



# Hummingbird Connectivity™

## *Installation Guide*

Version 13



# Hummingbird Connectivity Installation Guide

Version 13

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# Related Documentation and Services

## Manuals

Manuals are available in PDF format. PDFs require Adobe Acrobat Reader and are installed only if you perform a Complete installation, or if you select them during a Custom installation. If the PDFs are installed, you can access them from the Hummingbird Connectivity application group on the Start menu.

## Help

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

## Release Notes

The Release Notes contain descriptions of new features and details on release-time issues for all Hummingbird Connectivity products and components. They are available in HTML format and are installed with the software. You can access the Release Notes from the Hummingbird Connectivity application group on the Start menu. You can also access the Release Notes during installation setup. It is recommended that you read the sections that apply to the applications you want to install before installing them.

## User Groups and Mailing Lists

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

### To join a user group:

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

```
subscribe exceedusers Your Name
```

```
subscribe hostexplorer-users Your Name
```

```
subscribe nfsmaestro-users Your Name
```

### To unsubscribe:

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

```
unsubscribe exceedusers Your Name
```

```
unsubscribe hostexplorer-users Your Name
```

```
unsubscribe nfsmaestro-users Your Name
```

### To post a messages to the user group:

Send your e-mail to the appropriate address:

```
exceedusers@hummingbird.com
```

```
hostexplorer-users@hummingbird.com
```

```
nfsmaestro-users@hummingbird.com
```

### To search the mailing list archives:

Go to the following web site:

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

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# Chapter 1

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## Installing Hummingbird Connectivity Products

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## Introducing Hummingbird Connectivity Products

This installation guide contains installation information relating to all Hummingbird Connectivity products. For specific information on individual products, refer to the Help files available with each product, or to the Documentation folder of the product CD. The Documentation folder contains PDFs, which you can install, as well as release notes.

For more information on the individual applications and components available with your product, see “Hummingbird Connectivity Applications” on page 109.

This guide is applicable to installing the following Hummingbird Connectivity products or product suites:

Product	Notes
Exceed, Exceed PowerSuite, Exceed 3D, Exceed XDK, Exceed onDemand, Exceed Freedom, Exceed Connection Server	For more information on UNIX/Linux installations, see “Chapter 5: Exceed Connection Server for UNIX Installation” on page 99.
HostExplorer	Administrator privileges are required to install some portions of the product.
Hummingbird Deployment Wizard	
NFS Maestro Client, NFS Maestro Solo, NFS Maestro Server	
Connectivity Secure Term, Connectivity Secure Shell	

## Hummingbird Connectivity Setup Wizard

For Exceed, HostExplorer, or NFS Maestro Client, you cannot preserve user profiles for products before version 7.0.

Hummingbird Connectivity Setup Wizard is the interface displayed by Microsoft Windows Installer. Hummingbird Connectivity Setup Wizard is based on three standard, top-level user interfaces or modes: installation, administration, and advertisement. Each defines a different installation path and user interface flow.

Hummingbird Connectivity Setup Wizard does the following:

- uses the Microsoft Windows Installer service to maintain the applications and resources installed on the computer
- determines the correct path to specific components
- ensures that applications do not point to missing files

## Microsoft Windows Installer

Hummingbird Connectivity products use Microsoft Windows Installer. The Windows Installer service views all applications as three logical building blocks: products, features, and components.

With Microsoft Windows Installer, be aware of the following:

For more information, see “Program Maintenance for Personal Installations” on page 14.

- **Retaining Advertised Shortcuts**—When multiple products install the same shortcut, the shortcut is associated with the last product installed. Uninstalling that product removes the shortcut. However, you can add the shortcut again by selecting the Repair option in Program Maintenance for one of the remaining products.
- **Files in Use During Migration**—During migration, the Files In Use dialog box may open. This may indicate that the setup process is using certain files. If this is the case, close the dialog box by clicking Ignore.

## Multilingual User Interface (MUI) Support

Hummingbird Connectivity Setup Wizard provides a language option that supports machines running Windows XP/Server 2003/Vista with one or more Language Interface Packs installed.

With Multilingual User Interface (MUI), be aware of the following:

- **Product Access Control Enabled Installations (UsrSetup)**—UsrSetup support for MUI is limited to shortcut tooltips and extensions. In addition, UsrSetup does not support MUI unless it is installed from an administrative image to which the MUI patch has already been applied.
- **Merging MUI Patch with an Administrative Image**—Running `setup /a` from an administrative image where MUI is the setup language results in the MUI patch not being applied to the administrative image. To create a MUI-specific administrative image, you must manually merge the MUI patch.

**To manually merge a MUI patch:**

- 1 Launch `setup.exe /a` and select English as the default language.
- 2 Merge the MUI patch into the administrative image by running the following command:

```
msiexec admin_image.msi /p mui.msp
```

For more information, see "Administrative Installation" on page 16.

- 3 Install from the administrative image.

## Installation on Windows Vista

Windows Vista has User Account Control security features that prevent unauthorized changes to your computer. Depending on your user privileges, several dialogs may open that prompt you to confirm the installation of Hummingbird Connectivity products. You may require elevated user privileges to install software products. For more information, see Windows Vista Help.

## Installation Requirements

Before proceeding with the installation, ensure that you close all applications. System and shared files currently in use cannot be updated.

The supported operating systems are as follows:

- Windows 2000 with SP4 and MSI 3.1
- Windows XP
- Windows Server 2003
- Windows 2000 Server and Advanced Server (both require SP4)
- Windows Vista

The following table outlines installation requirements for Hummingbird Connectivity products:

Product	Disk Space (MB)			Other Requirements
	Typical	Complete	Cache	
Exceed PowerSuite	112	290	313	Winsock 2 compliant TCP/IP
Exceed	100	265	283	
Exceed 3D	7	8	10	Exceed or Exceed PowerSuite Microsoft Visual C/C++ (MSVC) 5.0 or later, for X client development
Exceed XDK	17	77	85	
Exceed Freedom	8	12	45	Exceed with Service Pack 2, or Exceed Powersuite with Service Pack 4
Exceed Connection Server	243	255	265	
HostExplorer †	51	102	117	Winsock 2 compliant TCP/IP
Hummingbird Deployment Wizard †	17	17	26	
NFS Maestro Client †	69	125	144	
NFS Maestro Solo †	15	36	55	
NFS Maestro Server †	16	20	34	
Connectivity SecureTerm †	51	85	97	
Connectivity Secure Shell †	19	30	42	

† Administrator privileges are required to install some portions of the product.

## Installation Directories

Exceed XDK and Exceed 3D files install to the same directories as Exceed.

Hummingbird Connectivity Setup Wizard installs program-specific and user-specific files to the following directories:

Installation	Description	Location/Type
Destination folder	Program files install into the destination folder (also known as the root home directory). It is recommended that you use the default directory: C:\Program Files\Hummingbird\Connectivity\version\ However, you can specify a different directory.	Location: a remote network drive or a local hard drive. Can be a read-only directory.
User directory	User files install into the user directory. These files are configuration files or related files that your Hummingbird product can change.	There are several kinds of user directories and user files. For more information, see the next topic.

### User Directories

Files for Hummingbird Connectivity products are created in one of three directories: shared, per-user, or global. If the product is installed for all users of the machine, you can choose whether user files are individualized (per-user) or shared.

Some files are always placed in a shared location known as the global user directory. This location is *not* the same as the shared user directory.

Directory	Default Location
Per-user	Windows Vista: C:\Users\UserName\AppData\Hummingbird\Connectivity\version\ Windows 2000/XP/Server 2003: C:\Documents and Settings\UserName\Application Data\Hummingbird\Connectivity\version\ <b>Note:</b> This location is usually hidden (by default).

Directory	Default Location
Shared user	Windows Vista: C:\ProgramData\Hummingbird\Connectivity\version\ Windows 2000/XP/Server 2003: C:\Documents and Settings\All Users\Application Data\Hummingbird\Connectivity\version\
Global user	Windows Vista: C:\ProgramData\Hummingbird\Connectivity\version\ Global\ Windows 2000/XP/Server 2003: C:\Documents and Settings\All Users\Application Data\Hummingbird\Connectivity\version\Global\

**Per-User** If you choose to install your Hummingbird Connectivity files to a shared location, many application files are created in a directory that is specific to the user who is logged in on the machine. An example of a user-specific file is `HostEx.ini`. If you configure `HostEx.ini` with HostExplorer to Not Prompt On Window Close for a particular user, other users of the machine are not affected.

Another example of a user-specific file is `Exceed.xcfg`. If you configure `Exceed.xcfg` with Xconfig to use a certain display, other users of the machine are not affected.

**Note:** Each user of the product on the machine receives a personal user directory.

**Shared User** If you choose to install your Hummingbird Connectivity files to a shared location, many application files are created in a directory that can be accessed by all users of a machine. Changing files in this directory affects all users of the computer.

**Global User** Similar to shared directories and files, the global user folder is available to all users of the machine. Generally, the global user folder is intended as writable by administrators and local services and readable by all users. In certain cases, folder permissions might be changed to allow write access for everyone. Shared files such as user profiles and mandatory settings are accessible from the global folder on the local machine (regardless of the current user).

## Personal Installation

This section describes the basic installation procedure for one user installing a product on one computer. For examples of how to implement installation procedures for Exceed, Exceed PowerSuite, HostExplorer, and NFS Maestro Client, see “Typical Installation Scenarios” on page 18.

Autorun launches the Hummingbird Master Setup application when you insert the CD into your drive. If Master Setup does not launch automatically, run `Msetup.exe` from the root directory of the CD.

### To launch Hummingbird Connectivity Setup Wizard for Personal installation:

- 1 In the Hummingbird Master Setup application window, click *Install Product*, and then click *Personal Installation*.
- 2 In the Setup Language Selection dialog box, select a setup language or *Multilingual User Interface (MUI)*, and then click *OK*. For more information, see “Multilingual User Interface (MUI) Support” on page 4.

Your Hummingbird product prepares Hummingbird Connectivity Setup Wizard, which guides you through the program setup process. It checks the operating system and the current Microsoft Windows Installer version.

If necessary, the Microsoft Windows Installer is updated. If the Microsoft Windows Installer is not present on your operating system, Hummingbird Connectivity Setup Wizard installs the service.

You can select additional Hummingbird products (such as Hummingbird SOCKS Client), register online, or view release notes.

If you are installing Exceed Freedom, a prompt to install Exceed 2008 Service Pack 2 appears. Click **Continue**. Once Hummingbird Connectivity Setup Wizard has finished, the **Welcome To The Hummingbird Connectivity Setup Wizard** page opens.

**Note:** NFS Maestro Server cannot be installed if the NFS Maestro Server feature has already been installed by another Hummingbird Connectivity product.

### To install Hummingbird Connectivity products:

- 1 In the Hummingbird Connectivity Setup Wizard, click **Next** on the **Welcome** page.

**Note:** To quit installation, click **Cancel** on any page of the Setup Wizard. Your computer is not affected if you do this before clicking **Install** on the confirmation page. To review or change settings on a previous page, click **Back**.

- 2 Do the following, if necessary:

- If a previous version of this product or another compatible Hummingbird Connectivity product is installed, the **Product Migration** page opens. Review the product(s) that will be removed if you continue with the installation process. Specify whether you want to migrate or remove existing settings and click **Next**.
- If applicable, the **License** page for evaluation versions of the product opens. Provide a license key and click **Next**.

For more information, see "Preserving User Profiles" on page 15.

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

- 3 On the **License Agreement** page, read the licensing agreement. If you select the option that indicates the terms are acceptable, click **Next**.

**Note:** Failure to read or understand the License Agreement does not affect the terms and conditions of the agreement.

Some options are dimmed and appear for information purposes.

- 4 On the **Customer Information** page, type the appropriate information in the **User Name** and **Organization** boxes and click **Next**.

For 64-bit products, Destination Folder (or *home* directory) affects only 64-bit folder locations.

- 5 On the **Destination Folder** page, specify the installation folder and click **Next**.

You can accept the default installation folder for the product. Alternatively, you can click **Change** to open a dialog box to browse to another location, and then click **OK**. If you install a second product, the default installation location is the same as the first product installed regardless of the location you specify.

**Note:** This step is not applicable to Exceed 3D, Exceed XDK, or Exceed Freedom.

- 6 On the **User Directory Location** page, select one of the following options and click **Next**:
  - **Per User Directory**—Stores application settings on a per-user basis, with individual user directory locations for each user.
  - **Shared User Directory**—Stores application settings in a (common) shared directory for all users.

**Note:** If another product is already installed, Hummingbird Connectivity Setup Wizard uses the existing directory location. In this instance, the options displayed on this page are unavailable.

This step is not applicable to Exceed 3D, Exceed XDK, Exceed Freedom, NFS Maestro Server, or Hummingbird Deployment Wizard.

- 7 On the **Setup Type** page, select a setup type and click **Next**.

8 Depending on the setup type, do the following:

- If the Custom setup type is selected, the Custom Setup page opens. Select the features and sub-features you want to install and click Next.

**Note:** If you intend to use Hummingbird Deployment Wizard and you select the Custom setup type, you must also select Hummingbird Deployment Support in the Administrative Tools category.

- If the Complete setup type is selected, the Hummingbird Event Monitoring Client Settings page opens. This page also opens if Event Monitoring Client is selected in Administrative Tools for Custom setup. Type the required information and click Next.

**Note:** This step is not applicable to Exceed 3D, Exceed XDK, Exceed Freedom, or Hummingbird Deployment Wizard.

For Exceed Connection Server, the Hummingbird Event Monitoring Client Settings page opens after the Exceed Connection Server Administration page.

- On the Exceed Connection Server Administration page, enter the required information or click Next to accept the default options.

9 On the Additional Install Options page, select from the following install options and then click Next:

- Local Cache—Copies setup files locally so that future repairs or patches do not prompt for source files.
- Updates—Launches the default browser (after installation) and goes to the Hummingbird Connectivity Customer Support Web site.

For more information, refer to NFS Maestro Client Help.

- Tuning (Exceed and Exceed PowerSuite only)—Runs Exceed X Server Tuning During Installation, which lets you override the current drawing methods used by the server and determine the optimal graphics configuration for Exceed.
- Tuning (NFS Maestro Client, NFS Maestro Solo, and Exceed PowerSuite only)—Runs the NFS Maestro Client Configuration Wizard After Reboot the first time you restart your machine after installation. This wizard lets you configure directory services and set initial values for client properties, such as read/write packet size. The wizard can also scan your subnet to locate all available NFS servers.

**Note:** If you select the tuning option, the NFS Maestro Client Configuration Wizard runs when your machine restarts. If you click Cancel to close the wizard, the product uses default values for client properties.

In Windows Vista, one or more dialogs may open that prompt you to confirm the installation. For more information, see Windows Vista Help.

- 10** On the Ready To Install page, when you are ready to begin installation, click Install. A status page opens, indicating the progress of the installation.
- 11** Another page opens, indicating that installation is complete. Click Finish to close the dialog box.

**Note:** Depending on the Hummingbird Connectivity product you are installing, you may be required to restart the machine for the installation to take effect.

For information about product modification, repairs, or removal, see the next topic.

## Program Maintenance for Personal Installations

Program maintenance lets you modify, repair, or uninstall existing Hummingbird Connectivity products and features.

### To launch Hummingbird Connectivity Setup Wizard in maintenance mode:

- 1 Do one of the following:
  - Open Program Maintenance by running `Msetup.exe` from the product CD.
  - Double-click Add Or Remove Programs in Control Panel, select the Hummingbird Connectivity program, and click Change.
  - In Windows Vista, click Uninstall A Program in the Programs section of the Control Panel.
- 2 On the Welcome page of the Hummingbird Connectivity Setup Wizard, click Next.
- 3 On the Product Maintenance page, select a maintenance option.

