

Configure Boot from iSCSI in UCS C-Series Standalone

Contents

[Introduction](#)

[Prerequisites](#)

[Requirements](#)

[Components Used](#)

[Background Information](#)

[Configure](#)

[Create vNIC Interface](#)

[Configure Boot Order](#)

[Verify](#)

[Troubleshooting](#)

[Related Information](#)

Introduction

This document describes the process to boot from the iSCSI in a server managed by Cisco Integrated Management Controller (CIMC).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Utilization and management of CIMC
- Storage Area Network (SAN) topologies
- Basic concepts of iSCSI communication

Components Used

- UCS C-Series C220 M7 server; firmware version 4.3(5.250001)
- iSCSI Sever

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

Internet Small Computer System Interface (iSCSI) communication offers several advantages, such as the ability to use existing Ethernet infrastructure to reduce costs, the provision of secure peer authentication to ensure data integrity, and support for block-level storage to enable seamless integration with existing

systems.

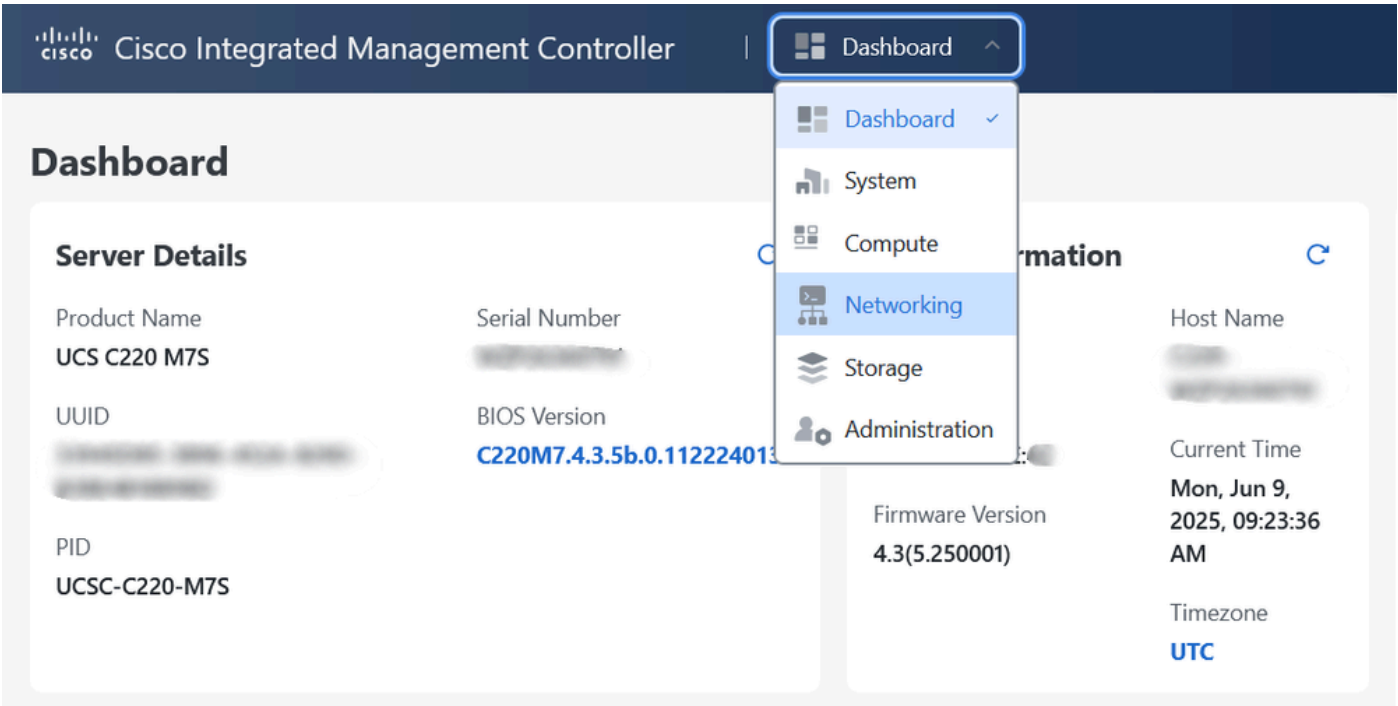
Boot from iSCSI allows a server to boot its operating system from an iSCSI target device located remotely over a network. This method is particularly useful in environments where local storage is not preferred or feasible, such as in stateless server configurations or centralized storage setups.

