

HP Connection Manager

Administrator's Guide

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#### **HP Connection Manager**

#### Administrator's Guide

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MARNING! Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

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**NOTE:** Text set off in this manner provides important supplemental information.

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# **1** Introduction

This guide explains the Administrator mode features of the HP Connection Manager (HPCM) software, features that can help you to design your thin client environment for maximum performance, from network topology to load distribution to virtual-desktop protocol.

### What is HP Connection Manager?

HPCM is a client application designed for thin client virtual desktop environments; it automates the invocation of virtual desktop clients and terminal connections at power-up or logon of the thin client.

HPCM enables the administrator of such environments to control the invocation of the supported virtualdesktop clients like RDP, Citrix (ICA/Xen), VMware View, as well as other connectivity solutions with minimal or no end-user interaction. The level of user interaction during the logon process is completely under the control of the thin client administrator who prepared the system for use.

Here is a simple example of the usage of this tool in a hypothetical thin client virtual desktop environment at xyz corp:

Alice works in the accounting department at XYZ corp. and logs in to an Terminal Services (RDP) session on a Windows Server® 2003, via her thin client as XYZCorp\accounting1.

BOB IS A SUPERVISOR ON THE FACTORY FLOOR AND LOGS IN AS XYZCORP\MFGDAYSUPER.

CHAZZ IS A NIGHT SECURITY CONTRACTOR AND LOGS IN AS XYZCORP/NIGHTSECURITY.

Their IT department has deployed a varied mix of virtual desktop environments over the years to meet their constantly evolving needs: the accounting department uses Windows Server 2003 with Terminal Services (RDP), manufacturing uses VM ware virtual desktops, and contractors such as Chazz get a HTTP browser kiosk-based timecard and e-mail interface.

When deployed and properly configured on the thin client device, HPCM can automatically invoke the appropriate desktop client for each of these user scenarios, based on the user logon or the preconfigured kiosk-mode settings.

By using a combination of local or domain logons plus a virtual-desktop logon, almost any environment scenario can be accommodated, with or without end-user logon interaction.

In Alice's case, all thin client systems deployed in the accounting department could easily be set up to connect automatically to the appropriate Windows<sup>®</sup> 2003 Terminal Services session, to log on automatically, or to allow a user to log on manually.

## Concepts, terminology, and conventions

Throughout this manual, the following terminology is used when referring to the various features and their use.

• Admin mode and User mode

There are two modes of operation. In the first mode, Admin mode, the Administrator defines and edits the HPCM environment actions for the thin client end user. The second mode, User mode, is invoked whenever HPCM is launched by any User account that is NOT the Administrator account.

User

In most cases, the word User (especially when capitalized) means the account currently logged on to the thin client.

Local logon

Local logons are those that have accounts that are created on the thin client itself. Normally, HP thin client devices ship with only two local logons: the Administrator and User accounts. These two logons are sufficient for most installations, but additional local logons can be easily created.

Domain logon

A Domain logon is any Active Directory or Windows Domain logon. The same conditions that apply to the Local logons apply to the Domain logons.

Scripting

Scripting means the design of the expected actions in the context of the HPCM environment: actions such as auto-logon, failovers, credentials used, etc.

Failover

Failover occurs when the HPCM failover tests detect a failed or missing connection state. The Administrator has the option to 'script' the actions HPCM is to take during failover. These actions are limited to trying another connection or set of connections based on a simple, ordered-tree architecture.

Protocol

Protocol refers to any of the HPCM-supported client protocols; these currently include Terminal Services (RDP), Citrix ICA, VMware View, Web (HTTP), SSH, Telnet, etc. This support requires that the external client software be installed.

Connections

A connection is a collection of protocol client parameters that you, as the Administrator, define within the HPCM GUI interface. These can then be assigned to an HPCM profile (see the following definition). The connection defines which protocol client (RDP, ICA, etc.) to use and how to configure it.

