Managing Remote Presence

This chapter includes the following sections:

Managing the Virtual KVM

Virtual KVM Console

The vKVM console is an interface accessible from that emulates a direct keyboard, video, and mouse (vKVM) connection to the server. The vKVM console allows you to connect to the server from a remote location.

Here are a few major advantages of using Cisco KVM Console:

- The Cisco KVM console provides connection to KVM, SOL, and vMedia whereas the Avocent KVM provides connection only to KVM and vMedia.

- In the KVM Console, the vMedia connection is established at the KVM Launch Manager and is available for all users.

- The KVM console offers you an advanced character replacement options for the unsupported characters while pasting text from the guest to the host.

- The KVM console provides you an ability to store the vMedia mappings on CIMC.

Instead of using CD/DVD or floppy drives physically connected to the server, the vKVM console uses virtual media, which are actual disk drives or disk image files that are mapped to virtual CD/DVD or floppy drives. You can map any of the following to a virtual drive:

- CD/DVD or floppy drive on your computer

- Disk image files (ISO or IMG files) on your computer

- USB flash drive on your computer

- CD/DVD or floppy drive on the network

- Disk image files (ISO or IMG files) on the network

• USB flash drive on the network

You can use the vKVM console to install an OS on the server.

> **Note** To configure the vKVM console successfully for the S3260 Storage Server, you need to configure IP addresses for the Cisco IMC, CMC, and BMC components. You can configure the IP addresses for these components using the CLI interface or Web UI. For the CLI, use the command **scope network**, or view the setting using **scope <chassis/server1/2><cmc/bmc><network>**.
>
> To configure IP addresses for network components on the web interface, see the steps described in the section **Configuring Network-Related Settings**.

> **Note** The vKVM Console is operated only through the GUI. To launch the vKVM Console, see the instructions in the *Cisco UCS C-Series Servers Integrated Management Controller GUI Configuration Guide*.

Enabling the Virtual KVM

Before you begin

You must log in as a user with admin privileges to enable the virtual KVM.

Procedure

	Command or Action	**Purpose**
Step 1	Server # **scope server** {**1** | **2**}	Enters server command mode of server 1 or 2.
Step 2	Server /server # **scope kvm**	Enters KVM command mode.
Step 3	Server /server/kvm # **set enabled yes**	Enables the virtual KVM.
Step 4	Server /server/kvm # **commit**	Commits the transaction to the system configuration.
Step 5	Server /server/kvm # **show** [**detail**]	(Optional) Displays the virtual KVM configuration.

Example

This example enables the virtual KVM:

```
Server# scope server 1
Server /server # scope kvm
Server /server/kvm # set enabled yes
Server /server/kvm *# commit
Server /server/kvm # show detail
KVM Settings:
    Encryption Enabled: yes
```

```
     Max Sessions: 4
     Local Video: yes
     Active Sessions: 1
     Enabled: yes
     KVM Port: 2068

Server /server/kvm #
```

Disabling the Virtual KVM

Before you begin

You must log in as a user with admin privileges to enable the virtual KVM.

Procedure

	Command or Action	**Purpose**
Step 1	Server # **scope server** {**1** | **2**}	Enters server command mode of server 1 or 2.
Step 2	Server /server # **scope kvm**	Enters KVM command mode.
Step 3	Server /server /kvm # **set enabled no**	Disables the virtual KVM.
		Note Disabling the virtual KVM disables access to the virtual media feature, but does not detach the virtual media devices if virtual media is enabled.
Step 4	Server /server/kvm # **commit**	Commits the transaction to the system configuration.
Step 5	Server /server/kvm # **show** [**detail**]	(Optional) Displays the virtual KVM configuration.

Example

This example enables the virtual KVM:

```
Server# scope server 1
Server /server # scope kvm
Server /server/kvm # set enabled no
Server /server/kvm *# commit
Server /server/kvm # show detail
KVM Settings:
    Encryption Enabled: yes
    Max Sessions: 4
    Local Video: yes
    Active Sessions: 0
    Enabled: no
    KVM Port: 2068

Server /server/kvm #
```

Configuring the Virtual KVM

Before you begin

You must log in as a user with admin privileges to configure the virtual KVM.

