



# FX2 Chassis Management Controller (CMC) Deployment Guide

Dell Engineering and Technical Marketing  
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# Table of contents

- 1 FX2 Overview ..... 4
- 2 Initial Setup and Deployment .....10
  - 2.1 Cabling .....10
  - 2.2 Configuring the Management Network..... 12
  - 2.3 Accessing the CMC Web Interface ..... 14
  - 2.4 Configuring the CMC Network ..... 15
  - 2.5 Configuring iDRAC Networking ..... 19
  - 2.6 Accessing the Server Console .....20
  - 2.7 Configuring an I/O Aggregator ..... 23
- A Additional resources.....25



# 1 FX2 Overview

The Dell FX2 or FX2s is a new 2U rack-based converged computing platform that provides a greater dimension of functional flexibility, along with a higher density of processing power. The FX2 and FX2s chassis are the exact same except that the FX2 supports only Ethernet I/O Module and has no PCIe slots. The FX2s supports Ethernet as well as other I/O module options and comes with PCIe slots. The FX2 or FX2s combines the density of blades with the advantages of rack-based systems. Its modular design enables building blocks of resources that can be multiple combinations of compute and storage nodes configured in a number of variations, depending on the intended use of the platform and the amount of resource required. The following are the different components of an FX2 system:

## **FC630**

The PowerEdge FC630 is a half-width shared infrastructure workhorse, with powerful processors and a huge memory footprint. It is best suited for hosting virtualization environments or running business intelligence applications and databases - making it an ideal building block for private clouds.

## **FC430**

The PowerEdge FC430 is a quarter-width, half height server that is best suited for web serving and dedicated hosting, and can also perform lightweight virtualization and analytics. Its exceptionally small failure domain makes it a great choice for distributed environments that require higher reliability.

## **FM120x4**

The PowerEdge FM120 microserver runs the low power Intel® Atom™ C2000 processors. Its System on a Chip (SoC) design allows it to pack four independent servers (each with 1 processor, 2 DIMMs, 2 x 1 Gb LOMs and 1-2 drives) in each half width sled, providing a high density, low cost solution that is ideal for web serving and dedicated hosting.

## **1GbE Passthrough**

The 1GbE Ethernet Pass-through module is the default offering on the FX2 system. The Pass-Through Cards are defined as having no single points of failure at the Ethernet signal level. The maximum Ethernet signal pass-through is limited to 8 lanes due to the bulkhead limit of 8 RJ-45.

## **10GbE Passthrough**

The 10GbE passthrough is another IOM option for the FX2 that allows greater bandwidth. Maximum Ethernet signal pass-through is still limited to 8 lanes due to the bulkhead limit of 8 RJ-45.

## **FN2210S I/O Aggregator**

The PowerEdge I/O Aggregator (IOA) is an IOM that is a configurable switch with powerful options. The IOA is available with three interface formats:

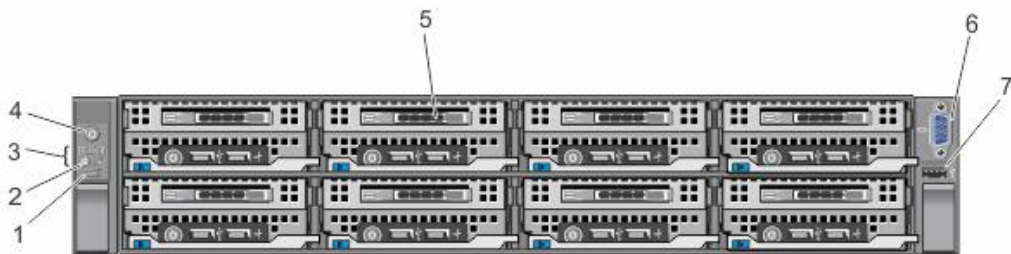
- **Standard SFP+** - This format uses a fiber-optic connection and has four external 10G ports to connect to server nodes. There are totally eight ports
- **IOA Combo Card** - This format has four SFP+ ports. Two for Ethernet and two for Fibre Channel.



