

PCoIP® Management Console User Manual

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Issue 1

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Contents

REVISION HISTORY	3
CONTENTS	4
TABLE OF FIGURES	7
DEFINITIONS	9
INTRODUCTION.....	10
1 OVERVIEW	11
1.1 PCoIP Deployment Components	11
1.1.1 PCoIPMC running on Server	11
1.1.2 PCoIP Host and Portal Devices	12
1.1.3 DNS Server with PCoIPMC DNS SRV Record.....	12
1.1.4 Connection Broker	12
1.2 PCoIPMC Limitations	12
1.3 PCoIPMC Concepts	13
1.3.1 Groups and Profiles	13
1.3.2 Fixed Seating	14
1.3.3 Device Discovery	15
2 INSTALLATION AND SETUP	21
2.1 PCoIPMC Host System Requirements	21
2.2 Installing the PCoIPMC	21
2.3 Running the PCoIPMC	22
3 VIRTUAL MACHINE FEATURES.....	23
3.1 Refresh Status.....	23
3.2 Set Web Interface Password.....	23
3.3 Change Hostname	23
3.4 Manage Networking	24
3.4.1 View Network Configuration.....	24
3.4.2 Configure IP Address	24
3.4.3 Configure DNS.....	25
3.5 Database Management.....	25

3.5.1	Backup Database.....	26
3.5.2	Restore Database	26
3.5.3	Delete Database	26
3.6	Time Zone Management	26
3.7	Restart PCoIPMC Daemon	26
3.8	Halt Virtual Machine	27
4	WEB INTERFACE	28
4.1	Accessing the PCoIPMC Web User Interface.....	28
4.2	Device Management	30
4.2.1	Device Discovery (optional)	31
4.2.2	Legend	31
4.2.3	Query Devices and Update Database	33
4.2.4	Filtering Devices.....	33
4.2.5	Configure Device Group	34
4.2.6	Linking Devices	35
4.2.7	Access Device Web Page.....	36
4.2.8	Summary Device Information.....	37
4.2.9	Device Details	38
4.3	Group Management	41
4.3.1	Create a Group	42
4.3.2	Modify a Group.....	42
4.3.3	Delete a Group.....	42
4.3.4	Apply a Profile to a Group.....	42
4.3.5	View Profile Application Status	43
4.4	Profile Management	43
4.4.1	Create a Profile	43
4.4.2	Duplicate a Profile	44
4.4.3	Delete a Profile.....	44
4.4.4	Modify Profile Name & Description	44
4.4.5	Modify Profile Properties.....	44
4.5	Power Management	46
4.5.1	Sending Reset and Power off Commands.....	47
4.5.2	Power Management Status.....	48
4.6	Update Firmware	49
4.6.1	Import Firmware.....	50
4.6.2	Update Device Firmware	50
4.6.3	View Status	52
4.7	Manage Settings	53
4.7.1	Database Management.....	53
4.7.2	Environment Settings.....	54
4.8	Site Status	55
4.9	Online Help.....	56

5	GETTING STARTED	57
5.1	Start the PCoIPMC.....	57
5.2	Discover Devices.....	57
5.3	Adding Devices to a Group	57
5.4	Peering Devices	58
5.5	Next Steps.....	59

Table of Figures

Figure 1-1: PCoIP Deployment Components	11
Figure 1-2: PCoIPMC Groups and Profiles.....	14
Figure 1-3: DNS Service Configuration Menu	16
Figure 1-4: DNS Service Location (SRV) Dialog Box	17
Figure 1-5: PCoIPMC Manual Device Discovery Feature	20
Figure 2-1: PCoIPMC VM Console	22
Figure 3-1: PCoIPMC VM Console	23
Figure 3-2: Manage PCoIPMC VM Console Network Settings	24
Figure 3-3: Manage PCoIPMC VM Console Database	25
Figure 4-1: Web Interface Security Warning.....	28
Figure 4-2: PCoIPMC License Agreement	29
Figure 4-3: Web Interface Login	29
Figure 4-4: Home Web Page	30
Figure 4-5: Device Management Web Page.....	31
Figure 4-6: Device Management Legend Box	32
Figure 4-7: Adding Devices to a Group.....	35
Figure 4-8: Peering a Pair of Devices.....	36
Figure 4-9: Summary Device Information Dialog Box.....	37
Figure 4-10: Edit Device Name Using Summary Device Information Dialog Box	37
Figure 4-11: Portal Device Details Web Page	39
Figure 4-12: Device Event Log Web Page	41
Figure 4-13: Group Management Web Page.....	42
Figure 4-14: Profile Management Web Page	43
Figure 4-15: Profile Management – Set Properties Web Page	45
Figure 4-16: Bandwidth Configuration Settings Dialog Box.....	46
Figure 4-17: Power Management Web Page	46
Figure 4-18: Send Device State Change Command Web Page	47
Figure 4-19: Schedule Device State Change Command Web Page.....	48
Figure 4-20: Power Management Status Web Page	49
Figure 4-21: Update Firmware Web Page	50
Figure 4-22: Initial Update Devices Web Page	51
Figure 4-23: Second Update Devices Web Page	52
Figure 4-24: Firmware Update Status Web Page.....	52
Figure 4-25: Settings Web Page.....	53
Figure 4-26: Database Management Web Page	54

Figure 4-27: Home Web Page	55
Figure 4-28: Help Web Page	56
Figure 5-1: Adding Devices to a Group.....	58
Figure 5-2: Peering a Pair of Devices.....	59

Definitions

DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DNS SRV	Domain Name System Service Record
FQDN	Fully Qualified Domain Name
OS	Operating System
OSD	On Screen Display
PCoIP®	Personal Computer over Internet Protocol
PCoIP Host	Host side of PCoIP system
PCoIP Portal	Portal, or desktop, side of PCoIP system
PCoIPMC	PCoIP Management Console
SLP	Service Location Protocol
URL	Uniform Resource Locator, Web site address
VM	VMware Virtual Machine

Introduction

The Teradici PCoIP Management Console (PCoIPMC) enables administrators to centrally manage a PCoIP deployment. The PCoIPMC is packaged as a VMware virtual machine (VM) and runs on VMware Player. A web browser is used to access and control the PCoIPMC.

Administrators can use the PCoIPMC to do the following:

- Access and update the configuration of all PCoIP devices
- Apply the same configuration data to groups of devices
- Update device firmware
- Reset devices
- Control the power state of host devices
- View status information

This document describes how to install and setup the PCoIP Management Console. It also describes the features of the tool. More detailed information describing the individual PCoIP device configuration fields is available in the PCoIP Administrative Interface User Manual (TER0606004).

This document is broken into the following sections:

- Section 1 provides a description of the components found in a PCoIP deployment along with some important concepts associated with the PCoIPMC
- Section 2 describes how to install and setup the PCoIPMC
- Section 3 details the features of the PCoIPMC virtual machine
- Section 4 discusses the web interface of the PCoIPMC, this is the primary mechanism used by administrators to manage the PCoIP devices
- Section 5 describes how to use the PCoIPMC to perform some basic tasks

Note: First time users of the PCoIPMC that want to begin using the tool right away should review section 5. This section provides information on how to start the PCoIPMC, log into the web interface, discover some devices and link a pair of host and portal devices. After this is done the user will be able to establish a PCoIP session between the linked host and portal devices. This section also includes recommendations the user should follow to become familiar with the major capabilities of the PCoIPMC.

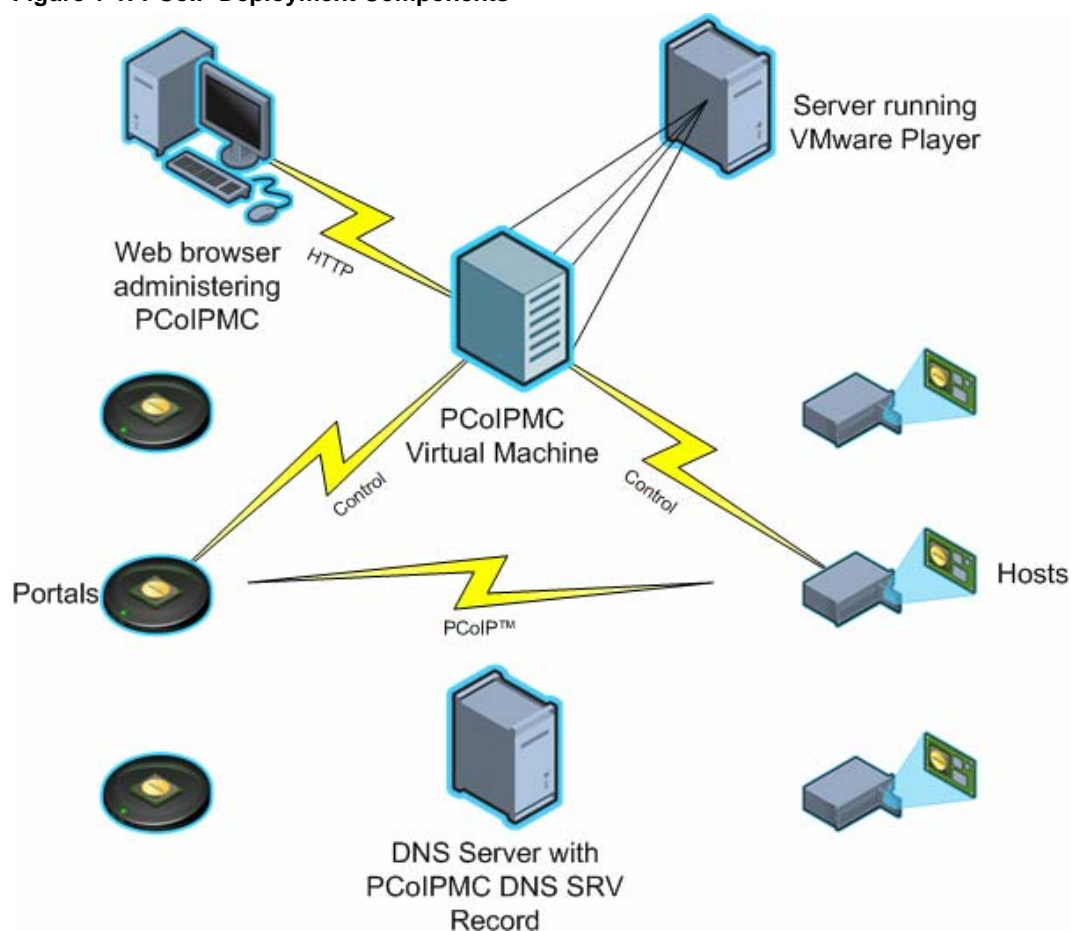
1 Overview

This section describes the components found in a typical PCoIP deployment. It describes some important concepts that help the user understand how to use the PCoIPMC to manage the PCoIP devices in a deployment.

1.1 PCoIP Deployment Components

Figure 1-1 shows the recommended components found in a PCoIP deployment where individual host and portal devices are statically grouped together (peered). The figure does not show a connection broker, which is required when hosts are dynamically assigned to portals as users log in.

Figure 1-1: PCoIP Deployment Components



1.1.1 PCoIPMC running on Server

The PCoIPMC is packaged as a VMware virtual machine (VM) and runs on VMware Player. This allows users to install and run the PCoIPMC on any server machine that can run the VMware Player.

A web browser is used to access and control the PCoIPMC.

The PCoIPMC must be connected to the same network the PCoIP devices are connected to. This is required to allow the tool to communicate with the PCoIP devices.

1.1.2 PCoIP Host and Portal Devices

A PCoIP deployment is made up of one or more sets of PCoIP host and portal devices. Each device has multiple configuration settings that can be accessed and controlled by the PCoIPMC. The device configuration settings can also be accessed through a web interface supported by each device. Refer to the PCoIP Administrative Interface User Manual (TER0606004) for information on how to do this.

Users should avoid changing the configuration settings through the device web interface and instead use the PCoIPMC. This ensures all devices in a deployment are configured the same way. This also ensures the PCoIPMC database accurately reflects the device configuration settings.

1.1.3 DNS Server with PCoIPMC DNS SRV Record

Figure 1-1 shows a DNS Server with the PCoIPMC DNS SRV record. This component is optional, but highly recommended. The PCoIPMC must discover the PCoIP host and portal devices. The PCoIPMC DNS SRV record facilitates automatic device discovery by the PCoIPMC.

The PCoIPMC DNS SRV record is not required when one of the following conditions is true:

- All PCoIP devices in a deployment reside on the same network subnet as the PCoIPMC. In this situation the PCoIPMC can find the devices using SLP discovery. All devices must set the *Enable SLP Discovery* configuration setting equal to *True*.
- The *PCoIPMC DNS-Based Discovery Prefix* setting of all devices is configured to equal the hostname prefix of the PCoIPMC. This setting can only be accessed using the PCoIPMC. It is not accessible through the device web interface or portal OSD interface. Section 1.3.3.2 describes how PCoIP devices use the *PCoIPMC DNS-Based Discovery Prefix* to contact the PCoIPMC along with the system requirements that must be met to use this option.

If none of the previous conditions are true users should include a DNS Server in their system and install the PCoIPMC DNS SRV record. Section 1.3.3.1 describes how to install this record.

1.1.4 Connection Broker

A Connection Broker is an optional system component that allows an administrator to manage user access to computing resources. This component is not shown in Figure 1-1. In a PCoIP deployment a connection broker is used to broker connections between PCoIP host and portal devices. Deployments that need to assign hosts to portals based on the person using the portal require a connection broker.

1.2 PCoIPMC Limitations

This section describes some limitations of the PCoIPMC.

- All PCoIP devices managed by the PCoIPMC must be loaded with firmware release 0.19 or greater. The PCoIPMC cannot discover devices loaded with older firmware releases. New firmware must be uploaded and activated on devices running firmware releases less than or equal to 0.18. This is done through the device web interface. Refer to the PCoIP Administrative Interface User Manual (TER0606004) for information on how to do this.
- The current release of the PCoIPMC is only compatible with version 3 of the Firefox web browser. Support for additional browsers will be included in future releases of the PCoIPMC.
- The current release of the PCoIPMC only supports configuring portals to establish PCoIP sessions. It does not support configuring RDP sessions. If this is required a connection broker should be installed in the deployment.
- The PCoIPMC only supports linking PCoIP Host and Portal devices in fixed seating mode where the same Portal always connects to the same Host. If dynamically assigning Portals to Hosts is required, the deployment must include a connection broker.

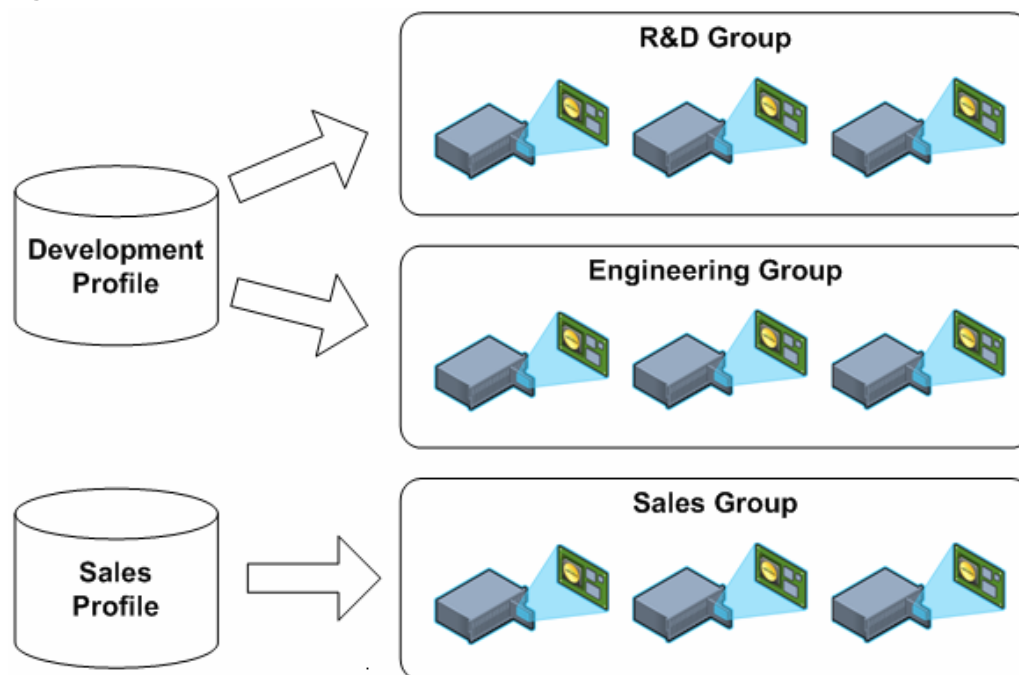
1.3 PCoIPMC Concepts

This section describes some key concepts users should be aware of before using the PCoIPMC.


1.3.1 Groups and Profiles

The PCoIPMC manages the PCoIP devices using two important concepts (*groups* and *profiles*). A *profile* is a set of device configuration settings and a *group* is a set of one or more devices with a single profile. Figure 1-2 shows one way in which groups of host devices could be related to profiles. The figure shows three groups of devices. Two of the groups share the same profile. In this situation all configuration settings defined in the *Development Profile* will be written to the devices in the *R&D* and *Engineering* groups.

Figure 1-2: PCoIPMC Groups and Profiles



Below are some important rules regarding *groups* and *profiles*.

- Each group has one and only one profile associated with it.
- The same profile can be associated with multiple groups.
- All configuration settings in a profile are written to all devices in a group when the profile is applied to the group.
- A profile can contain values for every configuration parameter but this is not required. A profile can be defined that contains a subset of the configuration parameters.
- When profile settings are written to devices the settings might not take effect immediately. Some settings are activated after a device is reset. Profile settings that require a reset are preceded by the  symbol within the PCoIPMC Profile Set Properties and Device Details web pages. Users should consider resetting all devices in the deployment after updating device configuration settings.
- When devices are added to a group and the group profile has not changed, the profile should be applied to the newly added devices and not the entire group. This will minimize the number of device resets.

1.3.2 Fixed Seating

The PCoIPMC allows an administrator to link individual host and portal devices so that each portal always establishes a connection to the same host. This relationship is called *fixed seating*. If a PCoIP deployment requires the ability to dynamically assign hosts to portals when users login the administrator must install a connection broker. The PCoIPMC does not support dynamically assigning hosts to portals.

1.3.3 Device Discovery

All PCoIP devices managed by the PCoIPMC must be discovered by the PCoIPMC. The PCoIPMC supports discovering devices in a deployment using one or more discovery mechanism.

1. It is recommended to install a PCoIPMC DNS SRV record. Section 1.3.3.1 describes how to install a DNS SRV record.

Note it may not be possible to install a DNS SRV record because the network does not include a DNS server or multiple instances of the PCoIPMC will be installed on the same network managing subsets of the PCoIP devices.

2. If a DNS SRV record cannot be installed users may be able to configure the devices to automatically notify the PCoIPMC of their existence. PCoIP devices support a configuration setting called the *PCoIPMC DNS-Based Discovery Prefix*. Section 1.3.3.2 describes how this feature works and the deployment requirements associated with using this discovery method.

Note: The *PCoIPMC DNS-Based Discovery Prefix* setting can only be accessed using the PCoIPMC. It is not accessible through the device web interface or portal OSD interface.

