a global Xconfig file can have the same name as a user-defined Xconfig file).
- You cannot use letter case to differentiate Xconfig files on Exceed onDemand Servers for Windows. Only UNIX servers are case sensitive.

To change the name of an Xconfig file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xconfig file you want to rename. You can rename either a global or a user-specific Xconfig file.
- 3 In the information pane, select the Xconfig file you want to rename.
- 4 On the Edit menu, click Rename.
- 5 Type the new name, and press Enter on your keyboard.

Deleting Xconfig Files

Administrators can delete an Xconfig file, global or user-specific, at any time.

To delete an Xconfig file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xconfig file you want to delete. You can delete either a global or a user-specific Xconfig file.
- 3 In the information pane, select the Xconfig file you want to delete.
- 4 On the Edit menu, click Delete. In the confirmation dialog box that opens, click Yes.

Managing Xconfig File Availability

Exceed onDemand Server Manager lets you control user access to Xconfig files. When you create a global Xconfig file, it is available for use by any user with an active account. Global Xconfig files cannot be edited by a user. You can, however, copy or move a global Xconfig file to any user's Xconfig file space, in which case, the user can make modifications.

You can also copy and move user-specific Xconfig files to make them available globally or to other selected users.

To distribute Xconfig files to users:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the global or user-specific Xconfig file you want to distribute.

- 3 On the Edit menu, do one of the following:
 - Click Copy To to open the Copy Files dialog box, which lets you place an editable copy of the selected Xconfig file in any existing Xconfig file space, global or user-specific. If you are copying a global Xconfig file, the original global Xconfig file is still available to other users.
 - Click Move To to open the Move Files dialog box, which lets you move the selected Xconfig file to any existing Xconfig file space, global or user-specific. Doing so makes the Xconfig file available only to the recipient.
- 4 In the dialog box that opens, select the destination of the Xconfig file and click OK.

Specifying a Default Xconfig File

Exceed onDemand Client uses the default Xconfig file when an Xconfig file is required but not specified by the user, or when the user selects the default.

Administrators can indicate the Xconfig file to be used as the default file. Any Xconfig file located in the global Xconfig folder is a candidate. Xconfig files that reside in user-specific Xconfig folders cannot be designated as the default.

Note: You cannot move, rename or delete the default Xconfig file.

To specify the default Xconfig file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 In the tree pane, expand the Global Folders group and click Xconfig. A list of global Xconfig files appears in the information pane on the right.
- 3 Select the file that you want to designate as the default.
- 4 On the Edit menu, click Set As Default Xconfig.

Chapter 6

Connecting with Xstart

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About Xstart

Xstart lets you automate the process of connecting to a host and starting X applications that reside on it. With Xstart, you can create, configure, and manage Xstart files (.xs). In these files, you specify the host to which you want to connect, your login credentials, and the command line parameters necessary to start the X application you require. Your Xstart files are stored in your user directory in the Exceed onDemand Server installation path. Whenever you initiate an X session, you can access, run, or edit the Xstart files you have created or configure a new one.

There are two types of Xstart file:

Global—These Xstart files are created, managed, and distributed exclusively by administrators. These files are available to all users. All global Xstart files reside on the server in:

```
[install path]\conf\admin\Xstart
```

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

```
[install path]\conf\users\username\Xstart
```

Supported Startup Methods

When you use Xstart to start an X session, you must specify the startup method you want to use to send your login credentials and commands to the remote host. Your selection is saved in the Xstart file (.xs) along with your credentials and any commands you provide. Xstart supports the following startup methods:

- REXEC
- RSH
- RLOGIN
- TELNET
- Secure Shell

Exceed onDemand Macros

When creating commands for REXEC, RSH, RLOGIN, TELNET, or Secure Shell, you can use Exceed onDemand macros to insert display and login information.

Accessing Xstart Files

Administrators can use Exceed onDemand Server Manager to view, edit, create, and delete both global and user-specific Xstart files. You can also manage the distribution of these files to Exceed onDemand users.

To access Xstart files:

Start Exceed onDemand Server Manager and connect to Exceed onDemand Server by clicking Connect on the File menu. Do one of the following in the tree pane on the left:

- To access global Xstart files, expand the Global Folders group and click Xstart.
- To access user-specific Xstart files, expand the Users group, select the user, and then click Xstart.

The Xstart files (.xs) are listed in the information pane on the right. You can do the following:

- create a new Xstart file
- modify an existing Xstart file
- rename an Xstart file
- delete an Xstart file
- manage the distribution of Xstart files to users

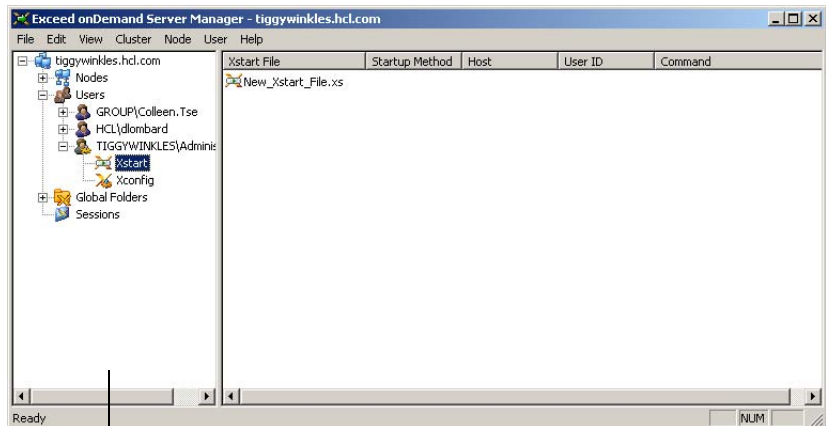
Creating Xstart Files

To automate host access and X application startup, you can save the connection information and commands you specify in the Exceed onDemand Xstart dialog box. The information is saved to an Xstart file (.xs). The Xstart files you create are stored in your user directory in the Exceed onDemand Server installation path. Whenever you initiate an X session with Exceed onDemand Client, you can access the Xstart files you have created and run the appropriately configured file.

After you create these Xstart files, you can manage their distribution. For example, you can create two Xstart files, each with different startup methods, and distribute them to users as required.

To create an Xstart file:

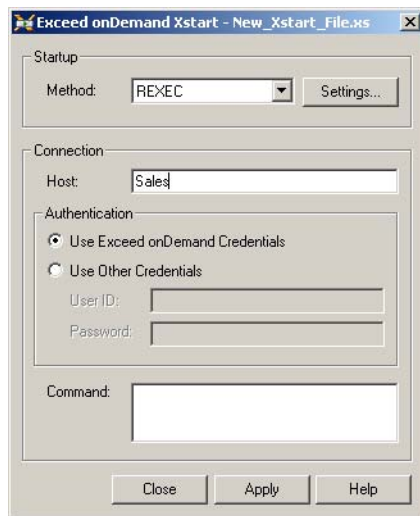
- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xstart file space in which you want to create a new Xstart file. You can create either a global or a user-specific Xstart file.