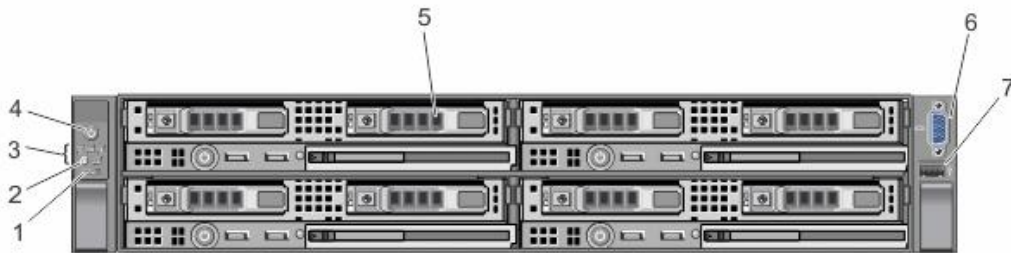
- **10GBaseT**- This format uses an RJ-45 connector instead of a fibre-optic transceiver.

Depending on your system configuration, the FX2 can include up to four half-width sleds (FC630 or FM120) or eight quarter-width sleds (FC430). To function as a system, a sled is inserted into an enclosure that supports power supplies, fan modules, a single dual port Chassis Management Controller (CMC) module, and two I/O modules for external network connectivity. The power supply units, fans, CMC, KVM panel, and I/O modules are shared resources of the sleds in the PowerEdge FX2 and FX2s enclosure(s). The following figures show the view and features of the three possible system configurations compatible with the FX2 chassis. The tables list the features included on the front and back panels.

**Figure 1 Front Panel Features and Indicators (quarter- width sleds – FC430)**



**Figure 2 Front Panel Features and Indicators (half-width sleds – FC630)**



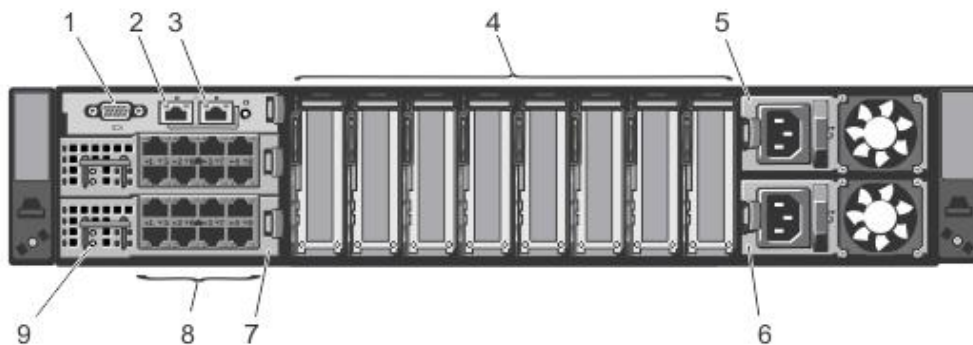
**Figure 3 Front Panel (half- width sleds – FM120x4)**