Profiles

A profile is a context to which allows you to associate specific connections with one or more User logons. This association allows you to define how the associated the user will interact with the connected client. This mechanism includes a default profile, a catch-all for unassociated logons.

### Which virtual-desktop clients are supported?

HPCM supports the following major virtual desktop client environments:

- MS Terminal Services (RDP/RDC)
- Citrix ICA (Xen)
- VMware View

Microsoft® Internet Explorer is also supported in regular and kiosk modes as a web desktop client.

**NOTE:** Many of the configurable items for the virtual desktop environments are supported, making HPCM a valuable option for most deployment scenarios.

# 2 Features and installation

### **Feature overview**

HPCM features are designed to make Administrative setup of thin client environments easier:

Easy-to-use context interface

Don't know what to do? Just right-click or press the space bar for a context menu to see more information.

Common interface for virtual desktop support

HPCM unites the administration of connections into a single interface that allows HPCM to manage and script them.

• Scripted failover using a simple user interface

HPCM includes the ability to failover when the requested client connection fails its failover tests. The failover feature enables HPCM to test certain aspects of the connection before the client is launched and to failover if the connection is unavailable.

**NOTE:** Access to this feature is limited to the RDP and ICA clients.

Kiosk mode for end-user operation

The Kiosk mode feature allows Administrative lock-down of the local desktop from a power-up or restart, thus limiting the end-user access to the thin client desktop interface. This mode also allows the thin client to invoke any local or domain logon that the Administrator chooses.

Meta profiles for logon association

HPCM Profiles are administrator-defined templates for the scripting design of the connection environment. This feature is explained in detail later, but essentially it allows a single or multiple local or domain logons to be mapped to a specific HPCM connection scripting profile.

## Installing the software

For Windows Embedded Standard systems, HPCM is available as a Windows Installer package (.msi) file.

Prior to installing HPCM, you must log in as the local Administrator and perform the following steps:

- 1. Disable the Write Filter completely and reboot the system.
- 2. Verify that the RAMDisk manager is set to 96 MB. Adjust this if necessary, and reboot the system.
- 3. Locate the HPCM installer package and double-click it to install it.

NOTE: HPCM is not yet available for Windows CE.

# **3 Getting started**

## **Modes of operation**

The HP Connection Manager expects to operate in one of two modes: Admin or User.

- Admin mode provides a GUI that allows access to the HPCM editing features, which are not accessible in User mode. Admin mode is only available when you are logged onto the thin client as Administrator. (No other account will do, even if it has Administrator privileges.) Once you are logged in as the Administrator, start HPCM from the start menu and you are in Admin mode.
- User mode provides a GUI that allows the user to view the current status of his or her connections and to launch or terminate these connections.

### Admin user guide

In this section, you can learn how to set up and use HPCM in your thin client environment. We will first cover some basic operations, and then we will use these operations to build a few simple use-cases.

All operations defined in this section require that you be logged on to the thin client as the Administrator.

Once you are familiar with HPCM and its features, it may be helpful to perform an audit of your environment to determine the optimal setup of your HPCM deployment.

An ideal thin client environment would allow for a single thin client firmware image to be deployed across the entire network and would minimize the need for re-configuration once deployed. Of course, such an ideal environment is dependent upon many disparate factors. HPCM is a tool for taming some aspects of thin client deployment in diverse environments and may help minimize the number of images that must be maintained.

The administration of an HPCM deployment can be thought of as these simple steps:

- 1. Define/test required connections for the thin client environment.
- 2. Define required profiles for the thin client environment.
- Design the desired scripting actions for the profiles.
- 4. Assign User logons to the profiles.

- 5. Perform User mode tests of the configuration.
- 6. Deploy the HPCM configuration as part of thin client image deployment.

Getting to know these features will greatly benefit you in the goal of achieving maximum performance from your thin client environment.