3. If a DNS SRV record cannot be install and the deployment cannot use the *PCoIPMC DNS-Based Discovery Prefix* configuration setting the last automated device discovery option available is SLP discovery. This device discovery method imposes a restriction that limits its usefulness. To use this feature all PCoIP devices and the PCoIPMC must reside on the same network subnet.
4. If a deployment cannot support any of the previous device discovery options the administrator can use the PCoIPMC to configure devices. The PCoIPMC supports a Manual Discovery feature that allows the PCoIPMC to find devices. This feature is described in section 1.3.3.3. Below are some shortcomings associated with this approach:
 - If a device has enabled DHCP the PCoIPMC will loose contact with a device if its IP address changes. The administrator would need to perform another manual discovery search to find devices that were assigned new IP addresses.

1.3.3.1 DNS Service Record Discovery

When DNS SRV record discovery is used the PCoIP devices advertise themselves to the PCoIPMC. All devices that use the DNS server will be able to find the PCoIPMC. If DNS-SRV discovery is not enabled, the PCoIPMC must seek out and find devices using methods that are often subject to limitations, such as being unable to search more than its local subnet.

The system requirements for DNS SRV discovery are as follows:

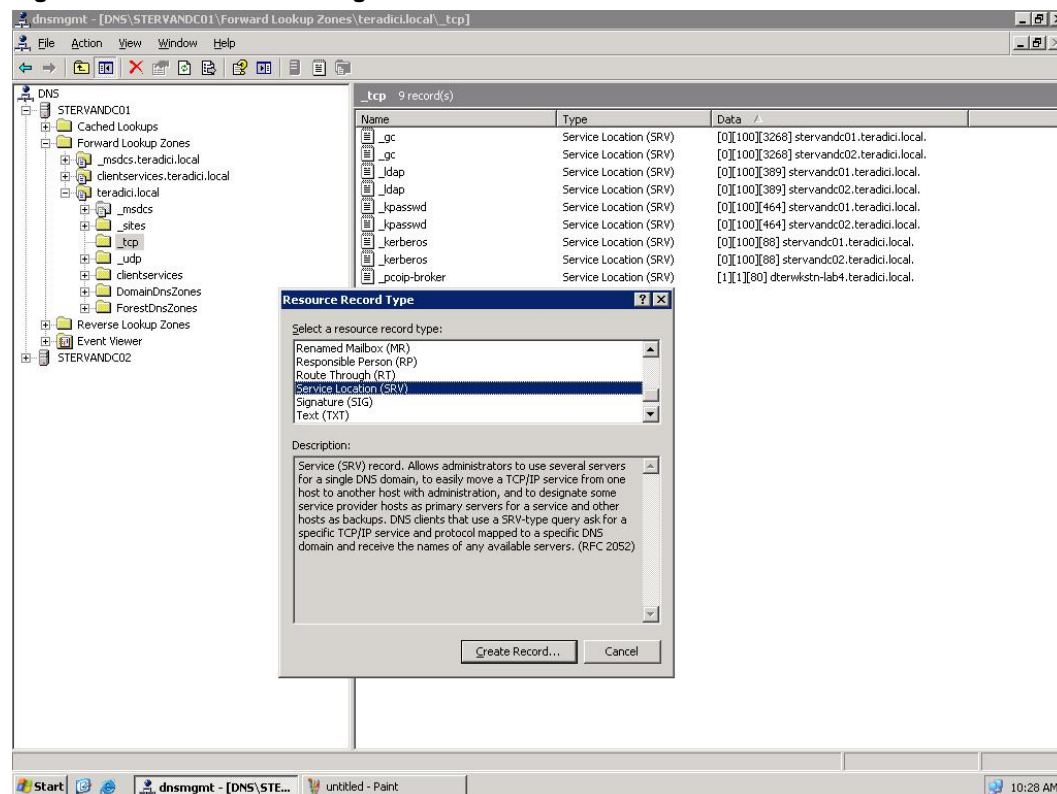
- The deployment must have a DNS Server in the network
- A PCoIPMC DNS SRV service record must be installed on the DNS Server

Add the PCoIPMC DNS SRV Record to the DNS Server

To add the PCoIPMC DNS SRV record to DNS Server in Windows 2003 Server, perform the following steps:

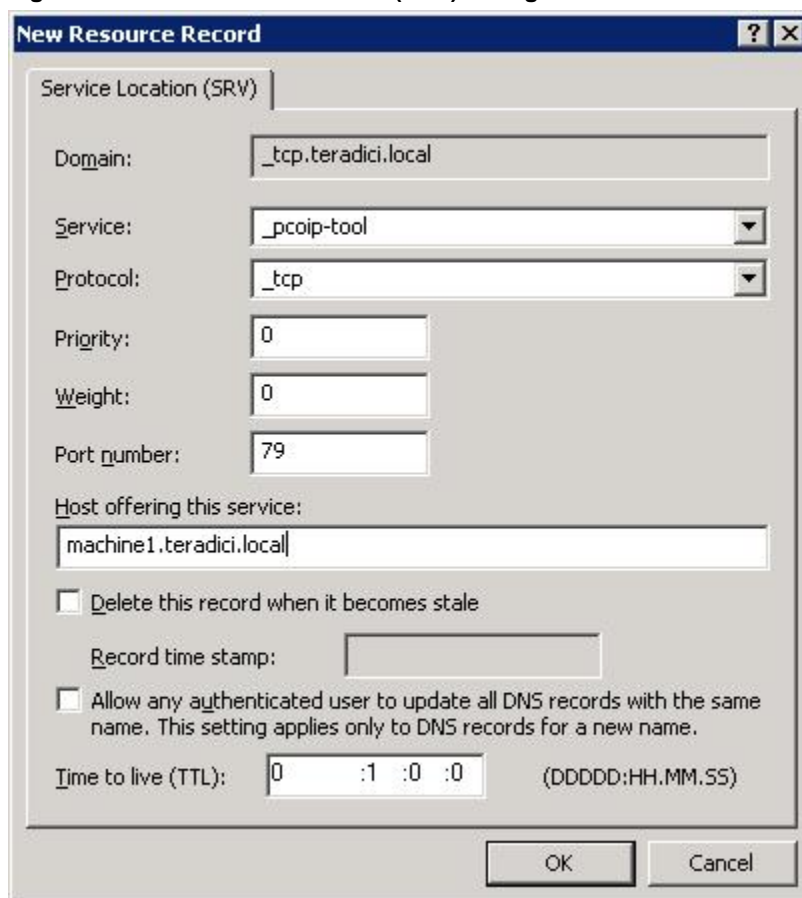
1. Enter DNS service configuration on domain controller.
2. Navigate to local domain and _tcp entry.

Figure 1-3: DNS Service Configuration Menu



3. Right click and select "Other New Records ..."
4. Select "Service Location (SRV)".
5. Fill in the entries as shown in Figure 1-4 and enter the hostname where the PCoIPMC is installed under "Host offering this service". The "Port Number" in the configuration is not used by the PCoIP devices. However, it may be set to 50000 to reflect the listening port of the CMI server.

Figure 1-4: DNS Service Location (SRV) Dialog Box



New Resource Record

Service Location (SRV)

Domain:

Service:

Protocol:

Priority:

Weight:

Port number:

Host offering this service:

☐ Delete this record when it becomes stale

Record time stamp:

☐ Allow any authenticated user to update all DNS records with the same name. This setting applies only to DNS records for a new name.

Time to live (TTL): : : : (DDDDD:HH.MM.SS)

OK Cancel

1.3.3.2 PCoIPMC DNS-Based Discovery Prefix

When a PCoIP device boots it reads the PCoIPMC DNS-Based Discovery Prefix setting. If this setting is non-blank the device attempts to contact the PCoIPMC by combining the string stored in this setting with variations of the domain name hierarchy.

System Requirements

The system requirements for PCoIPMC DNS-Based Discovery are as follows:

- The PCoIP devices and PCoIPMC must be located within the same domain name hierarchy tree (e.g. if a PCoIP device is located in the domain sales.europe.companyname.com, then the PCoIPMC's domain name can be any one of: sales.europe.companyname.com, europe.companyname.com, or companyname.com)
- The PCoIP devices must enable DHCP in order to get the domain name and hostname (to get DHCP options 15 and 12 respectively)
- The DHCP server must support either DHCP options 12 (hostname), 15 (domain name), or both. Refer to RFC2132. If the DHCP server only supports DHCP options 12, the hostname string must contain the domain name.
- All PCoIP devices managed by a specific PCoIPMC must have the *PCoIPMC DNS-Based Discovery Prefix* setting equal to the PCoIPMC's hostname prefix (e.g. if the PCoIPMC's FQDN is pcoipmc1.europe.companyname.com, then the field must equal pcoipmc1).

Algorithm

Each time a PCoIP device boots it executes the PCoIPMC DNS-Based Discovery algorithm if the *PCoIPMC DNS-Based Discovery Prefix* setting is non-blank. The algorithm uses the setting and the domain name hierarchy to search for a PCoIPMC.

The PCoIP device obtains the domain name string from the DHCP server using DHCP options 15. Since some DHCP servers may not have DHCP options 15 implemented, the device also obtains the host name using DHCP options 12 (assumed to include the domain name).

Since the device and PCoIPMC may not be on the same domain (but must be within the same hierarchy), the device composes many FQDN variations using the results from DHCP options 12 and 15. With each FQDN variation, the hostname prefix remains constant however the domain hierarchy level changes.

The device sequentially attempts each FQDN possibility until a hit is found, at which point the device completes DNS-based discovery. The algorithm may take several minutes in order to find the correct FQDN address of the PCoIPMC (depends on the number of levels in the domain name hierarchy and the PCoIPMC load).

In detail, the algorithm works as follows. The device uses domain name variations based on the DHCP options 15 string. For each FQDN possibility, the device attempts to transmit a status message to the PCoIPMC at the FQDN. Upon transmission timeout, the device composes the next FQDN variation by proceeding one level up the domain hierarchy. The last domain name attempted has a single dot in the string. After exhausting the FQDN possibilities (based on the DHCP options 15 string), the device delays for 5 minutes and then uses hostname variations based on the DHCP options 12 string. After failing to contact a PCoIPMC using the DHCP options 12 string, the device delays 5 minutes and then cycles back to using DHCP options 15. The device continues this process until a PCoIPMC is contacted.

Example

In the example below, the DHCP options 15 returns sales.europe.companyname.com. DHCP options 12 returns hostmachine1.sales.europe.companyname.com. Note that the DHCP server may return no value for either option. The PCoIPMC configured the PCoIPMC DNS-Based Discovery Prefix in the device to equal pcoipmc1.

The device creates the following FQDNs and sequentially attempts contact with the PCoIPMC:

(attempt #1) pcoipmc1.sales.europe.companyname.com

(attempt #2) pcoipmc1.europe.companyname.com

(attempt #3) pcoipmc1.companyname.com

<device delays for 5 minutes>

(attempt #4) pcoipmc1.hostmachine1.sales.europe.companyname.com

(attempt #5) pcoipmc1.sales.europe.companyname.com

(attempt #6) pcoipmc1.europe.companyname.com

(attempt #7) pcoipmc1.companyname.com

<device delays for 5 minutes>

(attempt #8) pcoipmc1.sales.europe.companyname.com (repeat 1-7)

...

Attempts 1 to 3 use the domain name from DHCP options 15 string. Failing to contact the PCoIPMC, the device uses the DHCP options 12 string for attempts 4 to 7. Failing transmissions for attempt 4 to 7, the device cycles back to using DHCP options 15.

1.3.3.3 Manual Device Discovery

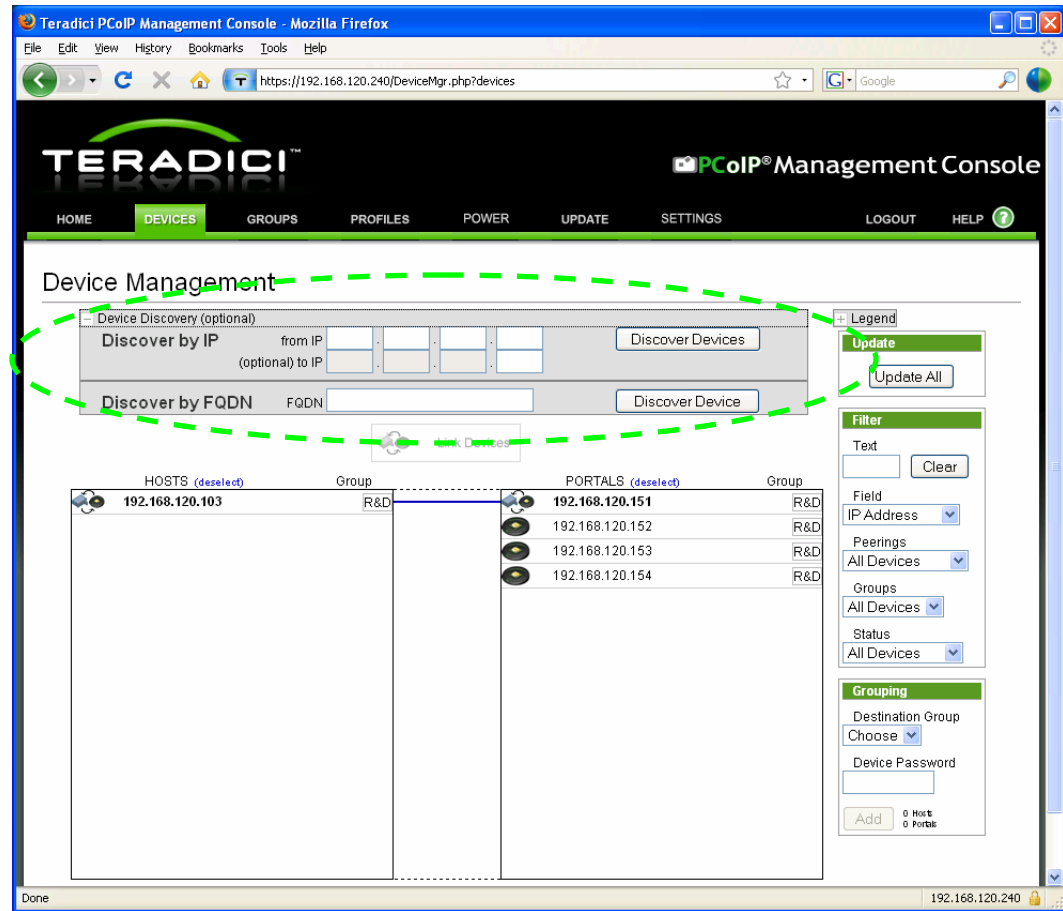
Manual device discovery is not an automated discovery mechanism. This mechanism supports discovering devices that are powered on and connected to the network when the PCoIPMC is commanded to discover devices.

PCoIPMC supports manually discovering devices at a specific IP address, in a range of IP addresses or at an FQDN. This option is useful for users that want to quickly begin using the PCoIPMC. It is also useful when a deployment uses the *PCoIPMC DNS-Based Discovery Prefix* configuration setting described in section 1.3.3.2. In this situation the administrator can discover devices using this feature and configure the *PCoIPMC DNS-Based Discovery Prefix* setting of each device so the devices contact the PCoIPMC each time they boot.

Figure 1-5 shows the PCoIPMC Device Management web page with the *Device Discovery* feature highlighted.

- When the IP address of a device is known and the device has not been discovered enter the address in the *from IP* field and select *Discover Devices*.
- When a device is on a specific subnet but its IP address is not known the PCoIPMC can be commanded to discover all devices in a range of IP addresses using both the *from IP* and (optional) *to IP* fields. After the address range has been specified select *Discover Devices*. Note that this process can take a few minutes to complete depending on the number of addresses searched. A status bar is displayed while the tool discovers devices.
- When the FQDN of a device is known and the device has not been discovered enter the FQDN in the *FQDN* field and select *Discover Devices*.

Figure 1-5: PCoIPMC Manual Device Discovery Feature



2 Installation and Setup

This section describes how to install and setup the PCoIPMC.

2.1 PCoIPMC Host System Requirements

The machine hosting the PCoIPMC application must meet the following requirements:

1. The PCoIPMC server machine must meet the requirements of the VMware Player. Please check the VMware Player documentation (http://www.vmware.com/pdf/vmware_player250.pdf) for the most up-to-date requirements. The current requirements are:
 - a. Standard x86-compatible or x86_64-compatible PC
 - b. Processor speed—733MHz or faster
 - c. Memory—512MB minimum, 2GB recommended. You must have enough memory to run the host operating system, the virtual machine and applications on the host and guest operating systems.
 - d. Hard disk—At least 1GB free disk space for each guest operating system. For installation, VMware Player requires approximately 250MB (Windows) or 200MB (Linux) free disk space.
2. The PCoIPMC server machine CPU should be a 2GHz or faster Pentium 4 or any Intel Core or above processor.
3. The PCoIPMC VM is configured to use 640 MB of RAM. For best performance, the server machine should have at least 1 GB of RAM to avoid excessive swapping.
4. The PCoIPMC server machine must have 4 GB of disk space free to accommodate the VM's disk image.

2.2 Installing the PCoIPMC

1. The PCoIPMC is distributed as a VMware virtual machine (VM) contained in a zip file. The VM is run using VMware Player. VMware Player is a free application that can be downloaded from <http://www.vmware.com/download/player/>. Follow the directions provided by VMware to download and install this application on the PCoIPMC host machine.
2. After installing the VMware Player application extract the contents of the file PCoIPMC_relA-B-C_vDEF.zip into a folder on the PCoIPMC host machine. The release number (A-B-C) and build ID (DEF) are encoded in the filename. The zip file contains the following files.
 - Teradici_PCoIP_Management_Console_Agreement.pdf: Teradici PCoIP Management Console ("Software") license file
 - PCoIPMC_relA-B-C_vDEF.vmx: Teradici PCoIP Management Console VMware configuration file for the virtual machine that hosts the Management Console. Once VMware Player is installed, double-click this file to begin.
 - PCoIPMC_relA-B-C_vDEF.vmdk: Teradici PCoIP Management Console VMware virtual disk file containing the virtual machine's hard drive. The size of this file will increase as the PCoIPMC is used. The maximum size of the file is 4GB.
 - README.txt: file describing the contents of the zip file

- TER0812002_Issue_X-PCoIP_Management_Console_User_Manual.pdf:
Teradici PCoIP Management Console User Manual, where X is the issue number

2.3 Running the PCoIPMC

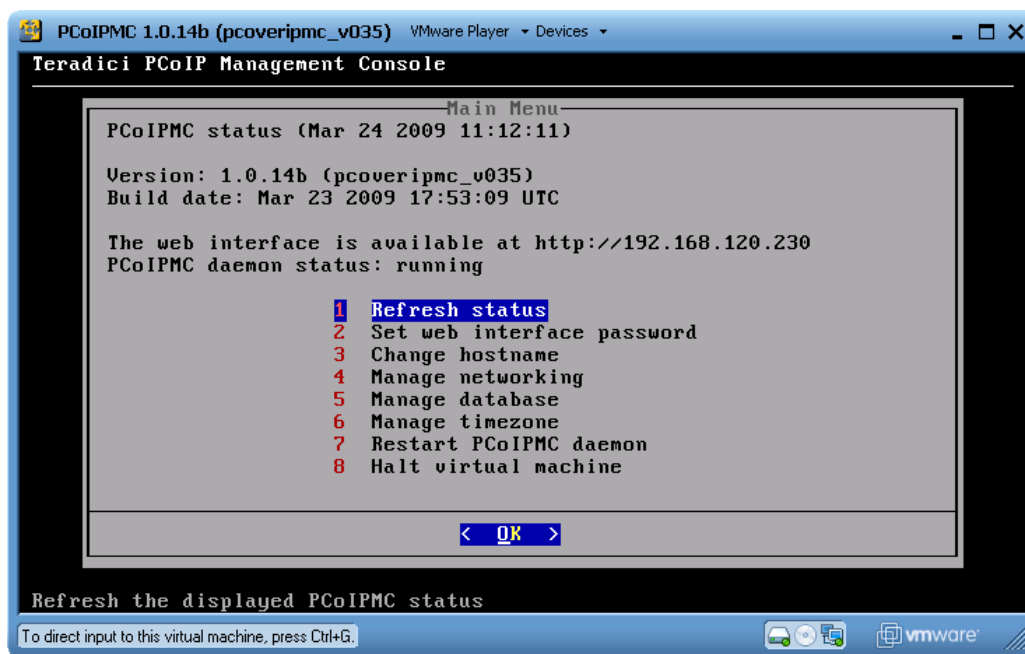
Before running the PCoIPMC, make sure the PCoIPMC host machine and PCoIP devices are connected to the same network. The PCoIPMC supports both DHCP and static IP addressing.

