Exceed 2006
Technical White Paper

Exceed 2006 on Terminal Server Windows 2000 and Windows 2003

Hummingbird™

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Before Beginning:

You should be logged on the Terminal Server machine as the Local Administrator not as a regular user or as a Domain Administrator when you run the Exceed installation.

Do not put the Terminal Server Machine in Install Mode, leave (or place) it in Execute Mode (the normal mode for the Terminal Server machine to run applications).

To confirm the mode, go to a command prompt and type in "change user /query". To put the system into execute mode enter "change user /execute".

There are now 2 different methods of installing Exceed 2006 on Terminal Server. The first one is simpler but there is no way to restrict users from accessing Exceed.
The second one is similar to versions prior to Version 11 and provides a method of access control.

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Installation – The New Way:

A new, simpler installation has been introduced for installing Exceed on Terminal Server and is basically just the same as doing a Personal Installation on a stand-alone system.

Insert the Exceed CD, and when the splash screen comes up choose "Install Exceed"

On the next screen choose Personal Installation. You will notice that unlike earlier versions of Exceed, there is no option for Administrative Installation for Terminal Server.

Another option is simply to run setup.exe from the command line.

From this point you just follow the onscreen prompts and configure Exceed as if it were a stand-alone system. Once it is installed, Exceed will now be available for all users of the machine.

Unlike previous versions of Exceed on Terminal Server, this method does not provide a method of access control. This means that all users of the Terminal Server will have access to Exceed and will have Hummingbird Icons on the desktop/start menu whether they use the product or not.

After the installation is complete, you will be prompted to reboot the server. If you want to setup for static displays, now is the time to do it. See Part 5 - Display Management for further details

Don't forget with this method there are no overrides so any further customization will be the same as a stand-alone version of Exceed.

Installation – The Old Way:

Part 1 – Administrative Installation

Create an administrative copy image of Hummingbird Exceed 2006 by running either of the following commands. You will need to open a command prompt and change to the directory containing setup.exe:

setup.exe /a /V"TRANSFORMS=exceedtse.mst" or

msiexec /a "hummingbird exceed.msi" TRANSFORMS="<path to> 1033.mst; <path to> exceedtse.mst"

In the first command line example you select the language transform from a drop-down list; in the second one you specify it yourself.

Binary Installation

As an Administrator, install Hummingbird Exceed 2006 on the Terminal Server. This is done from a command prompt by running either;

msiexec /i "*AdminPath*\Hummingbird Exceed.msi"

or

setup.exe from the *Admin Path*

Note: *AdminPath* is the full path to the administrative image created in Part 1. *AdminPath* must remain available during the lifetime of Hummingbird Exceed 2006 on the Terminal Server. Multiple Terminal Servers can share the same *AdminPath*.

By default, the installation of user files for the Administrator will occur automatically on completion of the Binary Installation. If you want to modify or configure any settings for the Administrator you should create a Windows group named Exceed11_Users before running setup.exe. This will prevent the automatic installation from happening. Details about Access and configuration are in the next sections of this document.

Part 2 - Controlling access to Exceed on Terminal Server

After installation of Exceed 2006 on Terminal Server, there are no shortcuts created although Hummingbird Neighborhood (which is a shell extension not a normal shortcut) will appear on the desktop. This does not mean that anything is broken. The next time anyone (including the Administrator) logs in to the machine they will automatically receive their own personalized Exceed settings. These personalized settings include shortcuts, registry entries and user files. All settings are stored in the profile of the user who logs in. User files are copied from *AdminPath* so each user must have at least read access to the *AdminPath* install point.

When the User Install is run, usrsetup.exe is hooked into the logon process by adding it to the winlogon key in the registry. This means that it is run every time a user logs on and determines whether or not Exceed needs to be installed.