For more information about maintenance options, refer to the following procedures.

### To modify program features:

- 1 On the Program Maintenance page, select Modify and click Next.
- 2 On the Custom Setup page, do the following:
  - a) Expand the feature tree to navigate to the feature you want to modify.
  - b) Specify whether you want the feature to be installed or not.
  - c) Click Next.
- 3 On the Additional Install Options page, specify the installation options. For information on these options, see step 9 of the procedure for Personal Installation on page 12.
- 4 On the Ready To Install page, confirm the installation settings. When you are ready to modify the program, click Install. A status page opens, indicating the progress of the installation.
- 5 Another page opens, indicating that all modifications are complete. Click Finish to close the dialog box.

In Windows Vista, one or more dialogs may open that prompt you to confirm the installation. For more information, see Windows Vista Help.

**To repair a program:**

- 1 On the Product Maintenance page, select Repair and click Next.
- 2 On the Ready To Repair The Product page, click Install to repair errors such as missing or corrupt files, shortcuts, and registry entries. A status page opens, indicating the progress of the repair.
- 3 Another page opens, indicating that all repairs are complete. Click Finish to close the dialog box.

**To remove a program:**

- 1 On the Program Maintenance page, select Remove, and click Next.

**Note:** With Microsoft Windows Installer, you can uninstall (remove) only one program (product) at a time. Ensure that all programs associated with the product you are uninstalling are closed.

- 2 On the Remove The Program page, click Remove to uninstall the program. If you remove the last product of a version, the local cache is also removed.
- 3 Another page opens, indicating that the program removal is complete. Click Finish to close the dialog box.

**Note:** Depending on the Hummingbird Connectivity product you are uninstalling, you may be required to restart the machine to complete the program removal process.

## Preserving User Profiles

For more information on Files And Settings Transfer Wizard options, see Hummingbird Administrative Tools Help.

If you choose to preserve user settings on the Product Migration page, Hummingbird Connectivity Setup Wizard generates a `.HumEst` file (that can be used with the Files And Settings Transfer Wizard). After default settings are installed, settings from this file are imported to the machine.

**Note:** This topic does not apply to Exceed XDK or Exceed Connection Server.

For more information, see “Migrating User Settings” on page 37.

The `.Humfst` file lets you save the migration settings and use them at another time using the Files And Settings Transfer Wizard. In addition, there are properties available in Sconfig that let you import a `.Humfst` file even if an older product is not installed. This allows you to migrate settings to other products. For example, you can export settings from a HostExplorer installation into an Exceed installation during setup.

## Administrative Installation

The Administrative Installation lets you create a centralized server image of the product. This is useful if you want many users to install the product on multiple machines without the original CD. For examples of how to implement this procedure for Exceed, Exceed PowerSuite, HostExplorer, and NFS Maestro Client, see “Typical Installation Scenarios” on page 18.

### To run Hummingbird Connectivity Setup Wizard in Administrative mode:

- 1 Autorun launches the Hummingbird Master Setup application when you insert the CD into your drive. If Master Setup does not launch automatically, run `Msetup.exe` from the root directory of the CD.

Alternatively, run the following command from the product directory on the CD:

```
setup /a
```

You can select additional Hummingbird products (such as Hummingbird SOCKS Client), register online, or view release notes.

- 2 In the Hummingbird Master Setup application window, click **Install Product** and then click **Administrative Installation**.
- 3 In the Setup Language Selection dialog box, select a setup language and click **OK**. This language applies to all installations from the copied image or shared image.

Your Hummingbird Connectivity product prepares Hummingbird Connectivity Setup Wizard, which guides you through the program setup process. It checks the operating system and the current Microsoft Windows Installer version.

If necessary, the Microsoft Windows Installer is updated. If the Microsoft Windows Installer is not present on your operating system, Hummingbird Connectivity Setup Wizard installs the service.

If you are installing Exceed Freedom, a prompt to install Exceed 2008 Service Pack 2 appears. Click Continue. Once Hummingbird Connectivity Setup Wizard has finished, the Welcome To The Hummingbird Connectivity Setup Wizard page opens.

**Note:** NFS Maestro Server cannot be installed if the NFS Maestro Server feature has already been installed by another Hummingbird Connectivity product.

**To create a server image of the product:**

- 1 In the Hummingbird Connectivity Setup Wizard, click Next on the Welcome page.

**Note:** To quit installation, click Cancel on any page of the Setup Wizard dialog box. Your computer is not affected if you do this before you click Install on the confirmation page. To review or change settings on a previous page, click Back.

- 2 On the Network Location page, specify the folder where the image is stored. You can accept the default folder for the product. Alternatively, you can click Change to open a dialog box to browse to an alternate network location.
- 3 On the Ready To Install Network Image page, confirm the settings and click Install. A status page opens, indicating the progress of the image creation.
- 4 Another page opens, indicating that installation is complete. Click Finish to close the dialog box.

## Typical Installation Scenarios

This section describes three types of installation scenarios: personal installation, which includes installing on a terminal server and silent installation; advertised installation; and installation using Microsoft Systems Manager Server, which you can use to simultaneously install packages of software on multiple computers. The conditions and parameters affecting implementation in your environment may vary from these examples.

### Personal Installation Scenario

For more information, see “Personal Installation” on page 9.

Administrators (and non-Administrators granted elevated privileges by an Administrator) are able to perform a personal installation of Hummingbird Connectivity products.

### Installing on a Terminal Server

You can perform personal installations on a Terminal Server. However, you will have no control over who can access shortcuts, user files, or use the product.

For more information about product access control on a Terminal Server, see “Chapter 3: Installation on a Terminal Server” on page 41.

An alternative option is to enable product access control, in which case only users granted permission to use the product will have access to shortcuts and user files.

**Note:** Not all Connectivity products support product access control on a Terminal Server.

### Silent Installation

A silent installation runs in the background. This scenario describes a local installation.

This scenario assumes:

- you are logged in to the computer as the (local) administrator
- the product CD is available locally or on the network

**To run a silent installation:**

Launch Hummingbird Connectivity Setup Wizard from the command line using the following syntax:

```
E:\setup /S /V/qn [/lnnnn]
```

where E:\ is the CD-ROM drive.

The following describes possible command line options:

Option	Description
/s	Specifies a silent installation. <b>Note:</b> s is uppercase.
/V/qn	/V passes parameters to Msiexec.exe. <b>Note:</b> There are no spaces between the /V and /qn options and the V is uppercase. If a character string contains a space, enclose the string in quotation marks. For example: /V"parameter space"
/lnnnn	Overrides the default English language installation where nnnn is the transform file name. <b>Note:</b> For nnnn, type only the number but <i>not</i> the .mst extension.
/RS RE "command"	Run the "command" either at the startup (/RS) or at the end (/RE) of setup. For example, to launch a file in Notepad at startup: /RS "notepad readme.txt"

Installation proceeds to completion.

Not all product features can be advertised.

## Advertised Installation Scenario

Advertisement (install on demand or deferred installation) means all features of a product are available even if they are not installed on the computer.

This scenario assumes:

- you are logged in to the computer as the (local) administrator
- the product CD is available locally or on the network

### To advertise a product and all its features:

- 1 Launch Hummingbird Connectivity Setup Wizard in advertisement mode by one of the following methods:
  - On the command line, type `E:\setup /jm`, where `E:\` is the CD-ROM drive.
  - Run `Msetup.exe` from the product CD.

**Note:** For a deferred installation, the product CD must be in an accessible drive.

Shortcuts and registry entries exist on the computer, but files are not installed.

- 2 A Hummingbird product icon is installed on the computer desktop and in the Windows program group (on the Start menu) for each feature.

**Note:** Shortcuts for features requiring Administrative privileges will not launch correctly if the user does not have the required privileges to install the feature.

## Microsoft Systems Management Server (SMS)

Administrators can use SMS to manage network computers, distribute software from a central location, and perform a variety of other system management tasks. Administrators can also install a package of products simultaneously on multiple computers.

### Requirements:

You can get the latest Service Pack for SMS from the Microsoft Web site.

- SMS version 2.0 with Service Pack 2 (or greater)
- SMS Client (installed on each client computer) supplied with SMS Server
- Microsoft Windows Installer on the client computer

A package contains source files for the program and various details for directing the software distribution process.

To distribute a product using SMS, the Administrator must create a package definition file according to SMS instructions. For convenience, Hummingbird provides default .sms files for all products.

These are the default scenarios in each package definition file:

- Typical
- Typical Language
- Silent Typical
- Silent Complete
- Uninstallation

For more information about `Msiexec` command line options, see page 27.

When a package is run through SMS, it prompts you to select one of these options (scenarios). Use the following command line parameters to apply modifications or create new package definition files:

Command Line Parameter	Description
<code>/i</code>	Installs or configures a product.
<code>/q</code>	Sets user interface level (silent).
<code>INSTALLLEVEL=150</code>	Performs a complete install.
<code>TRANSFORMS=nnnn.mst</code>	Specifies the product language where <i>nnnn</i> is the transform file name.

Refer to Microsoft documentation for command line parameters, switches, and other information required for Microsoft Windows Installer and Systems Management Server.

## Sconfig

Sconfig (Setup configuration) lets you customize the installation of any Connectivity product on local and network machines. Sconfig is included with the following products:

- Exceed
- Exceed PowerSuite
- HostExplorer
- NFS Maestro Client
- Connectivity SecureTerm
- NFS Maestro Solo

For more details, see “Customizing Installations with Sconfig” on page 55.

Use Sconfig to customize the folders installed by Hummingbird Connectivity Setup Wizard, determine what is installed (as well as limit functionality or optimize disk space), and simplify user input.

## Installing Hummingbird Event Monitoring Server Files

To find out which Connectivity products include Event Monitoring Server functionality, see “Hummingbird Connectivity Applications” on page 109.

Files that are associated with the Hummingbird Event Monitoring Server and Event Monitoring Client Settings are not installed during product installation. For more information on installing Event Monitoring Server functionality, see the `EventMonitoringReadMe.html` file in the `Program Files\Hummingbird\Connectivity\version\Installer Media\Event Monitoring Server` folder on the product CD or in your product installation directory.

## Exceed Connection Server Notes

Exceed Connection Server can also be installed on UNIX platforms. See the following table for UNIX system requirements. For detailed information on UNIX installation for Exceed Connection Server, see Chapter 5: Exceed Connection Server for UNIX Installation.

<b>Component</b>	<b>Minimum Requirements</b>
Operating system	Sun SPARC Solaris 8, 9, 10 Sun Intel Solaris 8, 9, 10 HP-UX 11.x IBM AIX 5L Version 5.2 Linux kernel level 2.4 or greater Glibc 2.3.2 or greater
RAM	256 MB
Processor	SPARC v8 for Sun SPARC Solaris PA-RISC 2.0 for HP-UX PowerPC for AIX Pentium i586 or higher for Sun Intel Solaris, and Linux platforms
Available disk space	265 MB

## NFS Maestro Notes

For more information about cluster environments, see the *NFS Maestro Server User's Guide*.

NFS Maestro Server supports clustering. When you install these products, you have the option to install in a cluster environment and install Microsoft Management Console (MMC) snap-ins.

### Installing in a Cluster Environment

NFS Maestro products support Windows Clustering Technology. If you want to run an NFS Maestro product in a cluster environment, the cluster service must be running when you install the product.

If the service is not running when you install the product, Hummingbird Connectivity Setup Wizard lets you select one of the following options:

- continue the installation without installing the cluster components
- abort the installation

If you do not install the cluster components, the NFS Maestro product will not be cluster aware. If you abort the installation, you can restart the cluster service before installing the product again.

### Installing NFS Maestro Consoles

Hummingbird provides Microsoft Management Console (MMC) snap-ins for NFS Maestro products. If you are an Administrator on your machine and you have installed the NFS Administration feature, you can configure local and remote NFS Maestro products through the console.

You can also install the NFS Administration feature by itself. In this case, you can configure remote NFS Maestro products through the console without installing the entire product on your local machine.

## Troubleshooting

The following are common installation issues and questions along with suggested solutions. For further assistance with troubleshooting issues, contact Hummingbird Connectivity Customer Support.

### Multiple Instances of Hummingbird Connectivity Setup Wizard

Another instance of Hummingbird Connectivity Setup Wizard is running.

Solutions:

- An information dialog box informs you that an instance of Hummingbird Connectivity Setup Wizard is already running. Confirm whether the new instance can continue.
- If a product is not currently being installed, you can ignore this error message and run:

```
Setup /v"HCL_OVERRIDE_INSTANCE=1"
```

The message also appears if a non-privileged user tries to uninstall a product installed for “All Users” of the computer. In this case, the setup parameter does not work since only an Administrator of the computer can uninstall the product.

- This error message may display if Microsoft Windows Installer is unable to remove a key created by Hummingbird Connectivity Setup Wizard. This may be because Hummingbird Connectivity Setup Wizard encountered problems during a previous installation and the key was not removed.

Delete the following key from the registry:

```
HKEY_CURRENT_USER/Software/Hummingbird/Connectivity  
/version/installer/UserIni/InstallActive=1
```

### Unavailable Network Resource

The feature you are trying to install is on a network resource that is unavailable.

Solutions:

- Click OK in the warning dialog box and try again.

- Enter an alternate path to the folder containing the installation package “Hummingbird *Product.msi*”. Run the install again and select Repair.
- Use Media Location Manager (part of the Administrator’s Toolkit feature) to specify an additional location for the product installation package. This lets Microsoft Windows Installer find the required resource.

### **Patch - Sourcedir Not Found Error**

This means the source files are unavailable. When installing a patch, you need to have the source from which you installed.

Solution: The original product CD must be in the drive. If necessary, use Media Location Manager (in Administrative Tools) to specify a location for the source files.

### **Application Startup Issues Following Installation**

After installation the software does not start. Services are not starting and/or files are missing.

Solution: Ensure the Administrator account is used to perform the installation. For Windows 2000, installing HostExplorer and NFS Maestro Client requires Administrator privilege. Installing Exceed requires elevated privilege (that is, a user who is a member of the Administrator group).

### **Retaining Advertised Shortcuts**

When multiple products install the same shortcut, only the last product is registered with the shortcut. Uninstalling that product removes the shortcut. However, it is easily recreated by selecting the Repair option in Program Maintenance for one of the remaining products.

### **Files in Use During Migration**

During a migration, the Files In Use dialog box may open. This may indicate that the setup process is using certain files. If this is the case, close the dialog box by clicking Ignore.

## Product Access Control Enabled Installations (UsrSetup)

UsrSetup support for MUI is limited to shortcut tooltips and extensions. In addition, UsrSetup does not support MUI unless it is installed from an administrative image to which the MUI patch has already been applied.

## Merging MUI Patch with an Administrative Image

Running `setup /a` from an administrative image where MUI is the setup language results in the MUI patch not being applied to the administrative image. To create a MUI-specific administrative image, you must manually merge the MUI patch.

## Installation Conflict

When trying to install the product, a message says I must uninstall the product.

**Solution:** You have version 7.0 of the product installed. The upgrade process requires the original version 7.0 source files to install a later version of the product. If necessary, use Media Location Manager (in Administrative Tools) to specify a location for the source files.

## Other Command Line Options for Msiexec

The following are command line options for `Msiexec`:

Option	Meaning
<code>/i Package ProductCode</code>	Installs or configures a product.
<code>/f Package ProductCode</code>	Repairs a product. For more information about various flags available for this option, see the MSDN Library.
<code>/a Package</code>	An administrative installation option that installs a product on the network.
<code>/x Package ProductCode</code>	Uninstalls a product.
<code>/j</code>	Advertises a product. For more information about various flags available for this option, see the MSDN Library.

For more detailed information about `Msiexec` command line options, see the Microsoft Windows Installer documentation in the MSDN online Library at <http://msdn.microsoft.com> or on CD-ROM via subscription.