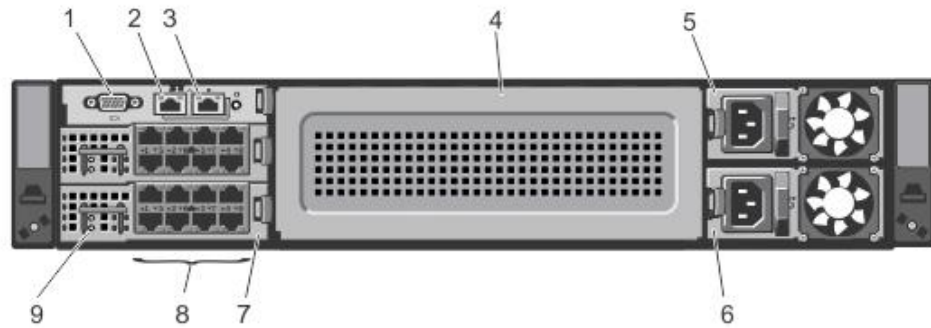
Table 1 *Front Panel Features*

| 1 | KVM select button                          | Allows you to switch KVM connectivity between sleds.  |
|---|--|---|
| 2 | System identification button               | The system identification buttons on the front and back panels enable you to locate a particular server and associated PCIe cards.<br>If you press one of these system identification buttons, the system status indicator LED on the back panel blinks continuously until you press one of the buttons again. Press the system identification button to turn on or turn off the system ID. Each time you press the button, the system status indicator LED moves to the next server and blinks |
| 3 | Diagnostic indicators                      | The diagnostic LED indicators turn on to indicate the error status (temperature, I/O, electrical, and health).  |
| 4 | Enclosure power-on indicator, power button | The enclosure power-on indicator turns on when the enclosure turns on. The power button controls the power supply output to the system.<br>If enabled, press and hold the power button for five seconds to gracefully shutdown all servers. Press and hold the power button for ten seconds to force shutdown all servers.  |
| 5 | Sleds                                      | PowerEdge FX2 enclosure supports up to eight quarter-width sleds or four half-width sleds.  |
| 6 | Video connector                            | Enables you to connect a monitor to the system..  |
| 7 | USB connector                              | Enables you to connect a keyboard or mouse to the system.   |

**Figure 4 FX2s Back Panel Features and Indicators (FC430 and FC630)**



**Figure 5 FX2 Back Panel Features and Indicators – No PCIe slots option (FM120x4, FC430 and FC630)**



*Table 2 Back Panel Features*

| 1 | Serial connector                    | DB-9 serial connector for CMC configuration.   |
|---|-------------------------------------|--|
| 2 | Ethernet connector Gb1              | Connects the network cable from the management system to the CMC.  |
| 3 | Ethernet connector STK (stack)/ Gb2 | Used for daisy-chaining CMCs in separate enclosures.<br><br><b>CAUTION:</b> Poor cabling can result in network problems. See CAUTION note under Stacking Configuration section of 2.2 Configuring the Management Network section.<br><br><b>NOTE:</b> This port can also be used for CMC NIC failover. |
| 4 | Low-profile PCIe expansion slots    | Allows you to connect up to eight low-profile PCIe expansion cards.<br><br><b>NOTE:</b> The No PCIe slot option has a filler panel.  |
| 5 | Power supply (PSU1)                 | 1100W (for FM120x4 only) or 1600 W AC  |
| 6 | Power supply (PSU2)                 | 1100w (for FM120x4 only) or 1600 W AC  |
| 7 | I/O module (2)                      | Allows you to connect up to two I/O modules.   |
| 8 | I/O module ports                    | Network interface for I/O modules.   |
| 9 | I/O module indicators               | Indicates I/O activity.  |



## Management Modes: Chassis Management at Server vs. CMC

The FX2 is unique because you can manage it as a rack or a modular chassis.

### Benefits of Chassis Management at Server

The shared infrastructure of the chassis can be managed by default using the server's iDRAC. You can use the iDRAC interfaces to access the same iDRAC features included in any other Dell rack servers such as the R730 or R630, and also monitor selected shared infrastructure such as fans and power supply units. In this mode, shared infrastructure alerts are sent from each server node, so by default, alerts are received. To change your alert settings, refer to the *FX2 CMC User's Guide*. In this default mode, there is no requirement to provide the CMC with an IP address. Managing your FX2 from the servers may speed up initial deployment by bypassing CMC configuration, but you cannot take full advantage of the CMC features. The control for allowing Chassis Management at the Server mode is located on the **Chassis Overview → Setup → General** page of the CMC's web interface.

