

NCD Application Note

Using the Multi-User Application Manager

Introduction

The main obstacle to taking full advantage of multi-user systems, such as NCD's WinCenter, is that most applications are still designed under the assumptions of a single-user environment, that is, one user per installation of the application. While multi-user systems allow many users to run the application on a server from their desktops, the application's architecture fails to provide means for maintaining individual user settings and preferences. MAM was designed specifically to help you solve this problem.

This document shows by example how to use the Multi-User Application Manager (MAM) to configure a Windows application for multiple users. The example is a 16-bit Windows program that provides access from a Window 3.1 desktop to remote Remedy database servers.

Of course, each application has its own requirements and idiosyncrasies, so the actions taken to customize this sample program probably do not correspond exactly to what you must do for some other application.

Still, this example illustrates the *types* of issues and strategies to consider when customizing an application for multiple users, and ways you can use MAM to implement those strategies.

Preparation

CAUTION MAM operations can affect, among other things, initialization files and Registry entries. Before experimenting with MAM, you should have a working knowledge of initialization files, the Windows NT Registry, and how the application you want to configure establishes user settings. Without this knowledge, you could unwittingly cause serious problems.

Further, until you have perfected the customizations you want MAM to perform, you should disable MAM execution in user accounts by saving Templates and Policies you create or modify in non-default locations. For details, refer to Chapter 3 of the *WinCenter Connect System Administrator's Guide*.

Before you can perform the actions described in this example, you must:

- Install WinCenter on the machine to be used as the application server.
- Ensure your WinCenter stations are connected to the WinCenter server.
- Read Chapter 3 of the *WinCenter Connect System Administrator's Guide* to familiarize yourself with the concepts underlying this procedure.

Procedure

Step	Action	Notes
1	At the WinCenter server console, login as any user belonging to the Administrator group.	
2	At a command-prompt, issue the command: <code>change user /install</code>	Disable propagation of settings from your (administrator's) HKEY_CURRENT_USER hive to users' HKEY_CURRENT_USER hives when they log on to the server. You want to do this while you are configuring the application.
3	Run the setup program for the 16-bit application.	
4	Install the application specifying: <ul style="list-style-type: none"> • A directory in which to install the application base files, e.g.: <code>C:\Apps\Remedy</code> • A unique user location (not \users\default) in which to install user-specific files the application needs in order to operate. For this example, the program files were installed in: <code>C:\Apps\Remedy\Users</code> • Specify that the initialization settings typically stored in the win.ini file <i>not</i> be saved in win.ini but in a separate file, for example, remedy.ini. 	Keeps the official system copies of user-specific files in a location where they cannot be modified by users running the application. This lets the system administrator standardize and maintain control over the default settings in these files.
5	Installation has the following results: <ul style="list-style-type: none"> • In <code>C:\ProgramFiles\Remedy\Users</code>, two new files are created: <ul style="list-style-type: none"> ♦ AR ♦ AR.INI and two new subdirectories are created: <ul style="list-style-type: none"> ♦ ARcmds ♦ BACKUP • The WIN.INI file now includes the following new entries: <pre>[Remedy] AppName=ARUSER-SERVER ProgramPath=C:\Apps\Remedy \aruser.exe DDECall C:\Apps\Remedy [ArUser] ARPATH0=C:\Apps\Remedy\Users</pre> 	The BACKUP directory contained a copy of the necessary initialization changes for WIN.INI. Recall, however, these changes are to be saved in an alternate file, remedy.ini .
6	At a command-prompt, execute:	Re-enables propagation of user-specific settings from your

Step	Action	Notes
	change user /execute	(administrator's) HKEY_CURRENT_USER hive to those of users when they log on to the server.
7	<p>Start creating a new MAM Template:</p> <ol style="list-style-type: none"> Start MAM by clicking its icon in the WinCenter Administration group. In the MAM toolbar, select File → New, and in the dialog that appears, select Template. The MAM Template Editor is displayed. 	Templates are the objects in which MAM records actions you want performed when users log on to the server.
8	<p>Instruct MAM to create an application directory for each user, in this example, one named Remedy.</p> <ol style="list-style-type: none"> In MAM's Template Editor, select the <i>Directories</i> tab, then click the New button. The <i>New Directory Action</i> dialog appears. At the <i>Directory pathname</i> text box, click the arrow button to display the Components menu. Select <i>User's Home Directory</i>. The text box is filled with the environmental variables %HOMEDRIVE%%HOMEPATH%. At the end of this text string, type \Remedy, so the pathname is: %HOMEDRIVE%%HOMEPATH%\Remedy Click OK. The action list on the <i>Directories</i> tab now shows the following action specification: +D %HOMEDRIVE%%HOMEPATH%\Remedy 	Create user copies of all directories where the application keeps user-specific settings. This is to allow users to have personalized settings that will not be propagated to other users.
9	<p>Instruct MAM to create an ARCmids subdirectory in each user's Remedy directory.</p> <ol style="list-style-type: none"> In MAM's Template Editor, select the <i>Directories</i> tab, then click the New button. The <i>New Directory Action</i> dialog appears. At the <i>Directory pathname</i> text box, click the arrow button to display the Components menu. This time, select <i>Recent Input</i>. A Recent Input dialog appears. Reflecting the input from step 6 above, the first item should be %HOMEDRIVE%%HOMEPATH%\Remedy. Select it and click OK. This text string then fills the <i>Directory pathname</i> text box. At the end of this text string, type \ARCmids, so the pathname is: %HOMEDRIVE%%HOMEPATH%\Remedy\ARCmids Click OK. The action list on the <i>Directories</i> tab now shows the following action specifications: +D %HOMEDRIVE%%HOMEPATH%\Remedy +D %HOMEDRIVE%%HOMEPATH%\Remedy\ARCmids 	Same objective as for step 8.
10	<p>Instruct MAM to copy the AR and AR.INI files from the Apps\Remedy\Users directory to each user's Remedy directory.</p> <ol style="list-style-type: none"> In the MAM Template Editor, select the <i>Files</i> tab, then click the New button. The <i>New File Action</i> dialog appears. At the <i>Source file</i> text box, click the arrow button to display the 	Create individual user copies of files the application uses to maintain user-specific settings, and to put these files into the user directories specified in