Option	Meaning
<i>/L Logfile</i>	Specifies a path to the log file, and the flags indicate which information to log. For more information about various flags available for this option, see the MSDN Library.
<i>/m filename</i>	Generates an SMS status <i>.mif</i> file. Use this option in conjunction with the install ( <i>-i</i> ), remove ( <i>-x</i> ), administrative installation ( <i>-a</i> ), or reinstall ( <i>-f</i> ) options. For more information about this option, see the MSDN Library.
<i>/p PatchPackage</i>	Applies a patch. For more information about this option, see the MSDN Library.
<i>/q</i>	Sets user interface level. For more information about various flags available for this option, see the MSDN Library.
<i>/?</i>	Displays copyright information for the Microsoft Windows Installer.
<i>/h</i>	
<i>/y module</i>	Calls the system API <i>DllRegisterServer</i> to self-register modules. For more information about this option, see the MSDN Library.
<i>/z module</i>	Calls the system API <i>DllUnRegisterServer</i> to unregister modules. For more information about this option, see the MSDN Library.

## Creating an Installation Log File

To generate a log file, run the following command:

```
setup /v"/1*v C:\install_log.txt"
```

where *C:\* is the path to the file *install\_log.txt*.

## Product Registration

Online registration is available 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>

Registration means that you and your organization are recognized as a licensed product owner with all rights and privileges, which means you are eligible to receive a wide range of customer services, such as notification of software updates and new products.



# Chapter 2

---

## Per-User Installation

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## Controlling Per-User Settings

During the installation of Hummingbird Connectivity products, default profiles and settings are installed in a common location for all users. This location, including all files and folders, acts as a template collectively known as the default user directory. When a user first logs in after a Hummingbird Connectivity product is installed, `Humsettings.exe` launches using Microsoft's Active Setup Control. `Humsettings.exe` copies the template to a user-specific (per-user) location or personal user directory. The product CD is not required.

**Note:** When installing a 32-bit Hummingbird Connectivity product on an x64 operating system, Hummingbird Connectivity User Settings does not launch automatically when a user logs on for the first time after the product has been installed. Instead, each user receives their personal user directory when an application is first launched.

The following are the default (root) directories:

Directory	Location (Root)
Personal (Per-User)	<code>AppDataFolder\Hummingbird\Connectivity\version\</code>
Global Template	<code>C:\Program Files\Hummingbird\Connectivity\version\Default User</code>

Administrators can refresh default files, profiles, and settings in the default user directory. Administrators control the global defaults contained in the default user directory while users control the contents of their personal user directory. Each application determines what personal data and what global data exists, but it only reads user-specific settings from the personal user directory or from the current user's Microsoft Windows Registry.

**Note:** Administrators and users should change files and folders only below the root level.

## Customizing Files and Folders

Any user who has write access can modify the default user directory. Typically, only Administrators have write access. Both files and registry entries can be added and removed. Such changes are reflected respectively in the personal user directory and the current user's Microsoft Windows Registry.

Administrators can add files or folders below the level of existing root subfolders. These files or folders are automatically copied to the personal user directory. New root level subfolders are handled by `PerUser Settings.ini` located at the root of the default user directory. This file determines whether or not an installation is required. Hummingbird Connectivity User Settings are automatically created when a user of the machine first launches a Hummingbird Connectivity application.

Administrators can change the location of the personal user directory where the template files and folders are installed. Default locations are based on registry values. An administrator can change these values (even remotely) after the initial install.

For more information, see "Customizing Product Installations" on page 60.

For Exceed, Sconfig has the ability to modify the initial values through its Directory dialog box.

**Note:** Sconfig is not applicable to Exceed 3D, Exceed XDK, and Exceed Freedom add-ons.

## Adding Registry Entries

Each root-level folder in the default user directory has an associated registry file. These are stored in the `Registry` folder. The `[Registry Files]` section in `PerUser Settings.ini` provides a method of associating a `.humreg` file (which is `.reg` file format) with an internal folder name. This is only for installing registry keys and values to the `HKEY_CURRENT_USER` registry hive.

Entries in [Registry Files] use the following syntax:

```
FolderName=Short_humreg|Long_humreg
```

where:

- *Long\_humreg* represents the path of the file (for example, Registry\Accessories.humreg) relative to the default user directory root.
- *Short\_humreg* is the proper MS DOS 8.3 path name. If the *Long\_humreg* file is described as a MS DOS 8.3 path, then *Short\_humreg* and the pipe (|) character can be omitted.

Multiple .humreg files can be specified for a single folder by separating the paths with semi-colons.

## Updating the Personal User Directory for All Users

When the default user directory is updated, any new personal user directories automatically get the latest files. For users that already have a personal user directory, Administrators can use one of the following methods to update the user files: automatic or manual.

### Automatic Update

To update the personal user directory for each user automatically (the next time they use a Hummingbird Connectivity application), update the [Last Modified] section of PerUser Settings.ini.

Run the following command from the command prompt:

```
HumSettings.exe UPDATELASTMODIFIED=FolderName
```

Available folder names are  
ExceedMP, ExceedCSMP,  
HostExMP, ProfileMP,  
FtpMP, CommonMP,  
SecurityMP,  
HumNeighborhoodMP,  
DeploymentMP,  
NFSMaestroMP, and  
NFSCliantMP.

where *FolderName* is the internal name for one of the top level, default user directory. Specify multiple directory names by separating the names with semi-colons.

HumSettings.exe is located in the Accessories folder in the product installation directory. For example:

```
c:\Program Files\Hummingbird\Connectivity\version\Accessories
```

**Note:** The time stamp is stored in binary format. If you change the time stamp values manually, you risk having the per-user installation run multiple times.

### Manual Update

To manually update the personal user folder for a specific user, at the command prompt type:

```
HumSettings.exe REFRESH=ALL USER="user_profile_path"
```

where:

- REFRESH=ALL re-installs, repairs, or refreshes all installed product folders.
- USER="user\_profile\_path" specifies the profile path for the personal user directory.

For example:

```
HumSettings.exe REFRESH=ALL  
USER="C:\Documents and Settings\user"
```

**Note:** Do not include a backslash character (\) at the end of the USER command. Otherwise, the command line may be misinterpreted and lead to unexpected results.

## Passing Arguments to Per-User Settings

When using `HumSettings.exe` to invoke the per-user installation process, you can pass parameters that affect the current installation. However, in the case of a per-user installation triggered by an application, there is not a command line to pass arguments to the process.

There is a section in the `PerUser Settings.ini` file called `[PerUser Installation Parameters]` that accepts arbitrary Property names and values:

```
[PerUser Installation Parameters]

REINSTALLMODE = ud

"Property" = "Value"
```

Each key and value pair is treated as an argument to the current per-user installation.

**Note:** There are limitations on parameter usage. For instance, the `INSTALL` and `USER` parameters have no effect because the installation is being triggered for only the current user.

## Migrating User Settings

### Controlling Migration in Per-User Installations

Migration of user settings takes place at any time after the initial installation. This migration makes use of the Files And Settings Transfer Wizard engine to automatically upgrade older user settings to the current version.

The per-user installation uses the settings found in the `[Migration Control Options]` section of the `PerUser Migration.ini` to control the migration process.

A sample section is as follows:

```
[Migration Control Options]
Migration Method=Automatic
Migration First Time Only=2
HUMFST Path=C:\Program files\Hummingbird\Connectivity\version\
Default User\MigBackupEx.humfst
```

where:

- The `Migration Method` value controls whether or not the migration takes place. The value is either `Automatic` or `No Migration`.
- The `Migration First Time Only` value determines what to do if the per-user migration takes place a second time. This can have a value of 0, 1, or 2. If the value is set to:
  - 0—The per-user installation ignores any existing migration cache and attempts to migrate each time it is activated.
  - 1—The per-user installation stops migration if any migration cache exists.
  - 2—The per-user installation, before stopping, further examines the migration cache to determine if any new folders require migration.

For more information on the Product Migration page, see Step 2 on page 10.

Whenever a Connectivity product upgrades another Connectivity product, a choice of whether or not to preserve previous settings is presented by Hummingbird Connectivity Setup Wizard on the Product Migration page.

At the end of the installation process, if settings were preserved, the `.humfst` file generated during the process is put in the `Default User` template folder, and the `HUMFST Path` is updated to reflect this value.

The `HUMFST Path` value represents the base `.humfst` file location. The per-user installation combines the information found within this file for older products with the `.humfst` generated for each individual user.

If the `HUMFST Path` value is empty, the per-user installation uses the appropriate `[Directory Mappings.x.yz]` section, where `.x.yz` is the version number of the older product. Each section is populated with old *Home* directory values from previous versions.

## Migrating from Older Versions

You cannot upgrade the product as administrator if a version from 7 to 11 of the product was installed for the current user only. However, you can use the following procedure to migrate the product settings.

### To perform a manual migration:

- 1 Using the Files And Settings Transfer Wizard, export existing version 7 – 11 product settings.
- 2 Uninstall the product.
- 3 Install the current version of the product (which forces an “All Users” installation).
- 4 Use Files And Settings Transfer Wizard to import the settings.

## Migrating User Settings Manually

As an alternative to the per-user installation migration, you can use the Files And Settings Transfer Wizard command line to migrate user settings (including from one machine to another). This requires a base `.humfst` file and the current user `.humfst` file.

The base `.humfst` file represents a `.humfst` exported by the Files And Settings Transfer Wizard at the time the older product was installed.

### To migrate user settings:

- 1 Export the current user `.humfst` using the following command where *UserSettings* is the name of the `.humfst` file you want to export:
 

```
Fstwizard.com ACTION=ExportUser USERHUMFST=UserSettings.humfst
```
- 2 Import the current user `.humfst` using the following command where *UserSettings* is the name of the `.humfst` file you want to import:
 

```
Fstwizard.com HUMFST=Base.humfst ACTION=ImportUser  
USERHUMFST=UserSettings.humfst
```

**Note:** The export and import commands can take place on different machines.

## Controlling Uninstallation

When a Connectivity product is uninstalled, Hummingbird Connectivity User Settings removes the personal user directory from the current user profile. To prevent the user directory from being removed, you can set the `PERUSERPRESERVEPROFILES` property in Sconfig (or manually with Exceed) on the command line of an uninstall operation.

For complete control, set the property `PERUSERUNINSTALLTYPE` (or manually with Exceed) on the command line of an uninstall operation. It can be set to a string representing the exact command line parameters passed to `HumSettings.exe`.

# Chapter 3

---

## Installation on a Terminal Server

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## Product Access Control on a Terminal Server

Since version 10, a personal installation on a Terminal Server means that *all* users of the machine can use the product. Providing the same level of access control that existed in version 9 and earlier requires a two-stage process. This process consists of creating an administrative image on the Terminal Server, and installing the Hummingbird Connectivity product onto the Terminal Server from the newly-created copy.

You can run a terminal server installation on:

- Windows 2000 Server
- Windows 2000 Server Advanced Server (with Terminal Services enabled)
- Windows Server 2003 (with Terminal Services enabled)

The following procedure assumes:

- you are logged onto the Terminal Server as the Administrator
- the product CD is available locally or on the network

### Stage 1: Creating an Administrative Image

You must apply the appropriate product-specific transform to your Hummingbird Connectivity product before the product can be installed on a machine with Terminal Server capabilities.

**To launch Hummingbird Connectivity Setup Wizard for installation on a Terminal Server:**

- 1 From the product directory on the CD, run the following commands from a command prompt:

Product	Command
Exceed	setup /a /v"TRANSFORMS=ExceedTSE.mst"
Exceed 3D	setup /a /v"TRANSFORMS=Exceed3DTSE.mst"
Exceed XDK	setup /a /v"TRANSFORMS=ExceedXDKTSE.mst"
Exceed PowerSuite	setup /a /v"TRANSFORMS=ExceedPSTSE.mst"
Exceed x64	setup /a /v"TRANSFORMS=Exceedx64TSE.mst"
Exceed 3D x64	setup /a /v"TRANSFORMS=Exceed3Dx64TSE.mst"
Exceed XDK x64	setup /a /v"TRANSFORMS=ExceedXDKx64TSE.mst"
Exceed PowerSuite x64	setup /a /v"TRANSFORMS=ExceedPSx64TSE.mst"
Exceed Freedom	setup /a /v"TRANSFORMS=ExceedEFTSE.mst"
Exceed Freedom x64	setup /a /v"TRANSFORMS=ExceedEFx64TSE.mst"
HostExplorer	setup /a /v"TRANSFORMS=HostExTSE.mst"
NFS Client	setup /a /v"TRANSFORMS=NFSCliantTSE.mst"
NFS Client x64	setup /a /v"TRANSFORMS=NFSCliantx64TSE.mst"
Secure Shell	setup /a /v"TRANSFORMS=CSSTSE.mst"
SecureTerm	setup /a /v"TRANSFORMS=CSTTSE.mst"

- 2 In the Setup Language Selection dialog box, select a setup language and click OK.

**Note:** The language you select during this setup process will be the language of the administrative image.

Your Hummingbird product prepares Hummingbird Connectivity Setup Wizard, which guides you through the program setup process. It checks the operating system and the current Microsoft Windows Installer version.

If necessary, the Microsoft Windows Installer is updated. If the Microsoft Windows Installer is not present on your operating system, Hummingbird Connectivity Setup Wizard installs the service. Once Hummingbird Connectivity Setup Wizard has finished, the Welcome To The Hummingbird Connectivity Setup Wizard page opens.

### To create an Administrative Image on the Terminal Server:

- 1 In the Hummingbird Connectivity Setup Wizard, click Next on the Welcome page.

**Note:** To quit installation, click Cancel on any page of the Setup Wizard. Your computer is not affected if you do this before clicking the Install button on the confirmation page. To review or change settings on a previous page, click Back.

- 2 On the Network Location page, do the following:
  - a) Specify the location for the image. You can accept the default folder for the product. Alternatively, you can click Change to open a dialog box to browse to an alternate network location.
  - b) Click Next. A folder with the default name `Admin` is created on the terminal server. The Administrative Image is stored in the `Admin` folder.

**Note:** Each user has private shortcuts, registry entries, and user files. Shared user capabilities are not supported.

- 3 On the Ready To Install Network Image page, confirm the settings and click Install. A status page opens, indicating the progress of the image creation.

**Note:** The Administrative Image must be readable by all users who are granted permission to use the product you are installing. Each user must have read access to the MSI file and any transform files used to install the product.

- 4 Another page opens, indicating that installation is complete. Click Finish to close the dialog box.

## Stage 2: Personal Installation

After creating an Administrative Image, you can install personal installations of your Hummingbird Connectivity product onto the Terminal Server from this image.

Upon completion of Stage 2, the per-user installation of the Hummingbird Connectivity product is enabled and your Hummingbird Connectivity product will be automatically installed into the appropriate user profile the next time each user logs on.

**Note:** For Exceed, you can perform this procedure later by using the Performance application in Xconfig.

For more information about setting up access permissions, refer to Hummingbird User Manager Help.

If users are granted product access permission through a Hummingbird Connectivity Product User Group, your Hummingbird Connectivity product automatically installs into the appropriate user profile the next time user group members log on. Also, your product will automatically uninstall from profiles of users who are not user group members.

**Note:** Windows User Groups must be created manually. Consider creating a User Group to be sure products can be uninstalled for individual users.

The default group names are as follows:

- `Exceedversionnumber_Users` is the default group name for Exceed, Exceed Freedom, Exceed 3D, Exceed XDK, or Exceed PowerSuite users.
- `HostExplorerversionnumber_Users` is the default group name for HostExplorer users.
- `NFSMaestroversionnumber_Users` is the default group name for NFS Maestro users.
- `SecureShellversionnumber_Users` is the default group name for Connectivity Secure Shell users.
- `SecureTermversionnumber_Users` is the default group name for Connectivity SecureTerm users.

where *versionnumber* is the version number of the product you are installing. For example, `Exceed12_Users` is a default group name for Exceed PowerSuite users.