Figure 6 Chassis Management Modes

The screenshot displays the Dell Chassis Management Controller (CMC) web interface. On the left, the 'Chassis Overview' sidebar shows a tree structure with 'Server Overview' expanded, listing slots 1a through 3d. The main content area shows the 'General Chassis Settings' page under the 'Setup' tab. The 'Chassis Management at Server Mode' dropdown menu is open, showing options: 'Manage and Monitor' (selected), 'None', 'Monitor', and 'Manage and Monitor'.

Labels in the image point to the following elements:

- Chassis Overview (points to the left sidebar)
- Setup (points to the 'Setup' tab in the top navigation bar)
- General page of the CMC's web interface (points to the 'General' sub-tab)

| Property                          | Value                    |
|-----------------------------------|--------------------------|
| Data Center                       |                          |
| Aisle                             |                          |
| Rack                              |                          |
| Rack Slot                         |                          |
| Chassis Name                      | CMC-STOMP14              |
| Chassis Location                  | iVRh9y/YM/JZM/Qj20nbku/A |
| Size of Managed System            | 2U                       |
| FlexAddress                       | Not Active               |
| FlexAddress Plus                  | Not Active               |
| Chassis Management at Server Mode | Manage and Monitor       |
| iDRAC Launch Method               | None                     |





## Benefits of Chassis Management at the CMC

By managing the chassis with the CMC, you have the benefit of getting shared infrastructure alerts through the CMC. Instead of getting shared infrastructure alerts from each node, you can receive only one alert through the CMC for all your shared resources. You can purchase a CMC Enterprise license to access CMC's advanced features. Using CMC, you can manage all of your servers and networking in one intuitive, easy to use web interface. You can also use the CMC to perform one-to-many firmware updates and manage server profiles, saving you time and reducing the risk of error. After you assign an IP address to the CMC, it is always available regardless of the management mode.

**NOTE:** If you did not initially purchase a CMC (or iDRAC) Enterprise license with your FX2, you can always purchase one at a later time. You can even request a free trial from your Account Team to experience the benefits of CMC.



## 2 Initial Setup and Deployment

### 2.1 Cabling

It is very important that you cable your FX2 correctly and safely. To cable your FX2, perform the following instructions:

**CAUTION:** Follow the instructions on the enclosure and remove the sleds and power supply units before lifting and installing the system. Reinstall the sleds and power supply units after you install the enclosure in the rack.

1. *Unpack the enclosure and the sled(s) and identify each item. For more information, see the [Getting Started Guide and Rack Installation Guide](#)*
2. *Install the sled(s).*
3. *Connect the network cable to the IOM to provide network connection to the sleds. See the figures and tables later in the document for port-mapping.*
4. *Connect the power supply units to a PDU using the power cables. The power is applied to the CMC automatically.*

Figure 7 Back Layout of FX Chassis



Figure 8 Front layout of FX Chassis with Quarter-width sleds



Figure 9 Front layout of FX Chassis with Half-width sleds



Figure 10 Front layout of FX Chassis with Full-width sleds



Figure 11 Front layout of FX Chassis with FM120x4 sleds



## 2.2 Configuring the Management Network

### Cabling Your CMC

First, select whether you want to use your CMC’s Ethernet port for stacking (“daisy-chained”) or use the two CMC Ethernet ports in a redundant manner. See Table 4 for a chart showing the implications for both options.

Table 3 *Stacking vs Redundant Network Cabling*

| Stacking  | Redundant   |
|---|---|
| Reduces the number of networking ports that you take up at the top of the rack.                       | With multiple chassis there is more cabling required than in the stacking mode.             |
| A single point of network failure can prevent multiple CMCs from reaching the top of rack connection. | The CMC has an extra connection to the network for use if the primary connection fails.     |
| No extra setup is required because this is the default mode.  | Must change this setting from the default mode <b>before</b> connecting the secondary port. |

### Which Option Should you Choose?

Stacking is best for customers who would like to take advantage of the cable consolidation feature of the FX2. You should also be comfortable accessing the system through iDRAC using an in-band agent like OpenManage Server Administrator(OMSA) or iDRAC Service Module (iSM) in the rare case of a CMC port failure, because this option does not allow redundant CMC network connections. Dell recommends that customers stack their systems to take full advantage of the cabling reduction benefits of the FX2.