Configure

The configuration shown in this document is performed in the new CIMC graphical interface (as of the date it is published) for C-Series servers in Standalone mode.

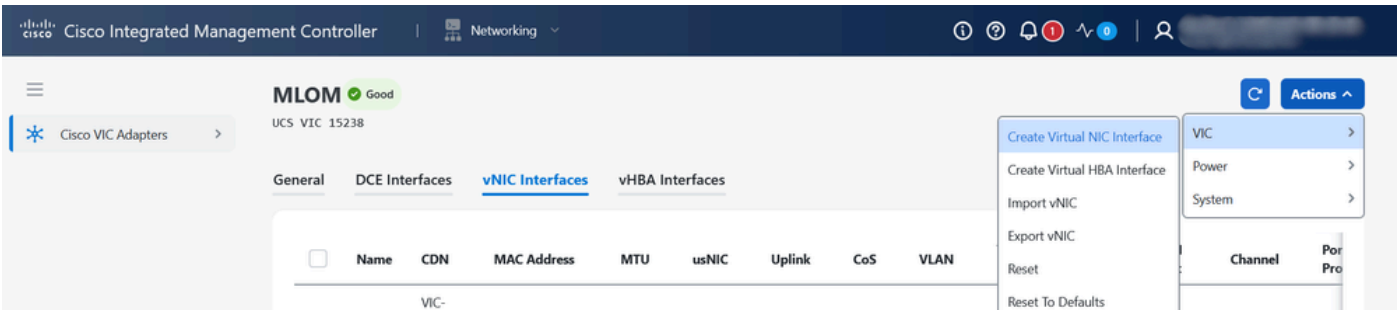
Create vNIC Interface

Step 1. Navigate to **Networking**. Select the adapter you want to use for iSCSI interfaces.



For the purposes of this document, the Cisco VIC Adapter - MLOM is used.

Step 2. Go to **Actions > VIC > Create Virtual NIC Interface**.



Step 3. Add a vNIC according to your requirements. For this document, the vNIC is called iscsi-a.

Tip: Add a second vNIC for redundancy if your infrastructure allows it.

Step 4. Once the vNIC is created, hit the name of your vNIC. A new window is displayed.

Enable **Default VLAN** option and add your native VLAN. Click **Save**.

Cisco Integrated Management Controller

Networking

Cisco VIC Adapters

MLOM Good

UCS VIC 15238

General

DCE Interfaces

vNIC Interfaces

vHBA Interf

	Name	CDN	MAC Address	MTU
<input type="checkbox"/>	eth0	VIC-MLOM-eth0		1500
<input type="checkbox"/>	eth1	VIC-MLOM-eth1		1500
<input type="checkbox"/>	iscsi-a	VIC-MLOM-iscsi-a		1500

© 2024 Cisco Systems, Inc.

vNIC Properties - iscsi-a

General Settings

Features

iSCSI Boot Properties

usNIC Properties

Settings

Name

iscsi-a

Uplink Port

0

CDN

VIC-MLOM-iscsi-a

MTU

1500

Class of Service

0

PCI Link

1

VLAN Mode

TRUNK

Trust Host CoS

☐

Channel Number

0

PCI Order

4

Default VLAN

470

Port Profile

MAC Address

Rate Limit

Enable Uplink Failover

☐

Failback Timeout

5

Close

Step 5. Go to **iSCSI Boot Properties**, enable **PXE Boot** and **iSCSI Boot**.

vNIC Properties - iscsi-a

General Settings

Features

iSCSI Boot Properties

usNIC Properties

☒ PXE Boot

☒ iSCSI Boot

iSCSI Settings

☐ DHCP Network

☐ DHCP iSCSI

DHCP ID

(1 - 63) chars

DHCP Timeout

60

Link Timeout

15

LUN Busy Retry Count

15

IP Version

IPv4

Step 6. Enter the required values to complete the configuration, including details as applicable to your setup such as:

- The initiator name
- Target name
- Target IP address
- DNS information
- Gateway
- LUN ID associated with your remote storage

vNIC Properties - iscsi-a

Initiator

Name ⓘ

iqn.2025-05.com.cisco:iscsi-a

IP Address ⓘ

192.168.0.105

Initiator Priority ⓘ

Primary

Subnet Mask ⓘ

255.255.0.0

TCP Timeout ⓘ

15

Gateway ⓘ

192.168.0.1

CHAP Name ⓘ

(0 - 49) chars

Primary DNS ⓘ

192.168.0.60

CHAP Secret ⓘ

(0 - 49) chars

Secondary DNS ⓘ

Primary Target

Name ⓘ

I-05.com.microsoft:iscsiserver-iscsi-disk-target

Boot LUN ⓘ

0

IP Address ⓘ

192.168.0.55

CHAP Name ⓘ

(0 - 49) chars

TCP Port ⓘ

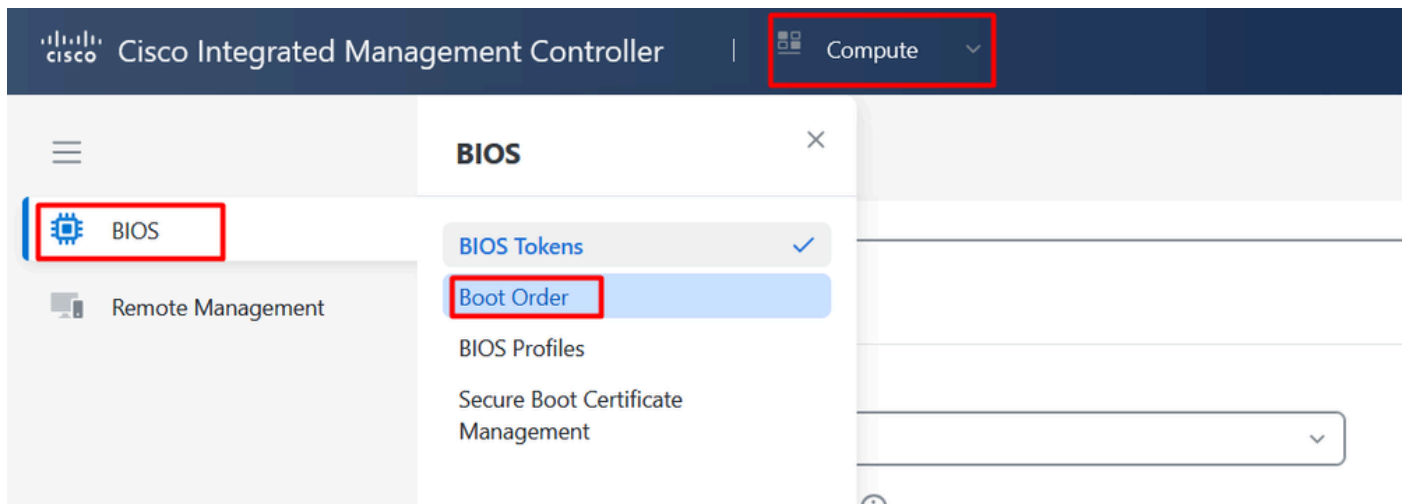
CHAP Secret ⓘ

Close