For information on products that can be used with Product Access Control, see the table on page 44.

### To install a product for use with Product Access Control on the Terminal Server:

- 1 From the command line, change the directory to `C:\Admin` and run the following:

```
setup.exe
```

where `C:\Admin` is the name of the drive and folder where the Administrative Image is located.

**Note:** For Exceed and HostExplorer, the Admin folder and its contents must remain available during the lifetime of the product on the terminal server. Multiple terminal servers can share the same Admin folder.

- 2 Click OK.
- 3 The Product Migration page opens if a previous version of this product or another compatible Hummingbird Connectivity product is installed. Review the product(s) that will be removed if you continue with the installation process. Specify whether you want to migrate or remove existing settings and click Next.

For more information, see "Preserving User Profiles" on page 15.

- 4 In the Hummingbird Connectivity Setup Wizard, click Next on the Welcome page.

**Note:** To quit installation, click Cancel on any page of the Setup Wizard. Your computer is not affected if you do this before clicking Install on the confirmation page. To review or change settings on a previous page, click Back.

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

- 5 On the License Agreement page, read the licensing agreement. If you select the option that indicates the terms are acceptable, click Next.

**Note:** Failure to read or understand the License Agreement does not affect the terms and conditions of the agreement.

Some options are dimmed and appear for information purposes.

- 6 On the Customer Information page, type the appropriate information in the User Name and Organization boxes, and click Next.

Destination Folder is synonymous with home directory (the directory in which the product is installed).

- 7 On the Destination Folder page, specify the installation folder and click Next. Some product features are not affected by changes to the destination folder.

You can accept the default installation folder for the product. Alternatively, you can click Change to open a dialog box to browse to another location, and then click OK.

**Note:** This step is not applicable to Exceed 3D or Exceed Freedom.

- 8 On the Setup Type page, select a setup type and click Next.

- 9 Depending on the setup type, do the following:
  - If the Custom setup type is selected, the Custom Setup page opens. Select which features and sub-features you want to install and click Next.
  - If the Complete setup type is selected, the Hummingbird Event Monitoring Client Settings page opens. This page also opens if Event Monitoring Client is selected in Administrative Tools for Custom setup. Type the required information and click Next.

**Note:** This step is not applicable to Exceed 3D or Exceed Freedom.

- 10 On the Ready To Install page, confirm the installation settings. When you are ready to begin installing, click Install. A status page opens, indicating the progress of the installation.

**Note:** The Administrator determines the setup type used for Hummingbird Connectivity product installation in user profiles.

- 11 Another page opens, indicating that installation is complete. Click Finish to close the dialog box.

**Note:** Depending on the Hummingbird Connectivity product you are installing, you may be required to restart the machine for the installation to take effect.

## Removing Product Access Control from a Terminal Server

For information about product modification, repairs, or uninstalling using the Add/Remove Programs option, see “Program Maintenance for Personal Installations” on page 14.

You must have administrative access to remove your Hummingbird Connectivity product from the Terminal Server using the Add/Remove Programs option. The Add/Remove Programs procedure removes the binary files from the Program files folder and prevents existing users from using the product. Existing personalized user settings and shortcuts are removed automatically for each user.

**Note:** To uninstall a product from the Terminal Server for one or more users, but not for all users, remove the user(s) from the user group. Do not delete the user(s). For information on creating and managing user groups, see Microsoft Windows Help.

If the Exceed parent product is not available to the user—either because it is uninstalled or access permission has not been granted—Exceed 3D and Exceed XDK are removed as well.

If you want to disable `UsrSetup` and remove the `UsrSetup` file from the machine, ensure that the following conditions are true:

- You are not planning to install your Hummingbird Connectivity product again.
- The Terminal Server personal installation has been uninstalled using the Add/Remove Programs option. After this uninstallation, when a user logs on, customized settings and user files are automatically uninstalled from his/her user profile.

**Note:** You can disable `UsrSetup` and remove the `UsrSetup` file only after this process is complete. Disabling `UsrSetup` is an optional procedure.

**To disable UsrSetup:**

- 1 From the Terminal Server command line, run the following command:

```
%WINDIR%\System32\Hummingbird\Connectivity\UsrSetup  
/unregserver
```

- 2 Remove the following files from the Terminal Server machine:

- UsrSetup
- Humpufst.dll (located in the Program Files\Hummingbird\Connectivity\version\Accessories folder)
- Humtsfst.dll (located in the Program Files\Hummingbird\Connectivity\version\Accessories folder)



# Chapter 4

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## Custom Installation with Sconfig

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## Customizing Installations with Sconfig

Users in an enterprise environment have different software needs. Even in the case of a single application used by many users, differences in user requirements and granted privileges often necessitate tailored installations. For example, some users may require product features such as HostExplorer and FTP settings files to connect to frequently used hosts, while other users may require specific font settings and features to be installed with their Hummingbird Connectivity products.

For more information on Windows Installer, refer to Chapter 1: Installing Hummingbird Connectivity Products.

Sconfig works with Microsoft Windows Installer database files (.msi and .mst) to let you create customized installations of Hummingbird Connectivity software for users with different needs.

Sconfig lets you do the following:

- Customize the directories in which the product is installed, and add custom folders.
- Tailor the list of applications or components to be installed. You can alter the list to limit the functionality available to users, or to optimize the use of disk space.
- Simplify user input during installation by preselecting information, such as the properties of the software being installed.
- Manage registration keys and environment variables.
- Provide a uniform user experience, and maintain a uniform system configuration across the network.

**Note:** Sconfig is not installed if you select the Typical installation type. When installing the Hummingbird Connectivity software on the administrator machine, you must choose the Custom or Complete installation.

## How Does Sconfig Work?

Sconfig works with Microsoft Windows Installer database files (.msi and .mst) to let you create customized installations of Hummingbird Connectivity software for users with different needs. Knowing how these files function together to configure an installation will help you understand the process of creating a custom installation with Sconfig.

**Microsoft Software Installation Files (.msi)** Microsoft Windows Installer uses Microsoft Software Installation files (.msi) to install the Hummingbird Connectivity product. An installation file is a database file that contains default installation information specifying which product components are installed and in which directories.

**Microsoft Transform Files (.mst)** When a user alters an installation in Microsoft Windows Installer, the changes are not applied directly to the installation files, but stored in a secondary file called a Microsoft Transform file (.mst). Like the installation file (.msi), the Microsoft Transform file is a relational database with information about product components and installation directories, but the transform file contains only the amendments a user wants to apply to the default settings contained in the installation file. The result is a customized installation.

## Sconfig and Windows Installer Database Files

Sconfig makes use of the relationship between installation (.msi) files and transform (.mst) files. Instead of changing the product's preconfigured installation file, Sconfig saves all amendments in a transform file. You can then package the transform file with an installation and distribute the customized installation to a target user group. If changes are required in the future, you can also use Sconfig to open and update previously generated transform files.

When preparing for multiple custom installations, you need to create a separate transform file for each group of users. You can then apply each transform file to the installation file for the Hummingbird Connectivity product.

## Overview of Creating Transform Files

When you start Sconfig, the Sconfig Wizard opens with a welcome page. The next two wizard pages let you specify the installation file (.msi) for the Hummingbird Connectivity product that you want to work with and the transform file (.mst) you want to create or modify. The wizard then displays the Customize page. The option tree located in the left pane of the window provides access to all of the options and settings that you can use to customize the installation. The availability of some options is dependent on the Hummingbird Connectivity application associated with the installation file you selected and whether you indicate that you are creating a transform file for a Terminal Services (TSE) client.

The options are grouped into the following categories on the Customize page:

**Product Directories** The Directories options let you customize product directories for the installation of the Hummingbird Connectivity product. Expand this option group to access the Custom Folders options to add custom folders to the installation.

**Product Features** The Features options let you specify which optional product features you want to install.

**Files** These options let you add external files to the Hummingbird Connectivity product installation.

**Product Properties** The Properties options let you customize properties to change the behavior of the installation package and set properties for Hummingbird Connectivity product features.

**Registry** These options let you preset the registry editor for any Windows operating system registry. The advantage of editing the registry before the installation is that it saves time, especially when installing for multiple target machines.

**Custom Shortcuts** The Shortcut options let you create custom shortcuts on user machines for any Hummingbird Connectivity product feature you add to the installation database.

**Event Monitoring Properties** The Event Monitoring options let you import properties and previously specified component event settings for the Hummingbird Event Monitoring Server.

**Environment Variables** These options let you configure and manage PATH and other environment variables.

**User Settings Transfer** These options let you install or migrate Hummingbird Connectivity product settings.

**Profile Spaces** These options let you import Profile Spaces created with Profile Space Editor.

**Directory Services Properties** Available only for NFS Maestro and Exceed installations, the Directory Services options let you specify property settings for Hummingbird Directory Services as well as service-specific property settings for LDAP, NFSD, NIS and NIS+.

**Exceed Properties** Available only in Exceed installations, the Exceed Settings options let you modify or remove Exceed-specific properties.

**Custom Font Directories and Servers** Available for Exceed and Exceed PowerSuite installations, the Custom Fonts options let you install customized font directories and servers to the Exceed Xconfig utility. For more information on Xconfig, see Exceed Help.

**Custom Font Paths** Available only for Exceed and Exceed PowerSuite installations, the Font Path options let you change the order in which font directories/servers are loaded by the X server.

**NFS Properties** Available only for NFS Maestro and Exceed PowerSuite installations, the NFS Client Settings option lets you modify or remove properties for NFS Maestro Client.

After you make the necessary modifications in each of the option categories, the wizard lets you generate and save the transform file (.mst), which you can then apply to an installation.

## Opening the MSI and MST Files

Before you can customize the installation options and settings, you must use the wizard to specify the installation file (.msi) you want to work with, as well as the transform file (.mst) you want to create or modify. You can also indicate if the transform file you want to create is intended for installation on a terminal server.

### To open an MSI and MST file:

- 1 After you open Sconfig from the Windows Start menu, a welcome page opens. Click Next to continue.
- 2 On the Database Selection page, specify the installation file (.msi) that you want to customize and click Next. You can choose an installation file in one of the following ways:
  - Specify an installation file that you previously configured.
  - Browse for a new installation file.
- 3 On the Transform Selection page, specify the transform file (.mst) that you want to create. You can specify a transform file in one of the following ways:
  - Specify a transform file that you previously configured.
  - Browse for a new transform file by clicking the Browse button.
  - Create a new one yourself. You can do this by clicking the Browse button and specifying a name and location for the file.

**Note:** If you selected a transform file that was generated with a previous version of Sconfig, the user interface may differ from what is documented.

- 4 If the transform file you want to create is intended for installation on terminal servers, select Create Terminal Services (TSE) Client Transform.

**Note:** If you selected a TSE-specific .msi file on the Database Selection page, this option is not available.

5 Click Next to continue.

The Customize page opens. This page lets you configure the product installation options and settings.

## Customizing Product Installations

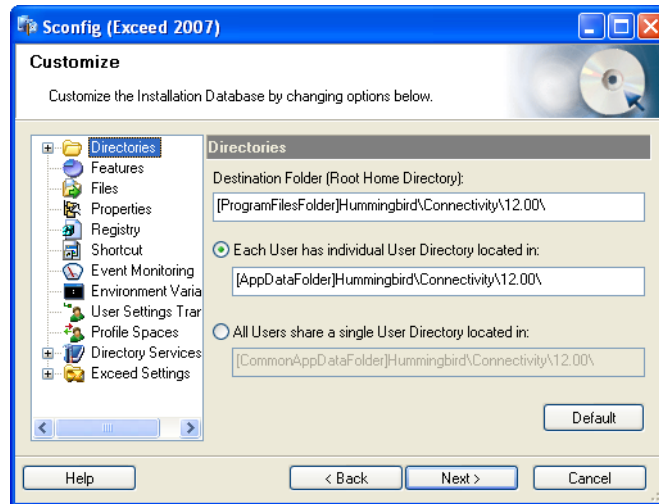
### Product Installation Directories

The Directories options let you specify where you want the Hummingbird Connectivity product to be installed. Depending on the type of installation you are configuring, local or Terminal Server (TSE), you can set one or both of the following directories:

- Destination
- Current User

**To customize product installation directories:**

- 1 Click Directories in the option tree. The Directories pane opens.
- 2 If you are creating a terminal server transform, proceed to step 3. Otherwise, in the Destination Folder box, type the directory where you want all executable and non-volatile files to be stored. An additional destination folder box appears only if you are creating a transform for a 64-bit installation.

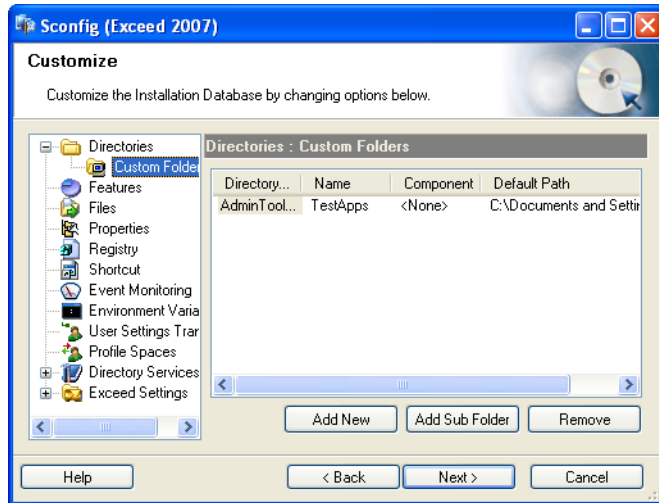


- 3 Select one of the two user directory options. (In TSE mode, only the first of the following options appears.)
  - Individual user directory—Type the directory where all volatile files will be stored for the current user. This path is used to generate the personal user directory for every user of the machine. Use a property that changes from user to user so that the path is unique for each. For example, you can use *UserName* or *AppDataFolder*.
  - Single user directory—Type the directory where you want user files to be shared among all users of the destination machine. This could be any folder on the machine.
- 4 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Adding Custom Folders to an Installation

This functionality is not available in TSE mode.

These options let you add your own folders to the directory structure. For example, if you want to add your own fonts to the installation and want them to be installed in a dedicated folder, you can add a custom fonts folder. Once you have created custom folders, you can then add subfolders.



**Note:** To add files to a newly created folder, see “File Installation” on page 66.

### To add a folder:

- 1 In the option tree click Custom Folders under Directories. The Directories: Custom Folders pane opens.
- 2 Click Add New. The Add Custom Directory dialog box opens.
- 3 From the Choose Parent Directory Macro list, select the directory macro you want to use to create the new folder. The name of the macro appears in the New Directory Macro box with an incremented number. The Default Destination Path lists the directory in which the new folder will be created. The macro you select from the Choose Parent Directory Macro list determines the location of the new folder.

- 4 In the New Directory Name box, assign the new custom folder a name. If the custom folder name exceeds 8 characters or contains a space, you must use the following format:

*shortname|longname*

8.3 file names have a maximum of 8 characters optionally followed by a dot (.) and then a maximum of three characters. For example, you could use `myfold~1` for My Folder.

- where *shortname* is an 8.3 MS DOS name for the folder name and *longname* is the full folder name.
- 5 If you want the installation to create the folder even if the folder does not contain any files, select the Always Create This Folder check box.
  - 6 Click OK to create the custom folder and return to the Directories: Custom Folders pane.
  - 7 The folder appears in the list of custom directories. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

#### **To add a subfolder:**

- 1 In the option tree, click Custom Folders under Directories. The Directories: Custom Folders pane opens.
- 2 On the Directories: Custom Folders pane, select the folder where you want to add a subfolder and click Add Sub Folder. The Add Custom Directory dialog box opens with the parent directory macro set by the custom folder you selected.