To start running the PCoIPMC double-click PCoIPMC_relA-B-C_vDEF.vmx, e.g. double click PCoIPMC_rel1-0-16_v040.vmx, or open it from within VMware Player. As the VM boots, the VMware Player console shows a series of standard Linux boot messages before displaying the PCoIPMC console interface shown in Figure 2-1.

Once the VM is up, the console displays the PCoIPMC URL (web site address). The URL is equal to `http://192.168.120.230` in the following figure.

Note: Along the bottom of the window the VMware Player describes how to interact with the VM and how to return to the host OS.

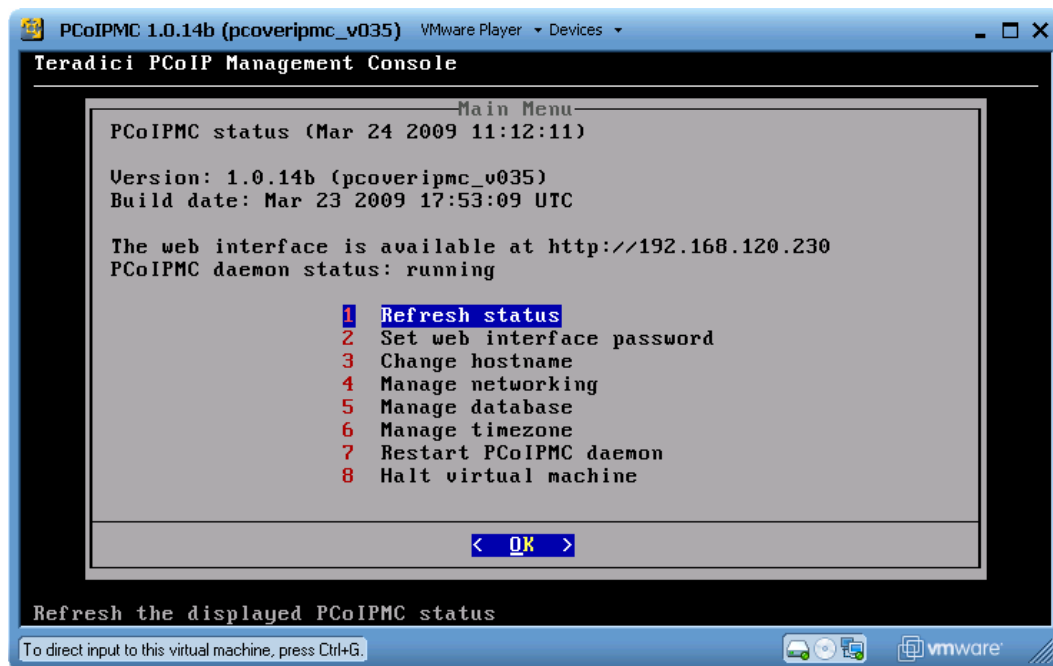
Figure 2-1: PCoIPMC VM Console



3 Virtual Machine Features

The top level menu of the PCoIP Management Console is shown in Figure 3-1. This menu appears after opening the PCoIPMC in the VMware Player. This section describes the features accessed and controlled through this interface, which is referred to as the “PCoIPMC VM console” throughout this document.

Figure 3-1: PCoIPMC VM Console



3.1 Refresh Status

The *Refresh status* option allows the user to refresh the information displayed on the PCoIPMC VM Console window.

3.2 Set Web Interface Password

The PCoIPMC web interface is protected by a password. When a browser connects to the PCoIPMC web interface the user is prompted to enter a password. To configure this password select the *Set web interface password* option on the PCoIPMC VM console.

3.3 Change Hostname

The default hostname of the PCoIPMC equals *pcoipmc*. The PCoIPMC registers this hostname with the DNS server if one is present on the network. Users can update this field using the *Change hostname* option shown in Figure 3-1.

If a deployment installs more than one copy of the PCoIPMC the hostname of each instance should be set equal to unique values.

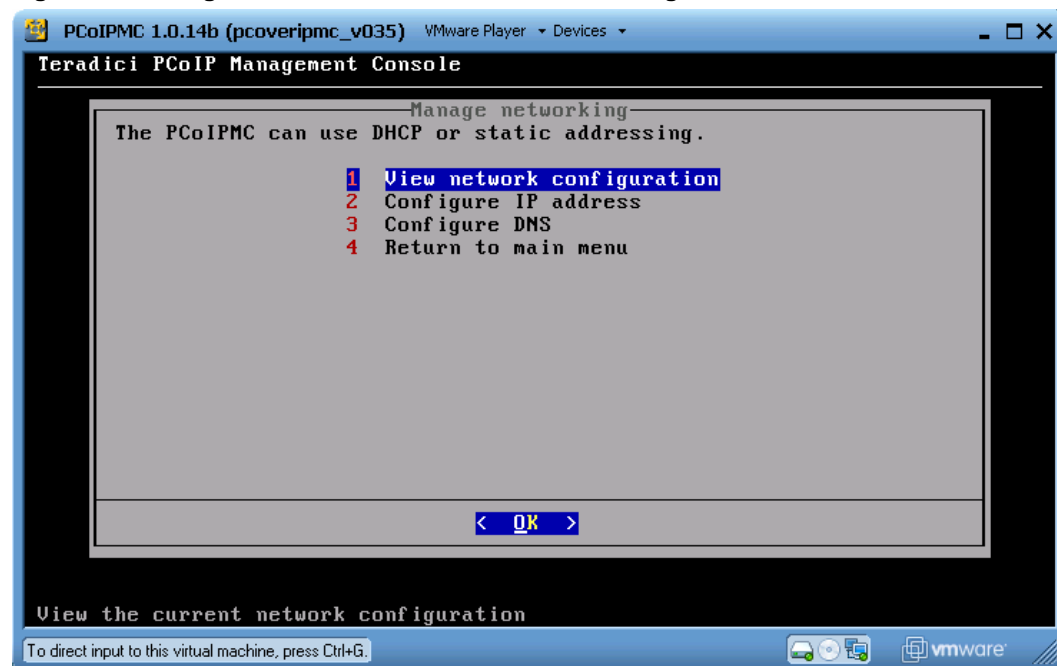
If the deployment does not install a PCoIPMC DNS SRV record the administrators should configure the *PCoIPMC DNS-Based Discovery Prefix* field of each PCoIP device to equal the hostname prefix of the PCoIPMC. Section 1.3.3.2 provides additional details on this field and the system requirements associated with using it. To configure this field the user must configure the *PCoIPMC DNS-Based Discovery Prefix* setting in the profiles and apply the profiles to all the devices in the deployment.

3.4 Manage Networking

The PCoIPMC communicates with a web browser through a network connection and must be assigned a unique IP address. By default the PCoIPMC uses DHCP to acquire an IP address. The PCoIPMC network settings can be modified to use a static IP address if a DHCP server does not exist on the network or the administrator wishes to assign a static IP address. To modify the PCoIPMC network settings select the *Manage networking* option shown in Figure 3-1.

Figure 3-2 shows the PCoIPMC Manage networking options.

Figure 3-2: Manage PCoIPMC VM Console Network Settings



3.4.1 View Network Configuration

The *View network configuration* option allows the user to view the current network configuration settings of the PCoIPMC.

3.4.2 Configure IP Address

The *Configure IP address* option allows the user to select DHCP or static IP addressing. When the user chooses static IP addressing they must configure the PCoIPMC IP address, subnet mask, gateway address, broadcast address and domain. The gateway address, broadcast address and domain are optional and can be left blank. After the IP

address settings are updated the PCoIPMC restarts the network interface using the new settings.

3.4.3 Configure DNS

The *Configure DNS* option allows the user to configure the Domain Name Server(s) and search domain(s) used by the PCoIPMC. The PCoIPMC queries the DNS Server(s) to determine if the PCoIPMC DNS SRV record and Connection Broker DNS SRV record are present. The status of these records is reported in the site status on the Home web page, see section 4.8.

Note: When the PCoIPMC is configured to use DHCP, the DNS settings configured here may be overwritten by the settings configured in the DHCP server.

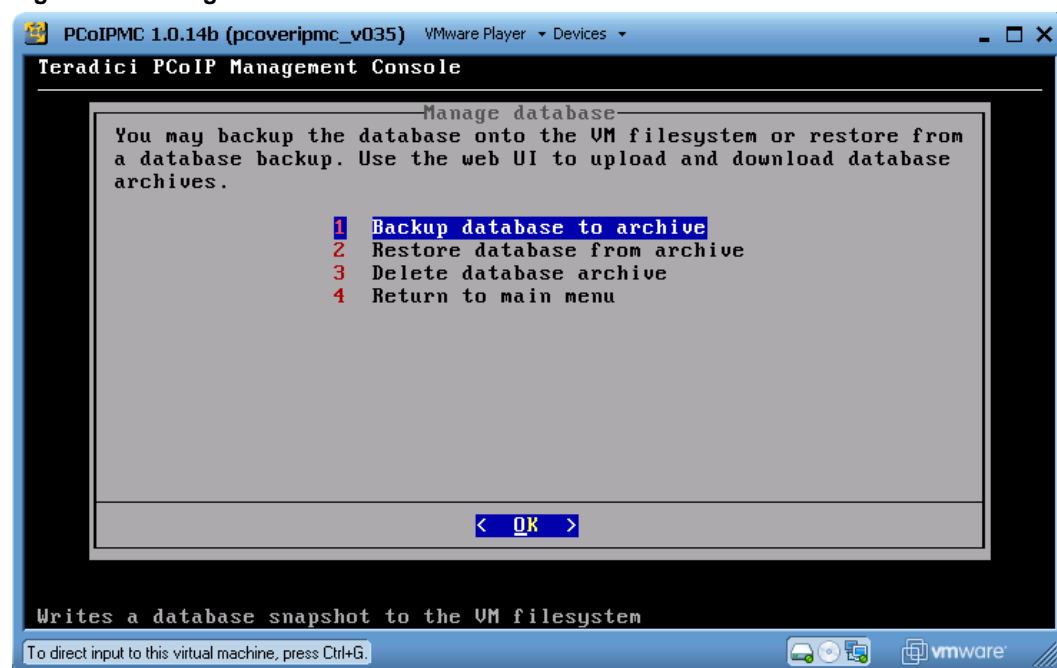
3.5 Database Management

The PCoIPMC maintains a database containing information on the discovered PCoIP devices, configuration data entered by the administrator, such as device name, and other information such as firmware images that can be downloaded to PCoIP devices. The PCoIPMC VM console supports commands that allow an administrator to backup and restore this database.

This feature should be used when upgrading the PCoIPMC. Prior to installing the new version of the PCoIPMC the user should backup the PCoIPMC database, export it to an external PC, install the new version of the PCoIPMC and finally import the backed up database.

Select the *Manage database* option on Figure 3-1 to access these commands. Figure 3-3 shows the PCoIPMC Manage database options.

Figure 3-3: Manage PCoIPMC VM Console Database



3.5.1 Backup Database

The *Backup database to archive* command allows an administrator to take a snapshot of the current database contents and store it in an archive. The archive resides within the PCoIPMC VM.

This command should be used in conjunction with the download database command on the Database Management web page to backup and store the contents of the database somewhere outside of the PCoIPMC VM. Refer to section 4.7.1 for information on how download a backup file to the host PC from the PCoIPMC VM.

3.5.2 Restore Database

The *Restore database from archive* command allows an administrator to update the active PCoIPMC database from a previously stored archive. When this command is used the archive must already reside within the PCoIPMC VM.

This command should be used in conjunction with the upload command on the Database Management web page to restore the PCoIPMC database from an archive located outside of the PCoIPMC VM, possibly on the PCoIPMC host machine. Refer to section 4.7.1 for information on how upload a backup file to the PCoIPMC VM from a host PC.

3.5.3 Delete Database

The *Delete database archive* command allows the administrator to delete a database archive from the PCoIPMC VM.

3.6 Time Zone Management

The PCoIPMC retrieves the current time from the host machine. The host machine provides this time in Coordinated Universal Time (UTC) form. The host does not provide time zone information, which means the user must configure the time zone.

To configure the time zone select the *Manage timezone* option on the PCoIPMC VM console. The user must select a geographic area that determines the time zone. For example, the user should select America/New York if located in the same time zone as New York City.

Note: The PCoIPMC can be used without configuring the time zone. The time displayed at the top of the PCoIPMC VM console will be incorrect and the timestamps displayed on various screens in the PCoIPMC Web Interface will be incorrect. Users are recommended to configure the time zone to match their time zone.

3.7 Restart PCoIPMC Daemon

To restart the PCoIPMC daemon select the *Restart PCoIPMC daemon* option on the PCoIPMC VM console. A message indicating the daemon is restarting is displayed on the PCoIPMC VM console while the VM restarts. This can be used to determine when the restart is complete. This command should be executed if the PCoIPMC daemon status reported on the console interface shown in Figure 3-1 is *stopped*. It should also be executed if the Management Console Health shown in the Site Status section of the home page is not *Good*.

3.8 Halt Virtual Machine

To exit the PCoIPMC VM and close the VMware Player select the *Halt virtual machine* option on the PCoIPMC VM console. The PCoIPMC VM can be restarted at a later time. When the PCoIPMC VM is restarted the PCoIPMC database is restored to the state it was in when the PCoIPMC VM was last stopped.

4 Web Interface

The PCoIPMC web interface is the primary mechanism used by administrators to manage all PCoIP devices in a deployment. This section describes the features accessed and controlled through this interface.

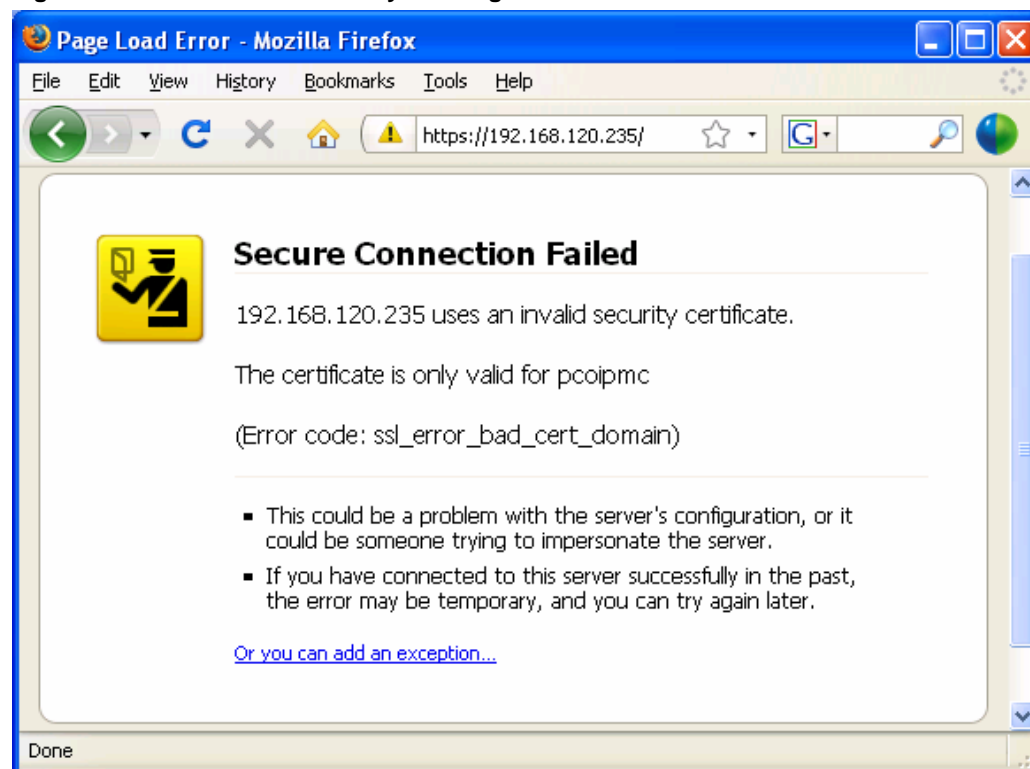
4.1 Accessing the PCoIPMC Web User Interface

Connect a computer to the same network the PCoIPMC server machine is connected to. Note this computer can be the server machine itself. Open a web browser and enter the web page URL of the PCoIPMC (shown on the VM console during boot up).

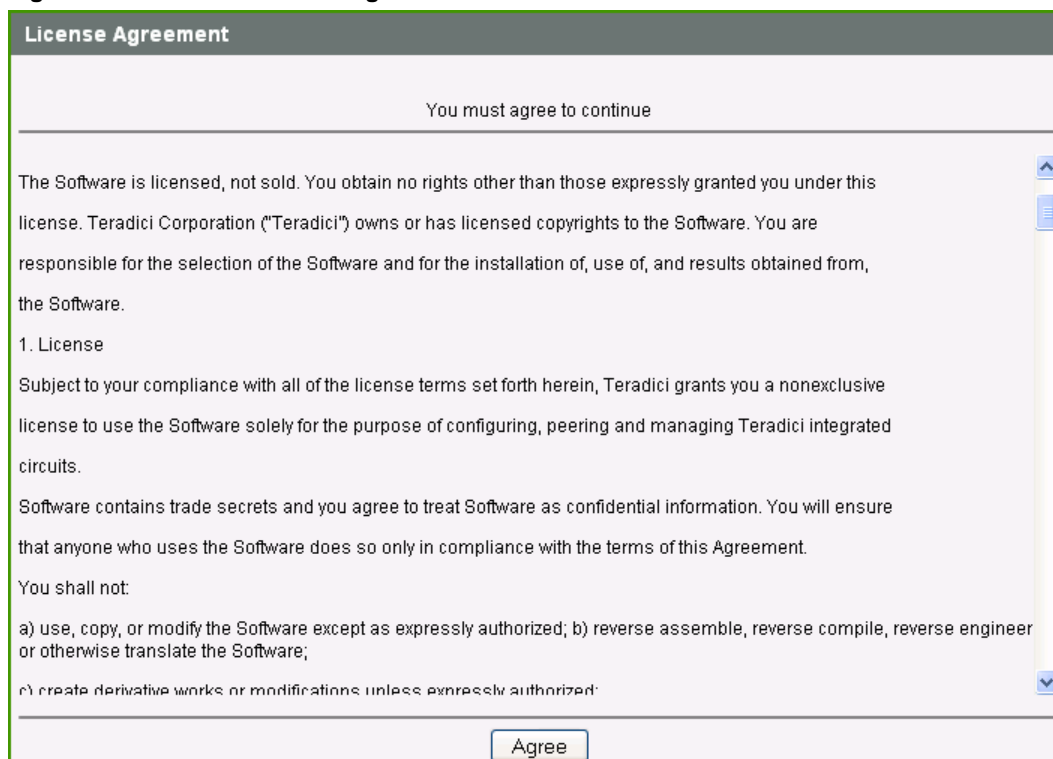
The PCoIPMC web server has been tested and is compatible with the Firefox 3.0 web browser. If you attempt to log into the PCoIPMC web interface using a browser other than Firefox 3.0 an error message is displayed instructing you to download Firefox 3.0. Support for additional browsers will be included in future releases of the PCoIPMC.