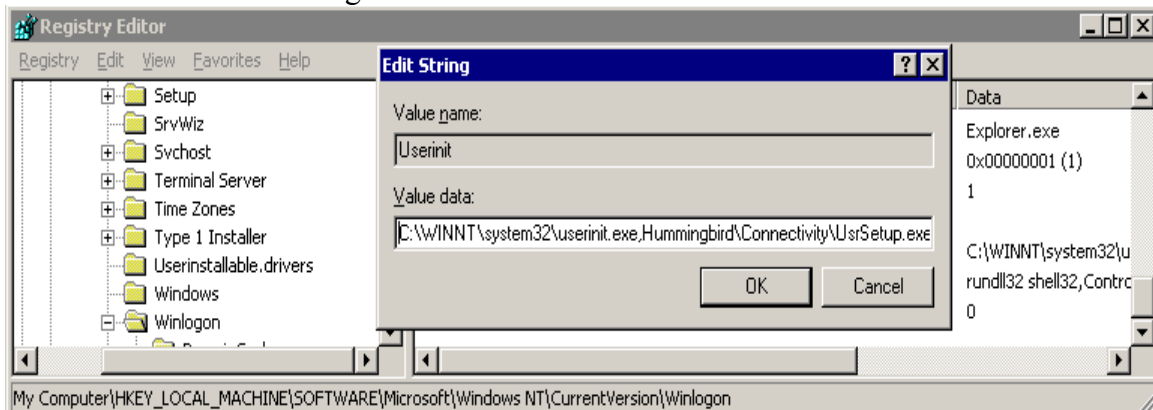HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon

Figure 3

Quite often not all users of the Terminal Server require access to Exceed and may be confused by the unexpected installation of their own personalized Exceed settings. To facilitate access control, Exceed looks for a Windows Group called Exceed11_Users (Note: this can be changed on a per machine basis).

The default group name is stored in the registry and can be modified directly or through the User Manager interface.

HKEY_LOCAL_MACHINE\SOFTWARE\Hummingbird\Connectivity\11.00\Installer\UsrSetup\{35DFFE62-9F48-4236-9249-9EAB5C7123C9}
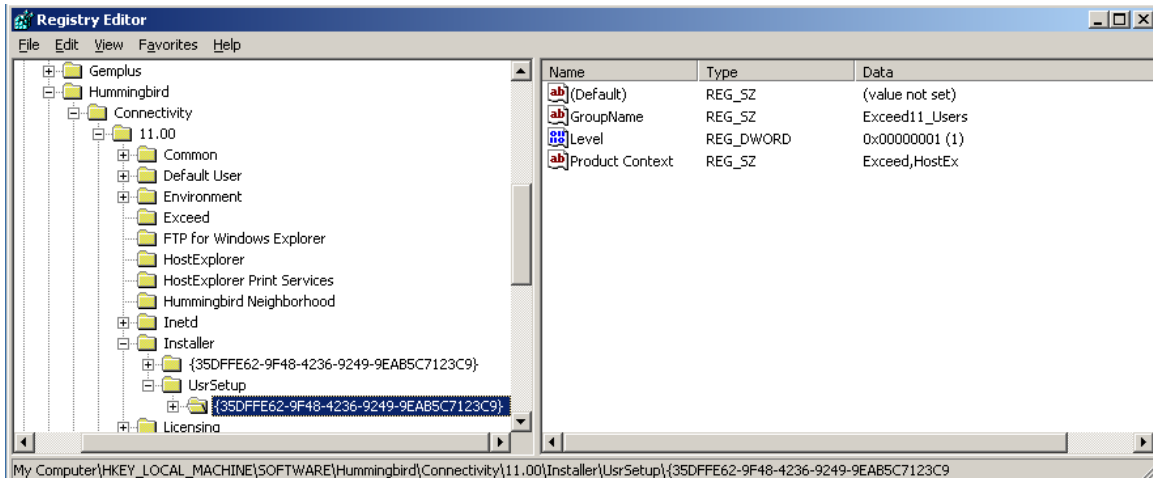
Figure 4

If the Exceed11_Users group exists, Exceed will only be installed when a user logging into the Terminal Server is a member of the group. If a user is removed from the group, they are considered to have lost their permission to use Exceed and will have their personalized Exceed settings automatically removed the next time they log in.