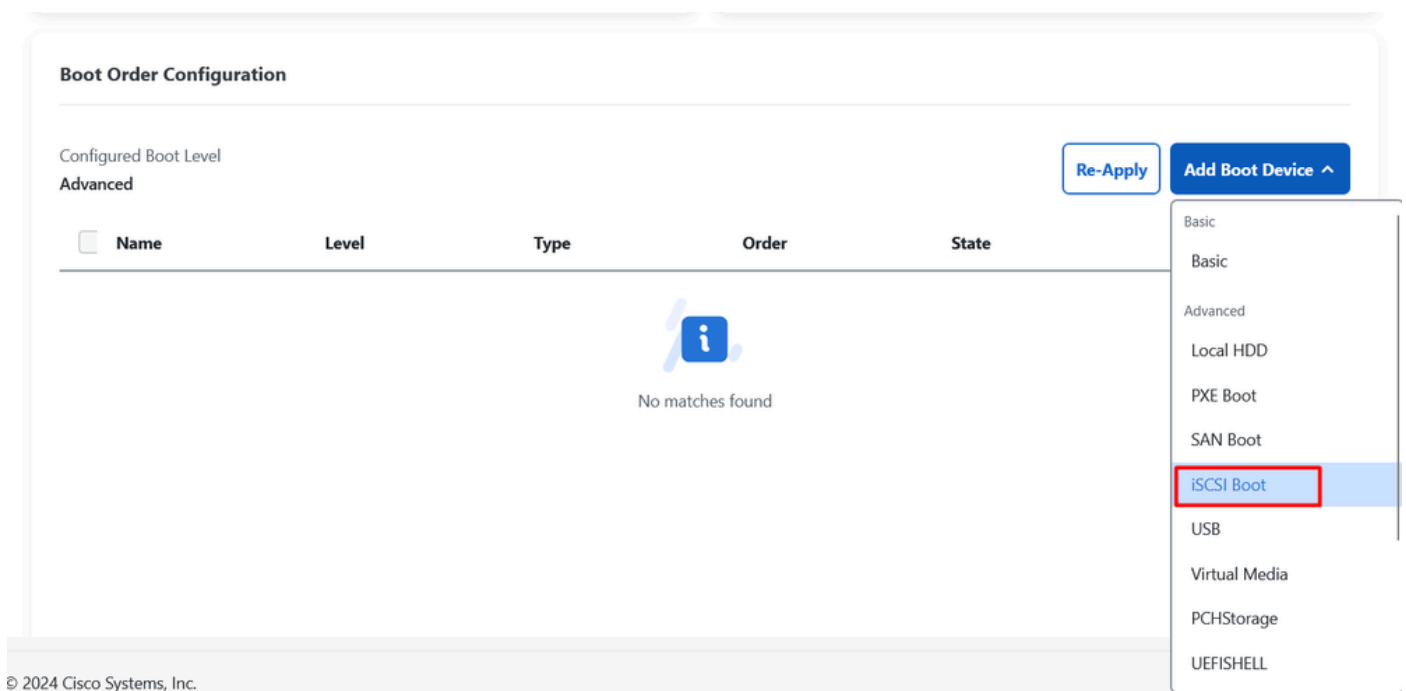
Step 7. Save changes. A power cycle is required for the changes to take effect.

Configure Boot Order


Step 1. Navigate to **Compute > BIOS > Boot Order > Boot Order Configuration**.



Step 2. Click **Add Boot Device**. Select **iSCSI Boot** option.



Step 3. Name your boot identifier. For this document, it is called as iscsi-a. In the same way that the vNIC was named.

 **Tip:** Use the same identifier name in the boot order that was used in the vNIC for the iSCSI boot, this is a best practice.

Step 4. Click **Save**. Select **Yes** when message box appears.

vNIC Properties

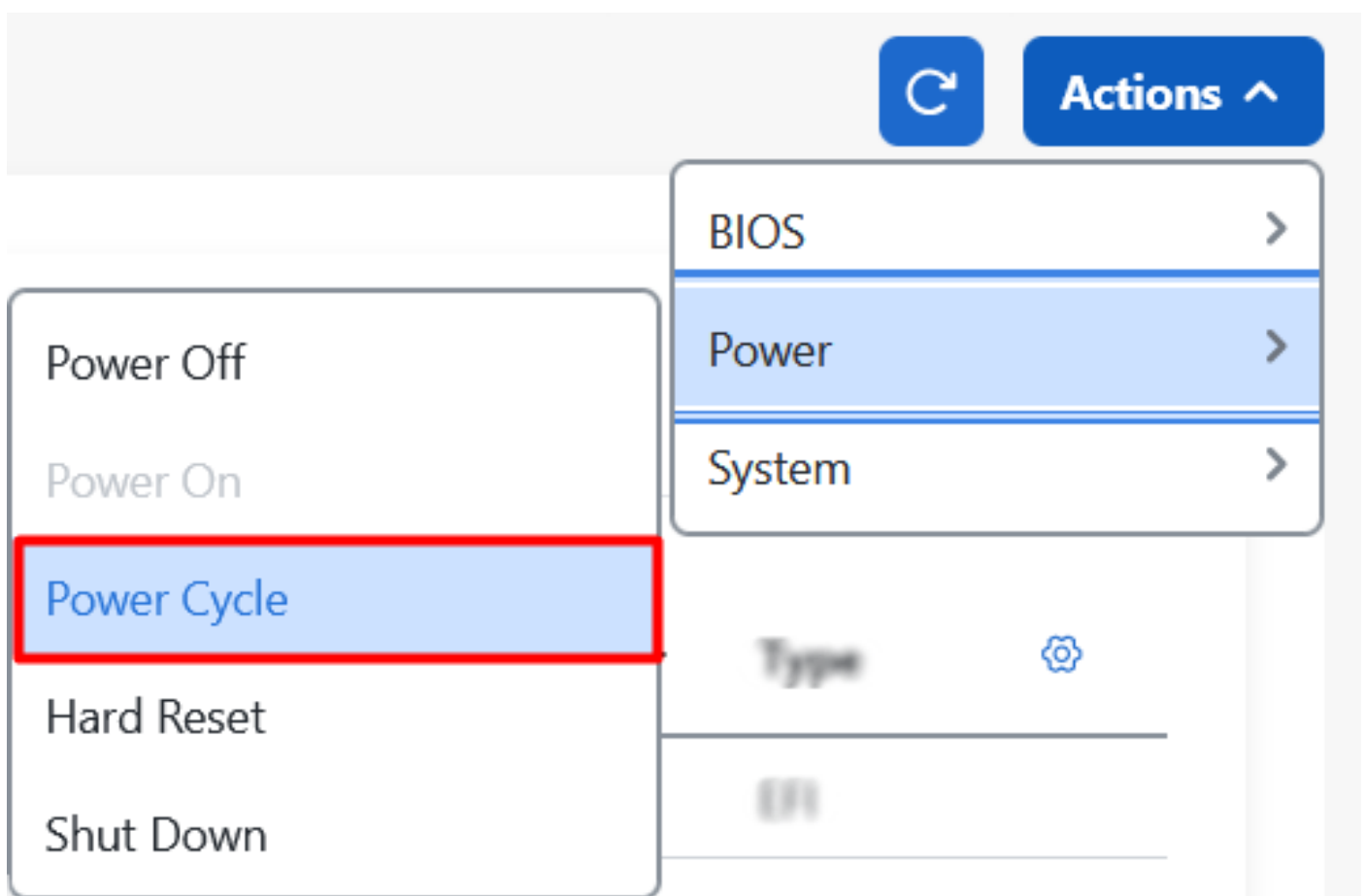
Do you want to save changes?