When the web browser first connects to the PCoIPMC the user will see a security warning similar to the screen shown in Figure 4-1. Users should add the exception to browser by getting the certificate from the PCoIPMC and confirming the security exception.

Figure 4-1: Web Interface Security Warning



After adding the security exception the web browser connects to the PCoIPMC and the user is prompted to accept the PCoIPMC License Agreement shown in Figure 4-3. This process must be completed once. Future logins to the PCoIPMC will not prompt the user to accept this agreement. The license agreement can also be viewed by clicking the *License Agreement* link near the bottom of the PCoIPMC web pages. The PCoIPMC License Agreement document is also included in the PCoIPMC .zip file.

Figure 4-2: PCoIPMC License Agreement


License Agreement

You must agree to continue

The Software is licensed, not sold. You obtain no rights other than those expressly granted you under this license. Teradici Corporation ("Teradici") owns or has licensed copyrights to the Software. You are responsible for the selection of the Software and for the installation of, use of, and results obtained from, the Software.

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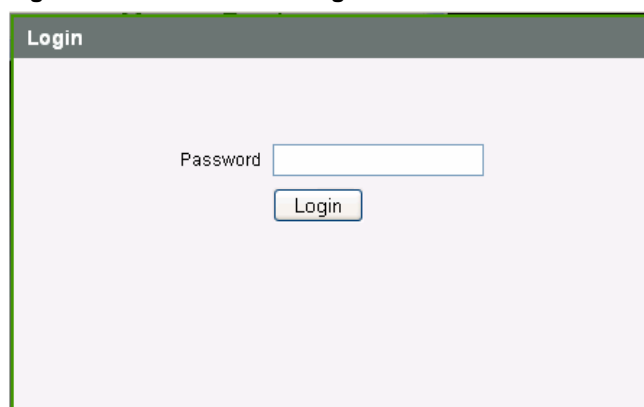
You shall not:

a) use, copy, or modify the Software except as expressly authorized; b) reverse assemble, reverse compile, reverse engineer or otherwise translate the Software;

c) create derivative works or modifications unless expressly authorized.

Agree

After accepting the license agreement the web browser connects to the PCoIPMC and the user is prompted to enter a password as shown in Figure 4-3. The default password is blank. Section 3.2 describes how to modify this password.

Figure 4-3: Web Interface Login


Login

Password

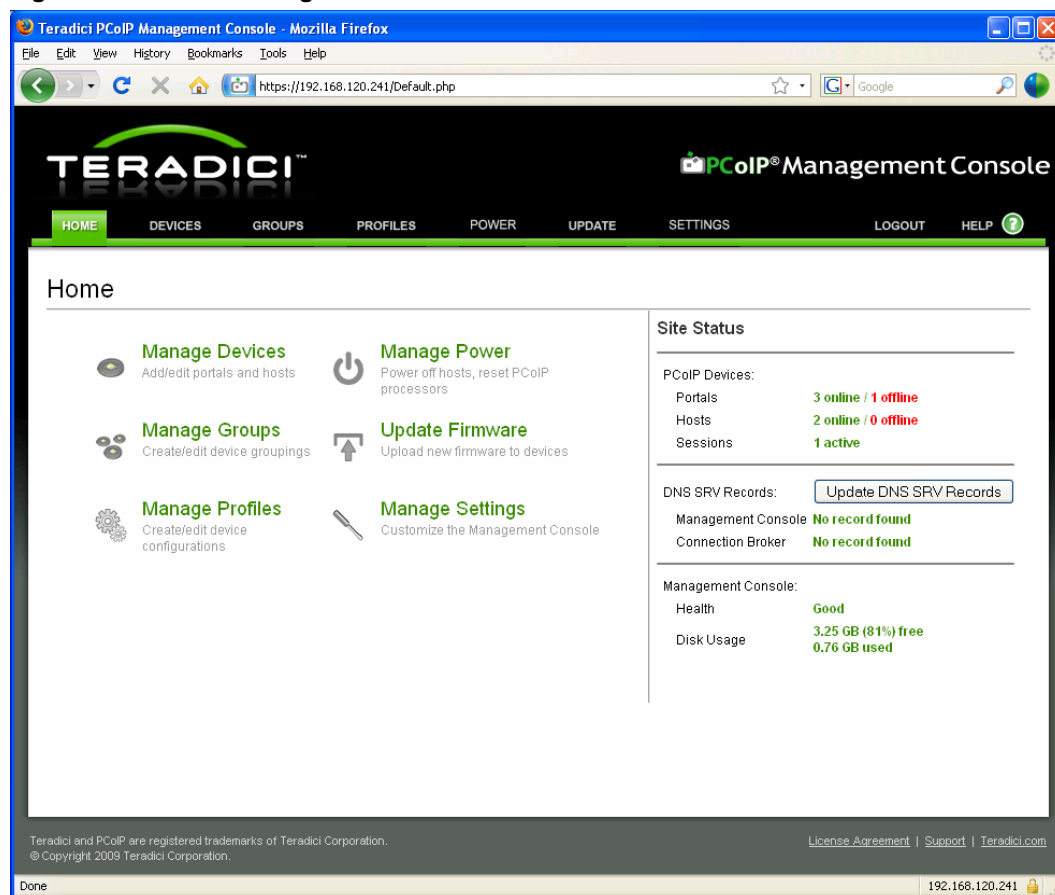
Login

After logging in, the PCoIPMC Home web page, shown in Figure 4-4, is displayed. Administrators can do the following from this web page:

- Manage devices (see section 4.2)
- Manage groups of devices (see section 4.3)
- Manage device profiles (see section 4.4)
- Reset devices (see section 4.5)
- Control the power state of host devices (see section 4.5)
- Update device firmware (see section 4.6)

- Upload/Download PCoIPMC database archives (see section 4.7)
- Customize the PCoIPMC configuration settings (see section 4.7)
- View site status information (see section 4.8)
- Access online help (see section 4.9)

Figure 4-4: Home Web Page

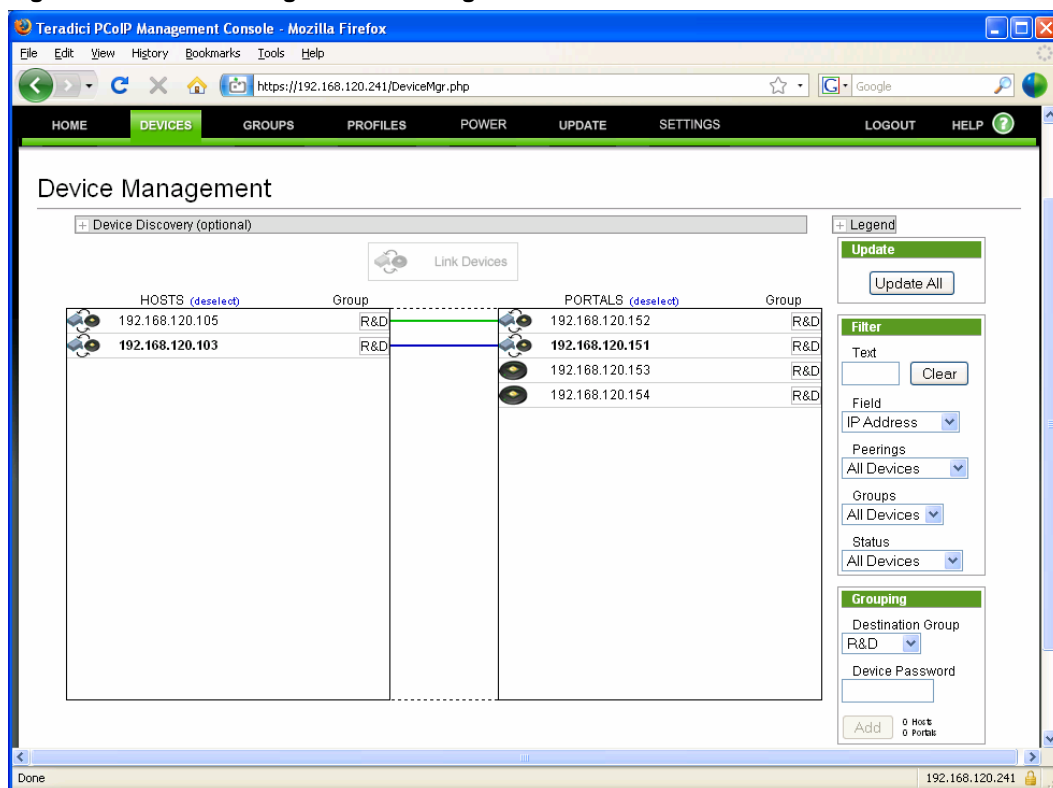


4.2 Device Management

The *Device Management* web page, shown in Figure 4-5, supports the following actions:

- Discover devices manually
- Query devices and update database
- Display a subset of devices based on various filter criteria
- Configure the group each device belongs to
- Link host and portal devices
- Open a web browser connected to device's web page
- View summary information about a device
- Configure the Name of each device
- View device details (device configuration settings, profile settings)
- Delete a device from the PCoIPMC database

Figure 4-5: Device Management Web Page










4.2.1 Device Discovery (optional)

Section 1.3.3.3 describes the *Device Discovery (optional)* feature.

4.2.2 Legend

The device management *Legend*, shown in Figure 4-6, provides information that explains the meaning of special symbols and line colors displayed on the Device Management page. Open the *Legend* by selecting the “+” symbol next to the *Legend* text.

Figure 4-6: Device Management Legend Box




Legend	
Links	
	Devices peered by PCoIPMC
	Peering found in devices, not maintained by PCoIPMC
	Peering found in portal, host accepts any connections, not maintained by PCoIPMC
BOLD	Device in session
	Peering off screen or filtered
Devices	
	Host - Click to Login
	Portal - Click to Login
	Peered - Click to Login

The PCoIPMC may draw a line between host and portal devices. The line indicates the two devices are linked. Host and portal devices are considered linked if a PCoIP session was or still is active between the devices. The color of the line is important.

- A **green line** indicates the two devices have been peered by the PCoIPMC, which means the PCoIPMC database contains information about the device peering.
- A **blue** or **orange** line indicates the PCoIPMC has found peering information in the device configuration settings read from the devices. The **blue line** indicates the host and portal are peered directly with each other while the **orange line** indicates the host device is configured to accept connections from any portal. If the administrator wishes to have the PCoIPMC maintain this peering information the user should link the devices in the PCoIPMC. Refer to section 4.2.6 for details on how this is done.
- A dashed line indicates the device is peered with another device but the other device is not drawn on the active screen. This may happen in deployments with large numbers of devices.

The bold/non-bold state of the device field name provides an indication of whether the device is currently in a session. If a session is active between a host and portal the PCoIPMC will display the device field name in **bold** characters.

The following device symbols provide an indication of whether devices are peered.

- Peered devices are represented by the  symbol.
- Unpeered host devices are represented by the  symbol
- Unpeered portal devices are represented by the  symbol

4.2.3 Query Devices and Update Database

The PColPMC database contains a snapshot of each device's configuration settings. The PColPMC automatically queries each device once an hour and updates its internal database. Users wishing to force the tool to refresh its internal copy of the device settings can do this using the *Update* box on the upper right hand side of the Device Management web page. This feature allows the user to update one, multiple or all devices discovered by the PColPMC. Keep in mind that updating a large number of devices can take a few minutes.

To update one device select the device to update and then click the *Update Device* button.

To update multiple devices select the devices by holding down the Shift button and selecting the devices. After the devices are selected click the *Update Devices* button.

To update all devices ensure no devices are selected by clicking the deselect links at the top of the HOSTS and PORTALS columns. When no devices are selected click the *Update All* button.

Users may want to know when the update completes. A future release of the PColPMC will display a status bar that provides this information. To view the update time using the current version of the tool users should set the Field option in the Filter box equal on the Device Management web page equal to *Last Updated*.

4.2.4 Filtering Devices

The *Filter* box supports different ways of filtering the PColP devices displayed in the *HOSTS* and *PORTALS* columns. This can be useful when searching for specific devices or subsets of devices. Administrators can filter devices using one or more of the following options.

- The *Field* dropdown menu allows users to select the device data field displayed in the HOSTS and PORTALS columns. Users can select from *Name*, *Unique ID*, *MAC Address*, *IP Address*, *Firmware Version*, *FQDN* or *Last Updated Time*.
 - The *Name* field is a user defined value assigned to each device managed by the PColPMC. This field is stored in the PColPMC database. It is not stored in the device configuration settings. Section 4.2.8.1 describes how to configure the device *Name*.
 - The *Unique ID* and *MAC Address* fields are read-only device configuration fields provisioned at the factory.
 - The *IP Address* is configured statically in the device or dynamically by a DHCP server.
 - The *Firmware Version* is determined by the firmware loaded on the device.
 - The *FQDN* is the device FQDN if one has been registered with the deployments DNS server. If the FQDN is not registered with the DNS server the PColPMC displays the device IP address.
 - The *Last Updated* option displays the timestamp of when the PColPMC last updated its internal database with the actual device configuration settings.
- The *Text* field allows administrators to enter a text string. The PColPMC displays all devices in which the device *Field* value matches the string. For example, if the *Field* menu specifies *Firmware Version* and the user enters the string *1.9* in the *Text* field the tool displays all devices loaded with release 1.9.
- The *Peerings* dropdown menu allows administrators to display all devices, peered devices or unpeered devices.

- The *Groups* dropdown menu allows administrators to display all devices, grouped devices, ungrouped devices, and devices in individual groups.
- The *Status* dropdown menu allows administrators to display all devices, online devices, offline devices, devices with an active session and devices without an active session.

4.2.5 Configure Device Group

All devices managed by the PCoIPMC should be added to a group. If a device is not in a group the following actions cannot be performed on the device.

- Apply a profile to the device
- Peer the device
- Send power management commands to the device
- Update firmware on the device
- Edit the device name

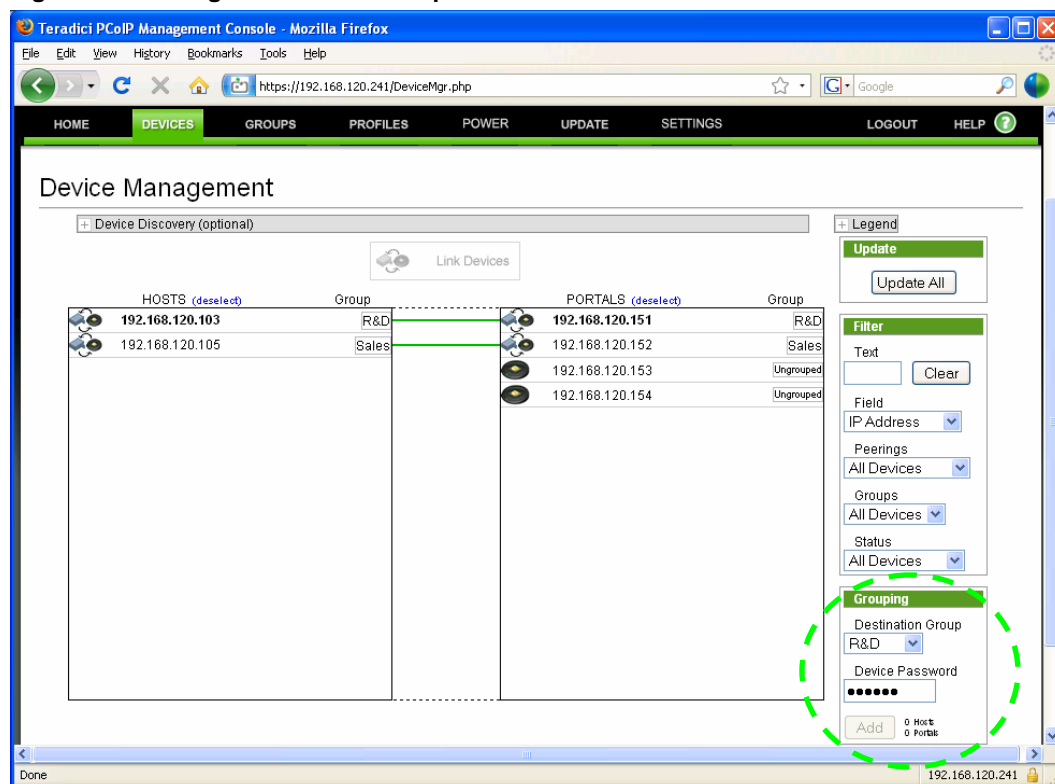
The concepts associated with a PCoIPMC group are explained in section 1.3.1.

Users can add or reassign one or more devices to a group by executing the following steps.

1. Select the device or devices to be added to the group. Multiple portal or host devices can be selected by holding down the shift key while selecting the devices.
2. Select the group to add the devices to using the *Destination Group* dropdown menu.
3. Enter the device password in the *Password* field.
4. Select the *Add* button. The selected devices are then added to the specified group if the device password is correct. The group field for each device successfully added to the group will be updated to equal the new group.

Figure 4-7 shows the Device Management web page when adding two Portals (192.168.120.153 and 192.168.120.154) to the R&D group.