Tree pane with user-specific Xstart file space selected

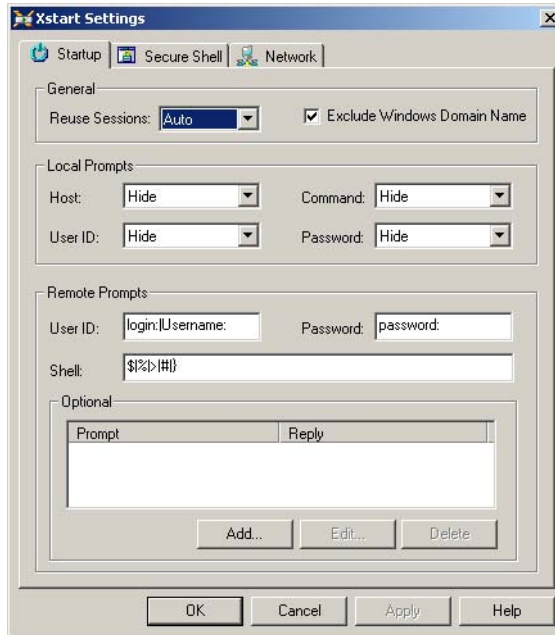
- 3 Do one of the following to create a new Xstart file that you will then customize:
 - Click the information pane. On the Edit menu, click New Xstart File.
 - Right-click the information pane. On the pop-up menu, click New XStart File.
 - If one or more Xstart files already exist, select one and click Copy on the Edit menu to create a new Xstart file with the same settings. Alternatively, right-click the Xstart file and click Copy from the pop-up menu. Modify the name of the Xstart file if necessary.
- 4 Select the Xstart file, and click Modify on the Edit menu. The Exceed onDemand Xstart dialog box opens.

To change the name of an Xstart file, select it and click Rename on the Edit menu.



- 5 Select a startup method.

- 6 To configure the selected startup method, click Settings. The Xstart Settings dialog box opens. Setting availability is determined by the startup method you selected.



- 7 When you have made all the necessary modifications, click OK to return to the Exceed onDemand Xstart dialog box.
- 8 In the Connection area, specify the host and do one of the following:
 - Select Use Exceed onDemand Credentials if you want to use your Exceed onDemand Client user ID and password for authentication.
 - Select Use Other Credentials and specify a different user ID and password in the boxes provided.
- 9 Type the command you want to run. The type of command depends on the host system and how the host is set up.
- 10 Click Apply, and then click Close.

Modifying Xstart Files

After you create an Xstart file, you can edit the settings at any time. Administrators can also edit the settings for any global or user-specific Xstart file.

To change the name of an Xstart file, select it and click Rename on the Edit menu.

To modify an Xstart file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xstart file you want to edit. You can edit either a global or a user-specific Xstart file.
- 3 In the information pane, select the Xstart file you want to modify.
- 4 On the Edit menu, click Modify. The Exceed onDemand Xstart dialog box opens.
- 5 If necessary, you can change the startup method and connection information.
- 6 To reconfigure the selected startup method, click Settings. The Xstart Settings dialog box opens.
- 7 When you have made all the necessary modifications, click OK to return to the Exceed onDemand Xstart dialog box.

Naming Xstart Files

When naming an Xstart file, 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 Xstart files or two user-defined Xstart files cannot share a name, but a global Xstart file can have the same name as a user-defined Xstart file).
- You cannot use letter case to differentiate Xstart files on Exceed onDemand Servers for Windows. Only UNIX servers are case sensitive.

To change the name of an Xstart file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xstart file you want to rename. You can rename either a global or a user-specific Xstart file.
- 3 In the information pane, select the Xstart file you want to rename.
- 4 On the Edit menu, click Rename.
- 5 Type the new name, and press Enter on your keyboard.

Deleting Xstart Files

You can delete an Xstart file, global or user-specific, at any time.

To delete an Xstart file:

- 1 Start Exceed onDemand Server Manager and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the Xstart file you want to delete. You can delete either a global or a user-specific Xstart file.
- 3 In the information pane, select the Xstart file you want to delete.
- 4 On the Edit menu, click Delete. In the confirmation dialog box that opens, click Yes.

Managing Xstart File Availability

Exceed onDemand Server Manager lets you control user access to Xstart files. When you create a global Xstart file, it is available for use by any user with an active account. Global Xstart files cannot be edited by users. You can, however, copy or move a global Xstart file to any user's Xstart file space, in which case, the user can make modifications.

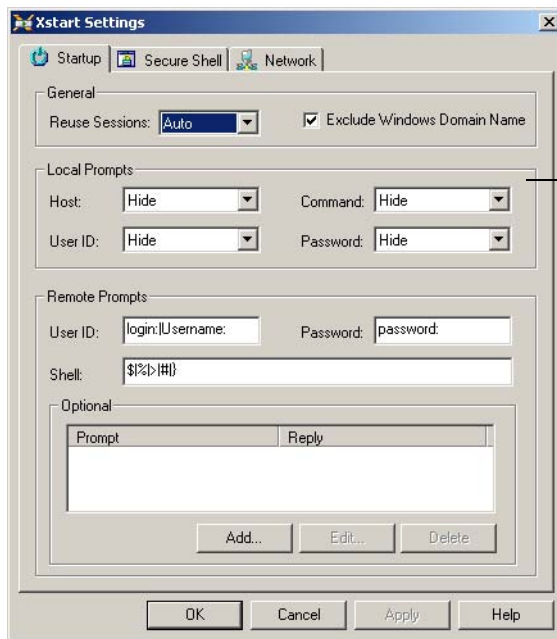
You can also copy and move user-specific Xstart files to make them available globally or to other selected users.

To distribute Xstart files to users:

- 1 Start Exceed onDemand Server and connect to Exceed onDemand Server.
- 2 Use the tree pane to access the global or user-specific Xstart file you want to distribute.
- 3 On the Edit menu, do one of the following:
 - Click Copy To to open the Copy Files dialog box, which lets you place an editable copy of the selected Xstart file in any existing Xstart file space, global or user-specific.
 - Click Move To to open the Move Files dialog box, which lets you move the selected Xstart file to any existing Xstart file space, global or user-specific. Doing so makes the Xstart file available only to the recipient.
- 4 In the dialog box that opens, select the destination of the Xstart file and click OK.

Confirming Xstart Login Information Before Connecting

You can configure each Xstart file so that the Connection Parameters dialog box is displayed whenever you run the file. What is displayed in this dialog box depends on the Local Prompts options you selected on the Startup page of the Xstart Settings dialog box.



The Local Prompts area lets you configure the information displayed or requested by the Startup Parameters dialog box.

If you selected the Show Only or Ask User options, then when you start an X session, the Connection Parameters dialog box displays the connection information specified in the Xstart file. Depending on the option selected, you are prompted to confirm or modify this information. You can configure the display of the following items:

- the host you want to connect to
- the user ID
- password
- the command sent to the host

When you click OK in the Connection Parameters dialog box, Xceed onDemand attempts to connect.