The name of the macro appears in the New Directory Macro box with an new increment number. The Default Destination Path lists the directory in which the new folder will be created. The macro you select from the Choose Parent Directory Macro list determines the location of the new folder.

8.3 file names have a maximum of 8 characters optionally followed by a dot (.) and then a maximum of three characters. For example, you could use `myfold~1` for My Folder.

- 3 In the New Directory Name box, type the name for the new subfolder. If the subfolder name exceeds 8 characters or contains a space, you must use the following format:

*shortname|longname*

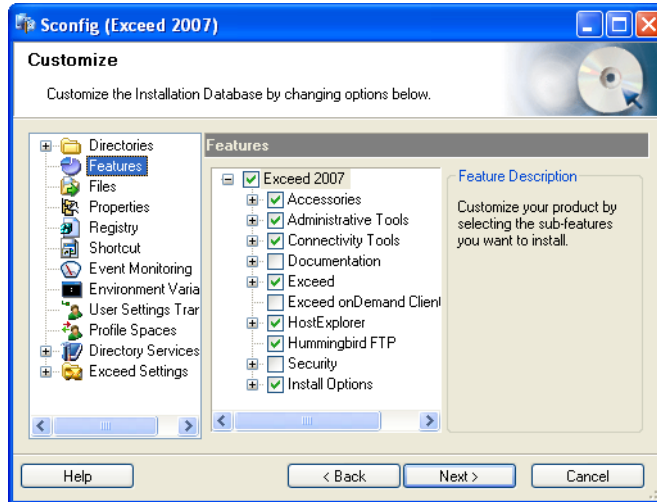
where *shortname* is an 8.3 MS DOS name for the subfolder name and *longname* is the full subfolder name.

- 4 If you want the installation to create the subfolder even if it does not contain any files, select Always Create This Folder.
- 5 Click OK to create the custom subfolder and return to the Directories: Custom Folders pane.
- 6 The folder appears in the list of custom directories. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Product Feature Availability

The Features options let you specify product features you want to install for Hummingbird Connectivity products. Recognizing features commonly used by specific users is useful when customizing feature installations. Some may use the product at an administrative level (system administrators) and will find monitoring, tracing and troubleshooting features very useful components of their installation. Others who use the product at an end-user level may have no use for administrative features.

The process of selecting features in Sconfig is similar to customizing a product installation using Windows Installer. Sconfig also lets you specify sub-features for each feature you enable, and you can install shortcuts to help users access commonly used features quickly.



### To configure the availability of product features:

- 1 In the Features pane, expand the product feature tree to view the features available for the product.
- 2 Select or clear the features you want to add to or remove from the installation. The Feature Description area provides information on the selected feature. Check marks indicate that the feature will be installed.

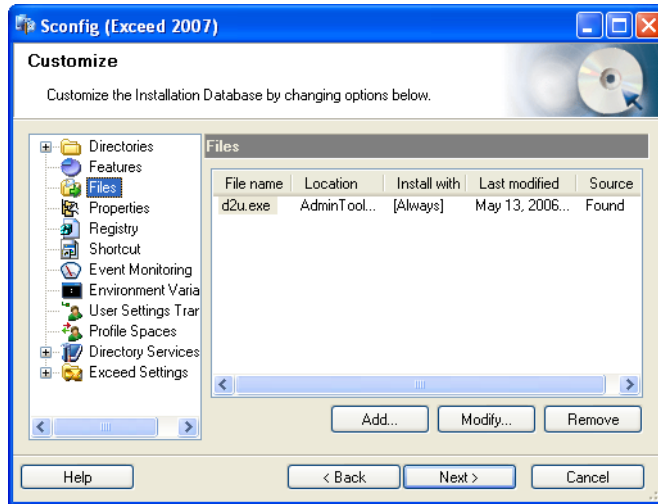
**Note:** Removing a feature or sub-feature in Sconfig deletes it from the transform file (.mst). These changes must then be reapplied to the installation file (.msi) to reflect the update.

- 3 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## File Installation

This functionality is not available in TSE mode.

Sconfig lets you add to the installation external program files such as e-mail, drawing and graphics files, or other executable files that users need to carry out routine tasks. You can also specify the destination path for the file and specify the circumstances under which the file is installed.



### To access the Files options:

Click Files in the option tree. The Files pane appears in the wizard window.

### To add an external file to an installation database:

- 1 In the Files pane, click Add. A Windows Open dialog box opens.
- 2 Select a file and click OK. The Add/Modify File dialog box opens.
- 3 From the drop-down list, select a destination path folder. This folder can be a Windows systems folder, a Hummingbird Connectivity folder, or a custom folder.

- 4 If you want to add the file to a subfolder within the destination folder, do the following:
  - a) Click Add Sub Folder. The Add Custom Directory dialog box opens.
  - b) In the New Directory Name box, type the name you want to assign the new subfolder and click OK. If the subfolder name exceeds 8 characters or has a space, you must use the following format:

*shortname|longname*

where *shortname* is an 8.3 MS DOS file name for the subfolder name and *longname* is the full subfolder name.

8.3 file names have a maximum of 8 characters optionally followed by a dot (.) and then a maximum of three characters. For example, you could use `myfold~1` for My Folder.

- 5 With the Install With Feature drop-down list, you can do one of the following:
  - If you select a feature, the file is installed only when the feature is installed.
  - If you select Always the file is installed with every installation, regardless of features.
- 6 Click OK. The Files pane lists the added file.
- 7 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

#### To modify external file installation settings:

In the Files pane, select the file and click Modify. The Add/Modify File dialog box opens. You can change the following settings:

- To change the file destination folder, select a new destination path folder from the list.
- To change the feature with which the file gets installed, from the Install With Feature list, select a different feature or select Always and click OK.

The Files pane lists the external files currently in the installation database. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

### To remove an external file from an installation database:

In the Files pane, select a file from the list and click Remove. Removing a file in Sconfig deletes it from the transform file. These changes must then be reapplied to the installation file to reflect the update when the application is installed. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

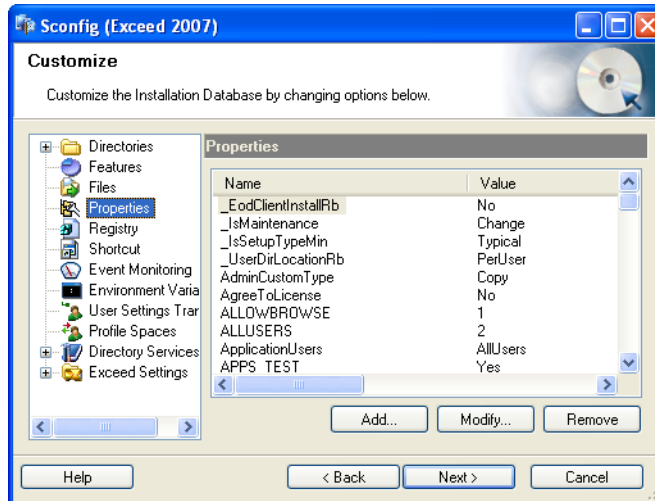
**Note:** Removing a file in Sconfig deletes it from the transform file. These changes must then be reapplied to the installation file to reflect the update when the application is installed.

## Product Properties

Sconfig lets you specify the product properties for the Hummingbird product you want installed, properties that make the best use of the Hummingbird Connectivity software features and that facilitate each user's installation session.

The Properties pane lists both the properties that are required for product functionality and the optional properties. You can add optional properties that customize product features, such as the `COMPANYNAME` property which includes the name of your organization in the product installation. You can also include properties that control user input during installation, such as the `TransformSecure` property, which protects your transform files from user modification. Other optional properties define the installation behavior of the product, such as the `ALLOWBROWSE` property, which lets the product browse to the home directory during an installation.

You can also set properties specifically for Exceed or for NFS Maestro Client. However, these properties are available only when installing the appropriate installation files. For more information on Exceed properties, see “Exceed Properties” on page 85. For more information on NFS Maestro Client properties, see “NFS Maestro Client Properties” on page 84.



## Modifying and Removing Properties

You can clean the installation database of properties that are no longer in use. Some scenarios that may require the removal of a property include changes made to:

- feature requirements
- user privileges during an installation session
- user permissions for the software

### To access the Properties options:

Click Properties in the option tree. The Properties pane appears in the wizard window.

**To add a property to an installation database:**

- 1 In the Properties pane click Add. The Add Property dialog box opens.
- 2 From the first box, select a property. The bottom panel of the dialog box provides the validation information for the property.
- 3 In the second box, type or select a value for the new property and click OK.
- 4 The Properties pane appears listing the new property you added to the installation database. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To modify a property in an installation database:**

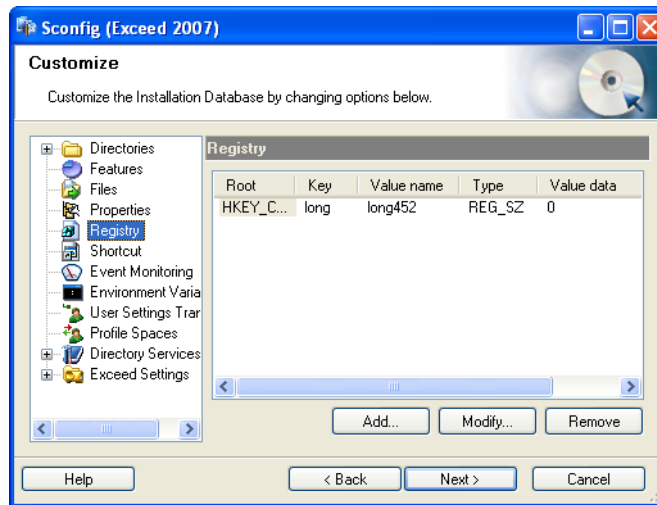
- 1 In the Properties pane, select a property.
- 2 Click Modify. The Modify Property dialog box opens. The bottom panel of the dialog box provides the validation information for the property.
- 3 In the drop-down box, type or select a new value for the property and click OK.
- 4 The Properties pane lists the properties currently added to the installation database. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To remove a property from an installation database:**

In the Properties pane, select a property from the list and click Remove. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Registry Keys

Sconfig lets you customize the general software settings of your Hummingbird Connectivity product. After your product installation file installs the custom components and files on the target machine, it can write the custom registry keys and values set in Sconfig to the system registry. You establish the keys and values the installation file writes to the system registry by setting them up in the transform file generated in Sconfig.



### To access the Properties options:

Click Properties in the option tree. The Properties pane appears in the wizard window.

### To add a registry key to an installation database:

- 1 In the Registry pane, click Add. The Add/Modify Registry Entry dialog box opens.
- 2 In the Root drop-down list, select a hive name.
- 3 In the Data Type drop-down list, select a data value type.
- 4 In the Key box, type the registry key name.
- 5 In the Value Name box, type the registry value name.

- 6 In the Value Data box, type the registry data value and click OK. The Registry pane appears listing your new keys. When they are available, you can use the Hexadecimal and Decimal radio buttons to convert the value data from base-16 number system to base-10 or vice versa.
- 7 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To modify a registry key in an installation database:**

In the Registry pane, select the registry entry you want to change and click Modify. The Add/Modify Registry Entry dialog box opens. You can do the following:

- To change the existing hive name of the registry key, from the Root drop-down list, select the new hive name.
- To change the existing value type of the registry key, from the Data Type drop-down list, select the new data value type.
- To change the existing name of the registry key, in the Key box, type the new name for the registry key.
- To change the existing registry value name, in the Value name box, type the new registry value name.
- To change the existing registry data for the key, in the Value data box, type the new registry data.

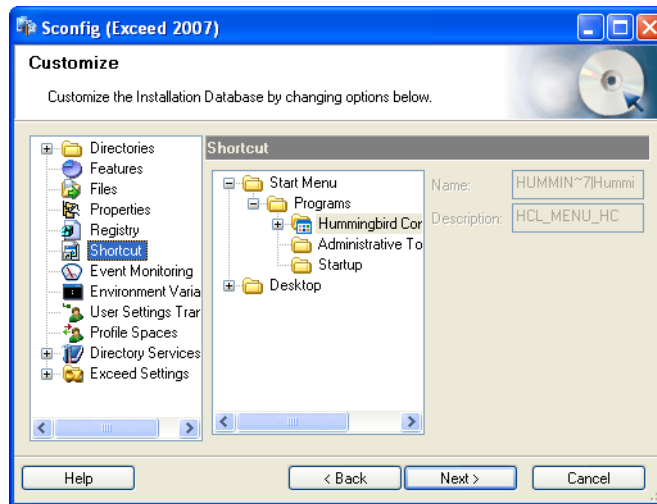
When you have made the necessary changes, click OK. The Registry pane lists the registry keys currently in the installation database. If you have made all the necessary modifications to the installation options, click Next. Otherwise, select the next option group.

**To remove a registry key from an installation database:**

In the Registry pane, select a registry key from the list and click Remove. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Shortcuts for Hummingbird Connectivity Product Features

This option lets you provide users with quick access to commonly used Hummingbird Connectivity components. You can create and store shortcuts in existing Hummingbird Connectivity folders, or create custom folders for your shortcuts.



### To access the Shortcut options:

Click Shortcut in the option tree. The Shortcut pane appears in the wizard window.

### To set a custom shortcut:

- 1 In the shortcut tree displayed in the Shortcut pane, right-click the folder to which you want to add a new shortcut. In the pop-up menu, click Add Shortcut Here. The settings appear on the right side of the wizard window.

You can drag and drop items in the Shortcut tree.

8.3 file names have a maximum of 8 characters optionally followed by a dot (.) and then a maximum of three characters. For example, you could use `myfold~1` for My Folder.

- 2 In the Name text box, type the name of the shortcut that you want add. To rename a shortcut, select the name of the shortcut in the Name box and enter the new name. The name must appear in the format:

*short name|long name*

where the *short name* is an 8.3 MS DOS name and the *long name* is the name of the shortcut as it appears on the Windows desktop. For example,

`ExceedF|Exceed Finger`

- 3 If you want to include a tooltip for the shortcut, type a description in the Description text box.
- 4 From the Install With drop-down list, select the component for which you want to provide a shortcut. The installer uses the installation state of this component to determine whether to create or delete the shortcut.
- 5 From the Target drop-down list, select the destination folder of the component for which you want to provide a shortcut.

**Note:** For advertised shortcuts, the file launched by the shortcut is the file associated with this feature. When you activate this shortcut, Windows Installer verifies that all components in the feature are installed before launching the file. For non-advertised shortcuts, the field should contain a property identifier enclosed in square brackets.

- 6 The Default Path text box displays the destination path of the component for which you want to create a shortcut.
- 7 If you want to provide any arguments for this shortcut, type them into the Arguments text box.
- 8 In the Icon area, click Select to launch the Change Icon dialog box. In this box, select an icon to associate with the shortcut and click OK. The icon you selected is displayed in the wizard.
- 9 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To create custom folders for shortcuts:**

In the Shortcut tree displayed in the Shortcut pane, right-click the folder to which you want to add a new folder for your shortcut. In the menu, click Add Folder.

If you want to remove a custom folder, click Remove Folder. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To modify a shortcut:**

In the Shortcut tree displayed in the Shortcut pane, click the shortcut you want to modify. The settings you can edit are displayed on the right side of the wizard.