Figure 4-7: Adding Devices to a Group

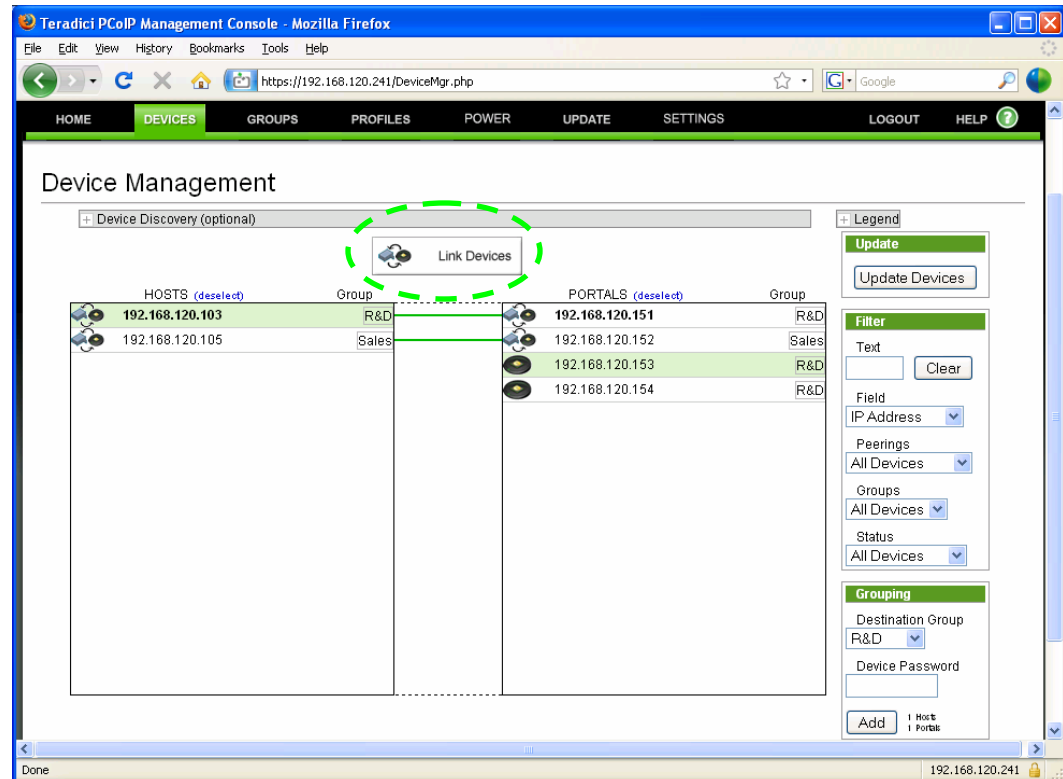


4.2.6 Linking Devices

Individual host and portal devices can be linked together. After two devices are linked, the portal will always establish a PCoIP session with the linked host when a user initiates a connection and the host will only accept connections from the linked portal. To link a host and portal execute the following steps.

1. Select the host and portal devices to be linked. In Figure 4-8 the devices 192.168.120.103 and 192.168.120.153 are selected.
2. Select the *Link Devices* button displayed below the *Device Discovery* command. After two devices are linked a green line appears connecting them. This indicates the devices are linked in the PCoIPMC database. At this point the portal will connect to the host 192.168.120.103 when the user selects *connect* on the portal OSD. Section 4.2.2 provides additional details on the meaning of lines connecting devices.

Figure 4-8: Peering a Pair of Devices







Note: After two devices are linked by the PCoIPMC the PCoIPMC updates the portal device session configuration data if it detects a change in a peered host device's IP address. When the PCoIPMC detects that a host's IP address has changed, it looks up the host's peer in the database and attempts to write the new IP address into the portal session settings. It will keep trying to update the portal until it succeeds. This feature only works if both endpoints are discoverable by SLP or they advertise themselves to the PCoIPMC through DNS SRV or the device PCoIPMC DNS-Based Discovery Prefix configuration field is equal to the address of the PCoIPMC managing the device.

Note: This feature is disabled when the *Brokered* setting equals Yes. See section 4.7.2 for additional details.

4.2.7 Access Device Web Page

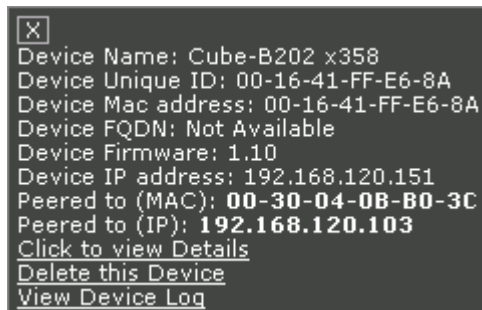
All PCoIP devices have an embedded web server that provides an administrator with access to device configuration settings and status. Administrators can access this web server using a standard web browser. The PCoIPMC provides multiple quick links that access the device's web page. Refer to the PCoIP Administrative Interface User Manual (TER0606004) for additional information on the device web server.

To access a device's web page from the Device Management web page select the symbol to the left of the device *Field*. Host symbols are either  or  based on whether or not the device is linked and portal symbols are either  or .

4.2.8 Summary Device Information

Administrators can view summary information about each device by clicking on the device *Field* in the list of HOSTS or PORTAL devices. After doing this a dialog box appears that provides information about the device. Figure 4-9 displays a summary information dialog box.

Figure 4-9: Summary Device Information Dialog Box



In addition to displaying summary information about a device the dialog box allows the user to configure the device name, view additional device details, delete the device from the PCoIPMC database and view the device event log.

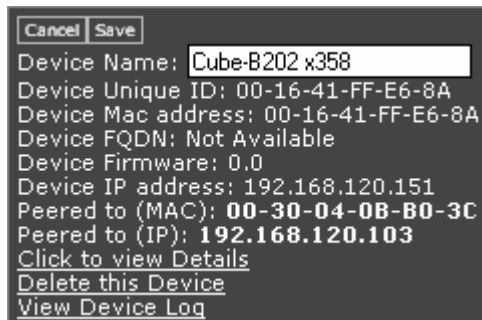
4.2.8.1 Configure Device Name

An administrator should configure the *Name* of each device in the system and the device names must be unique. The *Name* field is a string that users can set equal to whatever they want. Users should consider including location information in the name to simplify locating the device, but this is up to the administrator to decide.

When a device is first discovered, the PCoIPMC sets the *Name* equal to a string containing a timestamp and a unique number. Users can modify the *Name* by executing the following steps.

1. Click on the device to display the summary device information dialog box.
2. Click on the summary device window again. This opens a text editing field that shows the current device *Name*.
3. Enter the new device *Name*.
4. Select the *Save* button to update the device *Name*. Figure 4-10 displays the summary information dialog box while the device name is being edited.

Figure 4-10: Edit Device Name Using Summary Device Information Dialog Box



Note: The device must be part of a group before the *Name* can be configured.

4.2.8.2 Access Device Details

The PColPMC maintains additional device details not shown on the Device Management page. To access these details for an individual device execute the following steps.

1. Click on the device to display the summary device information dialog box.
2. Select the *Click to view Details* link in the summary device information dialog box. Section 4.2.9 describes the features of the Device Details web page.

4.2.8.3 Delete Device from PColPMC Database

To delete a PColP device from the PColPMC database execute the following steps.

1. Click on the device to display the summary device information dialog box.
2. Click on the *Delete this Device* link in the summary device window.

Note: All information maintained on the device by the PColPMC is deleted. This includes the device name, group, peering information and other information.

4.2.8.4 View Device Event Log

All PColP devices maintain a persistent event log containing messages that may be useful in diagnosing problems. To view a device's event log execute the following steps.

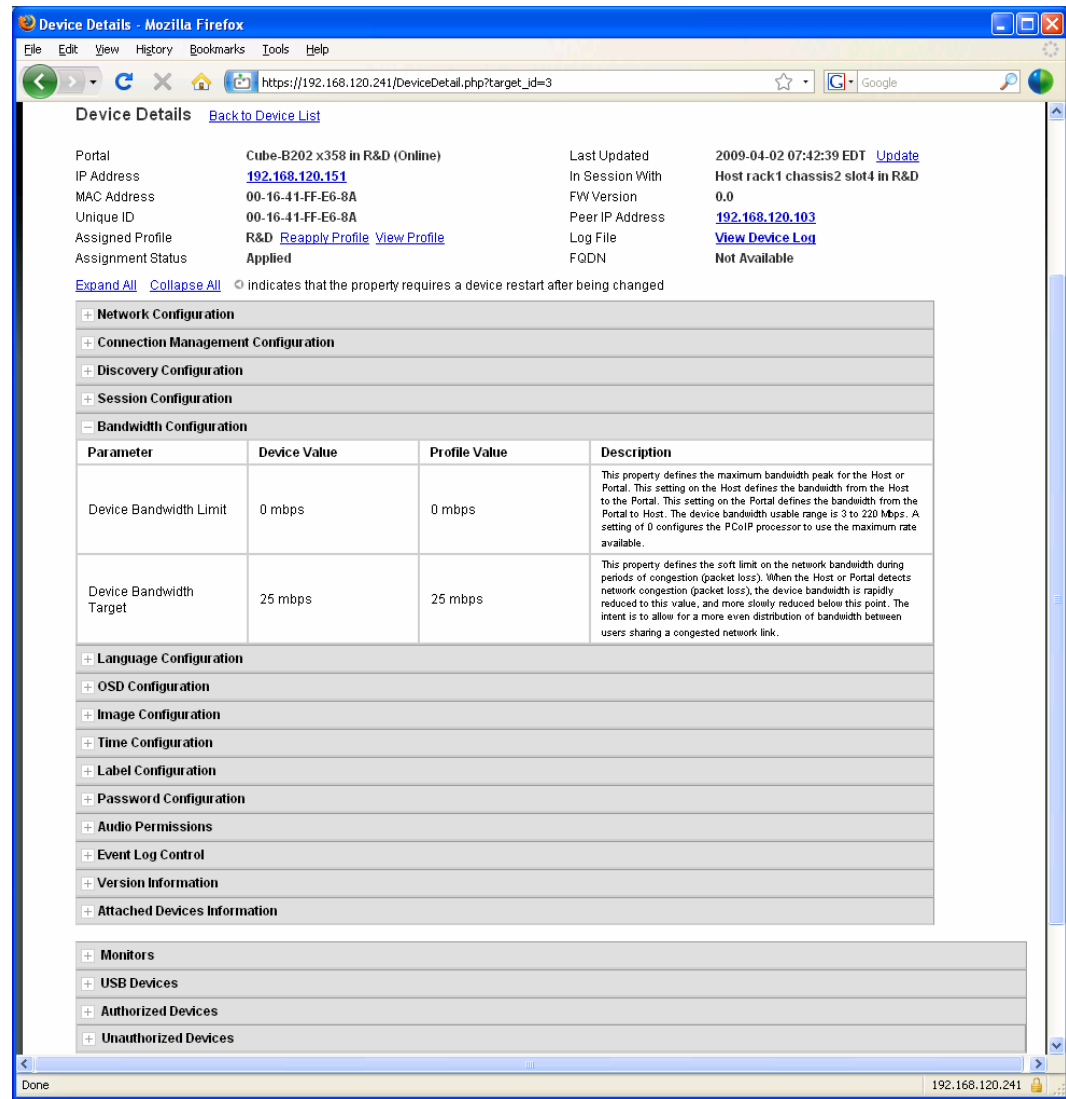
1. Click on the device to display the summary device information dialog box.
2. Click on the *View Device Log* link in the summary device window.

4.2.9 Device Details

Section 4.2.8.2 describes how to access the device details web page. Figure 4-11 shows a portal device details web page, which supports the following actions:

- Display device configuration settings and status
- Refresh the PColPMC device configuration settings by querying the device
- Write the current profile settings to the device
- Open the device's profile
- Open a web browser connected to device's web page
- Open a web browser connected to device's peer web page
- View the device's event log

Figure 4-11: Portal Device Details Web Page



4.2.9.1 Device Configuration and Status

The device details web page displays device configuration and status data in addition to device profile data. When the web page is first displayed the device categories are collapsed.

- Users can open individual categories by selecting the “+” next to the category name. The *Bandwidth Configuration* category is expanded in Figure 4-11.
- Users can view all of the categories by selecting the *Expand All* link.
- Users can collapse all of the categories by selecting the *Collapse All* link.

Below is a list of the possible values assigned to each *Profile Value* and a description of the meaning.

- <value> – The parameter is specified in the profile and defined to equal <value>.
- **Not in profile** – The parameter is not specified in the profile.
- **Read only** – The parameter cannot be specified in the profile.

Below is a list of the possible values assigned to each *Device Value* and a description of the meaning.

- <value> – The parameter is specified in the device and equal to <value>.
- (Empty string) – The parameter is not configured in the device. Some fields such as the Connection Management System (CMS) address equal this when the device is not configured to use a CMS.
- Not supported – Certain device parameters are only applicable to specific devices or device models. This value is displayed for device parameters that are not supported by a device.

4.2.9.2 Refresh Device Settings Stored in PCoIPMC

The information shown in the *Device Value* column is a copy of the data stored in the device. The PCoIPMC keeps track of the last time it updated its internal copy of the device data. The *Last Updated* field on the Device Details web page displays this timestamp.

Administrators can force the PCoIPMC to refresh its internal copy of the device values by selecting the *Update* link.

4.2.9.3 Write Profile Settings to Device

The *Reapply Profile* link allows the user to write the device profile settings to the device. This can be useful in situations when the administrator wants to write the profile settings to a single device in a group.

4.2.9.4 Open Device Profile

The *View Profile* link opens the Profile Management web page for the profile associated with this device. Administrators can use this link to quickly access and/or modify the profile settings.

4.2.9.5 Access Device & Peer Web Pages

All PCoIP devices have an embedded web server that provides an administrator with access to device configuration settings and status. Administrators can access this web server using a standard web browser. The PCoIPMC provides multiple quick links that access the web page.

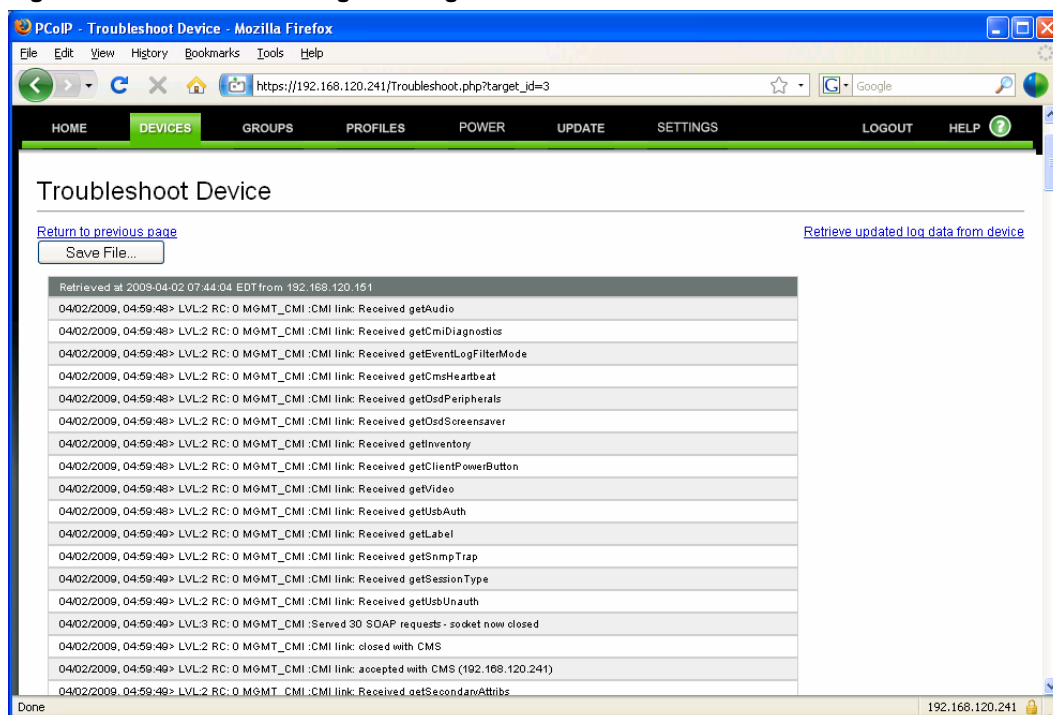
- To access a device's web page from the Device Details web page select the *IP Address* link.
- To access the peer device's web page from the Device Details web page select the *Peer IP Address* link.

4.2.9.6 View Device Log

All PCoIP devices maintain a persistent event log containing messages that may be useful in diagnosing problems. Administrators can access this event log by selecting the *View Device Log* link. Figure 4-12 shows a Device Event Log web page.

The administrator can save the event log to a file using the *Save File* button or retrieve the most recent event log data from the device using the *Retrieve updated log data from device* link.

Figure 4-12: Device Event Log Web Page

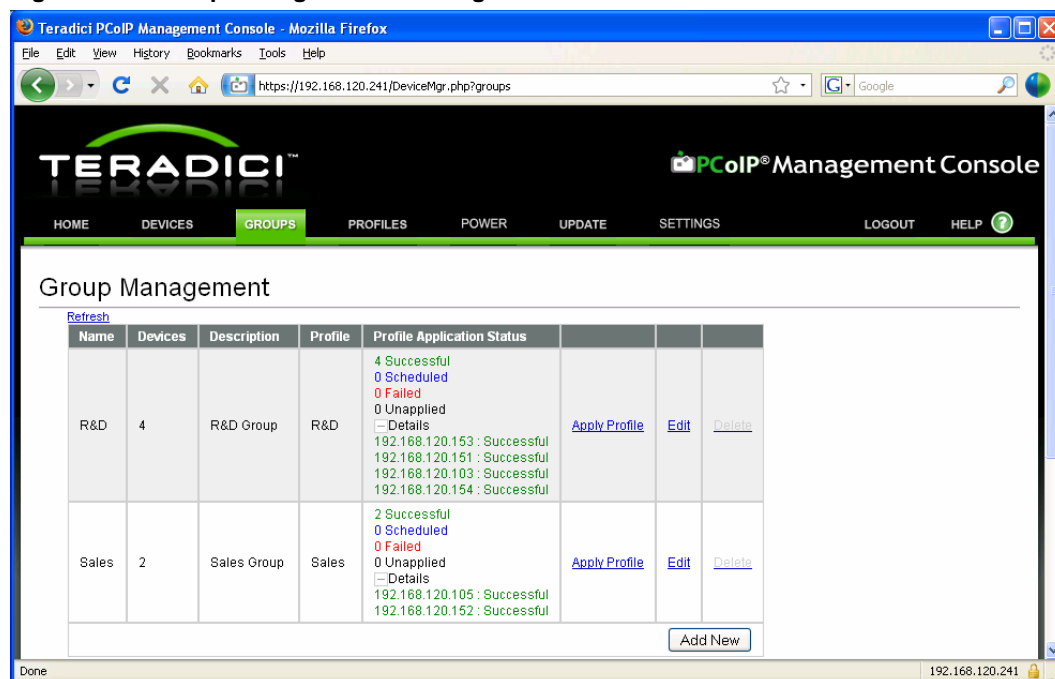


4.3 Group Management

The *Group Management* web page, shown in Figure 4-13, allows administrators to view the currently defined groups, the number of devices in each group along with profile application status information. Administrators can initiate the following actions using this web page.

- Create new groups
- Modify/Edit groups
- Delete groups
- Apply a profile to all devices in a group
- View profile application status information

Figure 4-13: Group Management Web Page



4.3.1 Create a Group

The *Add New* button allows administrators to create a new group. After selecting this button the user is prompted to enter the group *Name*, *Description* and *Profile* associated with the new group.

Note: When the PCoIPMC is initially started the *Default* group is created. This is done to simplify the use of the PCoIPMC by not forcing users to create a group. Administrators are free to use this group or delete it.

4.3.2 Modify a Group

The *Edit* link allows the administrator to modify the group *Name*, *Description* and/or *Profile* associated with a group.

4.3.3 Delete a Group

The *Delete* link allows the administrator to delete a group. A group can only be deleted if there are no devices in the group. The *Delete* link is not active (grayed out) when a group has one or more devices in it.

4.3.4 Apply a Profile to a Group

The *Apply Profile* link allows an administrator to write the device profile settings to every device in a group.