#### Setting up and testing your connections

The HPCM Administrator mode is designed to allow easy Administration of your HPCM deployment, you can use this mode to set up and test your HPCM environment via a GUI interface.

Before we get started let's have a look at the Admin mode GUI.



In the Admin mode GUI, you can see a toolbar, the **Connections** group tree, and the **Profiles** group tree. You can also see the default profile. Any connections you define will appear in the **Connections** tree, while any profiles you define will appear in the **Profiles** tree.

So let's start by creating a connection. One way to do this:

#### Click Configure, then select Remote Desktop Connection.



When you do so, the RDP Connection Editor dialog box appears.

Connection	RDP Connection Edit	tor	2 🛛	
2 Default	General Deplay	ocal Resources 💧 Startup Progr	ram Visual Peatures	
	Connection (jame	newconnection.		
	Host name			
	Ports	3389		
	C Drable Buton	Hic Logon		
	Uper Login			
	Eassword			
	Dogwin			
			Cit Cancel	
	<u>.</u>			

The **Connection Name** is the name that HPCM will use to refer to this connection for scripting purposes. It must therefore be unique for each connection definition. For this example, the fields will be completed as follows:

eneral Display L	ocal Resources   Startup Program   Visual Features
Connection Name	rdp example 1
Host name	remarus
Porti	3389
Enable Automa	atic Logon
User Login	accounting1
Password	•••••
Dogain	xyzaccounting

Click OK.

The connection now appears in the **Connections** tree, where you can select it and perform test actions on it such as **Launch** or **Edit**, for instance.



**NOTE:** Context menus are available for all significant items in the GUI and provide a reminder of the actions that can be performed.

It is important to test your configuration as you create it, and HPCM provides an easy way to do this. To test a connection:

1. Right-click the connection or highlight the desired connection and press the Space Bar.

The following context menu appears:

O Configure	Connect	Cleorenet	() ===		
une • • Conner	tions (	tem Type P iroup	natocal	Attributes	i Status
<b>N</b> 10	Connect	innection R	DP		Ide, normal
Profix	Edt Belete	oup ofile			
	Cancel				

2. Invoke **Connect** from this context menu or from the main tool bar to test your connection.

If you are testing an RDP connection, the Microsoft RDP client should launch and initiate the configured RDP session. To return to the configuration session:

Select **Edit** from the **Configure** or **Context** menus to return to the RDP Connection editor.

These same operations apply to all supported clients.

#### **Using Profiles to define logon actions**

In this section, we'll discuss how to use the connection definition in a thin client environment.

In the simplest case, one in which every thin client connects to a single virtual-desktop session and the end user logs onto that session, there is no need to define a new profile. In this cases, the HPCM configuration is as simple as defining the connection to the virtual-desktop session, assigning it to the default profile, and marking it for auto-launch.

Unfortunately, not all thin client environments are quite so simple.

HP thin clients are deployed in a wide variety of environments, and while nearly all could be accommodated with only the predefined local account called User, there may be times when an environment requires additional local logons or perhaps the use of a domain logon.

In order to address these cases, HPCM provides a mapping mechanism to allow multiple logons to be mapped to a single scripting profile. An example of this might work like this: you have four accountants in the company accounting department, and your IT policy requires that each use a domain logon to gain access to their thin client. Their logon names are:

- xyzdomain\alicesmith
- xyzdomain\bobjones
- xyzdomain\chazzpalmer
- xyzdomain\jakeowens

The first three all connect to the same Windows terminal server. The fourth, jakeowens, is the accounting HR liaison, and he requires special access to an HR payroll session terminal server. The following is one of several ways you could use HPCM to handle this scenario.

First, you need to create an RDP connection definition for the regular accounting users.