**To remove a shortcut:**

In the Shortcut tree displayed in the Shortcut pane, right-click the shortcut you want to remove. In the menu, click Delete Shortcut. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

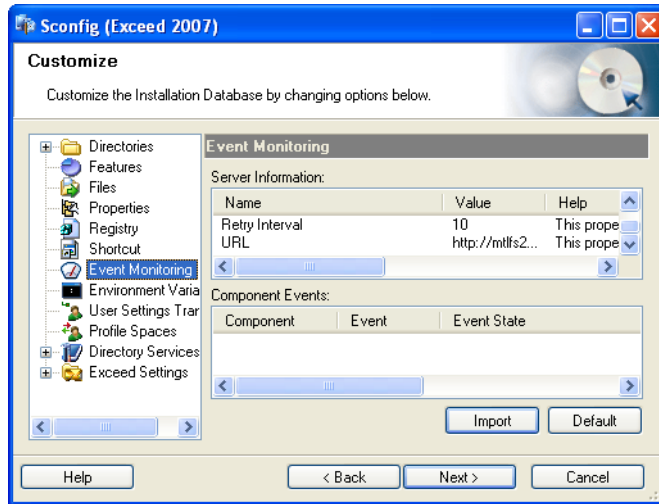
## Event Monitoring Settings

The Sconfig interface for Hummingbird Connectivity provides you with the information you need to manage Event Monitoring properties. You can import properties and view their settings and definitions.

The Event Monitoring pane displays the following information tables:

- The Server Information table lists the available Event Monitoring properties. It also displays the setting or value currently associated with the property and provides a brief description of each property.

- The Component Events table lists component monitoring settings and status.



**Note:** Use the administrative utility in Event Monitoring Client Settings to configure application event monitoring and then import the settings into Sconfig.

**To access the Event Monitoring options:**

Click Event Monitoring in the option tree. The Server Information and Component Events tables appear in the right pane.

**To import previously configured component event settings:**

- 1 Use the Event Monitoring Client Settings utility to configure event monitoring for Hummingbird Connectivity applications. You can access this utility from Hummingbird Connectivity on the Windows Start menu. For more information, refer to the Help for Event Monitoring Client Settings.
- 2 On the Event Monitoring options pane in Sconfig, click Import.

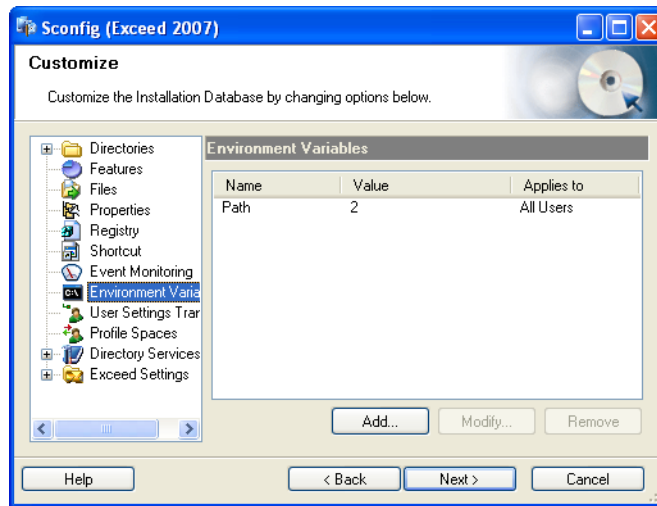
The Server Information and Component Events tables are populated with the imported component event settings.

### To revert to the default component event settings:

If you want to revert to the settings as configured in the original Hummingbird Connectivity product installation file (.msi), click Default.

## Environment Variables

You can use the Environment Variables options to customize PATH and other environment variables for the installation.



When customizing variable values, keep the following rules in mind:

- If you specify no value for a variable, the variable is removed.
- To append a value to an existing variable, prefix the value string with the Null [~] symbol and the separator character. For example, if the semicolon is the chosen separator, type the following: [~];value.
- To prefix a value to an existing variable, append the value string with the separator character and the Null [~] symbol. For example, if the semicolon is the chosen separator, type the following: value;[~].
- If no Null [~] symbol is present, the string represents the entire value you want to set or delete.
- To avoid unpredictable results, specify only one value per variable. For example, avoid the following: value;value;[~].

**To access environment variables:**

Click Environment Variables in the option tree. The Environment Variables pane opens.

**To add a custom environment variable to an installation database:**

- 1 Click Add. The Add dialog box opens.
- 2 Type or select a variable from the Variable Name drop-down list. The Variable Value for Current User box displays the value of the specified variable if it exists.
- 3 In the Variable Value box, specify the value for the variable.
- 4 Use the Apply To All Users setting to indicate whether you want the variable to apply only to the current user, or to all users of the target machine.
- 5 Click OK. The environment variable appears in the wizard window.
- 6 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To modify an existing environment variable:**

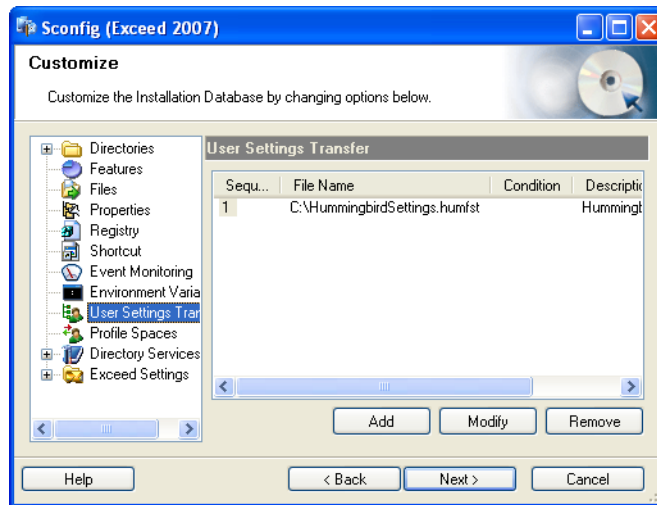
- 1 In the Name column, select the variable you want to modify and click Modify. The Modify dialog box opens displaying the current settings for the selected variable.
- 2 You can make the following modifications:
  - In the Variable Value box, specify a new value for the variable.
  - Use the Apply To All Users setting to indicate whether you want the variable to apply only to the current user, or to all users of the target machine.
- 3 Click OK.
- 4 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

### To remove an environment variable from an installation database:

In the Name column, select the variable you want to delete and click Remove. The variable is removed from the Environment Variable list in the wizard window. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## User Settings

These options let you migrate Hummingbird Connectivity product settings by allowing you to include, in the installation, settings transfer files (.humfst) generated with Files And Settings Transfer Wizard. These files contain registry entries and user settings for any Hummingbird Connectivity product. For information on creating settings transfer files, see Files And Settings Transfer Wizard Help.



### To add a settings file to an installation database:

- 1 In the User Settings Transfer pane, click Add. The Add dialog box opens.
- 2 Use the Sequence box to specify the order in which you want Sconfig to add the file to the installation.
- 3 Use the browse button to select the settings transfer file you want to add to the installation.

- 4 If you want the file to be added to the installation only under specific circumstances, you can use the Condition box to include Microsoft Windows Installer conditions or other supported properties.
- 5 In the Description box, you can provide a useful description of the settings transfer file if necessary.
- 6 Click OK. The file appears in the User Settings Transfer pane with the information you specified.

**To modify the settings of a previously added settings transfer file:**

In the User Settings Transfer pane, select the settings transfer file for which you want to modify the inclusion settings and click Modify. In the Modify dialog box, make the necessary change, and click OK.

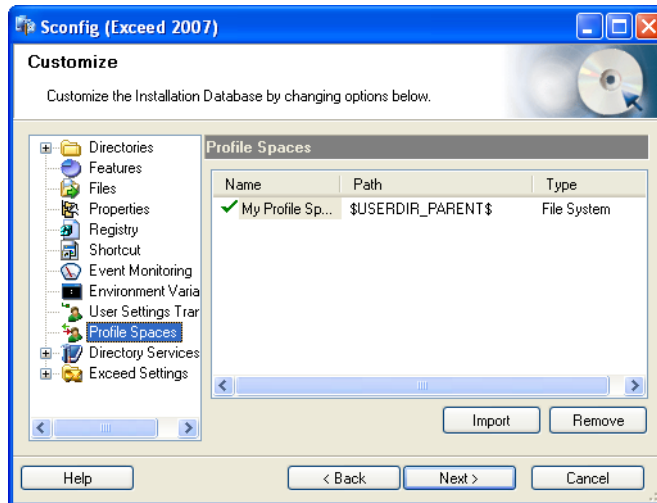
**To remove a previously added settings transfer file from an installation database:**

In the User Settings Transfer pane, select the settings transfer file you want to remove, and click Remove.

## Product Profile Spaces

Profile Spaces provide administrators with the ability to distribute profiles to multiple end users by creating a variety of profiles and placing them in specific locations (Profile Spaces). Each Profile Space can be assigned different access privileges. By default, Connectivity applications are installed with one Profile Space (My Profile Space), but administrators can create additional spaces and designate any of them as the default Profile Space.

Profile Space Editor is the tool for creating and registering new File System or LDAP Profile Spaces. Sconfig lets you import, into the installation database, the Profile Spaces you create with the wizard. For more information on creating Profile Spaces, see Profile Space Management Help.



### To import Profile Spaces:

- 1 On the machine running Sconfig, launch the Profile Space Editor from the Start menu, and create the necessary Profile Spaces.
- 2 On the Sconfig Customize page, open the Profile Spaces pane.
- 3 Click Import. Sconfig imports all Profile Spaces found on the local machine.

**Warning!** Before importing, Sconfig deletes all Profile Spaces that already exist in the transform file (.mst). Any of these deleted spaces that is not represented locally is lost.

The imported Profile Spaces appear in the Profile Spaces pane. A check mark indicates the default.

### **To remove a Profile Space:**

In the Profile Spaces pane, select the Profile Space you want to remove and click Remove.

**Note:** The Profile Space is removed from the transform file (.mst) only. It is not removed from the local machine.

## **Directory Services Settings**

These settings are available for Exceed and NFS Maestro Client installations only.

Before you configure Hummingbird Directory Services settings in Sconfig, it is recommended you configure a local installation of Hummingbird Directory Services. You can then import the settings into Sconfig to add them to the installation database. The Sconfig interface provides you with the information you need to then modify or remove the settings for LDAP, NFS, NIS and NIS+ directory services if necessary.

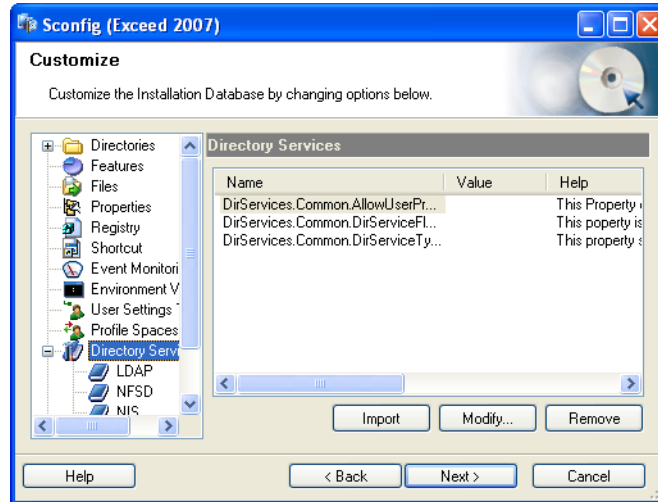
The Directory Services pane lists the available properties. It also displays the setting or value currently associated with the property, if any, and defines the property so that you can make any necessary changes.

### **To access the Directory Services options:**

- To view common properties, click Directory Services in the option tree. The Directory Services pane appears in the wizard window listing common properties.
- To view service-specific properties, expand the Directory Services option tree item, and click the directory service (LDAP, NFS, NIS, or NIS+) you want to manage.

**To import Directory Services property settings:**

- 1 Ensure that the local installation of Hummingbird Directory Services is configured as required.
- 2 In the option tree, select the directory service type for which you want to import a property.



- 3 Click Import. Sconfig reads and imports the values from all the registries for Directory Services, and lists the imported values in the Value column.
- 4 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To modify Directory Services property settings:**

- 1 In the option tree, select the directory service type.
- 2 In the pane that appears, select the property you want to modify. Its current setting (if any) and a description are provided in this pane.

**Note:** If you have not imported property settings from a local installation of Hummingbird Directory Services, no values will be displayed.

- 3 Click **Modify**. The **Modify Property** dialog box opens and identifies the property you are modifying and its current setting if any.
- 4 Specify the new value. Tips are provided at the bottom of the dialog box.
- 5 Click **OK**.
- 6 If you have made all the necessary modifications, click **Next**. Otherwise, select the next option group.

**To remove a Directory Services property:**

Select the property you want to remove, and click **Remove**. If you have made all the necessary modifications, click **Next**. Otherwise, select the next option group.

## **NFS Maestro Client Properties**

The NFS Client Settings options are available only if you are customizing an NFS Maestro product or Exceed PowerSuite installation. The NFS Client Settings let you modify or remove properties for NFS Maestro Client, such as `Maestro.NFSClient.UseDOSStyleSharing`, which enables file sharing common to most Windows file operations.

**To access the Properties options:**

Click **NFS Client Settings** in the option tree. The NFS Client Settings pane appears in the wizard window.

**To modify an NFS Client property in an installation database:**

- 1 In the NFS Client Settings pane, select a property.
- 2 Click **Modify**. The **Modify Property** dialog box opens.

The bottom panel of the dialog box provides the validation information for the property.

- 3 In the drop-down box, type or select a new value for the property and click **OK**. The NFS Client Settings pane lists the properties currently added to the installation database.

- If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

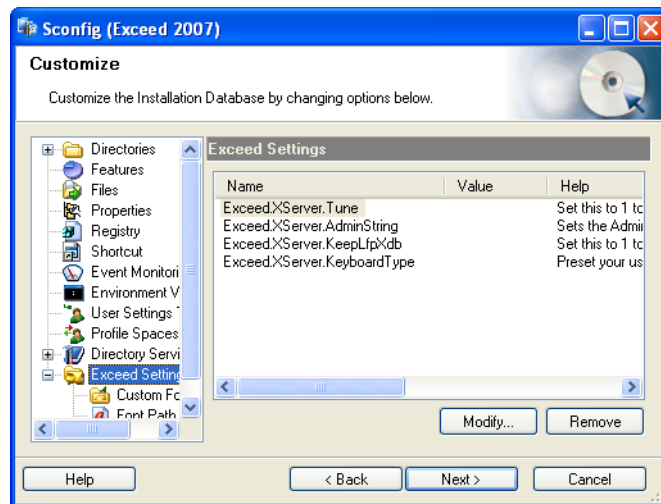
### To remove an NFS Client property from an installation database:

In the NFS Client Settings pane, select a property from the list and click Remove. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Exceed Properties

The Exceed Settings options are available only when you are creating an Exceed, Exceed XDK, or Exceed PowerSuite installation. Expand Exceed Settings in the directory tree, which lets you modify or remove Exceed properties, such as the `Exceed.XServer.Tune` property, which executes the Xperf application for optimal graphics performance.

When you modify or remove a property, the property information is added or deleted from the property table in the Exceed Settings pane.



### To access the Exceed property options:

Click Exceed Settings in the option tree. The Exceed Settings pane appears in the wizard window.

**To modify an Exceed property in an installation database:**

- 1 In the Exceed Settings pane, select a property.
- 2 Click Modify. The Modify Property dialog box opens. The bottom panel of the dialog box provides the validation information for the property.
- 3 In the drop-down box, type or select a new value for the property and click OK. The Exceed Settings pane lists the properties currently added to the installation database.
- 4 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

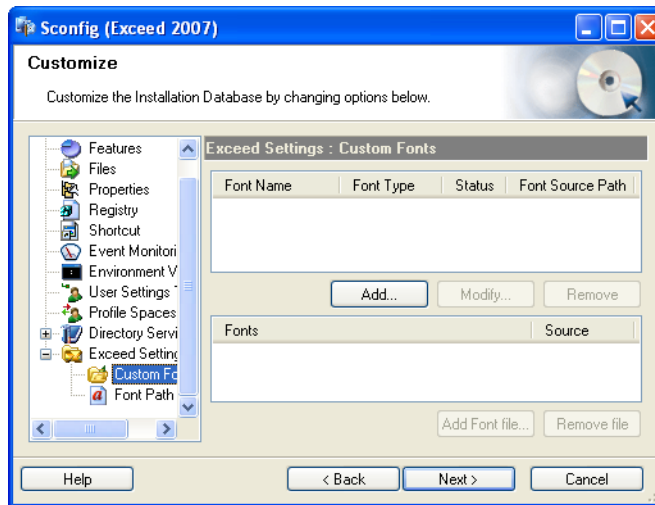
**To remove an Exceed property from an installation database:**

In the Exceed Settings pane, select a property from the list and click Remove. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Font Directories and Servers

This functionality is not available in TSE mode.