To determine when the profile has been written to all devices in the group the administrator should refresh the Group Management web page until the number of *Scheduled* updates equals 0. At this point the PCoIPMC has completed all attempts to

write the profile to the devices in the group. If a device was offline when the PCoIPMC attempted to write the profile the status is marked as *Failed*.

4.3.5 View Profile Application Status

The *Profile Application Status* column provides status information that shows if the group's profile needs to be applied to the devices in the group. When the *Details* link is expanded the tool displays profile application status information for individual devices in the group. Figure 4-13 shows the details for the Sales group. Below is a description of each status category:

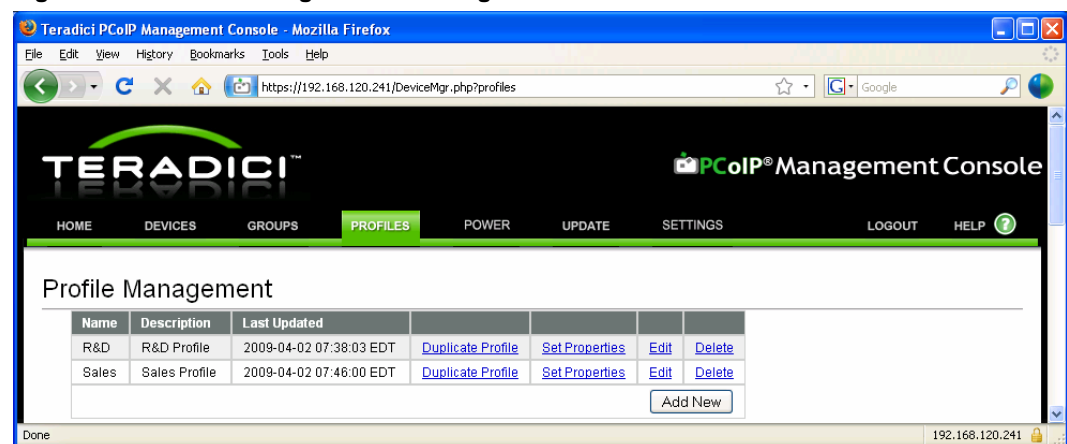
- **Successful** – The profile was successfully written to the device.
- **Scheduled** – The PCoIPMC has scheduled the profile to be written to the device.
- **Failed** – The PCoIPMC attempted but failed to write the profile to the device. Typically this problem occurs when devices are offline.
- **Unapplied** – The profile has been modified since it was last written to the device. This allows users to know when they need to re-apply a profile to one or more devices in a group.

4.4 Profile Management

The *Profile Management* web page, shown in Figure 4-14, allows administrators to view the currently defined profiles along with the time each profile was last modified/updated. Administrators can initiate the following actions using this web page.

- Create new profiles
- Duplicate profiles
- Delete profiles
- Modify the profile *Name* and *Description*
- Modify the profile properties (device configuration settings)

Figure 4-14: Profile Management Web Page



4.4.1 Create a Profile

The *Add New* button allows administrators to create a new profile. After selecting this button the user is prompted to enter the profile *Name* and *Description*.

4.4.2 Duplicate a Profile

The *Duplicate Profile* link creates a new profile with the same profile properties as the selected profile. The administrator should select the *Edit* link to set the profile *Name* and *Description* after duplicating a profile.

Note: Administrators may find it useful to create an initial profile containing the settings that are common across all devices in the deployment. After the initial profile is setup the profile can be duplicated and the unique profile settings can then be configured.

4.4.3 Delete a Profile

The *Delete* link allows the administrator to delete a profile. The *Delete* link will not work if a profile is associated with one or more groups. To delete a profile assigned to one or more groups use the Group Management web page to first assign a different profile to the group(s) currently using the profile.

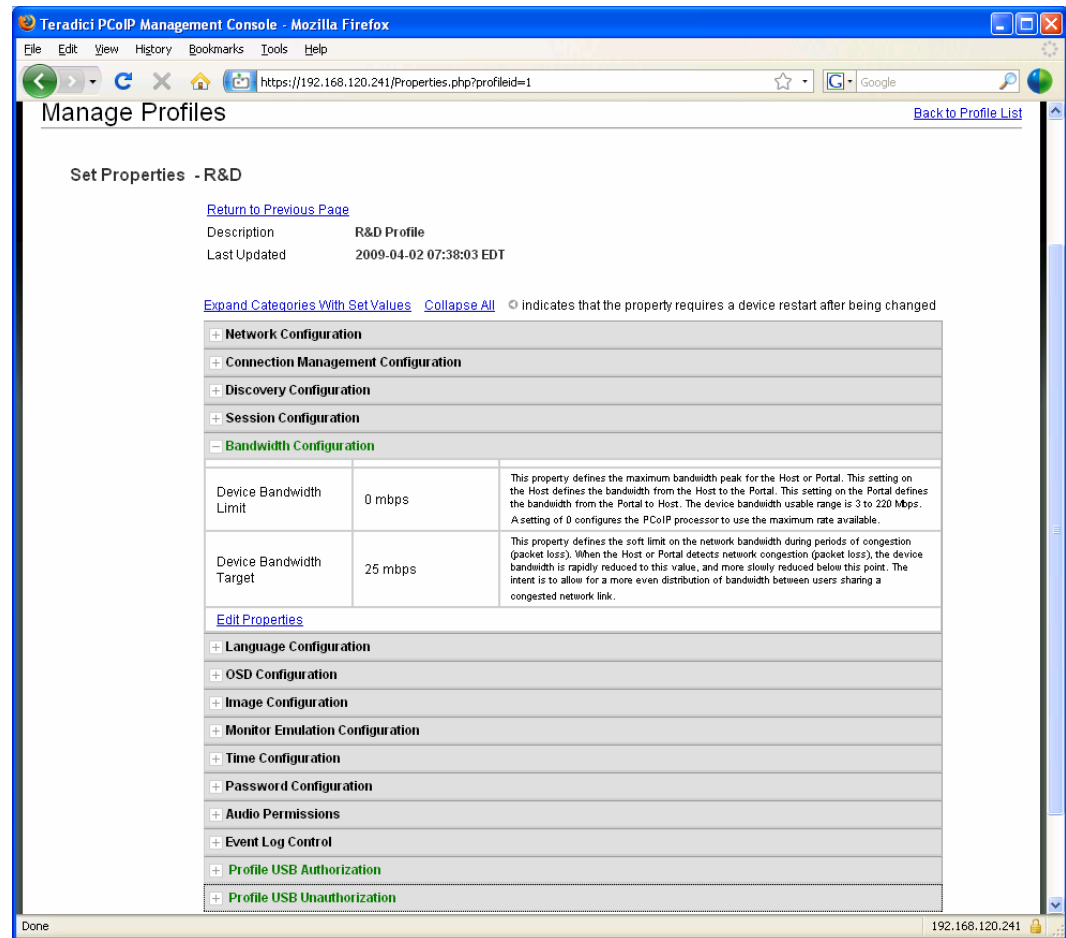
4.4.4 Modify Profile Name & Description

The *Edit* button allows users to configure the profile *Name* and *Description*. After selecting this button the user is prompted to enter the profile *Name* and *Description*.

4.4.5 Modify Profile Properties

The *Set Properties* link allows administrators to configure the properties of a profile. Figure 4-15 shows the Profile Management Set Properties web page.

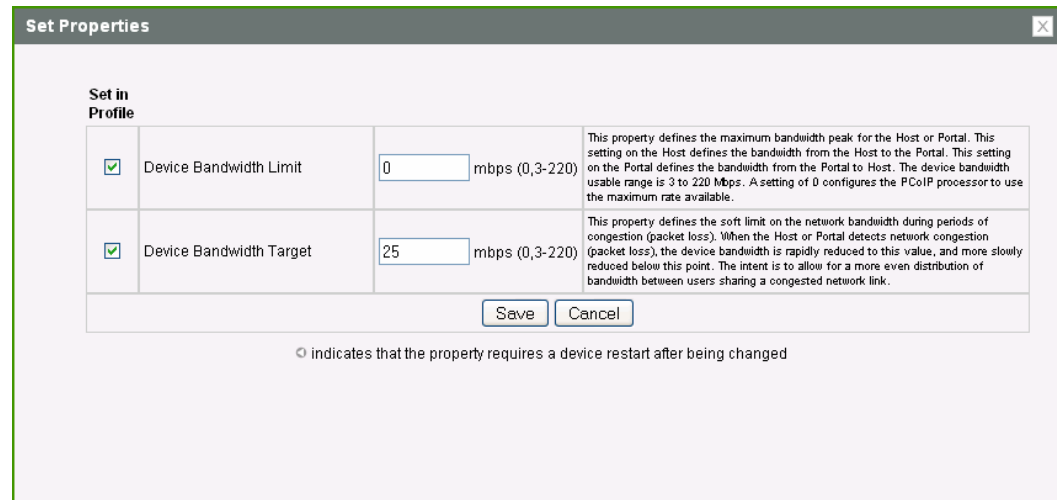
Figure 4-15: Profile Management – Set Properties Web Page



Each group of devices managed by the PCoIPMC can have a profile assigned to it. The concepts associated with a PCoIPMC profile are explained in section 1.3.1. An important thing to be aware of is the fact profiles can be created that do not define values for every profile property.

To define individual profile settings expand the profile property category. The *Bandwidth Configuration* category is expanded in the previous figure. When a category is expanded the *Edit Properties* link is accessible. Select this link to open a dialog box used to specify the category property settings. Figure 4-16 shows the Bandwidth Configuration Settings dialog box. Each checkbox on the left determines whether a setting is included in the profile and the fields on the right determine the value of each profile setting.

Figure 4-16: Bandwidth Configuration Settings Dialog Box



Set Properties

Set in Profile

<input checked="" type="checkbox"/>	Device Bandwidth Limit	<input type="text" value="0"/> mbps (0,3-220)	This property defines the maximum bandwidth peak for the Host or Portal. This setting on the Host defines the bandwidth from the Host to the Portal. This setting on the Portal defines the bandwidth from the Portal to Host. The device bandwidth usable range is 3 to 220 Mbps. A setting of 0 configures the PCoIP processor to use the maximum rate available.
<input checked="" type="checkbox"/>	Device Bandwidth Target	<input type="text" value="25"/> mbps (0,3-220)	This property defines the soft limit on the network bandwidth during periods of congestion (packet loss). When the Host or Portal detects network congestion (packet loss), the device bandwidth is rapidly reduced to this value, and more slowly reduced below this point. The intent is to allow for a more even distribution of bandwidth between users sharing a congested network link.

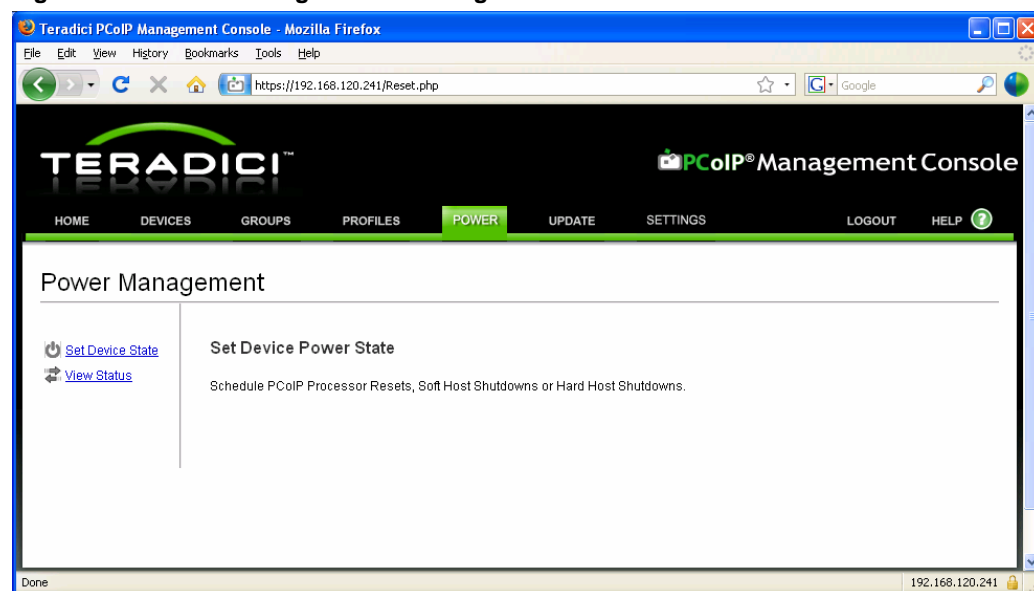
ⓘ indicates that the property requires a device restart after being changed

4.5 Power Management

The *Power Management* web page, shown in Figure 4-17, supports the following actions:

- Send reset commands to PCoIP host and portal devices
- Send power off commands (hard-S5 and soft-S5) to host PCs/Workstations
- Schedule reset and power off commands to be sent in the future
- Displays the current power state of host PCs/Workstations
- Displays status information on the last or next scheduled reset and power off commands for each PCoIP device

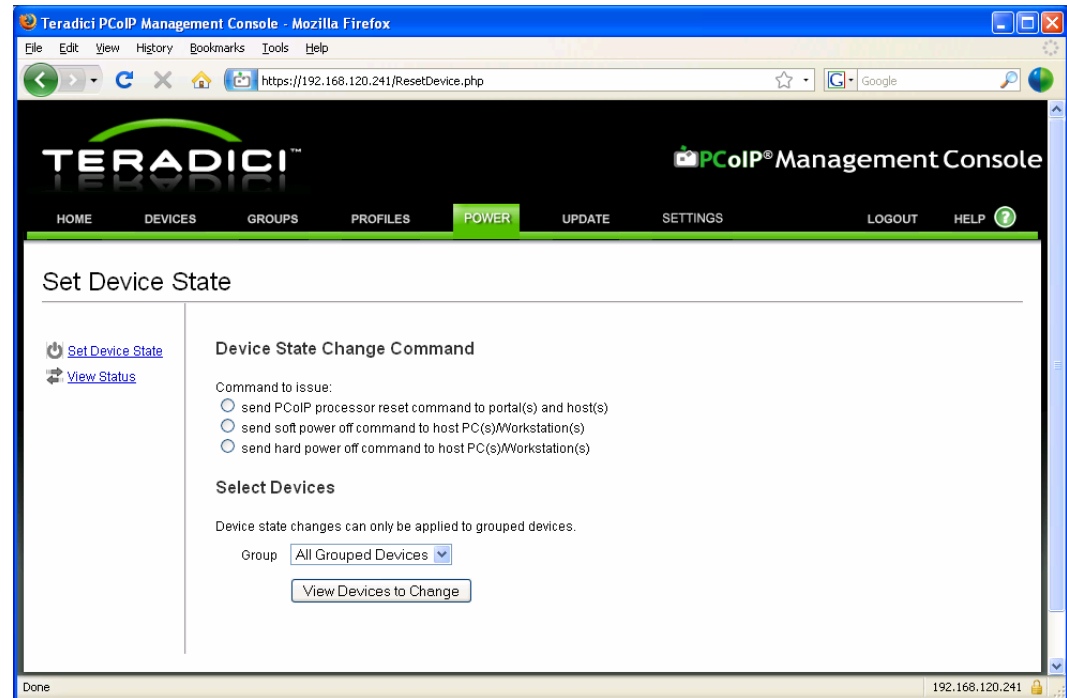
Figure 4-17: Power Management Web Page



4.5.1 Sending Reset and Power off Commands

The *Set Device State* link on the Power Management web page allows administrators to schedule reset and power off commands to be sent to PCoIP devices. When this link is selected the web page shown in Figure 4-18 appears.

Figure 4-18: Send Device State Change Command Web Page



Reset commands can be sent to both host and portal devices, while power off commands can only be sent to host devices.

Reset Commands

- A PCoIP portal will reset immediately when it receives a reset command.
- A PCoIP host device will schedule a deferred reset when it receives a reset command. A deferred reset is a reset that occurs the next time the host PC/Workstation is powered-off or restarted.

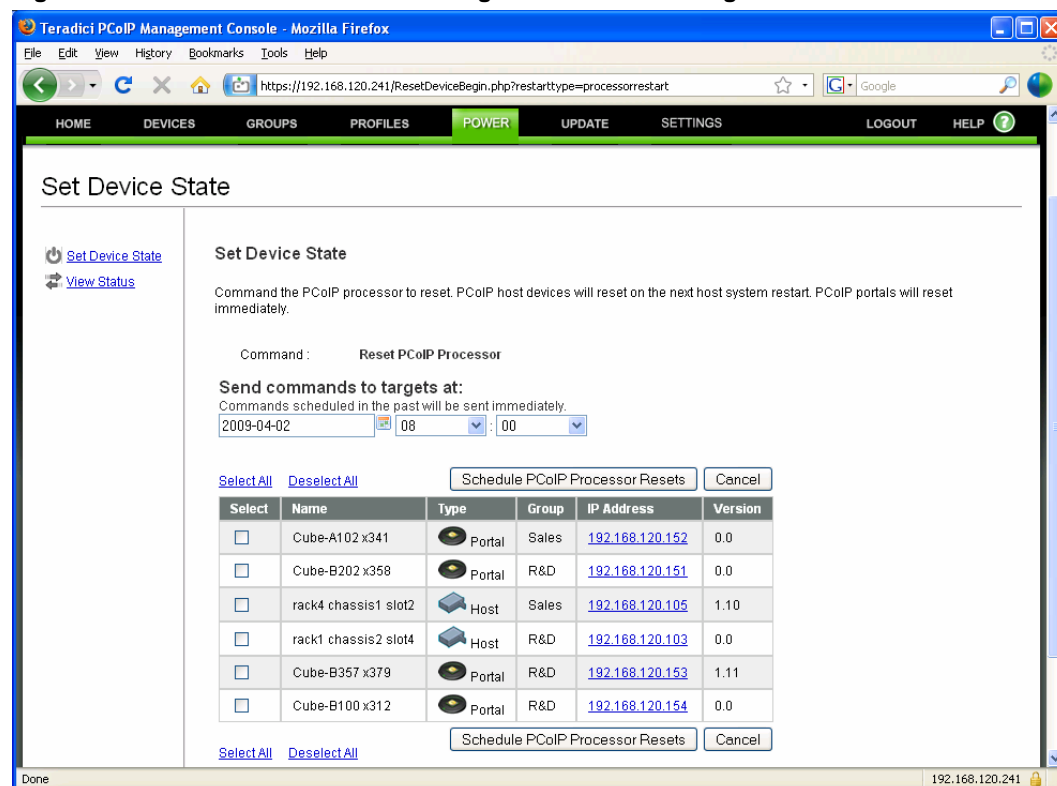
Power off Commands

- Soft power off commands sent to host PCoIP devices trigger the same action that occurs when the user presses the host PC/Workstation power button for less than 4 seconds. The action taken by the host is dependent on how the operating system is configured. It may initiate a software controlled shutdown or cause the host to enter the Standby state.
- Hard power off commands sent to host PCoIP devices trigger the same action that occurs when the user presses the host PC/Workstation power button for more than 4 seconds. This immediately shuts down the PC/Workstation by turning off power.

Note: Host workstation must be configured to support power state transitions initiated by the PCoIP host card. Some systems do not support this feature or it may be optional. Refer to your PCoIP system supplier documentation to determine if this feature is supported.