Select the redundant network connection method for a more reliable connection to the management network. For this type of network connection change the default CMC setting before connecting to the network switch.

With either setting (Stacking or Redundant) you have the option to simply connect the GB1 port to the management network and the port labeled STK/GB2 should not be connected. Although this does not directly reduce cabling or provide a redundant connection, it is the quickest way to get an initial management network connection.

### Stacking Configuration

See Figure 12 for a visual of how the ports should be connected for stacking.

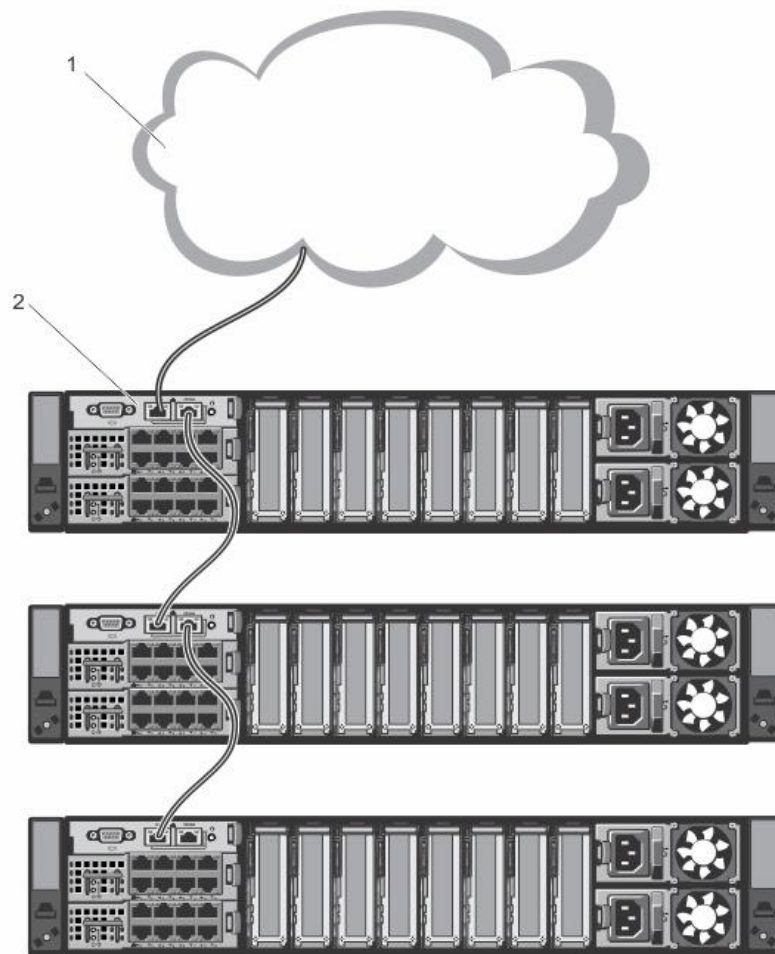
1. *Connect the GB1 port up from the first chassis to the STK/GB2 port of the second chassis*
2. *Connect the GB1 port of the second chassis to the STK/GB2 port of the third chassis.*



3. Connect the GB1 port of the third chassis to the management network.

**CAUTION:** If you are opting to stack your CMC, you can only connect one CMC port on each chassis to the network or uplink. **Connecting both CMC network ports create a network loop when the CMC is configured for stacking.** You cannot have a redundant CMC network connection if you select to stack your chassis. However, note that you can always have access to the iDRAC management features through an in-band agent such as OMSA, even if communication through your CMC port fails. For more information about how to set up OMSA, see the *Dell Server Administrator User's Guide* on the [OMSA Manuals](#) webpage on Dell Tech Center.