When you execute custom installations for Exceed, Sconfig lets you control the directories and servers added to the font database. The font database is stored in the `lfp.xdb` file. The Xconfig utility for Exceed uses this file when locating font directories and servers. As a result of the customization users will see a new, customized font directory or server listed in Xconfig.



**Note:** Plan your font directories and servers according to the demands of each user.

## Setting Up Custom Font Directories

This functionality is not available in TSE mode.

This option is useful when accommodating Exceed users who require custom font files in the Xconfig utility. During a mass installation, you need to provide font directories that are tailored to meet the demands of each user. This means including in each directory only those font files (`.fon`) that are useful to users.

**Adding Font Directories** Adding font directories with Sconfig creates new font directories in the Exceed Xconfig font database. The font database in Xconfig is stored in the `lfp.xdb` file in the `User` directory. Specific fonts in the font database are stored in font directories and on font servers.

**Note:** Before using Sconfig to add the font directory to a custom installation database, you must do the following in the Exceed Xconfig utility:

- Create a custom font directory.
- Add custom font files (`.fon`) to this directory.

For more information, refer to the *Exceed User's Guide*.

**Modifying Font Directories** Modifying a custom font directory lets you change the specifications for the selected font directory in the Xconfig font database. You can change the font type from directory to server, change the name of the font directory, and add a new font database file (`.fdb`) to this directory.

**Warning!** When changing the name of a font directory, you must add the font files (`.fon`) to that directory.

If you are changing a font directory in the database, you need to know the name of the directory and the name of the font database file corresponding to the new font directory.

**To access the Exceed Settings (Custom Fonts options):**

Expand Exceed Settings in the option tree and click Custom Fonts. The Exceed Settings: Custom Fonts pane appears in the wizard window.

**To add a custom font directory:**

- 1 In the Exceed Settings: Custom Fonts pane, click Add. The Add/Modify Custom Font Settings dialog box opens.
- 2 From the Font Type drop-down list, select Directory.
- 3 In the Font Directory box, type the name of the custom directory.

- 4 In the File Name box, click Browse and navigate to the font database file (.fdb). This file is created by Xconfig and stored in the following location:

```
C:\Program Files\Hummingbird\Connectivity\version\  
Default User\Exceed\  

```

where *version* is the version number of your Hummingbird Connectivity product.

- 5 Select the status of the font directory. You can select Load, Keep, or Inactive.
- 6 To make matches to this directory using its physical font name as well as its logical font name, select the Physical Font Name Match Allowed box and click OK. The Custom Fonts pane appears listing the new directory added to the installation database.

**Note:** The name of the custom font directory appears in the Custom Fonts pane. You can now add your custom font files (.fon) to the custom font directory you created.

- 7 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

#### **To modify a custom font directory:**

- 1 In the Exceed Settings: Custom Fonts pane, click Modify. The Add/Modify Custom Font Settings dialog box opens.
- 2 From the Font Type drop-down list, select Directory to display directory settings.
- 3 You can make the following modifications:
  - To rename the directory, in the Font Directory box, type the new directory name.

- To change the existing font database file, in the File Name box, click **Browse** and point to the new file (.fdb).

A custom file is created and stored in the following location:

```
C:\Program Files\Hummingbird\Connectivity\version\Default  
User\Exceed\
```

where *version* is the version number of the Hummingbird Connectivity product.

- To change the status of the font directory, in the Status area, select the new status of the font directory. You can select Load, Keep, or Inactive.
  - To make matches to this directory using its physical font name as well as its logical font name, select the Physical Font Name Match Allowed box.
- 4 Click **OK**. The Custom Fonts pane lists the directories and servers currently in the installation database.
  - 5 If you have made all the necessary modifications, click **Next**. Otherwise, select the next option group.

#### **To remove a custom font directory:**

In the Custom Fonts pane, select a directory from the list and click **Remove**. Removing a font directory in Sconfig deletes it from the transform file. These changes must then be reapplied to the package to reflect the update. If you have made all the necessary modifications, click **Next**. Otherwise, select the next option group.

### **Managing Custom Font Files**

When you add a font file (.fon) to an installation, the file appears in the Xconfig font database for Exceed users to access using Xconfig. You can remove a font file from the font directory when users no longer require it.

#### **To access the Custom Fonts options in Exceed Settings:**

Expand Exceed Settings in the option tree and click Custom Fonts. The Exceed Settings: Custom Fonts pane appears in the wizard window.

**To add a custom font file to an installation database:**

- 1 In the Custom Fonts pane, select the font directory to which you want to add the custom font file(s).
- 2 In the Custom Fonts pane, click the Add Font Files button. The Windows Open dialog box opens.
- 3 In the box, browse to the custom font files (.fon) located in your custom font directory stored on your local machine. Select and copy the custom font files you need into your custom font directory and click OK. The Custom Fonts pane appears listing new font files added to the directory.
- 4 A new custom font directory along with files is added to the installation database. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**To remove a custom font file from an installation database:**

Removing the font file in Sconfig deletes it from the transform file. These changes must then be reapplied to the installation file to reflect the update.

In the Custom Fonts pane, select the font file(s) you want to remove and click Remove File. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

**Setting Custom Font Servers**

This functionality is not available in TSE mode.

This option is available for Exceed users who require a connection to custom font servers in the font database. During a mass installation, you can connect users to a customized font server tailored for their task requirements.

**Adding a Custom Font Server** Adding a font server to the installation database connects users to a customized font database in Xconfig. You need to know the network node specification of the host where the font server is located and the port or object name (DECnet transports). You can also specify additional font catalogues.

**Modifying a Custom Font Server** If you are modifying a font server in the database, you need to know the network node specification of the host where the font server is located and the port or object name (DECnet transports). You can also specify additional font catalogues.

**To access the Custom Fonts options for Exceed Settings:**

Expand Exceed Settings in the option tree and click Custom Fonts. The Exceed Settings: Custom Fonts pane appears in the wizard window.

**To add a custom font server:**

You can modify an existing custom font server by clicking Modify.

- 1 In the Custom Fonts pane, click Add. The Add/Modify Custom Font Settings dialog box opens.
- 2 From the Font Type drop-down list, select a server type.
- 3 In the Host Name box, type the server name.
- 4 In the Port box, type or select the port number.
- 5 If you want to specify a catalogue, type the catalogue name in the Catalogue box.
- 6 Select the status of the server directory. You can select Load, Keep, or Inactive.
- 7 To make matches to this directory using its physical font name as well as its logical font name, select the Physical Font Name Match Allowed box and click OK. The Custom Fonts pane appears listing the new font server added to the installation database.
- 8 If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

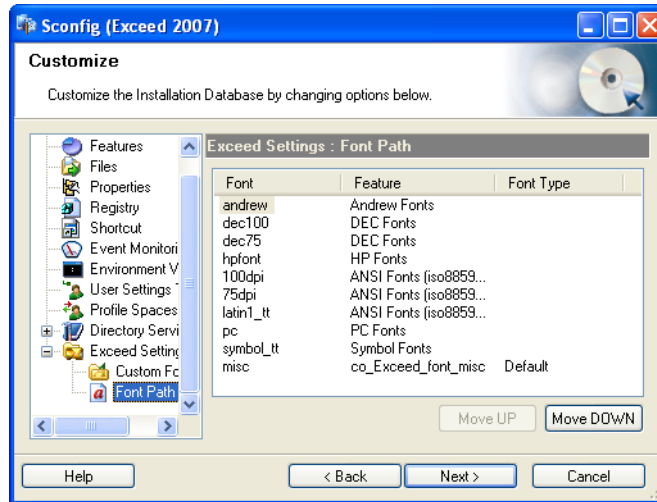
**To remove a custom font server:**

Removing a font server in Sconfig deletes it from the transform file. These changes must then be reapplied to the installation file to reflect the update.

To remove a custom font server, in the Custom Fonts pane, select a server from the list and click Remove and then click OK. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Setting Paths for Font Directories/Servers

To view the Font Path options, expand Exceed Settings in the tree pane of the Setup Customization Wizard and click Font Path. This option lets you place font directories/servers in the most efficient search order for X server requests.



Click Move Up and Move Down to change the display (search) order. Place font directories/servers containing the most commonly requested fonts at the top of the list to reduce the amount of time it takes to find a match. If you have made all the necessary modifications, click Next. Otherwise, select the next option group.

## Saving the MST File

After you customize the Hummingbird Connectivity product installation options, the Sconfig wizard lets you save the transform file (.mst).

### To save the .mst file:

- 1 In Sconfig Wizard, click Next. The Ready To Commit page opens confirming that you are about to save your configurations to a transform file.
- 2 Click Next to create the transform file (.mst). This process is automatic and does not display on screen. The Complete page opens, confirming that you have created your transform file.
- 3 If you want to create a command (.cmd) or batch (.bat) file that will launch Setup with the new transform file, select the option at the bottom of the wizard and use the browse button to specify the file name and location.

If you do not select this option, you can follow the instructions provided by the wizard for adding the transform file to the `CmdLine` entry of the `setup.ini` file. For more information, see “Applying the MST File to an Installation” on page 95.

- 4 Click Finish to exit Sconfig.

Sconfig saves the transform file (.mst) in the same folder as the installation file (.msi). This makes it easier for users to find when they want to access the file from the administrative installation point.

## Applying the MST File to an Installation

After you have created a transform file (.mst), you can use it to customize Hummingbird Connectivity product installations. If, on the last page of the wizard, you did not opt to generate a command file that launches Setup with the new transform file, you can apply the transform file to the installation file manually. To do this, you must tell the `setup.exe` where to find your transform file.

### To change the `setup.exe`:

For more information on installing with an .mst file, see Sconfig Help.

- 1 In Windows Explorer, browse to the folder that contains the `setup.ini` file of your Hummingbird Connectivity product.
- 2 Open the `setup.ini` file.
- 3 On the line beginning with `CmdLine`, add the following text:

```
TRANSFORMS="full path to the .mst file"
```

For example, the `CmdLine` for Hummingbird *YourProduct* would look like this:

```
CmdLine=TRANSFORMS="c:\Hummingbird YourProduct.mst"
```

where *YourProduct* is the Hummingbird Connectivity product you are customizing.

- 4 On the File menu, click Save.
- 5 On the File menu, click Close.

The new `CmdLine` in the `setup.ini` file tells the setup program to incorporate the new transform file in the program installation. Running `setup.exe` uses both the original installation file and the transform file that you created using Sconfig.

## Creating Multiple Custom Installations

Multiple custom installations are necessary for disparate users with different development needs. Rather than having users sift through a large Hummingbird Connectivity product installation, use Sconfig to package custom installations for each user.

### To create another .mst file:

- 1 Open Sconfig and browse to a new transform file (.mst).
- 2 Create and save the transform file (.mst) to the administration installation point.
- 3 If you want to create more transform files for custom installations, repeat steps 1 and 2.
- 4 To use your new transform file (.mst), launch the Setup Wizard by using the following command:

```
setup /v"TRANSFORMS=c:\YourTransform.mst"
```

This way, multiple transform files can exist in one source location, without the need for repeated modifications to the `setup.ini` file.

## Running Sconfig from a Command Line

You can use a command-line prompt to generate transform files and to apply them to an installation file (.msi).

### Generating a Transform

Use the following command to generate a transform file:

```
-g basedb newdb transform [error/validation conditions]
```

where:

- *basedb* is the installation file you want to use to create the transform file

- *newdb* is the name of the new installation file that contains changes that you want to add to the transform
- *transform* is the file name of the transform file you want to create
- *error* is the code for any errors you want to suppress
- *validation conditions* is the code for any conditions under which a transform can be applied to a package

## Applying a Transform File

Use the following command to apply a transform file to an installation file (.msi):

```
-a transform database [error conditions]
```

where:

- *transform* is the transform file you want to apply
- *database* is the installation file to which you want to apply the transform
- *error conditions* is the code for any errors you want to suppress

## Error Conditions

The following table lists the error that you can suppress when applying a transform:

Code	Definition
a	Add existing row.
b	Delete non-existing row.
c	Add existing table.
d	Delete non-existing table.
e	Modify existing row.
f	Change code page.

## Validation Conditions

The following table lists the validation conditions you can apply to the transform file:

Code	Definition
g	Check upgrade code.
l	Check language.
p	Check platform.
r	Check product.
s	Check major version only.
t	Check major and minor versions only.
u	Check major, minor, and update versions.
v	Applied database version < base database version
w	Applied database version <= base database version
x	Applied database version = base database version
y	Applied database version >= base database version
z	Applied database version > base database version

## Chapter 5

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# Exceed Connection Server for UNIX Installation

<b>Server System Requirements</b>	<b>101</b>
<b>Installing Exceed Connection Server on a UNIX Platform</b>	<b>102</b>
<b>Uninstalling Exceed Connection Server on UNIX</b>	<b>104</b>
<b>Installing Hummingbird Exceed Remote Print Utility</b>	<b>105</b>



## Server System Requirements

Exceed Connection Server can be installed on Windows or UNIX platforms.

<b>Component</b>	<b>Minimum Requirements</b>
Operating system	Sun SPARC Solaris 8, 9, 10 Sun Intel Solaris 8, 9, 10 HP-UX 11.x IBM AIX 5L Version 5.2 Linux kernel level 2.4 or greater Glibc 2.3.2 or greater Windows 2000 Windows Server 2003 Windows XP Professional Windows Vista
RAM	256 MB
Processor	SPARC v8 for Sun SPARC Solaris PA-RISC 2.0 for HP-UX PowerPC for AIX Pentium i586 or higher for all Windows platforms, Sun Intel Solaris, and Linux platforms
Available disk space	265 MB

## Installing Exceed Connection Server on a UNIX Platform

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

**Note:** Hummingbird Exceed Remote Print Utility (elpr) is part of the Exceed Connection Server for UNIX installation. However, you may have to install it independently on other machines. For more information, see “Installing Hummingbird Exceed Remote Print Utility” on page 105.

### To install Exceed Connection Server:

- 1 Log in as root user:

```
$su root
```

```
passwd: Password
```

- 2 Go to the `ExceedConnectionServer` directory on the product 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:
  - **Server Port**—This is the port number on which Exceed Connection Server listens and through which the proxy transfers X session data. 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.

**Note:** Exceed Connection Server installs as a standalone server. After installing and starting the server, use Exceed Connection Server Manager to add it to a cluster if necessary.

- **Starting Display ID**—Specify the display number for the first Exceed Freedom or 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` and press Enter to confirm the settings.
  - 8 If an earlier product version is installed, indicate whether you want to copy settings from that installation.
  - 9 You have the option of selecting whether Exceed Connection Server starts at boot time by typing `y` and pressing Enter. Otherwise, type `n` and press Enter.
  - 10 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 can use Exceed Connection Server Manager to enter the key if you do not specify it at this time.

- 11 If a previous version was not installed prior to this installation (or you chose not to migrate), then you must enter the Exceed Connection Server administrator account name. The administrator you designate can then add other accounts to the administrative group. Press Enter to select the default option: `root`.

**Note:** Users running the installation under Superuser accounts are not added to the Exceed Connection Server 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.