It is advisable to create the group because without it you won't be able to uninstall for individual users who may no longer require access to Exceed

Customizing Exceed Settings

Many aspects of the user installation process can be customized by the administrator. These customizations can be applied globally, by groups or on an individual basis. Most of the time the customizations override the default behaviour so they are known as overrides.

Overrides can be created for three different levels: Global, Group, and User. Global overrides are also known as AnyUser (*) overrides and apply to all users who log in; Group Overrides allow you to create different settings for groups of users; User overrides are intended to provide the ability for unique customization on a per user basis. Overrides are searched in priority order: User level first, then Group, then Global.

In addition to customizing the settings, overrides can also be used to distribute files to users. See the Override and Deploying Custom User Files sections for further details.

Part 3 - Uninstalling Exceed 2006

If you installed Exceed using the traditional (older method) then uninstalling Hummingbird Exceed 2006 from a Terminal Server consists of two stages – the first being the individual removal of personalized settings when each user next logs in, the second being the removal of the product using Add/Remove Programs

Remove the users from the Exceed11_Users group. The next time they log in, their personalized settings will be removed
.
You must be an administrator in order to remove Exceed 2006 using the Add/Remove Program dialog. This will remove the binary files from the Program files folder and prevent existing users from using Exceed.

If you installed Exceed using the new method, then uninstalling it is accomplished through the Add/Remove Programs section in Control Panel. This will remove the product for all users of the Terminal Server.
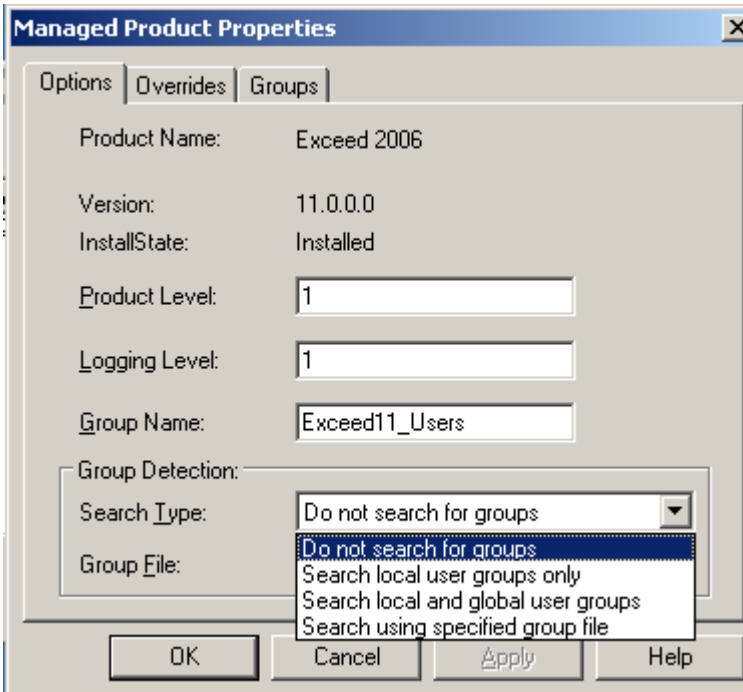
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Part 4 - Overrides