- 1. Click Configure > New Connection > Remote Desktop Connection.
- 2. Type the Connection Name (xyzaccounting) and the Host name (xyzaccounting01) in the appropriate fields.

eneral Display L	ocal Resources   Startup Program   Visual Features
Connection Same	systemuring
Bost name	xyzaccounting01
Ports	3399
Enable gutoma	itic Logon
User Logn	
Eesaword	
Dogwin	

You also need an RDP connection for the HR accounting users.

- 3. Click Configure > New Connection > Remote Desktop Connection.
- 4. Type the Connection Name (xyzaccounting HR) and the Host name (xyzaccounting02) in the appropriate fields.

General Deplay	Local Resources Startup Program Visual Peetures
Connection Name	wyraccounting HR
Host name	syraccountrig0.2
Part:	3389
Enable Autom	satic Lagon
User Login	
Bassword	E
Dogan	

This creates the following **Connections** tree. Notice that we now have a clear way to refer to the connections.

With the connections in place, we are ready to assign them to a profile:

•	onfigure	Connect	Disconnect	① Info	
Name			Item Type	Protocol	- ,
•	Conne	tions	Group		_
	👆 xyz	accounting HR	Connection	RDP	
	👆 xyz	accounting	Connection	RDP	
🔻 🦲	Profiles		Group		
	🏦 Defa	ault	Profile		

To illustrate the use of the default profile, we will use it for our three regular accountants: alicesmith, bobjones, and chazzpalmer. To do this, use the context menu to assign their connection to the default profile as a **primary** connection.

1. Right-click **Default** in the **Profiles** tree, select **Assign primary**, and select their connection (**xyzaccounting**).



...and that's it!

Why? Because the logons for our three regular accountants were not already mapped to any profile, their logons, by default, caused HPCM to select the default profile for them.

Now we will create the special profile for the jakeowens logon.

2. Right-click **Profiles** and select **New profile**.



**3.** Type the profile name, accounting-HR in this example, in the **New Profile** field, and then click **Create**.



The new profile is now visible in the **Profiles** tree



Your can now assign connections to the new profile as you did in the previous example.

4. Right-click the profile that we are updating, accounting-HR, select Assign primary, and select the connection, xyzaccounting HR



The new connection appears under the profile.



The special profile for HR liaison accountants is now set up, all that remains to be done is to tell HPCM which logons should use this profile.

5. Right-click the accounting-HR profile and select Logon assignments..... Type jakeowens in the Logon field.

🔻 🕘 Pi	ofies		Group	
* 🔹	Default		Profile	
• acc	ount A	countrino ssign grimary tart Session top Session est auto-gtart opin assignment elete Profile ancel	Primary Connection RDP	
ype p nection nection p	Assign F Assigned Lop	Profile	2.2	
e ary Conne e	Enter a core	na delimited list o	of logons: alice,bob,chazz,dave	
	Logon jake	owens  Cagoel	Ogiete Qone	

#### 6. Right-click the **Default** profile and select **Logon assignments...**. Type

alicesmith, bobjones, chazzpalmer, making sure to separate logons with commas, but no spaces, in the Logon field.

This step completes the configuration steps for our four accountants' example. This example allows the use of the same deployment image for all thin client machines in the accounting department. Also, additional profiles can be created for other special cases.

This basic model could be applied to just about any thin client environment where HPCM is used.

#### Using auto-launch and persistence

HPCM has configurable options, which are set at the profile level, that determine:

- whether or not a connection is automatically invoked when HPCM is started
- whether a connection is automatically re-launched when the client process exits

By combining the use of these features with kiosk-mode enabled, you can seamlessly connect to desired sessions at power-up, and thereby control the level of user interaction during the logon or session invocation.

To enable auto-launching of a connection assigned to a profile:

Right-click the assigned connection and select Enable Auto-launch to toggle the feature.



With this feature enabled, the **xyzaccounting HR** connection will be automatically invoked for any user whose logon selects the **accounting-HR** profile.

Enabling the persistent option causes HPCM to re-invoke the client application whenever the application process exits.