To send a reset or power off command to a device the administrator must select the command type by selecting one of the radio buttons shown in Figure 4-18. After doing this the administrator can filter the devices the command may be sent to using the *Groups* dropdown menu. When the *View Devices to Change* button is selected a new web page appears. Figure 4-19 shows the web page that supports sending the PCoIP Processor Reset command.

Figure 4-19: Schedule Device State Change Command Web Page



Set Device State

Command the PCoIP processor to reset. PCoIP host devices will reset on the next host system restart. PCoIP portals will reset immediately.

Command : **Reset PCoIP Processor**

Send commands to targets at:
Commands scheduled in the past will be sent immediately.

2009-04-02 08:00

[Select All](#) [Deselect All](#) [Schedule PCoIP Processor Resets](#) [Cancel](#)

Select	Name	Type	Group	IP Address	Version
<input type="checkbox"/>	Cube-A102 x341	Portal	Sales	192.168.120.152	0.0
<input type="checkbox"/>	Cube-B202 x358	Portal	R&D	192.168.120.151	0.0
<input type="checkbox"/>	rack4 chassis1 slot2	Host	Sales	192.168.120.105	1.10
<input type="checkbox"/>	rack1 chassis2 slot4	Host	R&D	192.168.120.103	0.0
<input type="checkbox"/>	Cube-B357 x379	Portal	R&D	192.168.120.153	1.11
<input type="checkbox"/>	Cube-B100 x312	Portal	R&D	192.168.120.154	0.0

[Select All](#) [Deselect All](#) [Schedule PCoIP Processor Resets](#) [Cancel](#)

The administrator can choose to send the commands immediately or in the future by specifying the date and time the command will be sent. The command will be sent immediately if the specified date/time is less than or equal to the current time.

The administrator must choose which devices the command will be sent to by selecting the checkbox next to each target.

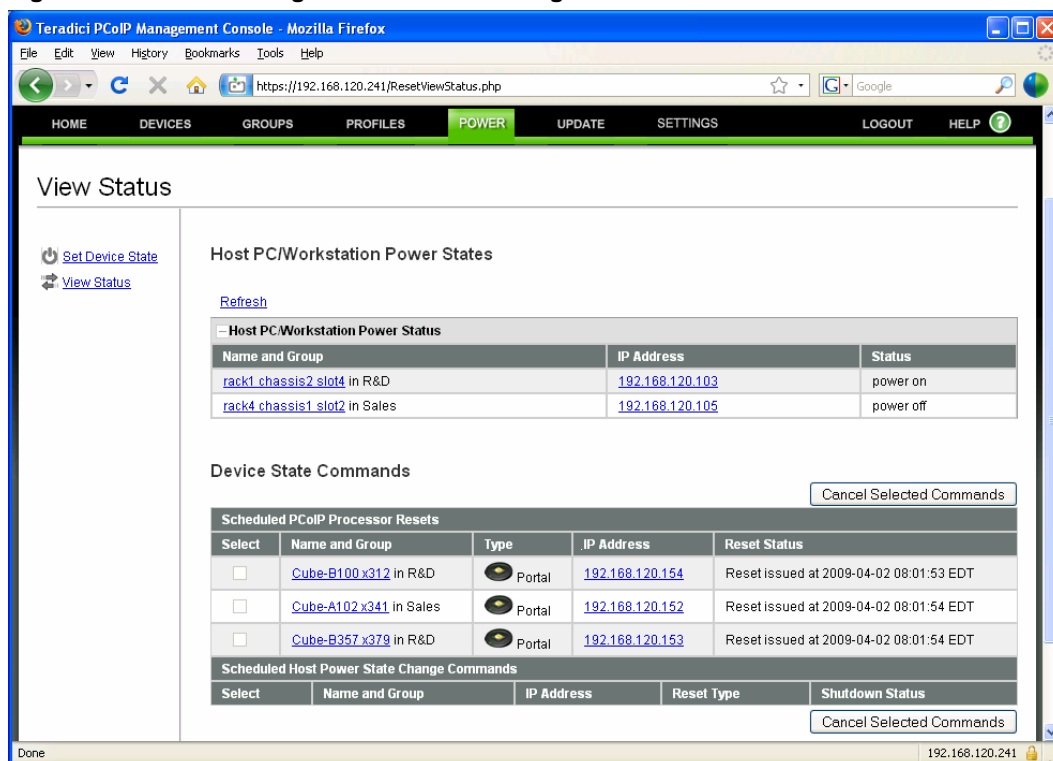
To schedule the command(s) the administrator must click the *Schedule PCoIP Processor Resets* button after configuring the date/time and selecting the devices to send the command to.

After scheduling the command(s) the administrator can view the status of the command(s) by selecting the *View Status* link on the left side of the screen. The following section describes the Power Management Status web page.

4.5.2 Power Management Status

The *View Status* link on the Power Management web page allows administrators to view status information on commands sent to and pending commands that have not yet been sent to PCoIP devices. It also displays the current power state of host PCs/Workstations. When this link is selected the web page shown in Figure 4-20 will appear.

Figure 4-20: Power Management Status Web Page



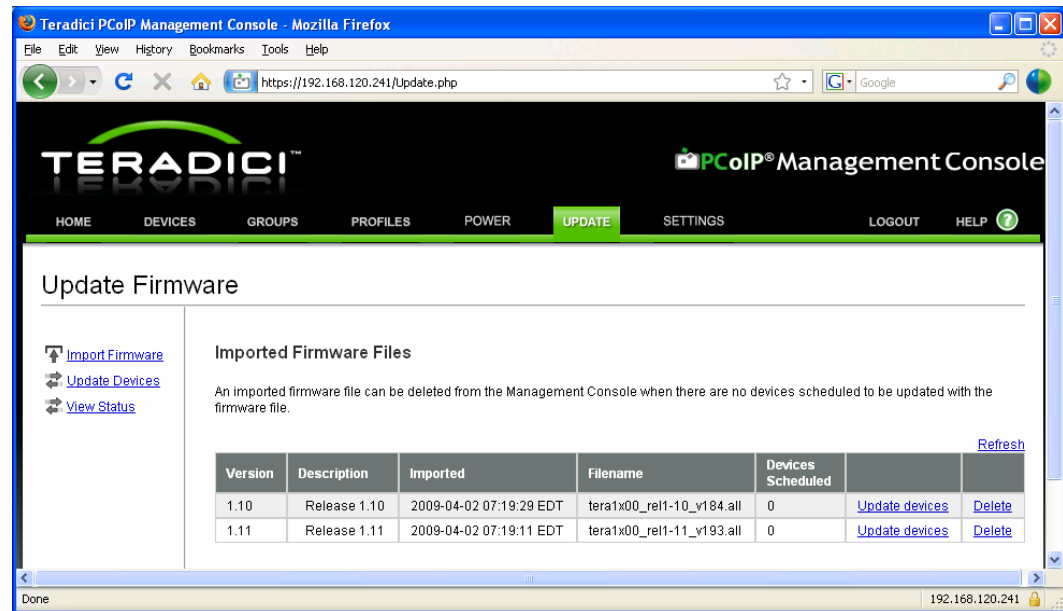
In addition to providing status information this web page can also be used to cancel commands that are scheduled to be sent in the future.

4.6 Update Firmware

The *Update Firmware* web page, shown in Figure 4-21, allows administrators to update the firmware running on PCoIP devices. Administrators can initiate the following actions using this web page.

- Upload new firmware images to the PCoIPMC VM
- Schedule firmware updates for one or more PCoIP devices
- View the status of scheduled firmware updates

Figure 4-21: Update Firmware Web Page



4.6.1 Import Firmware

The *Import Firmware* link allows an administrator to transfer a firmware release file from the host machine to the PCoIPMC VM. The administrator is prompted to locate the file containing the firmware release on the host machine file system and assign a description to the firmware release.

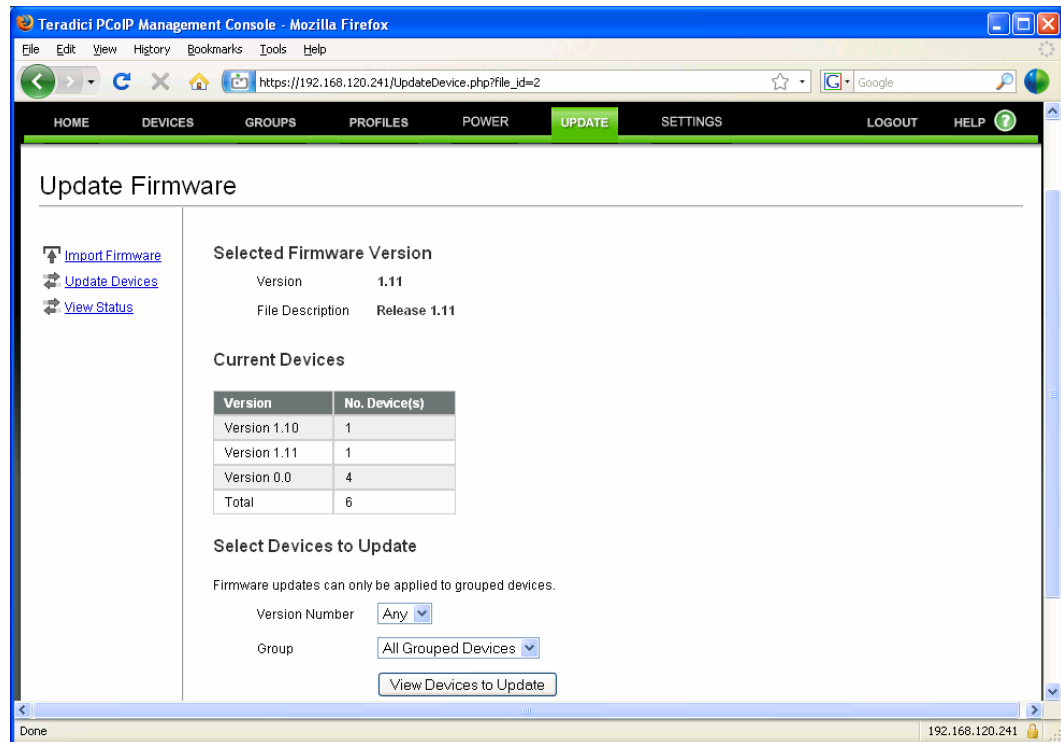
The PCoIPMC supports storing a maximum of 10 firmware images. Old firmware release should be deleted if this limit is reached and the administrator needs to import additional firmware releases.

4.6.2 Update Device Firmware

The *Update Devices* link next to an imported firmware release allows an administrator to specify the devices to update and the time the update will take place. This allows users to schedule firmware updates to take place at night. Figure 4-22 shows the update devices web page that appears after selecting the *Update Devices* link.

This page displays the firmware version to download, shown under the *Selected Firmware Version* text. This page displays a table with summary information about the firmware versions running on the *Current Devices* managed by the PCoIPMC. The *Version Number* and *Group Name* dropdown menus allow the administrator to update specific groups of devices and/or devices loaded with specific versions of firmware.

Figure 4-22: Initial Update Devices Web Page



When the *View Devices to Update* button is selected the PCoIPMC displays the second update devices web page that lists the devices that match the *Version Number* and *Group Name* specified by the user. This new page is shown in Figure 4-23.

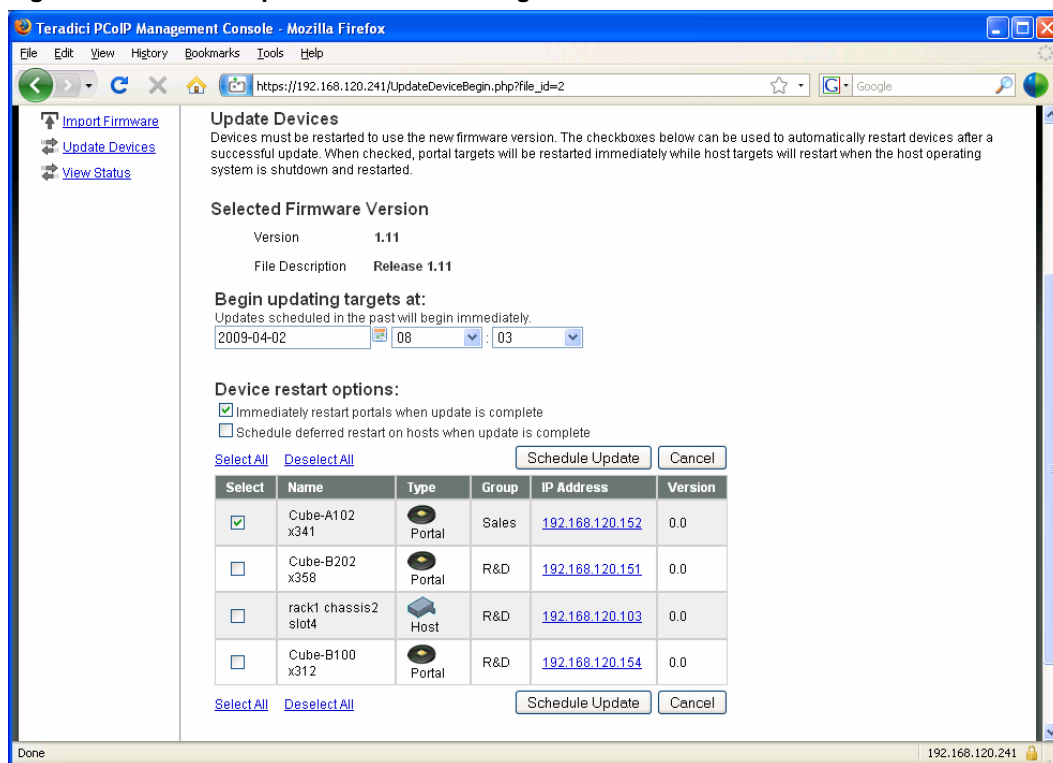
This web page allows the user to specify the time the update will occur with the fields under the *Begin updating targets at* text.

Users can specify the reset options they wish to use.

- Portal devices can be commanded to reset when the firmware update completes
- Host devices can be commanded to schedule a deferred reset, which will trigger a reset the next time the host operating systems shuts down

Users must also specify the devices to update by checking the boxes next to the devices they wish to update. After the options have been configured the user should select the *Schedule Update* link to initiate the firmware update.

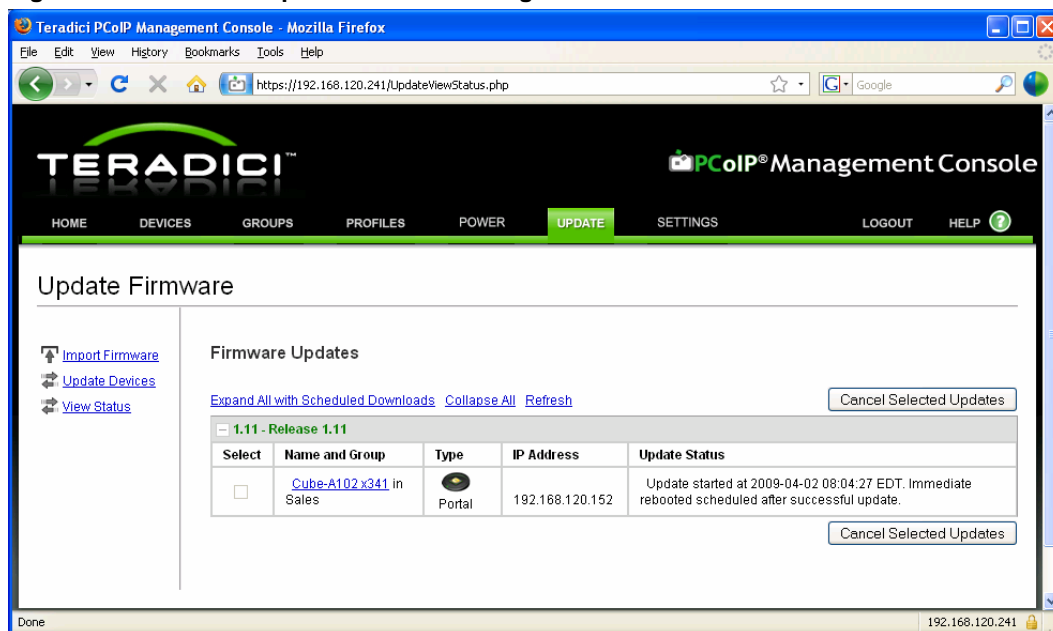
Figure 4-23: Second Update Devices Web Page



4.6.3 View Status

The *View Status* link allows the user to view the current status of all scheduled and completed firmware updates. Figure 4-24 shows the Firmware Update Status web page.

Figure 4-24: Firmware Update Status Web Page

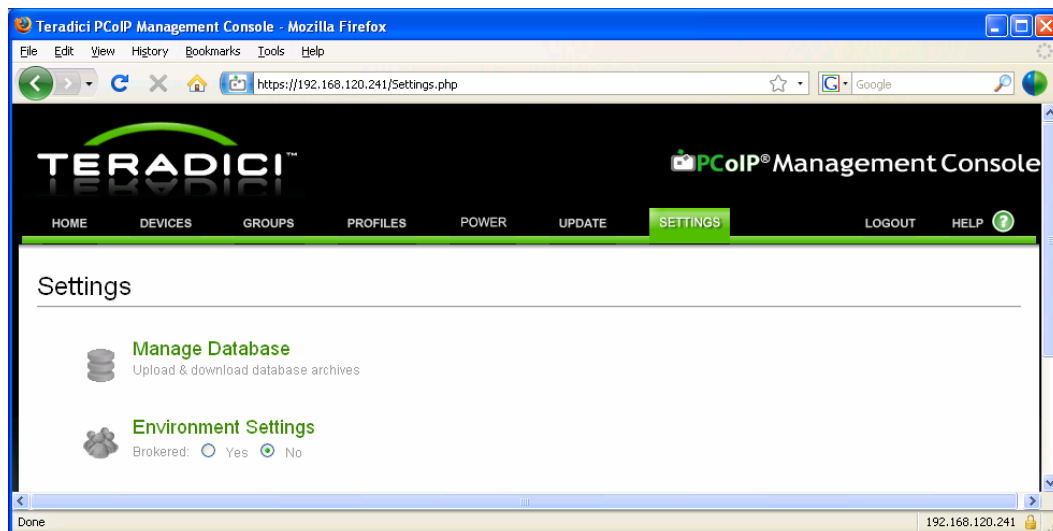


4.7 Manage Settings

The *Settings* web page, shown in Figure 4-25, supports the following actions:

- Uploading and downloading PCoIPMC database archive files
- Configuring PCoIPMC environment settings

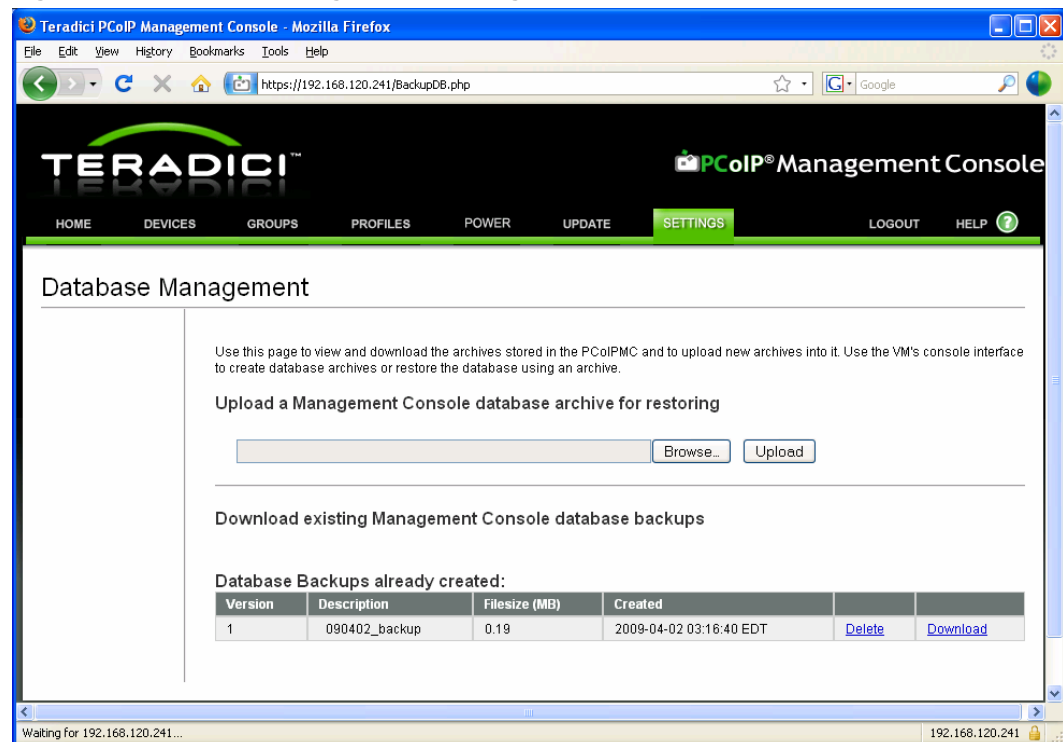
Figure 4-25: Settings Web Page



4.7.1 Database Management

The *Manage Database* link on the Settings web page allows administrators to upload and download database files from the PCoIPMC VM. When this link is selected the web page shown in Figure 4-26 appears.