- 12 When prompted to start Exceed Connection Server, type `y`. The Server is now installed and started.

## Uninstalling Exceed Connection Server on UNIX

### To uninstall Exceed Connection Server:

- 1 Stop the server by running the `ecsstop` script.
- 2 If the server was run at system boot time, you must run the `ecsbootstop` script to prevent the server from starting when it is uninstalled.
- 3 Delete the Exceed Connection Server installation directory from the UNIX host.

## Installing Hummingbird Exceed Remote Print Utility

Hummingbird Exceed Remote Print Utility (elpr) is installed automatically with Exceed Connection Server for UNIX.

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

### **To copy Hummingbird Exceed Remote Print Utility from the product CD:**

- 1 In the `/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 or Exceed Freedom users.



# Appendix A

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## Connectivity Applications

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## Hummingbird Connectivity Applications

The following applications and components are available with your product. They are all installed automatically when you perform a Complete installation. Otherwise, you can select them individually if you perform a Custom installation. Help is available with each application.

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>Accessories</b>							
<b>Classic FTP</b> —This application lets you connect to a remote FTP server and transfer files between computers. FTP is only supported under TCP/IP transports. You cannot use this application with DECnet or IPX/SPX. A server implementation of the FTP protocol must run on the remote computer to allow for FTP communication. The remote computer is the FTP server (host), and the PC running Classic FTP is the FTP client.	•	•	•	•			
<b>File Converter</b> —This application translates line feed control characters (also known as carriage return characters) between DOS and UNIX formats.	•	•	•	•	•	•	
<b>Hummingbird Basic</b> —This is a command language included with Hummingbird Connectivity products. Hummingbird Basic can be used to create scripts for frequently performed tasks that you would like to automate. For more information, see the <i>Hummingbird Basic Language Programmer's Guide</i> .	•	•	•	•			
<b>LPQ</b> (Line Printer Query)—This application is used to return the status of the print queue on either a UNIX system or another PC running a line-printer daemon.	•	•	•	•			

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>LPR</b> (Line Printer Requester)—This application lets you print PC files to any host on a TCP/IP network running LPD. The LPR window displays a separate window for each printer queue to which you are connected. For more information, see LPR Help.	•	•	•	•			
<b>Network Time</b> —This application lets you synchronize the time on your PC with the Network Time Server.	•	•	•	•	•	•	
<b>NSLookup</b> —This application finds and displays information about hosts in a domain.	•	•	•	•			
<b>Ping</b> —This is a diagnostic tool that lets you quickly check the integrity of a network communications path and your TCP/IP configuration. Ping sends Internet Control Message Protocol (ICMP) echo requests to specified machines and displays the response in graphical form.	•	•	•	•			
<b>Quick Script Editor</b> —This application is a graphical development environment in which you can create and modify HostExplorer and FTP Quick Scripts. These scripts are made up of commands that help to automate repetitive tasks.	•	•	•	•			
<b>Remote Tools</b> —This application is an integrated version of several UNIX commands—Remote Shell, Remote Exec, Remote Copy (RSH), and Remote Copy (REXEC). You can execute commands and copy files to or from other machines on the network using the RSH and REXEC protocols.	•	•	•	•			
<b>Traceroute</b> —This application shows the route that packets take to the host. It lets you test, troubleshoot, and manage network connections and find the route used to connect to a specific host.	•	•	•	•			
<b>Administrative Tools</b>							
<b>Files And Settings Transfer Wizard</b> —This application lets you backup, restore, and migrate Hummingbird Connectivity product settings using .humsft files. Using this file, you can then export and import these settings to and from other host machines.	•	•	•	•		•	

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>Hummingbird Profile Publishing Wizard</b> —This wizard lets administrators select and publish locally stored profiles to existing Profile Spaces, which ensures profile dependencies remain intact.	•	•	•	•			•
<b>Language Chooser</b> —Hummingbird Connectivity Language Chooser lets you specify the user interface language for Hummingbird Connectivity applications. The language you select will be used in Connectivity menus and dialog boxes.	•	•	•	•	•	•	•
<b>Media Location Manager</b> —This application lets you manage your Microsoft Windows Installer Media Source locations.	•	•	•	•		•	
<b>Hummingbird Event Monitoring Client Settings</b> —This application is a component of Hummingbird Event Monitoring Server. You can use it to configure event monitoring client settings, which are used to establish communication between an Event Monitoring Server and its Event Monitoring Clients for a particular host machine.	•	•	•	•		•	
<b>Profile Space Editor</b> —This application lets administrators view and manage profile spaces in various types of repositories.	•	•	•	•			•
<b>Connectivity Cleanup</b> —Connectivity Cleanup is a command-line utility that deletes Hummingbird Connectivity files, shortcuts, and registry entries for the current operating system on your machine based on one of two cleanup types: User, which deletes product files and registry entries for the current user, or Products, which deletes product files and registry entries for all Connectivity products installed on your system. You cannot launch this tool from the Start menu.	•	•	•	•	•	•	•

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<p><b>Sconfig</b>—Sconfig is a wizard that lets you customize the installation of software on local and network machines. With Sconfig, you can configure installations in the following ways:</p> <ul style="list-style-type: none"> <li>• Customize the folders installed by Setup.</li> <li>• Tailor the list of applications or components to be installed. You can alter the list to limit the functionality available to users or to optimize the use of disk space.</li> <li>• Simplify user input during the installation by pre-selecting information, such as the names of the directories where the software is installed.</li> </ul> <p>For more information on Sconfig, see “Custom Installation with Sconfig” on page 53.</p>	•	•	•	•	•		
<b>Connectivity Tools</b>							
<p><b>Directory Services Properties</b>—This application lets you configure the NIS, NIS+, and LDAP settings for Hummingbird Connectivity applications. All directory service queries made by Hummingbird Connectivity applications target the domains specified and selected by you. Directory Services Properties also lets you synchronize your Windows and UNIX passwords and select a target service for host name resolution.</p>	•			•	•	•	
<p><b>Directory Services Console</b>—Hummingbird provides MMC snap-ins for NFS Maestro products. If you are an Administrator on your machine and you have installed the NFS Administration feature, you can use a console to configure NFS Maestro products.</p>				•	•	•	
<p><b>Directory Services Explorer</b>—This application lets you browse NIS, NIS+, and LDAP directory services without leaving the familiar Windows environment. Using Directory Services Explorer, you can bind your machine to multiple domains simultaneously, browse object contents and properties, run selective or global queries, and change your password in a directory service domain.</p>	•			•	•	•	

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>HTTP Proxy Server</b> —HostExplorer HTTP Proxy provides HostExplorer users access to hosts residing behind corporate firewalls with the benefit of and without breaching security features of the firewall.	•	•		•			
<b>Hummingbird InetD</b> —InetD is a super daemon that lets you enable and disable various daemon services through a single application. It determines the network services to which your PC responds when a client makes a network request. In a Windows 98/2000 environment, InetD runs automatically when placed in the <code>Startup</code> folder. The <code>Startup</code> folder is the usual location for InetD.	•	•		•			
<b>Hummingbird Proxy Server Console</b> —Hummingbird Proxy Server is a general proxy engine that lets you proxy emulation sessions. Proxy Server is composed of two components: a) the proxy engine, which is installed as a service on your workstation, and b) the proxy console, which lets you configure and monitor the proxy service. A shortcut to the Proxy Console is installed when you install the Proxy Server. Proxy Server Console installs as part of Host Access Services.	•	•		•			
<b>Event Monitoring Server</b> —Hummingbird Connectivity products are now equipped with event monitoring capabilities. Event Monitoring Server is a reporting tool that lets administrators track the use of Connectivity applications.	•	•		•			

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>HostExplorer</b>							
<p>HostExplorer is a PC-to-host connectivity product that provides connections from a desktop to enterprise hosts, including IBM mainframes, AS/400s, UNIX and Linux systems. Depending on the type of host to which you are connecting, you can transfer files using Telnet, Hummingbird FTP, or 5250 Data Transfer. HostExplorer offers three types of terminal emulation:</p> <ul style="list-style-type: none"> <li>• 3270—Emulates an IBM mainframe (including 3179G, 3472G, 3278, and 3279 models), runs 3270 applications, and transfers files between a host machine and your PC using the IND\$FILE file transfer application.</li> <li>• 5250—Emulates IBM AS/400 sessions and runs 5250 applications.</li> <li>• VT—Emulates the DEC VT420 video terminal and includes support for VT52, VT100, VT101, VT102, VT220, VT320, VT420, ANSI, SCO ANSI, IBM 3151, and Linux Console.</li> </ul>	•	•	•	•			
<b>HostExplorer Tools</b>							
<p><b>5250 Data Transfer Wizard</b>—This HostExplorer component lets you transfer data between a PC and an AS/400 host. If you transfer a file from an AS/400 host to your PC, you can specify standard SQL statements to execute in the file.</p>	•	•		•			
<p><b>HostExplorer Migration Wizard</b>—HostExplorer Migration Wizard converts user settings files created for Attachmate Extra! v6/7.1, IBM Personal Communications v5.7, and Wall Data Rumba v7.2 into HostExplorer profiles.</p>	•	•		•			

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>HostExplorer SDK</b> —These application programming interfaces (APIs) let you extend the functionality of your available programming languages, such as Visual C++ and Visual Basic, to write scripts. Use it to exploit the functionality and features of HostExplorer products from within your own programs and scripts.	•	•	•	•			
<b>Macro and Profile Converter</b> —This utility lets you convert WallData Rumba or Attachmate Extra! macros into Hummingbird Basic macros and Attachmate Extra! profiles into HostExplorer session profiles.	•	•		•			
<b>HostExplorer Trace Wizard</b> —This wizard guides you through the steps needed to create a trace, package all relevant files, and create a ZIP file that you can send to Hummingbird Connectivity Customer Support.	•	•		•			
<b>HostExplorer Feature Access Management</b> —This tool lets administrators selectively disable various HostExplorer features. Disabled feature information can be saved globally for all profiles or to a specific session profile.	•	•		•			
<b>HostExplorer Print Services Console</b>							
HostExplorer Print Services installs as part of Host Access Services. This application is a server-based, scalable printing solution that lets you distribute reports from host computers to any LAN (local area network) printer in your enterprise network.	•	•		•			
<b>WyseTerm</b>							
WyseTerm is a terminal emulator that emulates Wyse-50 and Wyse-60 terminals.	•	•		•			
<b>Hummingbird FTP</b>							
This application is a client implementation of the File Transfer Protocol (FTP). It lets you transfer both text (ASCII) and image (binary) files between your PC and a remote computer running a server implementation of FTP. You can also use it to perform file and directory management on your PC and a remote computer.	•	•	•	•			

Application/Component	Hummingbird Connectivity Product					
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo
<b>Hummingbird Deployment Wizard</b>						
Hummingbird Deployment Wizard lets you create Web-deployable installations of certain Hummingbird Connectivity products. This multi-component application is not installed as a Connectivity product feature. You must install it separately from the Connectivity product CD.	•	•	•			
<b>Security Tools, Connectivity SecureTerm Tools, or FTP Tools</b>						
<b>HostExplorer Feature Access Management</b> —This tool lets administrators selectively disable various HostExplorer features. Disabled feature information can be saved globally for all profiles or to a specific session profile.			•			
<b>HostExplorer Migration Wizard</b> —HostExplorer Migration Wizard converts user settings files created for Attachmate Extra! v6/7.1, IBM Personal Communications v5.7, and Wall Data Rumba v7.2 into HostExplorer profiles.			•			
<b>HostExplorer Trace Wizard</b> —This wizard guides you through the steps needed to create a trace, package all relevant files, and create a ZIP file that you can send to Hummingbird Connectivity Customer Support.			•			
<b>Hummingbird Proxy Server Console</b> —Hummingbird Proxy Server is a general proxy engine that lets you proxy emulation sessions. Proxy Server is composed of two components: a) the proxy engine, which is installed as a service on your workstation, and b) the proxy console, which lets you configure and monitor the proxy service. A shortcut to the Proxy Console is installed when you install the Proxy Server. Proxy Server Console installs as part of Host Access Services.			•			
<b>Connectivity Kerberos</b> —This is a client implementation of the Kerberos security authentication protocol developed at MIT. This application lets you manage your Kerberos password and obtain Kerberos tickets/credentials.	•	•	•	•		•

Application/Component	Hummingbird Connectivity Product						
	Exceed	HostExplorer	Connectivity SecureTerm	NFS Maestro Client	NFS Maestro Server	NFS Maestro Solo	Connectivity Secure Shell
<b>Connectivity Secure Shell Console</b> —This console is the hub of Connectivity Secure Shell functionality. Use it to create, configure, and launch Secure Shell sessions, and to monitor sessions that are running. It also provides access to Hummingbird Certificate and Key Manager.			•				•
<b>Synchronization Wizard</b> —Use Synchronization Wizard to synchronize files to and from a remote AS 400 or FTP site. This lets you maintain sets of remote and local files. You can designate either the remote or the local file as a master file. When the synchronization is performed, the original file is automatically updated with changes made to the edited file.	•	•	•	•			
<b>Smart Card Manager</b> —This application lets you manage lists of hosts and user passwords stored on smart card devices. Xstart uses this information to authenticate users with remote hosts.	•						



# Appendix B

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## General Accessibility and Customer Support

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## General Accessibility

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

**Access Keys** All menus have associated access keys (mnemonics) that let you use the keyboard, rather than a mouse, to navigate the user interface (UI). These access keys appear as underlined letters in the names of most UI items. (If this is not the case, press Alt to reveal them.) To open a menu, press Alt and then press the key that corresponds with the underlined letter in the menu name. For example, to access the File menu in any Hummingbird Connectivity application, press Alt+F.

Once you have opened a menu, you can access an item on the menu by pressing the underlined letter in the menu item name, or you can use the arrow keys to navigate the menu list.

**Keyboard Shortcuts** Some often-used menu options also have shortcut (accelerator) keys. The shortcut key for an item appears beside it on the menu.

**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 select or clear check boxes, 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 and apply 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. These options can add sound, increase the magnification, and create sticky keys.

If you installed the Microsoft Accessibility components for your Windows system, you can find additional accessibility tools under Accessibility on the Start menu.

### For Windows 2000/XP/Server 2003

#### To enable/disable Accessibility options:

- 1 In Control Panel, double-click Accessibility Options.
- 2 In the Accessibility Options dialog box, select or clear the check boxes as required. To enable or disable specific options, click Settings.
- 3 When finished, click Apply to apply the settings, or click OK to accept the settings and close the dialog box.

### For Windows Vista

#### To enable/disable Accessibility options:

- 1 In Control Panel, click Ease Of Access.
- 2 In Ease of Access, click Ease Of Access Center.
- 3 Use the tools in Quick Access To Common Tools to enable or disable Accessibility options or specify settings in Explore All Settings.
- 4 When finished, click Apply to apply the settings, or click Save to accept the settings and close the dialog box.

For more information about Ease of Access settings in Windows Vista, refer to Windows Vista Help.

## Customer Support

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

<b>Hummingbird Connectivity, a division of Open Text Corporation 38 Leek Crescent, Richmond Hill, Ontario, Canada L4B 4N8</b>		
	Canada and the USA	International
Telephone:	1-800-486-0095	+1-905-762-6400
Fax:	+1-905-762-6407	
E-mail:	support@hummingbird.com	
FTP:	ftp.hummingbird.com	
Web Support:	support.hummingbird.com/customer	
Web Site:	www.hummingbird.com	

<b>United Kingdom and Ireland 9:00 AM to 5:30 PM (GMT)</b>	
Telephone:	+ 44 (0) 118 902 9517
E-mail:	support.uk@hummingbird.com

<b>Germany and Austria 9:00 AM to 6:00 PM (GMT +1)</b>	
Telephone:	+ 49 (0) 89 4629 1925
E-mail:	support.de@hummingbird.com



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