A Right-click the assigned connection and select **Enable Persistent** to toggle the feature.

### Using the failover feature

HPCM gives you the ability to set RDP or Citrix ICA connections to failover to alternate connections whenever the built-in failover tests fail. Currently, the failover tests consist of a DNS hostname check, followed by a TCP port connection test. If both tests succeed, then HPCM launches the associated virtual-desktop client application.

The failover feature determines what actions to take when these tests fail. An example of an appropriate action to take might be:

- to failover to another off-site terminal server connection
- to invoke a web browser that opens a web page showing the status of current network and services and or providing a link to the company e-mail web interface

To demonstrate how to set up such actions, let's use the xyzaccounting example again.

First, let's create the web failover connection by invoking the Web Connection editor.

1. Right-click Connections, select New connection, and select Internet Explorer.

2. Type a name and URL in the Connection Name and Open URL fields, and then click OK.



The following **Connections** tree shows the new connection available for assignment.

lame	Item Type	Protocol	At
Connections	Group		
b xyzaccounting	Connection	RDP	
- 👆 xyzaccounting HR	Connection	RDP	
🖉 Intranet Web mai	Connection	Web	
🖲 Profiles	Group		
accounting-HR	Profile		
🛛 🕹 xyzaccounting Hi	R Primary Connec	tion RDP	
🔹 🏦 Default	Profile		
🛛 🕹 xyzaccounting	Primary Connec	tion RDP	

**3.** To assign the web mail connection as a failover connection to the xyzaccounting HR connection: right-click the connection, select **Assign failover**, and then select **Intranet Web mail**.



Your accounting-HR profile now displays the following connection scheme.



Now whenever the failover tests for the xyzaccounting HR connection indicate that the connection is not available, HPCM will automatically launch the intranet web mail client. Failover connections for failover connections may also be configured.

#### Using the kiosk mode feature

The kiosk mode feature allows you to turn your thin client into a locked-down, public kiosk that may invoke one or more of the virtual-desktop clients.

In kiosk mode, the operating system desktop is not accessible at all. Kiosk mode is the preferred mode for environments that require little to no interaction from the User during power-up/restart.

The kiosk mode configuration dialog is only accessible in Admin mode.

1. Click Configure and select Global Settings.

_	Gru	- Enable V	South Manufacil	
	PTOI	L Craure N	ANA PROF	
R	Prin	User Logon	User	Idie, no
mai	Failo	Password	••••	Ide, no
	Prof	Sav	e Changes Cagoel	
	Print	-		Ide, no

2. Select **Enable Kiosk Mode**, type a user logon and password in the fields, and then click **Save Changes**.

In kiosk mode an automatic logon is required and therefore a User logon and password must be provided.



Once configured, the system can be rebooted and the configuration can be tested and verified for the desired startup and logon behavior.

By combining kiosk mode with the auto-launch feature, a powerful kiosk platform configuration is possible for many types of applications.

## **Client User guide**

Little to no interaction is required by the end user of HPCM: in User mode, HPCM is little more than a desktop interface for launching Administrator-defined connections to virtual desktops. On a Kiosk mode setup with auto-launched connection(s), the end user will scarcely glimpse the HPCM GUI before a connection is launched. However, there are some interface items worth discussing for the Admin, helpdesk, and end user roles.

Exiting the connection manager in kiosk mode

One of the less intuitive actions for a new user may be how to exit HPCM in Kiosk mode, when all the normal cues provided by the OS desktop are missing. To exit, simply use the **m** button in the lower right corner of the HPCM GUI.

Starting connections

Starting a connection is simple, whether using the mouse or keyboard. You may double-click or a connection or highlight a connection and press Enter.

Terminating connections

It is not recommend that you use the tools provided by the HPCM GUI for terminating virtual desktop sessions. This method of ending a session has side effects that can adversely affect the virtual-desktop server. Instead, a proper exit should be performed from within the session client software whenever possible.