Managing overrides is done through the User Manager. It is a graphical front end to adding entries to the registry. There is no shortcut and by default can only be accessed by browsing to %windir%\system32\Hummingbird\Connectivity and selecting usrmanager.exe.
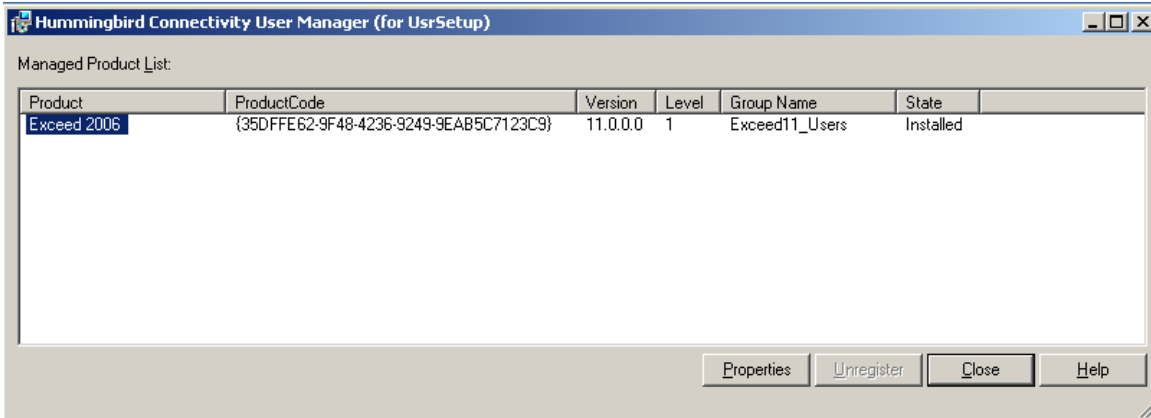
Figure 5

Highlight the Product Name and then choose Properties. A new window with three tabs will open up.

Figure 6

The Options tab allows you to change the Product Level in order to deploy new files to your users. For more information see Deploying Custom User Files.

You can also increase the amount of detail captured in the usrsetup.log by the usrsetup.exe. This is useful for diagnosing problems when working with a Hummingbird Technical Support Representative. The default Group Name that provides access control can also be changed.

The Group Detection feature would be useful in organizations with a large number of domain controllers, users, groups, etc. Since usrsetup.exe needs to search all the groups to determine who has access by way of Exceed11_Users group membership, this can possibly slow things down

"Do not search for groups" is basically the same as having no Exceed11_Users group. Everybody who logs in will get access to Exceed. The next 2 options are self-explanatory.

The last option, "Search using specified group file" allows you to skip scanning all the groups and list in the file, those users who should have access. Specify the full path to the file name. By default, the filename is usergroupfile.ini but can be modified. The file itself does not exist and will need to be created by the administrator in %windir%\system32\Hummingbird\Connectivity. Following is an example of the file syntax:
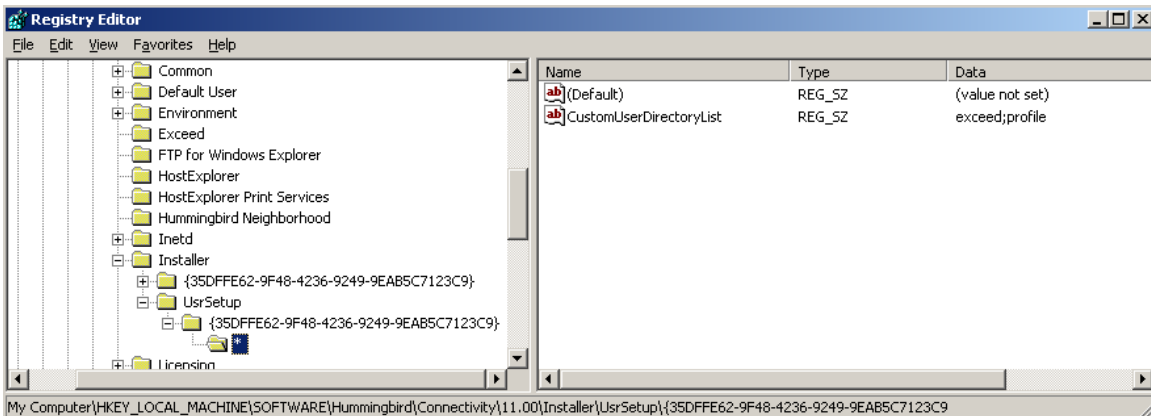

