



Managing Remote Presence

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Managing the Virtual KVM

Virtual KVM Console

The vKVM console is an interface accessible from Cisco IMC 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 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 kvm	Enters KVM command mode.
Step 2	Server /kvm # set enabled yes	Enables the virtual KVM.
Step 3	Server /kvm # commit	Commits the transaction to the system configuration.
Step 4	Server /kvm # show [detail]	(Optional) Displays the virtual KVM configuration.

Example

This example enables the virtual KVM:

```
Server# scope kvm
Server /kvm # set enabled yes
Server /kvm *# commit
Server /kvm # show
Encryption Enabled Local Video      Active Sessions Enabled KVM Port
-----
no                                     yes                0                yes        2068

Server /kvm #
```

Disabling the Virtual KVM

Before you begin

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

Procedure

	Command or Action	Purpose
Step 1	Server# scope kvm	Enters KVM command mode.
Step 2	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 3	Server /kvm # commit	Commits the transaction to the system configuration.
Step 4	Server /kvm # show [detail]	(Optional) Displays the virtual KVM configuration.

Example

This example disables the virtual KVM:

```
Server# scope kvm
Server /kvm # set enabled no
Server /kvm *# commit
Server /kvm # show
Encryption Enabled Local Video      Active Sessions Enabled KVM Port
-----
no                yes                0                no                2068
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 kvm	Enters KVM command mode.
Step 2	Server /kvm # set enabled {yes no}	Enables or disables the virtual KVM.
Step 3	Server /kvm # set encrypted {yes no}	If encryption is enabled, the server encrypts all video information sent through the KVM.

	Command or Action	Purpose
Step 4	Server /kvm # set kvm-port <i>port</i>	Specifies the port used for KVM communication.
Step 5	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 6	Server /kvm # set max-sessions <i>sessions</i>	Specifies the maximum number of concurrent KVM sessions allowed. The <i>sessions</i> argument is an integer between 1 and 4.
Step 7	Server /kvm # commit	Commits the transaction to the system configuration.
Step 8	Server /kvm # show [detail]	(Optional) Displays the virtual KVM configuration.

Example

This example configures the virtual KVM and displays the configuration:

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

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: <ul style="list-style-type: none"> • 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 Cisco IMC, the virtual drivers appear on the boot selection menu as expected.
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 vmedia	Enters the virtual media command mode.
Step 2	Server /vmedia # map-cifs { volume-name remote-share remote-file-path [<i>mount options</i>]	Maps a CIFS file for vMedia. You must specify the following: <ul style="list-style-type: none"> • 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
Step 3	Server /vmedia # map-nfs { volume-name remote-share remote-file-path } [<i>mount options</i>]	Maps an NFS file for vMedia. You must specify the following: <ul style="list-style-type: none"> • 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

	Command or Action	Purpose
Step 4	Server /vmedia # map-www { volume-name remote-share remote-file-path [<i>mount options</i>]	Maps an HTTPS file for vMedia. You must specify the following: <ul style="list-style-type: none"> • 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 Cisco IMC-mapped vmedia settings:

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

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 vmedia	Enters the virtual media command mode.
Step 2	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 vmedia
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

```

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 <i>mapping volume</i>	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 Cisco IMC.

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 sol	Enters SoL command mode.
Step 2	Server /sol # set enabled {yes no}	Enables or disables SoL on this server.
Step 3	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.
Step 4	(Optional) 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: <ul style="list-style-type: none"> • 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. <p>If you select this option, the system enables SoL and disables the RJ45 connection, which means that the server</p>

	Command or Action	Purpose
		<p>can no longer support an external serial device.</p> <ul style="list-style-type: none"> • com1—SoL communication is routed through COM port 1, an internal port accessible only through SoL. <p>If you select this option, you can use SoL on COM port 1 and the physical RJ45 connection on COM port 0.</p> <p>Note Changing the comport setting disconnects any existing SoL sessions.</p>
Step 5	Server /sol # commit	Commits the transaction to the system configuration.
Step 6	Server /sol # show [detail]	(Optional) Displays the SoL settings.

Example

This example configures SoL:

```

Server# scope sol
Server /sol # set enabled yes
Server /sol *# set baud-rate 115200
Server /sol *# commit
Server /sol # show
Enabled Baud Rate(bps) Com Port
-----
yes      115200          com2
Server /sol # show detail
Serial Over LAN:
  Enabled: yes
  Baud Rate(bps): 115200
  Com Port: com2
Server /sol #
    
```

Launching Serial Over LAN

Procedure

	Command or Action	Purpose
Step 1	Server# connect host	Opens a serial over LAN (SoL) connection to the redirected server console port. You can enter this command in any command mode.

What to do next

To end the SoL session, you must close the CLI session. For example, to end an SoL session over an SSH connection, disconnect the SSH connection.