Procedure

	Command or Action	Purpose
Step 1	Server # **scope server** {**1** | **2**}	Enters server command mode of server 1 or 2.
Step 2	Server /server# **scope kvm**	Enters KVM command mode.
Step 3	Server /server/kvm # **set enabled** {**yes** | **no**}	Enables or disables the virtual KVM.
Step 4	Server /server/kvm # **set encrypted** {**yes** | **no**}	If encryption is enabled, the server encrypts all video information sent through the KVM.
Step 5	Server /server/kvm # **set kvm-port** *port*	Specifies the port used for KVM communication.
Step 6	Server /server/kvm # **set local-video** {**yes** | **no**}	If local video is **yes**, the KVM session is also displayed on any monitor attached to the server.
Step 7	Server /server/kvm # **set max-sessions** *sessions*	Specifies the maximum number of concurrent KVM sessions allowed. The *sessions* argument is an integer between 1 and 4.
Step 8	Server /server/kvm # **commit**	Commits the transaction to the system configuration.
Step 9	Server /server/kvm # **show** [**detail**]	(Optional) Displays the virtual KVM configuration.

Example

This example configures the virtual KVM and displays the configuration:

```
Server# scope server 1
Server /server # scope kvm
Server /server/kvm # set enabled yes
Server /server/kvm *# set encrypted no
Server /server/kvm *# set kvm-port 2068
Server /server/kvm *# set max-sessions 4
Server /server/kvm *# set local-video yes
Server /server/kvm *# commit
Server /server/kvm # show detail
KVM Settings:
    Encryption Enabled: no
    Max Sessions: 4
    Local Video: yes
    Active Sessions: 0
    Enabled: yes
    KVM Port: 2068
```

```
Server /server/kvm #
```

What to do next

Launch the virtual KVM from the GUI.

Configuring Virtual Media

Before you begin

You must log in as a user with admin privileges to configure virtual media.

Procedure

	Command or Action	Purpose
Step 1	Server# **scope vmedia**	Enters virtual media command mode.
Step 2	Server /vmedia # **set enabled** {**yes** | **no**}	Enables or disables virtual media. By default, virtual media is disabled.
		Note Disabling virtual media detaches the virtual CD, virtual floppy, and virtual HDD devices from the host.
Step 3	Server /vmedia # **set encryption** {**yes** | **no**}	Enables or disables virtual media encryption.
Step 4	Server /vmedia # **set low-power-usb-enabled** {**yes** | **no**}	Enables or disables low power USB.
		Note While mapping an ISO to a server which has a UCS VIC P81E card and the NIC is in Cisco Card mode:
		• If the low power USB is enabled, after mapping the ISO and rebooting the host the card resets and ISO mapping is lost. The virtual drives are not visible on the boot selection menu.
		• If the low power USB is disabled, after mapping the ISO, and rebooting the host and the , the virtual drivers appear on the boot selection menu as expected.

	Command or Action	Purpose
Step 5	Server /vmedia # **commit**	Commits the transaction to the system configuration.
Step 6	Server /vmedia # **show** [**detail**]	(Optional) Displays the virtual media configuration.

Example

This example configures virtual media encryption:

```
Server# scope vmedia
Server /vmedia # set enabled yes
Server /vmedia *# set encryption yes
Server /vmedia *# set low-power-use-enabled no
Server /vmedia *# commit
Server /vmedia # show detail
vMedia Settings:
    Encryption Enabled: yes
    Enabled: yes
    Max Sessions: 1
    Active Sessions: 0
    Low Power USB Enabled: no

Server /vmedia #
```

What to do next

Use the KVM to attach virtual media devices to a host.

Configuring a Cisco IMC-Mapped vMedia Volume

Before you begin

You must log in with admin privileges to perform this task.