[Exceed11_Users]
DomainName\username=1

The second tab is what lets you create the various overrides. Following is an example of some overrides. Clicking on the Add button will show you some common overrides and if they are not listed you can always add them. The complete list is in Table 1.
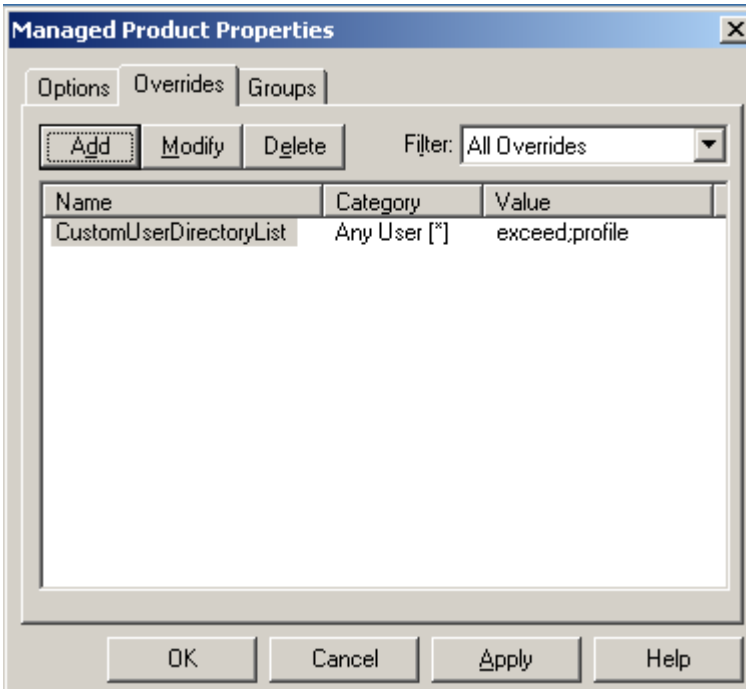
Figure 7

As mentioned earlier this tool is just a front-end tool to the registry. The values created here are stored in

HKEY_LOCAL_MACHINE\SOFTWARE\Hummingbird\Connectivity\11.00\Installer\UsrSetup\{35DFFE62-9F48-4236-9249-9EAB5C7123C9}*

Figure 8

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Commonly Used Overrides

Override Name	Possible Values	Description
HCL_USER_ROOT	[%EnvVariable] \\server\share\path [PreDefinedInstallerProperty]	Determines the Root User directory. Path must be unique for each user. Each User must have read/write access to the directory specified. Default value is [AppDataFolder]Hummingbird\Connectivity\11.00\ Value Should end with a slash.
TRANSFORMS	Semicolon-delimited list of transform paths. E.g. C:\Filename.mst C:\abc.mst; C:\def.mst	Can specify a custom transform to use for this user. The transform must be applicable to the original Hummingbird Exceed.MSI file and read accessible by the current user otherwise the installation will continue without applying the transform.
SOURCEDIR	[%EnvVariable] \\server\share\path [PreDefinedInstallerProperty]	Determines the source path for the user files that will be copied to the current user's profile. Must be accessible to all users who have this override – otherwise installation will fail.
DropNonCriticalTablesFromCache	Integer >= 1	If this override exists, the cache MSI will be stripped of some tables in the Database thereby reducing the size of the Cache used to control user files.