Chapter 7

Starting an X Session

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Overview of X Session Startup

Exceed onDemand Client lets you configure and start X sessions. That is, it lets you use your Microsoft Windows PC to access and work with X applications that reside on UNIX, Linux, VMS, and other X Window System host machines in a configurable environment.

Use the Exceed onDemand Client dialog box to specify the login information to establish the connection to the Exceed onDemand Server machine. There are a number of ways to start X sessions. The method by which your X session starts after Exceed onDemand Client establishes the connection depends upon the startup mode settings in the Xconfig file and, optionally, the Xstart file selected in the Exceed onDemand Client dialog box.

You can save the connection information and Xconfig file selection by creating connection documents (.eod). Creating connection documents gives you the option of starting future X sessions from Windows Explorer, from a web page, or from a command line by running the saved files.

Xconfig

The look and behavior of your X session is determined by the settings contained in the Xconfig file (.cfg) you select to manage the session. Using Xconfig, you can create any number of Xconfig files to accommodate different session requirements. Your selection of Xconfig files is saved in any connection document (.eod) you create.

Remote Startup with Xstart

In addition to specifying an Xconfig file for your X session, you can specify an Xstart file (.xs). Xstart is an application that lets you create, configure and manage Xstart files (.xs) for remote logins and automatic X application startup. In these files, you specify the X application host to which you want to connect, your login credentials for that host, and command line parameters necessary to start the X application you require. You also specify a startup method: REXEC, RSH, RLOGIN, TELNET, or Secure Shell. Whenever you initiate an X session with Exceed onDemand Client, you can select from the Xstart files you have created, and run the one that is configured to connect you to the proper host and start the required X application. As with Xconfig files, your selection of Xstart files is saved in any connection document (.eod) you create.

Connecting to Hosts

The Exceed onDemand Client dialog box opens when you start Exceed onDemand. Use it to specify the Exceed onDemand Server machine you want to connect to. You must also select the Xconfig file you want to use to configure the behavior of an X session. Optionally, you can select an Xstart file to connect you to a host and start an X application.



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 59.

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

To start an Exceed onDemand session:

- 1 In the Exceed onDemand Client dialog box, provide the information required to log into the Exceed onDemand Server machine.

Note: If Exceed onDemand Server is installed on a Windows platform, 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.

If you want to view or edit the settings in an Xconfig or Xstart file, click the adjacent browse button (...). In the dialog box that opens, select the file you want to view and click Settings.

- 2 In the Configuration area, select an Xconfig file (.cfg) from the Xconfig drop-down list, if necessary.
- 3 If you want to use a remote startup method, select an Xstart file (.xs) from the Xstart drop-down list.
- 4 Click the Run button.
 - If the Suspended Sessions dialog box opens, you can select a session you want to resume, or opt to start a new session. For more information, see Help.
 - If the Active Sessions dialog box opens, you can reuse a currently running session (proxy) to start the X application, or you can start another session (proxy). For more information, see Help.

The remaining steps and the look of the session depend on the settings in the Xstart and/or Xconfig files you select. For more information on startup mode behavior, see Exceed onDemand Help.

Creating Connection Documents

In the Exceed onDemand Client dialog box, you can create and edit connection documents (.eod). These files store the login and configuration information you specify for connecting to Exceed onDemand Server and launching an X session. By default, connection documents are saved locally in the Exceed onDemand Client directory for a particular user. For example:

```
C:\Documents and Settings\user\Application Data\
Hummingbird\Connectivity\5.0\Exceed onDemand\Client\
```

To create a new connection document:

- 1 In the Exceed onDemand Client dialog box, specify the connection parameters necessary to connect to the Exceed onDemand Server machine.
- 2 Click the Save button. 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: Saving to the default location ensures that future versions of Exceed onDemand Client can access it.

- 5 Click Save.

Editing Connection Documents

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 the Open button.
- 2 Select the connection document you want to edit, and then click Open. The Exceed onDemand Client dialog box displays the connection parameters for the connection document you selected.
- 3 Edit the parameters you want to change.
- 4 Click the Save button.

Launching Exceed onDemand from a Command Line

For information on creating connection documents, see "Creating Connection Documents" on page 113.

In addition to starting an Exceed onDemand session from the desktop or from Windows Explorer, you can start a session from a command line. You can also start a session using an existing connection document, which has the extension .eod and contains parameters specified in the Exceed onDemand Client dialog box. When you use a connection document to launch an X 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 [parameters]
```

where *path1* is the directory where you installed Exceed onDemand Client and *parameters* is any of the following (alphabetic characters can be upper or lower case):

| Parameter | Description |
|--|--|
| -configopts OR -xstartopts OR -e | <p>Provided that you have specified all connection parameters necessary to launch an X session (either through the command line or a connection document), you can use the following parameters to specify how you want to launch Exceed onDemand Client:</p> <ul style="list-style-type: none"> • Specify <code>-configopts</code> to launch the Exceed onDemand Xconfig dialog box. • Specify <code>-xstartopts</code> to launch the Exceed onDemand Xstart Settings dialog box. • Specify <code>-e</code> to launch the Exceed onDemand Client dialog box. All connection parameters specified in the command line and/or connection document are automatically displayed in the dialog box. <p>Specify only one of the three parameters listed above. If you specify more than one parameter, then the last one you specify takes precedence.</p> <p>If no parameters are specified, Exceed onDemand Client automatically launches the X session. If you do not specify all required connection parameters, the Exceed onDemand dialog box opens, prompting you for any missing information. For more information, see “Connecting to Hosts” on page 112.</p> |
| -d | Specifies that you want Exceed onDemand Client to delete a connection document, if one is specified in the command line, once it has read all login and connection parameters from the file. |
| -h <i>hostname</i> | The name of the host (Exceed onDemand Server machine) to which you want to connect. |
| -u <i>username</i> | The user name with which you want to connect to the host. |

| Parameter | Description |
|---|---|
| <code>-p password</code> OR <code>-pp encryptedpassword</code> | The password with which you want to connect to the host. You can specify a password that is either encrypted or not encrypted: <ul style="list-style-type: none">• Use <code>-p password</code> to specify a non-encrypted password.• Use <code>-pp encryptedpassword</code> to specify a password that is encrypted in the format found in the connection document used to launch an X session. For more information, see "Creating Connection Documents" on page 113. |
| <code>-c xconfig</code> | The name of the Xconfig file with which you want to launch an X session. |
| <code>-x xstart</code> | The name of the Xstart file with which you want to launch an X session. |
| <code>[--] [path2/] connect.eod</code> | The name of the connection document with which you want to launch an X session, where <i>path2</i> is the directory where the connection document is located. Specify only one connection document. If a file or path name contains spaces, you must enclose it in quotation marks. Note: If you choose to precede the name of the connection document with "--", Exceed onDemand treats everything, including spaces, that follows the "--" as the connection document path. For this reason, you do not need to enclose file or path names that contain spaces with quotation marks. |

Note: When specifying parameters, keep the following in mind:

- You can precede a parameter with a "/" rather than a "-". For example, `/u user` is equivalent to `-u user`.
- Connection parameters specified in the command line take precedence over connection parameters specified in a connection document.
- You can assign an empty value to a parameter by specifying an empty string ("").

For example, you can type the following to immediately launch an X session that uses all connection parameters specified in `connect.eod`, with the exception of the host parameter:

```
exceedondemand.exe -h eodhost -- C:\User Settings
\username\Client\connect.eod
```

In the above example, Exceed onDemand connects to the host specified in the command line, `eodhost`, rather than the one specified in `connect.eod` because parameters specified in the command line take precedence over ones specified in a connection document.

Launching Sessions from Web Pages

For information on creating connection documents, see “Creating Connection Documents” on page 113.

You can place a link on any web page to start an Exceed onDemand session based on the parameters stored in a connection document (`.eod`). 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.

Logging Off Exceed onDemand

When you are ready to end an Exceed onDemand session, exit all X applications and window/desktop managers first. The Exceed onDemand logoff process differs from this point onward depending on the startup mode specified in the Xconfig file used to start the X session.

If you want to perform a server reset, you do not have to log off Exceed onDemand. To reset the server, point to Tools on the Exceed onDemand Desktop menu and click X Server Reset.

To log off Exceed onDemand, do one of the following:

- If the XDMCP Display Manager Chooser dialog box opens, click Exit. This dialog appears for sessions started in XDMCP Broadcast startup mode. It appears also if XDMCP Indirect is the startup mode, and the Select First Display Manager option *is not* enabled.

Note: If the Select First Display Manager option *is* enabled, Exceed onDemand reopens the host login screen automatically after you exit all X applications and window/desktop managers. If this occurs, click Close on the Desktop menu to log off Exceed onDemand. For more information on configuring XDMCP startup modes, see "About Xconfig" on page 87.

- Click Close on the Exceed onDemand Desktop menu.

When you are prompted to confirm the log off, click OK to end the X Window session, or click Suspend if you intend to resume the session later.

Chapter 8

Working with X Sessions

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This chapter provides information aimed to help orient you with the Exceed onDemand Client interface. You will also find procedures for some common tasks and commonly used features. For more information, see Exceed onDemand 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:

- The language you select is applied only to the Exceed onDemand Client user interface. Default system dialog boxes and X applications are not affected.
- If Exceed onDemand Client was installed for all users on a machine, then the default language specified during installation takes precedence over language settings specified in Language Chooser each time a new user launches Exceed onDemand Client.
- If, using Language Chooser, you set the default language to match that of the operating system and you proceed to install Exceed onDemand Client, the default language specified during installation takes precedence over language settings specified in Language Chooser.

To change the language of the Exceed onDemand Client interface:

- 1 In the Exceed onDemand Client dialog box, open the Settings menu, click Language and then select the language you want Exceed onDemand Client to display for its interface.

Alternatively, you can click Auto Detect to configure Exceed onDemand Client to use the same language as the operating system for the current user only. In this scenario, the application will read the Windows display language setting and match it if that language is installed.

- 2 Proceed with connecting to the host.

Viewing Information About Your X Sessions

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:

- Determine the display specification you need to specify when starting an X application. The information is in the following form:

```
hostname:displayID(ipaddress:displayID)-Exceed onDemand  
Desktop-xconfigfilename-owner
```

For example:

```
eodhost:2(123.183.33.17:2)-Exceed onDemand Desktop-  
GlobalXconfig.cfg-psmith
```

- 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 can open from the Exceed onDemand Desktop menu. For more information, see "Displaying the Exceed onDemand Desktop Menu" on page 122.

Displaying the Exceed onDemand Desktop Menu



The Exceed onDemand Desktop menu lets you perform copy and paste functions, server resets, and traces. It also provides access to various log files and to Xconfig which let you configure 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 Exceed onDemand Desktop title bar
- right-click the Exceed onDemand taskbar icon

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

Displaying the Connection Document Context Menu

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

Resetting the X Server

You can reset the X server at any time to terminate all X applications and start a new session.

To reset the X server:

- 1 Save your work.
- 2 Exit all X applications and window managers.
- 3 On the Exceed onDemand Desktop menu, click Tools, and then click X Server Reset.
- 4 Click OK.

Note: After making changes to Xconfig settings, you are prompted to reset the X server. In this case, you can reset from the dialog box by clicking OK.

Switching Between X Windows and Windows

In multiple window mode, you can switch between X Window backdrop and Windows desktop.

To toggle between the X Window backdrop and Windows desktop:

On the Exceed onDemand Desktop menu, click Tools, and then click Toggle Backdrop.

Printing with Exceed onDemand Client

With Exceed onDemand Client, you can access files and print them as you would a local file. Hummingbird Exceed onDemand Print Utility (elpr) is the program that facilitates this functionality.

Note: elpr is provided on the Exceed onDemand CD. In order to enable printing, system administrators must copy or install elpr to each machine running X applications from which users need to print.

You can use elpr from the command line, or configure X applications to use elpr as the default printer. Exceed onDemand supports printing of only printable files, which are plain text (.txt) files, and, depending on the printer, PostScript (.ps) files. You can also print images. All other files are unsupported by Exceed onDemand printing, and are considered as non-printable files.

Note: Most UNIX applications can produce PostScript-formatted output, but many printers do not support this file type. In such cases, you can use third-party applications to convert the PostScript to a supported format.

When you print from an X session, the files that you want to print are first transferred from your X session to the Exceed onDemand Server. You can then access and print the files at any time using the Server Files dialog box. Non-printable files must first be opened in a valid application, and then printed from within the application.

To print a file from an X session:

- 1 Use `elpr` to transfer the file that you want to print from your X session to Exceed onDemand Server, using any of the following methods:
 - transfer files from a UNIX command line
 - transfer files from an X application

All files that are sent to the server are listed in the Server Files dialog box. You can access the Server Files dialog box by clicking File on the Exceed onDemand Desktop menu and then clicking Server Files.

- 2 In the Server Files dialog box, select a file and print it as you would a local file.

Printing Files from the UNIX Command Line

If the file that you want to print is saved on your UNIX machine, then you can use the `elpr` command to send the file from your X session to Exceed onDemand Server, and then print it as you would a local file.

To print from the UNIX command line:

- 1 Enable printing and specify the appropriate printing behavior for your X session. For more information, see Exceed onDemand Help.
- 2 Transfer the file that you want to print from your X session to Exceed onDemand Server using the `elpr` command:

```
> elpr filename
```

where *filename* is the name of the file you want to print.

Depending on which When Print Job(s) Available option is enabled on the Printing page of the Exceed onDemand Xconfig dialog box, the Server Files dialog box may or may not open to prompt you to select a file for printing. If the dialog box does not open automatically, you can access it

by clicking **File** and then **Server Files** from the Exceed onDemand Desktop menu. The icons to the left of the file name in the dialog box indicate the file's printability. For more information, see Exceed onDemand Help.

Note: If you enabled Print Automatically for the When Print Job(s) Available option on the Printing page of the Exceed onDemand Xconfig dialog box, then all printable files are automatically sent to the default printer. The Server Files dialog box does not appear, and you are not required to select files for printing. If no default printer is specified, then you are prompted to select one.

If the Server Files dialog box is already opened, then a confirmation message appears. For printable files, click **Yes** to begin printing the file, or click **No** to cancel printing and update the Server Files dialog box with a new list of print files. For non-printable files, click **Yes** to print all printable files on the server, or click **No** to cancel printing and update the Server Files dialog box with a new list of print files.

- 3 In the Server Files dialog box, select the file that you want to print and then select the appropriate file format:
 - **Auto**—Exceed onDemand attempts to select the appropriate file format.
 - **Binary**—Recommended for printing file types other than text.
 - **ASCII**—Recommended for printing text files (.txt or .ps).

- 4 Print the selected file by doing the following:
 - To print a printable file (a `.txt` or `.ps` file), click Print. The selected file is automatically sent to the default printer. Alternatively, you can click Open or Save to preview or save the file to your local machine before printing the file.

Note:

- Text files are always printed on the default printer. If Exceed onDemand Client is installed on Windows 98/Me, the ability to print text files depends on whether the file can be associated with a local application, such as Microsoft Notepad, which handles the format. If no association exists, then the Print button is not available. You can either open or save the file.
 - All other printable files open a standard print dialog box that allows you to designate a printer for the job.
 - If you select and print a combination of text and non-text files, a standard print dialog box opens. The non-text files are sent to the printer you specify, and the text files are sent to the default printer.
-
- To print a non-printable file (a file other than `.txt` or `.ps`), you must first open the file using an application that supports it by clicking Open. You can then print the file from within the application. Alternatively, you can click Save to save the file to your local machine before opening and printing the file.

Printing Files from X Applications

If you are running an X application such as a browser, you can use the application's print function to send a file to the Exceed onDemand Server and then print it as you would a local file.

Note: The following procedure is generic. The print feature in the application from which you want to print may operate differently.

To print from an X application:

- 1 Enable printing and specify the appropriate printing behavior for your X session. For more information, see Help.
- 2 Find the location of `elpr` on your UNIX machine by asking your system administrator, or by using the `which` command:

```
> which elpr
```

- 3 Open the file you want to print in an application associated with its file type, and click Print.
- 4 In the print dialog box that opens, edit the print command by specifying the location of `elpr`. For example:

```
/user/local/bin/elpr
```

If you want to give the file a `.ps` extension, edit the command as follows:

```
/user/local/bin/elpr -ext .ps
```

If you want to disable any information messages, edit the command as follows:

```
/user/local/bin/elpr -ext .ps -q
```

- 5 Click Print. The file is automatically sent to the Exceed onDemand Server.

Depending on which When Print Job(s) Available option is enabled on the Printing page of the Exceed onDemand Xconfig dialog box, the Server Files dialog box may or may not open to prompt you to select a file for printing. If the dialog box does not open automatically, you can access it by clicking File and then Server Files from the Exceed onDemand Desktop menu. The icons to the left of the file name in the dialog box indicate the file's printability. For more information, see Exceed onDemand Client Help.

Note: If you enabled Print Automatically for the When Print Job(s) Available option on the Printing page of the Exceed onDemand Xconfig dialog box, then all printable files are automatically sent to the default printer. The Server Files dialog box does not appear, and you are not required to select files for printing. If no default printer is specified, then you are prompted to select one.

If the Server Files dialog box is already opened, then a confirmation message appears. For printable files, click Yes to begin printing the file, or click No to cancel printing and update the Server Files dialog box with a new list of print files. For non-printable files, click Yes to print all printable files on the server, or click No to cancel printing and update the Server Files dialog box with a new list of print files.

- 6 In the Server Files dialog box, select the file that you want to print and then select the appropriate file format:
 - Auto—Exceed onDemand attempts to select the appropriate file format.
 - Binary—Recommended for printing file types other than text.
 - ASCII—Recommended for printing text files (.txt or .ps).

- 7 Print the selected file by doing the following:
 - To print a printable file (a .txt or .ps file), click Print. The selected file is automatically sent to the default printer. Alternatively, you can click Open or Save to preview or save the file to your local machine before printing the file.

Note:

- Text files are always printed on the default printer. If Exceed onDemand Client is installed on Windows 98/Me, the ability to print text files depends on whether the file can be associated with a local application, such as Microsoft Notepad, which handles the format. If no association exists, then the Print button is not available. You can either open or save the file.
 - All other printable files open a standard print dialog box that allows you to designate a printer for the job.
 - If you select and print a combination of text and non-text files, a standard print dialog box opens. The non-text files are sent to the printer you specify, and the text files are sent to the default printer.
-
- To print a non-printable file (a file other than .txt or .ps), you must first open the file using an application that does support it. To do this, click Open. You can then print the file from within the application. Alternatively, you can click Save to first save the file to your local machine before opening and printing the file.

About Copying and Pasting

Exceed onDemand supports data copying and pasting between X applications, and the operating system's native clipboard and applications. Pasting from X applications to printers is also supported. The copy and paste process uses a temporary buffer to hold data. A snapshot of the data stays in the buffer until it is cleared or replaced. The buffer which holds the data differs depending on whether you are using applications native to the operating system (for example, Windows).

Applications native to an operating system typically use a buffer called the clipboard to perform the copy/paste function. In the X Window environment, copy/paste data is stored in an X selection buffer with a specific name.

The X application performing a copy/paste operation determines which X selection(s) to use and how to use it. You need to determine which X selection your X application uses to copy data and which X selection it uses to paste data.

Most X applications use the PRIMARY X selection for both the copy and paste operations, but other selections, such as SECONDARY, CLIPBOARD, and CUT_BUFFER0 to CUT_BUFFER7, are also defined. You also need to determine how to copy data displayed in your X application window into the X selection buffer and how to paste data from the X selection buffer into your X application window.

Most X applications copy any data you select with your mouse into the X selection buffer associated with the copy operation. Some X applications require you to enter a keystroke combination or to select a copy menu command before copying the currently selected data into the X selection buffer. Pasting usually occurs at the insertion point when you click your middle-mouse button in the window, select a paste menu command, or enter a paste keystroke combination.

The Input options offer middle-mouse button emulation. See Help for more information.

About Text Selections

For information on how to display the Exceed onDemand Desktop menu, see "Displaying the Exceed onDemand Desktop Menu" on page 122.

You can copy/paste text between an X selection and the operating system clipboard, a destination file, or the default printer using the Edit menu commands available on the Exceed onDemand Desktop menu.

There are copy and paste procedures for two scenarios:

- copying and pasting text between an X application and an operating system native application
- copying and pasting text between X applications

Copying and Pasting Text to and from the Clipboard

To copy text from an X application to an operating system native application:

- 1 Configure Exceed onDemand for the X selection your X application uses for copy operations. For more information, see Exceed onDemand Help.
- 2 In your X application, select the text that you want to copy.
- 3 If required by your X application, type a keystroke combination, or select the Copy menu command on the X application to copy the currently selected text into the X selection buffer. Many X applications automatically copy when you release the mouse button after text selection.
- 4 On the Exceed onDemand Desktop menu, click Edit, Copy X Selection, and then To Clipboard. If you are using the native window manager in multiple window mode, you can also access these features on the X application system menu. The text selection is transferred to the operating system clipboard. You can paste the text stored in the clipboard into one or more operating system native applications.

For information on how to display the Exceed onDemand Desktop menu, see "Displaying the Exceed onDemand Desktop Menu" on page 122.

To paste text into an X application from the operating system clipboard:

- 1 Configure Exceed onDemand for the X selection your X application uses for paste operations. For more information, see Exceed onDemand Help.
- 2 In your operating system native application, select and copy the text that you want to copy using the method specific to your application. The text selection is transferred to the operating system clipboard.
- 3 On the Exceed onDemand Desktop menu, click Edit. Click Paste To X Selection and select From Clipboard. If you are using the native window manager in multiple window mode, you can also access these features on the X application system menu. The text from the clipboard is transferred to the currently configured X selection.

- 4 Paste the text from the X selection into your X application window using the method specific to your X application. Typically, the text is pasted to your X application window at the insertion point when you click the middle-mouse button. Otherwise, in the X application window, select a paste menu command or type the paste keystroke combination.
- 5 Repeat step 4 to paste the text stored in the X selection into one or more X application windows, provided the target X applications support the same X selection for paste operations.

To copy and paste text between X applications displayed on Exceed onDemand desktop:

- 1 Configure Exceed onDemand for the X selection your X application uses for copy/paste operations. For more information, see Exceed onDemand Help.

Note: To perform this procedure, the X applications must support the same X selection for copy/paste operations.

- 2 Select the X application text you want to copy.
- 3 If required by your X application, type a keystroke combination or select the X application copy menu command to copy the currently selected text into the X selection buffer. Many X applications automatically copy when you release the mouse button after text selection.
- 4 Paste the text from the X selection into your X application window using the method specific to your X application. Typical X applications paste the text X selection into their window, usually at the insertion point, when you click the middle-mouse button. In the X application window, select a paste menu command or type the paste keystroke combination.
- 5 Repeat step 4 to paste the text stored in the X selection into one or more X application windows, provided the target X applications support the same X selection for paste operations.

Copying Text to a Printer

To copy text from an X application to the default printer:

- 1 Configure Exceed onDemand for the X selection your X application uses for copy operations. For more information, see Exceed onDemand Help.
- 2 Select the X application text you want to copy.
- 3 If required by your X application, type a keystroke combination, or select the copy menu command on the X application to copy the currently selected text into the X selection buffer. Many X applications automatically copy when you release the mouse button after text selection.
- 4 On the Exceed onDemand Desktop menu, click Edit, Copy X Selection, and then To Printer. If you are using the native window manager in multiple window mode, you can also access this feature on the X client system menu. The text from the currently configured X selection is automatically transferred to the default printer.

For information on how to display the Exceed onDemand Desktop menu, see "Displaying the Exceed onDemand Desktop Menu" on page 122.

Copying and Pasting Text to and from Files

To copy text from an X application to a destination .txt file:

- 1 Configure Exceed onDemand for the X selection your X application uses for copy operations. For more information, see Exceed onDemand Help.
- 2 Select the X application text you want to copy.
- 3 If required by your X application, type a keystroke combination, or select the Copy menu command on the X application to copy the currently selected text into the X selection buffer. Many X applications automatically copy when the mouse button is released after text selection.

For information on how to display the Exceed onDemand Desktop menu, see “Displaying the Exceed onDemand Desktop Menu” on page 122.

- 4 On the Exceed onDemand Desktop menu, click Edit, Copy X Selection, and then To File. If you are using the native window manager in multiple window mode, you can also access this features on the X application system menu. In the Copy X Selection To File dialog box that opens, browse to the local directory where you want to place the file, and click Save. The text from the configured X selection is copied to the destination .txt file.

Note: By default, the text X selection is saved as a .txt file.