Procedure

	Command or Action	Purpose
Step 1	Server # **scope server** {**1**	**2**}	Enters server command mode of server 1 or 2.
Step 2	Server /server# **scope vmedia**	Enters the virtual media command mode.
Step 3	Server /server/vmedia # **map-cifs** {**volume-name**	**remote-share**	**remote-file-path** [*mount options*]	Maps a CIFS file for vMedia. You must specify the following: • Name of the volume to create • Remote share including IP address and the exported directory • Path of the remote file corresponding to the exported directory.

	Command or Action	**Purpose**
		• (Optional) Mapping options
		• Username and password to connect to the server
Step 4	Server /server/vmedia # **map-nfs** {**volume-name** | **remote-share** | **remote-file-path**} [*mount options*]	Maps an NFS file for vMedia. You must specify the following:
		• Name of the volume to create
		• Remote share including IP address and the exported directory
		• Path of the remote file corresponding to the exported directory.
		• (Optional) Mapping options
Step 5	Server /server/vmedia # **map-www** {**volume-name** | **remote-share** | **remote-file-path** [*mount options*]	Maps an HTTPS file for vMedia. You must specify the following:
		• Name of the volume to create
		• Remote share including IP address and the exported directory
		• Path of the remote file corresponding to the exported directory.
		• (Optional) Mapping options
		• Username and password to connect to the server

Example

This example shows how to create a CIFS -mapped vmedia settings:

```
Server # scope server 1
Server /server #scope vmedia
Server /server/vmedia # map-cifs sample-volume //10.10.10.10/project /test/sample
Server username:
Server password: ****
Confirm password: ****

Server /server/vmedia #
```

Viewing Cisco IMC-Mapped vMedia Volume Properties

Before you begin

You must log in with admin privileges to perform this task.

Procedure

	Command or Action	**Purpose**
Step 1	Server # **scope server** {**1**	**2**}	Enters server command mode of server 1 or 2.
Step 2	Server /server # **scope vmedia**	Enters the virtual media command mode.
Step 3	Server /server/vmedia # **show mappings** *detail*	Displays information on all the vmedia mapping that are configured.

Example

This example shows how to view the properties of all the configured vmedia mapping:

```
Server # scope server 1
Server /server/scope vmedia
Server /server/vmedia # show mappings

Volume  Map-status   Drive-type   remote-share          remote-file          mount-type
------  ----------   ----------   --------------------  -------------------   -----------

Huu     OK           removable    http://10.104.236.99/ rhel-server-6.1-x86_6.iso    www
Rhel    OK           CD           http://10.104.236.99/ rhel-server-6.1-x86_6.iso    www


Server /server/vmedia #
```

Remapping an Existing Cisco IMC vMedia Image

Before you begin

You must log in with user or admin privileges to perform this task.

Procedure

	Command or Action	**Purpose**
Step 1	Server # **scope vmedia**	Enters the vMedia command mode.
Step 2	Server /vmedia # **show saved-mappings**	Displays the available saved mappings.
Step 3	Server /vmedia # **remap** *mapping volume*	Remaps the vMedia. **Note** You must use the volume name of the saved mapping as the variable for this command.
Step 4	(Optional) Server /vmedia # **show mappings**	Displays the mapped vMedia details.

Example

This example shows how to remap a vMedia image to a saved mapping:

```
Server # scope vmedia
Server/vmedia # remap huu
Server/vmedia # show mappings
Volume          Map-Status               Drive-Type Remote-Share           Remote-File
           Mount-Type
--------------- ----------------------- ---------- -----------------------
----------------------- --------
huu             OK                       CD         https://10.104.236.99...
ucs-c240-huu-3.0.0.33... www
Server/vmedia # show saved-mappings
Volume          Drive-Type Remote-Share           Remote-File             Mount-Type
--------------- ---------- ----------------------- ----------------------- --------
huu             CD         https://10.104.236.99... ucs-c240-huu-3.0.0.33... www
Server/vmedia #
```

Deleting a Cisco IMC vMedia Image

Before you begin

You must log in with user or admin privileges to perform this task.