Settings will take effect upon the next power cycle.

Cancel

Yes

Step 5. Power cycle is needed for the modifications to take effect. Navigate to **Actions** > **Power** > **Power cycle**.



Step 6 (Optional). Add **Virtual Media** to install the ISO through the virtual KVM.

The Boot Order configuration for a single path for iSCSI and Virtual Media is:

Boot Order Configuration

Configured Boot Level
Advanced

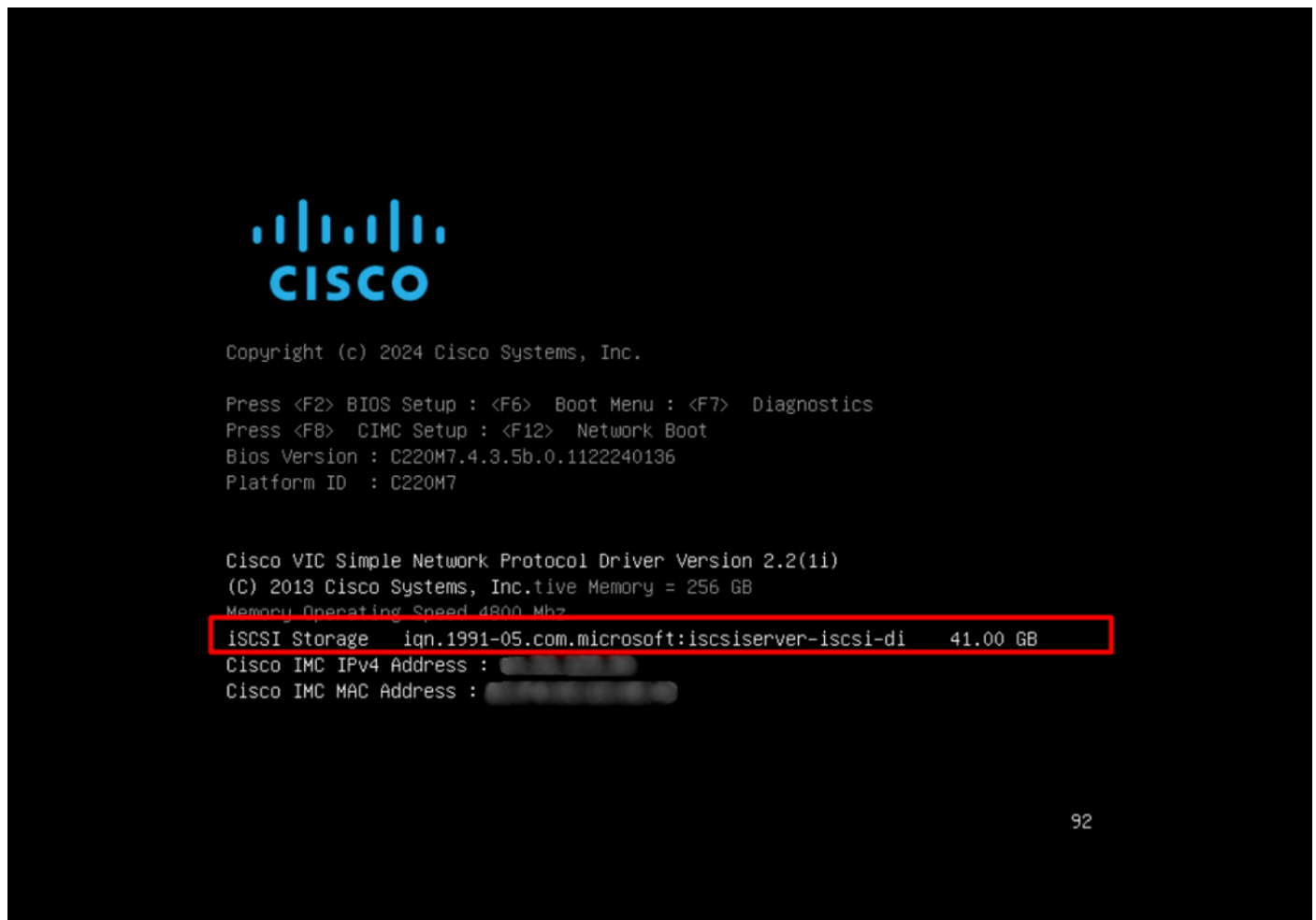
Re-Apply

Add Boot Device ▾

<input type="checkbox"/>	Name	Level	Type	Order	State	
<input type="checkbox"/>	⚠ iscsi-a	Advanced	ISCSI	1	Enabled	👁 📄 ⚙
<input type="checkbox"/>	⚠ vMedia	Advanced	VMEDIA	2	Enabled	👁 📄 ⚙

Verify

A legend with the iSCSI Target appears on the screen when the server boots. If this happens, it means that the configuration you have made is correct.



Troubleshooting

Consider the next points if iSCSI boot is not working properly:

- Check that the boot order was set up properly.


```

C220-WZPXXXXXXXXX # scope bios
C220-WZPXXXXXXXXX /bios # show boot-device

```

Boot Device	Device Type	Device State	Device Order
iscsi-a	ISCSI	Enabled	1
vMedia	VMEDIA	Enabled	2

- Ensure your server can ping the iSCSI server.

```