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| Override Name	Possible Values	Description
Silent	Integer >= 1	This override prevents the basic user interface from being shown to the user.
Exceed.Xserver.KeepLfpXdb	Integer >= 1	Set this override to prevent install from modifying the lfp.xdb file during install.
Exceed.Xserver.KeyboardType	Valid Keyboard file name e.g. us.kbf	This override allows you to preset the keyboard file during the installation.
Exceed.Xserver.AdminString	Encrypted String	This allows you to set the administrative password for the exceed.cfg. This override is best set by a transform created by Sconfig. (See TRANSFORM override).
Exceed.Xserver.Tune	N/A	This override is disabled in Terminal Server. Do not try to enable tuning during install or you may have unexpected results.
CustomUserDirectoryList	Semi-colon delimited list.	See Deploying Custom User Files for details.

Table 1

Deploying Custom User Files

A special override called CustomUserDirectoryList can be created to allow the per user installation process to distribute custom user files.

The CustomUserDirectoryList override value is a list of directory name(s). The value for this example is "customfiles". This is an arbitrary value and can be anything the Administrator chooses. (see Figure 7)

For example, assume that you want to distribute some Xstart (*.xs) files and some HostExplorer profiles (*.hep) to your users. As these are two different components of the Exceed product, the files will resides in different directories.

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With a default installation the Xstart files will end up in c:\Documents and
Settings\%username%\Application Data\Hummingbird\Connectivity\11.00\Exceed while
the HostExplorer files will end up in c:\Documents and
Settings\%username%\Application Data\Hummingbird\Connectivity\11.00\Profile.
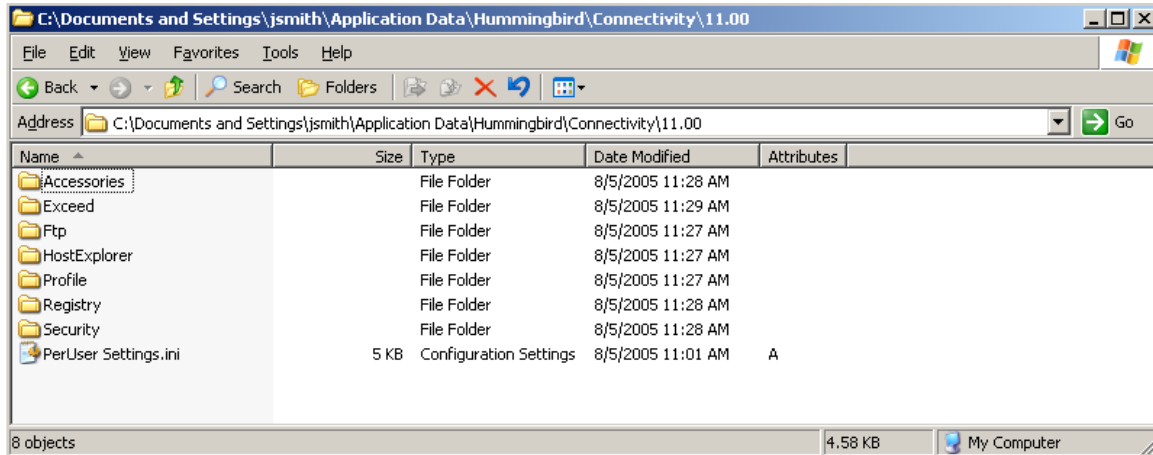
Figure 9

The path name for both examples is the same right up until the end. We will therefore
describe c:\Documents and Settings\%username%\Application
Data\Hummingbird\Connectivity\11.00\ as the root of the user directory tree. It is after
this that the directory structure branches out to accommodate the different components of
Exceed as can be seen in Figure 9. It is these directory names that will determine what
directories you create in the root of the Admin directory to distribute your user files

To get the files distributed properly you create the Custom User directory in the root of
your *AdminPath*. (see Figure 10). In the above example you would create a parent
directory which you can name anything. i.e. "customfiles". Inside this directory you will
create a structure that reflects the directories that would hold the user files in a personal
installation of Exceed.