Figure 4-26: Database Management Web Page



Uploading a Database

The *Browse* and *Upload* buttons allow an administrator to transfer a database archive from the host PC running the web browser to the PCoIPMC VM. Select the *Browse* button and choose database archive to upload. Click the *Upload* button after selecting the file. This will initiate the transfer of the database file into the VM.

After a database is uploaded to the VM the user must restore the database from the imported file to begin using it. This process is performed using the PCoIPMC VM console. Refer to section 3.5.2 for information on how to restore the PCoIPMC database.

Downloading a Database

The *Download link* allows an administrator to transfer a database archive from the PCoIPMC VM to the host PC running the web browser. When this link is selected the user must select the destination directory to upload the archive to.

Database archives can be created using the PCoIPMC VM console backup database command. Refer to section 3.5.1 for information on backing up the PCoIPMC database.

4.7.2 Environment Settings

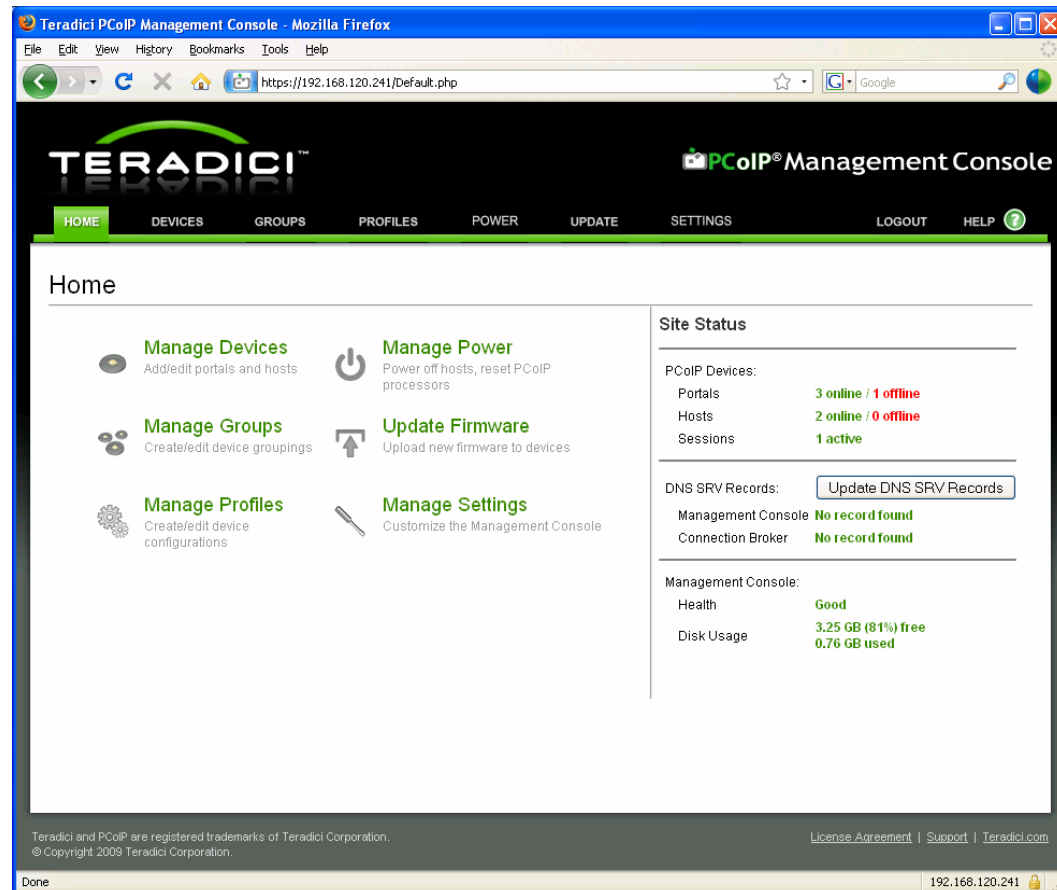
The *Brokered* configuration setting shown in Figure 4-25 should be set equal to *Yes* if the deployment is using a connection broker to manage host and portal peerings. The setting should be *No* if the deployment will use the PCoIPMC to manage the host and portal peerings

Note: The *Link devices* button on the Device Management page is disabled when this setting is *Yes*. This prevents the PCoIPMC from manipulating device peering information. In a brokered environment the device peering information is maintained by the connection broker.

4.8 Site Status

The right side of the Home web page displays summary information on all of the PCoIP devices discovered by the PCoIPMC.

Figure 4-27: Home Web Page



The following status information is displayed:

- Number of online and offline PCoIP portals discovered by the PCoIPMC
- Number of online and offline PCoIP hosts discovered by the PCoIPMC
- Number of active PCoIP sessions
- FQDN of the PCoIPMC found in the PCoIPMC DNS SRV record if one exists
- FQDN of the Connection Broker found in the PCoIP Connection Broker DNS SRV record if one exists
- Current state of the PCoIPMC
- Disk Usage information for the PCoIPMC. The PCoIPMC uses up to 4GB of disk space. When the usage begins to approach this limit the status will turn red indicating the administrator must clean up the PCoIPMC database. Options to reduce memory usage include limiting the number of firmware images stored in the database along with the number of database backups stored in the VM.

Note: A device is considered offline when the last attempt to rediscover the device failed. Rediscovery attempts are performed at the following times:

- User clicks *Update* on the device details web page

- Once an hour if the device is online
- Once every 15 minutes if the device is offline
- After a firmware update if the deployment has a PCoIPMC DNS SRV record. If the record does not exist the device will be rediscovered by one of the other mechanisms listed here.
- After a profile is applied (or the application fails)

Note: The PCoIPMC considers sessions to be active only when the host PC/Workstation is powered on (in the S0 state) and a session is active between the host and portal. If the host PC/Workstation is in a low power state (S3, S4 or S5) the session is considered inactive.

Note: Site status information is updated when the administrator reloads the home web page. The DNS SRV records are checked every five minutes by the PCoIPMC or when the *Update DNS SRV Records* button on the home web page is selected.

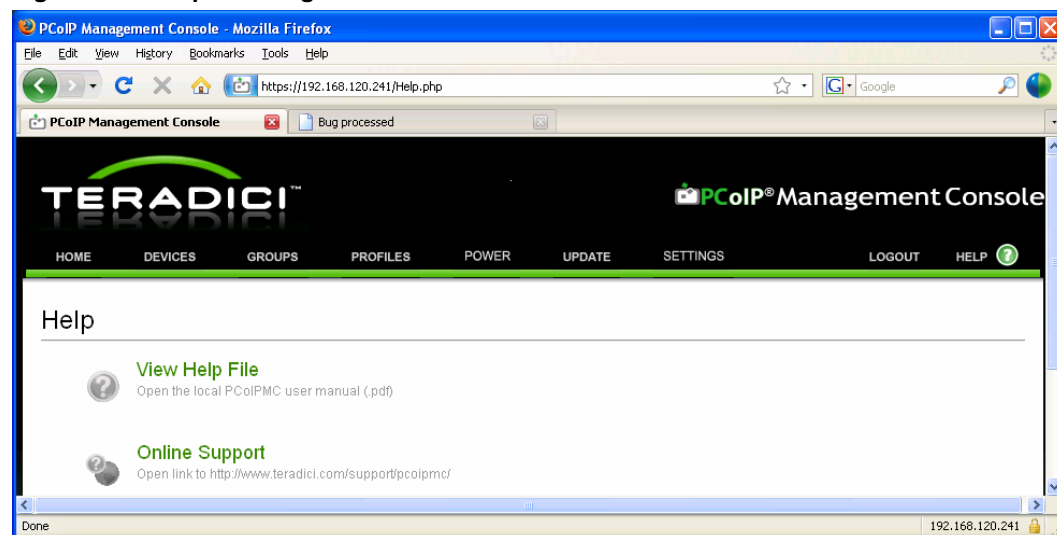
4.9 Online Help

All PCoIPMC web pages include *HELP* link in the upper right hand corner. When this link is selected the screen shown in Figure 4-28 appears. This web page has two links which provide access to the following information:

- *View Help File* opens a copy of this document
- *Online Support* opens a new browser window at the Teradici PCoIPMC support web-site. The URL for this site is <http://www.teradici.com/support/pcoipmc.php>.

Note: The online support link can also be accessed by selecting the *Support* link at the bottom of any of the PCoIPMC web pages.

Figure 4-28: Help Web Page



5 Getting Started

This section provides instructions on how to begin using the PCoIPMC. After completing the following steps an administrator will be able to establish a PCoIP session using a pair of PCoIP host and portal devices.

5.1 Start the PCoIPMC

Follow the instructions described in sections 2.2 and 2.3. After doing this the PCoIPMC VM will be active on the PCoIPMC host machine.

Follow the instructions described in section 4.1 to open a web-browser and log into the PCoIPMC web interface.

5.2 Discover Devices

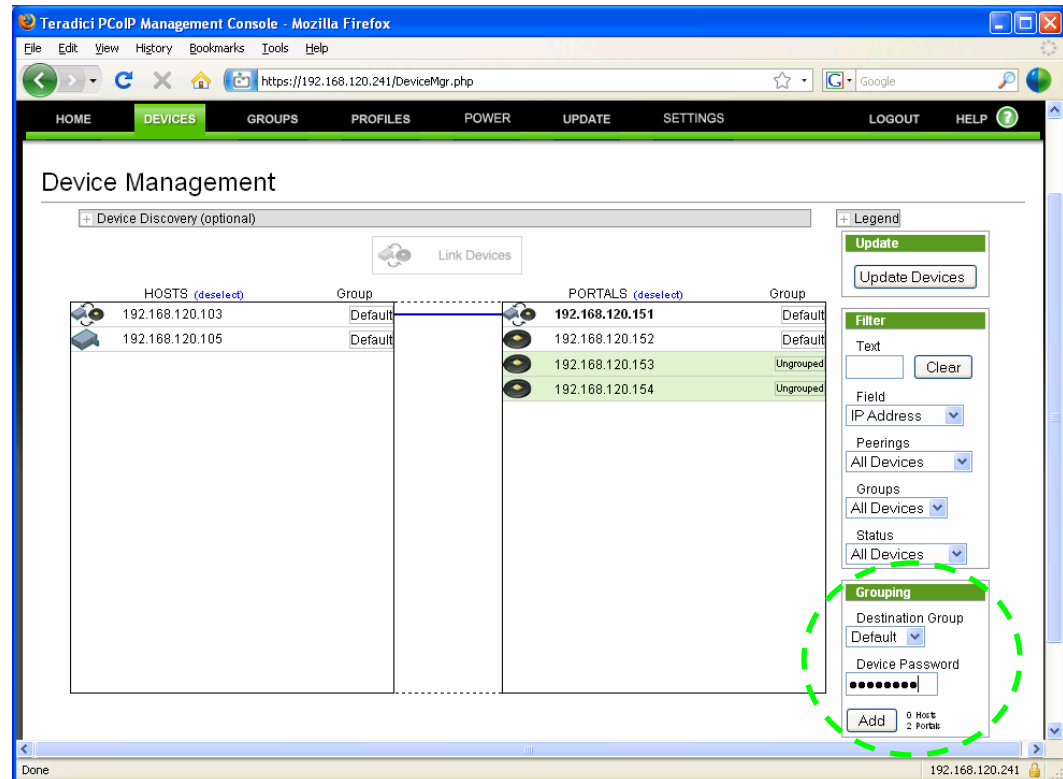
Open the PCoIPMC Device Management web page. Verify the PCoIPMC has discovered the devices you wish to link (peer). If the devices have not been discovered use the Manual Device Discovery feature to discover the devices. The Manual Device Discovery feature is described in section 1.3.3.3.

5.3 Adding Devices to a Group

Once the PCoIP devices are discovered the administrator must add them to a group. This is done using the Device Management web page, see Figure 5-1. The steps below walk the user through the process of adding 2 portals to the *Default* group.

1. Open the PCoIPMC Device Management web page.
2. While pressing the “Shift” key click on the devices you wish to add to a group. All of the selected devices will be highlighted.
3. After selecting the devices open the *Destination Group* dropdown menu on the right-hand side of the screen. Select the group you wish to add the devices to. In this case the *Default* group was selected.
4. Enter the device password in the Password field on the right-hand side of the screen. In this example all of the devices have been assigned the same password. Users are recommended to assign the same password to all devices in a deployment.
5. Select the *Add* button below the Destination Group dropdown menu. The PCoIPMC will then add the selected devices to the *R&D* group.

Figure 5-1: Adding Devices to a Group



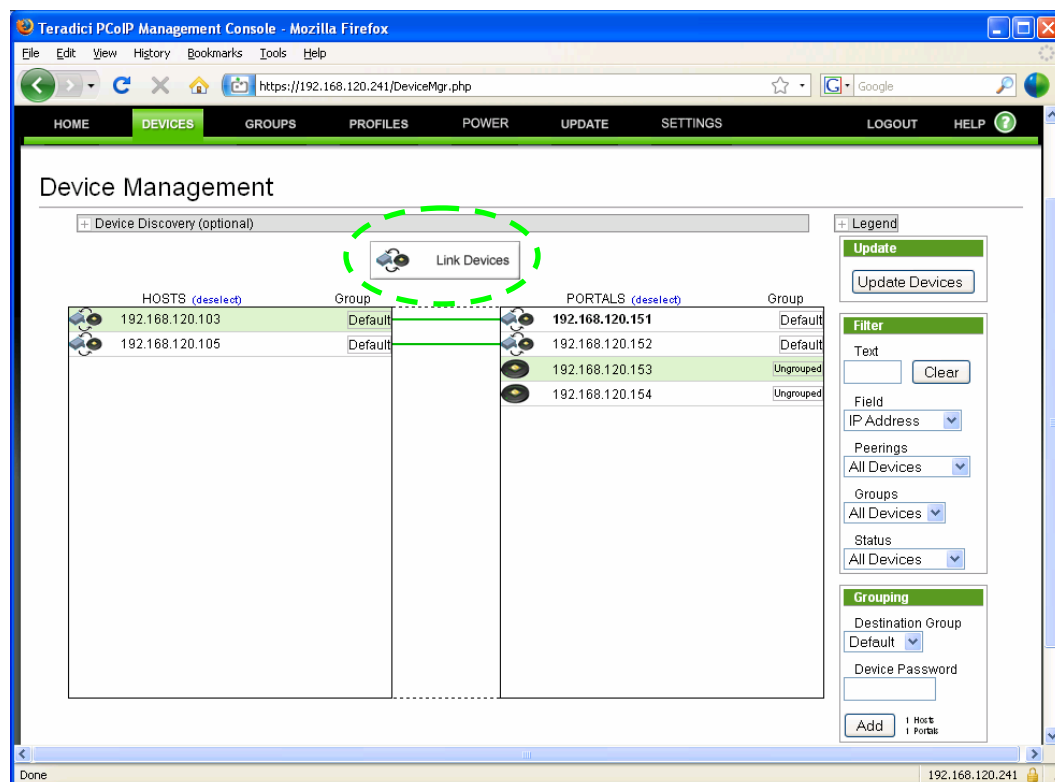
Note: After a device is successfully added to a group the group name appears in the Group column for each device. In Figure 5-1 both host devices are part of the *Default* group.

5.4 Peering Devices

Each pair of host and portal devices can be peered, which means they are linked together. After a host and portal have been peered, a PCoIP session can be started from the portal. To start a PCoIP session the user must select the connect button on the portal OSD. This section describes how to link/peer pairs of host and portal devices.

1. Open the PCoIPMC Device Management web page.
2. Select the host and portal devices to be peered. In Figure 5-2 the devices 192.168.120.103 and 192.168.120.153 are selected.
3. Select the *Link Devices* button. The devices will be peered after doing this. At this point the portal will connect to the host 192.168.120.103 when the user selects *connect* on the portal OSD.

Figure 5-2: Peering a Pair of Devices



5.5 Next Steps

Below is a list of suggestions for the administrator to follow in order to become more familiar with the PCoIPMC.

- Review section 1 of this document to become familiar with the different components in a PCoIP deployment. This section also describes some fundamental concepts the administrator must be aware of to use the PCoIPMC.
- Update the time zone of the PCoIPMC using the VM Console interface. Refer to section 3.6.
- Create a profile and set one or more properties within the profile. A relatively benign parameter that could be configured is the *OSD Screensaver Text* field in the OSD Configuration settings. Refer to section 4.4.
- Create a Group and assign the profile created in the previous step to the new group. Refer to section 4.3.
- Assign some devices to the new group. Refer to section 4.2.5.
- Write the profile settings to the devices in the new group and verify the settings were written to the devices. Refer to sections 4.3.4 and 4.3.5.
- Query and view the current device settings. Refer to section 4.2.9.2.
- Query and view the data stored in the device event log. Sections 4.2.8.4 and 4.2.9.6 describe two different ways of doing this.
- Download new firmware to a device. Refer to section 4.6
- Send reset commands to a device and view power management status information. Refer to section 4.5.

- Backup the PCoIPMC database and download it from the PCoIPMC VM to an external server. Refer to sections 3.5.1 and 4.7.1.
- Upload a backed up copy of the PCoIPMC database to the PCoIPMC VM and restore the active database from the uploaded file. Refer to sections 3.5.2 and 4.7.1.