Procedure

	Command or Action	Purpose
Step 1	Server # **scope vmedia**	Enters the vMedia command mode.
Step 2	Server /vmedia # **delete-saved-mappings**	Enter **yes** in the confirmation prompt. Deletes the saved mapping.
Step 3	Server /vmedia # **show saved-mappings**	Does not display any saved mapping as it is deleted.

Example

This example shows how to delete a saved mapping:

```
Server # scope vmedia
Server/vmedia # show saved-mappings
Volume          Drive-Type Remote-Share           Remote-File             Mount-Type
--------------- ---------- ----------------------- ----------------------- --------
huu             CD         https://10.104.236.99... ucs-c240-huu-3.0.0.33... www
Server/vmedia # delete-saved-mappings
Purge saved mappings? Enter 'yes' to confirm -> yes
Server/vmedia # show saved-mappings
Server/vmedia #
```

Managing Serial over LAN

Serial Over LAN

Serial over LAN (SoL) is a mechanism that enables the input and output of the serial port of a managed system to be redirected via an SSH session over IP. SoL provides a means of reaching the host console via .

Guidelines and Restrictions for Serial Over LAN

For redirection to SoL, the server console must have the following configuration:

- console redirection to serial port A

- no flow control

- baud rate the same as configured for SoL

- VT-100 terminal type

- legacy OS redirection disabled

The SoL session will display line-oriented information such as boot messages, and character-oriented screen menus such as BIOS setup menus. If the server boots an operating system or application with a bitmap-oriented display, such as Windows, the SoL session will no longer display. If the server boots a command-line-oriented operating system (OS), such as Linux, you may need to perform additional configuration of the OS in order to properly display in an SoL session.

In the SoL session, your keystrokes are transmitted to the console except for the function key F2. To send an F2 to the console, press the Escape key, then press 2.

Configuring Serial Over LAN

Before you begin

You must log in as a user with admin privileges to configure serial over LAN (SoL).

Procedure

	Command or Action	Purpose
Step 1	Server # **scope server** {**1** | **2**}	Enters server command mode of server 1 or 2.
Step 2	Server /server# **scope sol**	Enters SoL command mode.
Step 3	Server /server/sol # **set enabled** {**yes** | **no**}	Enables or disables SoL on this server.
Step 4	Server /server/sol # **set baud-rate** {**9600** | **19200** | **38400** | **57600** | **115200**}	Sets the serial baud rate the system uses for SoL communication. **Note** The baud rate must match the baud rate configured in the server serial console.

	Command or Action	**Purpose**
Step 5	(Optional) Server /server/sol # **set comport** {**com0** | **com1**	Sets the serial port through which the system routes SoL communications.
		Note This option is only available on some C-Series servers. If it is not available, the server always uses COM port 0 for SoL communication.
		You can specify:
		• **com0**—SoL communication is routed through COM port 0, an externally accessible serial port that supports either a physical RJ45 connection to an external device or a virtual SoL connection to a network device.
		If you select this option, the system enables SoL and disables the RJ45 connection, which means that the server can no longer support an external serial device.
		• **com1**—SoL communication is routed through COM port 1, an internal port accessible only through SoL.
		If you select this option, you can use SoL on COM port 1 and the physical RJ45 connection on COM port 0.
		Note Changing the comport setting disconnects any existing SoL sessions.
Step 6	Server /sol # **commit**	Commits the transaction to the system configuration.
Step 7	Server /sol # **show** [**detail**]	(Optional) Displays the SoL settings.

Example

This example configures SoL:

```
Server# scope server 1
Server /server #scope sol
Server /server/sol # set enabled yes
Server /server/sol *# set baud-rate 115200
Server /server/sol *# set comport com1
Server /server/sol *# commit
Server /server/sol # show
```

```
Enabled Baud Rate(bps)  Com Port
------- --------------- --------
yes     115200          com1
Server /sol # show detail
Serial Over LAN:
    Enabled: yes
    Baud Rate(bps): 115200
    Com Port: com1
Server /server/sol #
```