To paste text from a .txt file to an X application:

- 1 Configure Exceed onDemand for the X selection your X application uses for paste operations. For more information, see Help.
- 2 On the Exceed onDemand Desktop menu, click Edit, Paste To X Selection, and then From File. If you are using the native window manager in multiple window mode, you can also access this feature on the X application system menu. In the Paste File To X Selection dialog box that opens, select a file. The text from the selected file is transferred to the currently configured X selection.
- 3 Paste the text from the X selection into your X application window using the method specific to your X application. Typical X applications paste the text X selection into their window, usually at the insertion point, when you click the middle-mouse button. In the X application window, select a paste menu command or type the paste keystroke combination.
- 4 Repeat step 3 to paste the text stored in the X selection into one or more X client windows, provided the target X applications support the same X selection for paste operations.

About Active Client Window Selections

You can copy regions in the active client window to the operating system clipboard, a destination file, or the default printer using the following Edit menu commands available on the Exceed onDemand Desktop menu. For more information, see “Displaying the Exceed onDemand Desktop Menu” on page 122.

Note: Exceed onDemand currently supports only the copying of regions from the active client window. Pasting of graphics is not supported.

Copying Graphics to the Clipboard

To copy graphics from an X application to an operating system native application:

- 1 On the Exceed onDemand Desktop menu, do one of the following:
 - To select a region of the active client window, click Edit, Copy Rectangle, and then To Clipboard. The mouse cursor changes to a camera. Use the tip of the camera lens to select the desired region of the window by holding down the left mouse button and dragging. When you release the mouse button, the outlined area of the window is transferred to the operating system clipboard.
 - To copy all visible parts of the active client window, click Edit, Copy All, and then To Clipboard on the Desktop menu. All regions of the window are copied and transferred to the operating system clipboard.

Note: If you are using the native window manager in multiple window mode, you can also access these features on the X application system menu.

- 2 You can paste the graphic stored in the clipboard into one or more operating system native applications that support pasting graphics.

Copying Graphics to a Printer

To copy graphics from an X application to a printer:

- 1 On the Exceed onDemand Desktop menu, do one of the following:
 - To select a region of the active client window, click Edit, Copy Rectangle, and then To Printer. The mouse cursor changes to a camera. Use the tip of the camera lens to select the desired region of the window by holding down the left mouse button and dragging. When you release the mouse button, the Copy To Printer dialog box opens.
 - To print all visible parts of the active client window, click Edit, Copy All, and then To Printer on the Desktop menu. The Copy To Printer dialog box opens.

Note: If you are using the native window manager in multiple window mode, you can also access these features on the X application system menu.

- 2 In the Copy To Printer dialog box, specify the appropriate scaling options that you want, and click Print. The selected region is transferred to the default printer. To abort the operation at any time, click Cancel or press Escape on your keyboard.

Copying Graphics to a File

To copy graphics from an X application to a destination .bmp file:

- 1 On the Exceed onDemand Desktop menu, do one of the following:
 - To select a region of the active client window, click Edit, Copy Rectangle, and then To File. The mouse cursor changes to a camera. Use the tip of the camera lens to select the desired region of the window by holding down the left mouse button and dragging. Release the mouse button to copy the selected region.

- To copy all visible parts of the active client window, click **Edit, Copy All**, and then **To File**.

Note: If you are using the native window manager in multiple window mode, you can also access these features on the X application system menu.

- 2 In the **Save Bitmap As** dialog box that opens, browse to the local directory where you want to place the file, and click **Save**. The selected region or window is copied to the destination `.bmp` file.

About Sharing X Sessions

The **Share** feature lets you share your X session to one or more users, so that they may either view or participate in the session from their computers depending on the permissions you grant to each user. This feature is useful if you are providing a demonstration, working remotely, or getting technical support.

Note: Sharing is not available in Multiple Window mode.

A **Share** list resides in the **Other** options of each Xconfig file. This file lists the users to whom you want to grant access. It also specifies the type of access you want to grant (view-only or participate). Exceed onDemand Share List Editor lets you edit the share list in two ways:

- For the current session only—The list is applied only to the current X session. Your modifications to the list are not saved in the Xconfig file you selected to start the session.
- For all sessions that use a specific Xconfig file—Your modifications to the list are saved as part of an Xconfig file. Whenever you select that file for an X session, Exceed onDemand applies the saved Share list.

You cannot save Share list changes to a Global Xconfig file unless you are an administrator with access to Exceed onDemand Server Manager.

Sharing X Sessions

This procedure gives you the option of applying your Share list modifications to the current session only, or saving your changes to the Share list in an Xconfig file for future use.

Note:

- If the Xconfig file you use to start the session is a global file, you cannot save your Share list changes. They will be effective only for the duration of the session you start.
- You cannot share sessions to users who are using a different version of Exceed onDemand Client.
- When you start an X session, if you select an Xconfig file configured to enable OpenGL support, you cannot share the session to another user, especially if you intend to run a 3D application. For more information, see Exceed onDemand Help.

To share a session:

- 1 Start an Exceed onDemand session by connecting to a host. Keep in mind that the Xconfig file you select when connecting will be modified if you decide to save your changes to the Share list.
- 2 Ensure that sharing is enabled. On the Exceed onDemand Desktop menu, click Session, Share, and then Edit Share List. The Share List Editor dialog box opens.
- 3 Click Add.
- 4 In the Share list, type the name of the user to whom you want to share the session and press Enter. Use the following syntax:
 - for Windows servers—*domain\username*. The *domain* may also be the local PC where Exceed onDemand Server is installed.
 - for UNIX/Linux servers—*username*.

- 5 Select one of the following permission types in the Permission Area:
 - View Only—Permits the specified user to observe all the actions you perform in your session. The user cannot participate in the session.
 - Participate—Permits the specified user to participate in the session. It does not enable the user to change Xconfig file options, print, suspend the session, or reset the server.

Alternatively, right-click the added user. On the pop-up menu, click Permission, and select the permission type.
- 6 Click OK. The Share list is applied to the current session.

Editing the Share List

You can rename or remove a user from the share list at any time by opening the Share List Editor dialog box, selecting the user and clicking Rename or Remove. Alternatively, right-click a user and select the appropriate option from the pop-up menu.

Participating in Shared Sessions

If you have access to a shared session, you can open it from the Sharable Sessions dialog box. To start a shared session, you must have access to the server from which it is shared.

To start a session shared to you by another user:

- 1 In the Exceed onDemand Client dialog box, provide the information necessary to connect to the server.
- 2 On the Action menu, click Share. If one or more users have shared their sessions to you, the Sharable Sessions dialog box opens listing the shared sessions that are currently running on the host. You can also view status and permission information.
- 3 Select the session that you want to access and click Share.

Note: If you experience a delay while Exceed onDemand connects to the server, it is likely that the master session is involved in an X application operation such as CDE login. Exceed onDemand will connect when the operation is complete.

Working in Shared X Sessions

If you have Participate permission in a session shared to you by another user, you can participate in the session unless otherwise indicated by the control icons in the status area (system tray). These icons appear only while a session is being shared. The following table describes the control icons and their uses.



The Available icon indicates that all users can gain control of the X session by providing input (typing or using the mouse within the session). It appears by default on all client desktops running the shared session. You can click this icon to secure sole control. In this case, all other shared sessions display the No-Access icon.



The Control icon appears on your desktop when you click the Available icon. It indicates that you have sole control of the X session. In this case, the No-Access icon appears on all other client desktops running the shared session. You can click the Control icon again to make the session available to all users.



The No-Access icon indicates that another user has control of the X session. In this case, you cannot participate in the session unless the user makes the session available.

About X Session Suspend/Resume

Suspend/Resume lets you end an X session on your PC without terminating the X applications you are using. When you suspend an X session, Exceed onDemand Server maintains it so that, when you log back into that server, you have the option of resuming the session and restarting the X applications you require. If you do not want to resume a session, you also have the option of terminating it and/or starting a completely new one.

Additional Suspend/Resume settings located in your Xconfig file let you safeguard your work against unwanted disconnections, and suspend sessions without terminating the X applications you were running.

To access Suspend/Resume functionality, the following must be true:

- The administrator has enabled Suspend/Resume on the Exceed onDemand Server machine you logged into.
- The administrator has specifically granted you Suspend\Resume privileges.

Depending on the privileges granted to you, you may also be able to resume a session on a machine other than the one on which it was suspended.

Suspending X Sessions

You can suspend an X session at any time if the system administrator has enabled the feature. This feature is helpful if you want to resume your X Windows session at a later time. All session settings and opened X applications are saved.