C220-WZPXXXXXXXXX #scope cimc
C220-WZPXXXXXXXXX /cimc #scope network
C220-WZPXXXXXXXXX /cimc/network # ping 192.168.0.55
Press CTRL+C to stop.
PING 192.168.0.55 (192.168.0.55): 1456 data bytes
1464 bytes from 192.168.0.55: seq=0 ttl=128 time=1.008 ms
1464 bytes from 192.168.0.55: seq=1 ttl=128 time=0.687 ms
1464 bytes from 192.168.0.55: seq=2 ttl=128 time=0.745 ms

```

- Verify the MTU size is configured consistently across the network.
- Confirm that the vNIC has PXE Boot and iSCSI boot enabled and native VLAN configured.

```

C220-WZPXXXXXXXXX # scope chassis
C220-WZPXXXXXXXXX /chassis # scope adapter ML0M
C220-WZPXXXXXXXXX /chassis/adapter # show host-eth-if

```

Name	MTU	Uplink Port	MAC Address	CoS	VLAN	PXE Boot	iSCSI Boot	usNIC
eth0	1500	0	E8:D3:22:72:F6:54	0	470	disabled	disabled	0
eth1	1500	1	E8:D3:22:72:F6:55	0	470	disabled	disabled	0
iscsi-a	1500	0	E8:D3:22:72:F6:58	0	470	enabled	enabled	0

- Check that the MAC address of your vNIC is learned on your upstream switch.
- Ensure that the iSCSI IQN initiator is authorized on the iSCSI server. Confirm that the target is properly configured to present the specified LUN to the initiator.

Related Information

- [Cisco Technical Support and Downloads](#)