Step	Action	Notes
	<p>Components menu. Select <i>Files</i>. A file system browser appears.</p> <p>c. Navigate to the AR file in Apps\Remedy\Users. This fills the <i>Source file</i> text box with the pathname: C:\Apps\Remedy\Users\AR</p> <p>d. At the <i>Destination file or directory</i> text box, click the arrow button to display the Components menu. Select <i>Recent Input</i>. The Recent Input dialog appears.</p> <p>e. Select the item %HOMEDRIVE%%HOMEPATH%\Remedy. Click OK. This string appears in the <i>Destination file or directory</i> text box.</p> <p>f. Repeat steps a. through e. for the AR.INI file. Only, for the <i>Source file</i> specify: C:\Apps\Remedy\Users\AR.INI.</p> <p>g. The Action list on the Files tab now shows the following action specifications: +F N C:\Apps\Remedy\Users\AR %HOMEDRIVE%%HOMEPATH%\Remedy +F N C:\Apps\Remedy\Users\AR.INI %HOMEDRIVE%%HOMEPATH%\Remedy</p>	steps 8 and 9.
11	<p>Instruct MAM to modify each user's WIN.INI file with the new information found in the system copy of the WIN.INI file in step 4 above.</p> <p>a. Select the <i>Initialization Files</i> tab and click the <i>New</i> button. The <i>New Initialization File Action</i> dialog appears.</p> <p>b. At the <i>Directory pathname</i> text box, click the arrow button to display the Components menu.</p> <p>c. Select <i>User's Home Directory</i>. The text box is filled with the environmental variables %HOMEDRIVE%%HOMEPATH%. At the end of this text string, type \Windows\win.ini.</p> <p>d. In the <i>Section</i> text box, type: Remedy</p> <p>e. In the <i>Key</i> text box, type: AppName</p> <p>f. In the <i>Value</i> edit box, type: ARUSER-SERVER</p> <p>g. The action list on the <i>New Initialization File Action</i> tab now shows the following action specification: %HOMEDRIVE%%HOMEPATH%\Windows\win.ini Remedy AppName ARUSER-SERVER</p> <p>h. Add the WIN.INI ProgramPath key in the same manner as the AppName key above, such that the action list includes the following action specification: %HOMEDRIVE%%HOMEPATH%\Windows\win.ini Remedy ProgramPath C:\Apps\Remedy\aruser.exe DDECALL C:\Apps\Remedy</p>	In this example, only the [Remedy] and [ArUser] sections need to be added to users' WIN.INI files.

Step	Action	Notes
	<p>i. Finally add the [ArUser] section and ARPATH0 key in the same manner as the AppName key above, such that the action list includes the following action specification:</p> <pre data-bbox="321 342 998 394">%HOMEDRIVE%%HOMEPATH%\Windows\win.ini ArUser ARPATH0 %HOMEDRIVE%%HOMEPATH%\Remedy</pre>	
12	<p>From the MAM toolbar, select File → Save As. Specify a name for the Template you have just created, and save it in some location <i>other</i> than the default Template pathname. When you are ready to test it, copy the Template to the default Template path.</p>	<p>Prevent the Template from being executed for users logging on to the server, until the Template has been tested and debugged.</p>
13	<p>Test the new Template.</p> <ol style="list-style-type: none"> Login as a normal user (not as Administrator). In a DOS session, change directories to: <pre data-bbox="345 695 532 722">system32\wincen</pre> At the command-prompt, enter: <pre data-bbox="345 783 521 810">AppMgr -ng -s</pre> The MAM Status and Control window appears. Use it to execute the actions in the Template one at a time, and verify that they have the desired effects. 	
14	<p>When you have verified the Template operates as desired, copy it to the default Template directory. By default, MAM uses:</p> <pre data-bbox="321 993 643 1020">System32\WinCen\Templates</pre>	<p>Place the approved Template in a location where it will be automatically executed for users when they log on to the server.</p>