Note:

- If the X application is in the middle of a task, and you want that task to continue while the session is suspended, you must ensure that the Keep Suspended Session Active option is enabled in the Other tab of the Xconfig file. For more information, see Exceed onDemand Help.
- Suspended sessions occupy resources on the server. If a large number of sessions are suspended, server performance can be affected.
- Exceed onDemand does not support the resuming of OpenGL applications. Therefore, if you suspend a session in which one or more OpenGL applications are opened and you resume that session at a later time, all but the OpenGL applications will be properly displayed on screen.

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 Yes in the confirmation dialog box. This confirmation dialog box appears only when Close Warning On Exit is selected on the Screen page of the Exceed onDemand Xconfig dialog box.

For more information on this menu, see "Displaying the Exceed onDemand Desktop Menu" on page 122.

Defining Automatic Suspend Settings

In some situations, you may want Exceed onDemand to automatically suspend X sessions. For example, in the event of a network failure, you may lose work in progress on an X application. You can, however, configure Exceed onDemand to automatically suspend X sessions upon connection loss. X applications are then maintained on the proxy and can easily be resumed.

Xconfig files contain settings that let you define which events should trigger an automatic suspend. To define these settings, select the appropriate Suspending options on the Other page of the Exceed onDemand Xconfig dialog box. For more information, see Exceed onDemand Help.

Resuming X Sessions

When you connect to a host on which you suspended an X session, Exceed onDemand gives you the option to resume the suspended session.

If enabled by the administrator, you can also resume suspended sessions from an Exceed onDemand Client PC other than the one used to suspend the session.

Note: Exceed onDemand does not support the resuming of OpenGL applications. Therefore, if you suspend a session in which one or more OpenGL applications are opened and you resume that session at a later time, all but the OpenGL applications will be properly displayed on screen.

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 Xconfig file used in the suspended session.
- 2 Do one of the following:
 - Click the Run button. If there are no suspended sessions, Exceed onDemand connects to the specified host.
 - On the Action menu, click Resume.

- 3 The Exceed onDemand 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.

Terminating Suspended X Sessions

Suspended sessions occupy resources on the Exceed onDemand Server machine. If a large number of sessions are suspended, server performance can be adversely affected. If you do not intend to resume a session again, you should terminate it.

To terminate 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 Xconfig file used in the suspended session.
- 2 Do one of the following:
 - Click the **Run** button. If there are no suspended sessions, Exceed onDemand connects to the specified host.
 - On the **Action** menu, click **Resume**.
- 3 In the Exceed onDemand Suspended Sessions - *HostName* dialog box, select the unwanted session and click **Terminate**. In the confirmation dialog box that opens, click **Yes**.

Appendix A

Command Syntax

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About Remote Commands

The command line syntax you use to start X applications depends on:

- the X application host's operating system (typically, UNIX/Linux or VMS)
- whether you have defined certain environment variables on your X application host

Using Exceed onDemand Macros

You can specify certain display and/or login information using Exceed onDemand macros. You can use these macros when specifying commands in the following locations:

- The Command text box in the Exceed onDemand Xstart dialog box.
- The Options box on the Secure Shell page of the Xstart Settings dialog box.
- The Reply box located in the Optional Remote Prompt dialog box. (Access this dialog box by clicking Add on the Startup page of the Xstart Settings dialog box.)

The following is a list of Exceed onDemand macros. Alphabetic characters can be upper or lower case.

| Macro | Description |
|-------|---|
| @d | Inserts the display specification of the Exceed onDemand Client session in the form: <i>ipaddress:display#</i> . For example, 123.45.67.89:1 |
| @# | Inserts the display number of the Exceed onDemand Client session. For example, if 123.45.67.89:1 is your display specification, then 1 is the display number. |
| @a | Inserts the address of the Exceed onDemand Client session. For example, if 123.45.67.89:5 is your display specification, then 123.45.67.89 is the address. |
| @u | Inserts the user ID specified in the Authentication area of the Exceed onDemand Xstart dialog box. For more information, see "Creating Xstart Files" on page 101. |
| @p | Inserts the password specified in the Authentication area of the Exceed onDemand Xstart dialog box. For more information, see "Creating Xstart Files" on page 101. |
| @h | Inserts the value, as required by the selected startup method, specified in the Host box of the Exceed onDemand Xstart dialog box. For more information, see "Creating Xstart Files" on page 101. |
| @w | Inserts the Exceed onDemand login. |
| @c | Inserts the IP address of the Exceed onDemand Client machine as reported by Exceed onDemand Client. |
| @s | Inserts the IP address of the Exceed onDemand Client machine as reported by the Exceed onDemand Server machine. |
| @@ | Specifies the @ character. |

Command Line Syntax for UNIX/Linux Hosts

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

Use the following command line syntax to start X applications:

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

| Element | Description |
|---------------------|--|
| <i>install path</i> | Specifies the directory where the X application 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 150. |
| <i>application</i> | The executable name of the X application to run. |
| <i>parameters</i> | Any command line parameters you want to specify. |
| <i>displayspec</i> | The display specification of your Exceed onDemand Desktop, in the form: <i>hostname:display#</i> or <i>ipaddress:display#</i> . For example, <i>ewebhost:2</i> or <i>123.45.67.89:1</i> . You can determine the host name, display number, and IP address to use by using information displayed in the Exceed onDemand Desktop title bar. Note: In most cases, you can use <i>@d</i> to specify your <i>displayspec</i> . |
| <i>&</i> | Indicates this application should be run in the background. Note: When starting X applications, it is a good idea to start them in background mode. |

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

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

With any startup method, you can specify the following command to start the xterm X application and to display the user ID and host name in title bar of the X application in the form *userID@hostname*:

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

For more information on using Exceed onDemand macros, such as @d and @u, see "Using Exceed onDemand Macros" on page 147.

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 application host, you can omit the `-display displayspec` parameter for X applications 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 applications on UNIX/Linux hosts, define the following environment variables on your host:

- DISPLAY
- PATH

If you would like to start X applications 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 applications use this variable to determine the X server display 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).

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 (%) | <code>setenv DISPLAY displayspec <CR></code> | <code>setenv DISPLAY eodhost:2 <CR></code> |
| Bourne/Korn (\$) | <code>DISPLAY=<i>displayspec</i> export DISPLAY</code> | <code>DISPLAY=eodhost:2 export DISPLAY</code> |

Note: Do not specify the DISPLAY environment variable in your host login Xstart 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 these environment variables, 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, OPENWINHOME, or LD_LIBRARY_PATH environment variables for the application executable and executes the first one it finds. Consider specifying these environment variables in your host login Xstart file, so they are set each time you log into the host.

The table below lists the commands required by each shell to set the PATH environment variable, where *path* is a directory that you want to include on your host path. Separate multiple paths with colons (:).

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

The table below lists the commands required by each shell to set the OPENWINHOME and LD_LIBRARY_PATH environment variable, where *usr* is the directory on the host where the X Window system files reside.

| 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 |

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 Xstart 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 Xstart file. If you are using the Bourne or Korn shell, the `.profile` file in your home directory is the login Xstart file.
- 2 Find the environment variable in the file and enter the correct command as specified in the 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 according to your host startup login file. 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 applications on VMS hosts.

If your VMS system supports REXEC, RSH, TELNET, or Secure Shell 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 application with Xstart using the REXEC, RSH, TELNET, or Secure Shell startup methods:

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

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

For more information on Exceed onDemand macros, see "Using Exceed onDemand Macros" on page 147.

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

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

If you selected the Passive startup mode in Xconfig, and you want to specify the X display server to which the X applications should display, you need to define the DISPLAY environment variable prior to starting any X applications. You do not need to define the DISPLAY environment variable when using REXEC, RSH, TELNET, or Secure Shell startup methods as PCX\$SERVER sets DISPLAY for you.

Note: Do not specify the DISPLAY environment variable in your host login Xstart file since the IP address and display number are not necessarily the same in each session.

Use the following command line syntax to set the DISPLAY environment variable.

For example:

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

When setting the DISPLAY environment variable, keep the following in mind:

- You can determine the IP address and display number from the information displayed on the Exceed onDemand title bar.
- Do not put spaces before or after the equal (=) sign.

Once the DISPLAY environment variable is set correctly for a login session, you can start X applications 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

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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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