In the case of Xstart, you would create a sub-directory named Exceed, and in this
directory, you would place the xstart (*.xs) files you want to distribute.

i.e. e:\admin\customfiles\exceed

Similarly, to distribute HostExplorer profiles, you would create a sub-directory named
Profile and in this directory you would place the HostExplorer (*.hep) files you wanted to
distribute.

i.e. e:\admin\customfiles\profile

The same example could be expanded to include structures for any other files you wanted
to distribute.
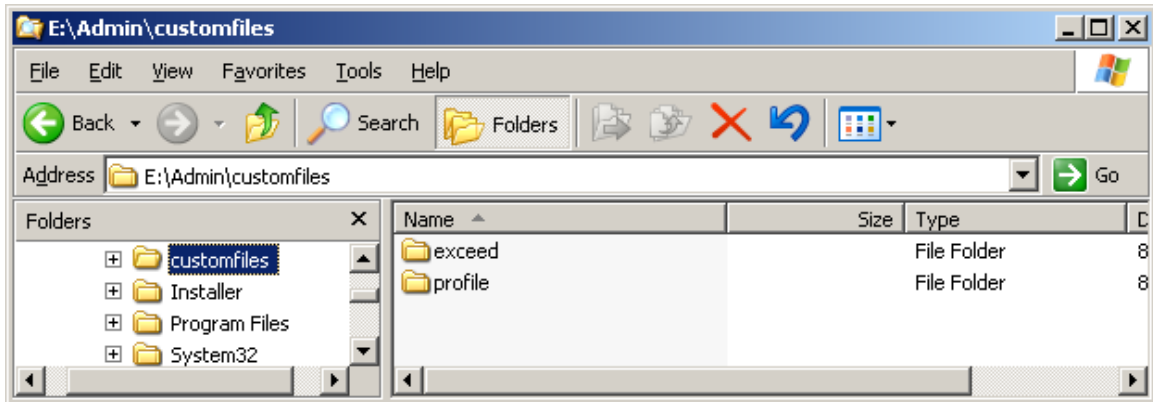
Figure 10

If Exceed has already been installed and you want to deploy some new files for your users, you can follow the above procedure, but in addition you will need to change the Product Level. (see Figure 6)

The next time users login, usrsetup.exe will see that the Product Level in HKLM does not correspond with the value in HKCU. This will force an updating of the product and distribution of the custom user files.

Part 5 - Display Management

Each Exceed user must have their own unique display number otherwise they will not be able to see their Xclients properly. Exceed assigns display numbers to users either through Static assignment for permanent use or Dynamic assignment for temporary use. The default method used is dynamic assignment.

Dynamic display assignment works by letting Exceed choose what display number to use each time Exceed is started. Exceed examines the available pool of display numbers and selects the lowest value available. Once a display number is selected it is not available for anyone else. When Exceed exits, the display number is placed back into the pool. Trying to change the display number in the communications dialog in Xconfig will have no effect since Exceed knows that dynamic display assignment is being used.

Static display assignment works by assigning a user a unique display number during the per user installation process. The lowest display from the available pool of display numbers at the time of the installation is selected. This display value is set inside Xconfig and for protection is made read only.

Display settings are controlled by the Hummingbird Exceed Display Controller service and is configured in the C:\Documents and Settings\All Users\Application Data\Hummingbird\Connectivity\11.00\Global\Exceed\Display Manager.ini file.

By default Exceed is set to use dynamic displays. Look for the line "Unique Display For Users=0". If you want static displays, change the value to 1. You will then need to save the file and restart the Hummingbird Exceed Display Controller service.

In some instances, you may want to set a minimum or maximum display number. This is done by modifying the display range.

Display Range Low=0
Display Range High=9999

The default range is Low value of 0 and a High value of 9999. If static assignment is in place and no further display values are available dynamic display assignment is used. If dynamic assignment is used and when Exceed starts it cannot find a valid display it will stop with an error.

You may also assign specific static displays to specific users

[<Domain>\<User>]
Static Display Numbers=5