**Figure 12 CMC Stacking**



1 Management Network

2 CMC

## Redundant Networking Configuration

If you select the Redundant setting, you should use the CMC serial port or the standard single network connection to GB1 for deployment first. **The second connection to the STK/GB2 port may only be made after the CMC network is configured.** Instructions for doing this are described in the following section.

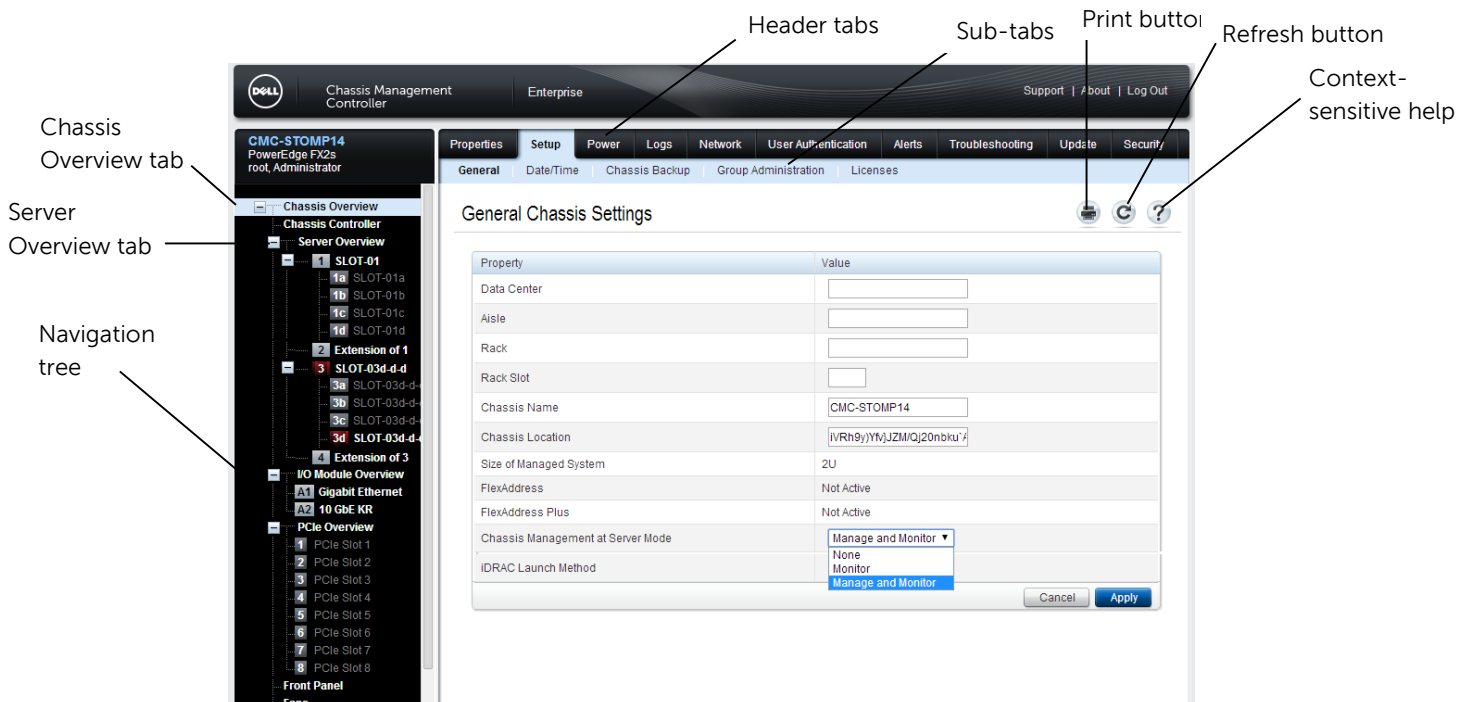
## 2.3 Accessing the CMC Web Interface

### Accessing the CMC Web Interface

At this point, it is easier to use the CMC web interface to complete the rest of the initial FX2 setup, which includes configuring and deploying iDRAC, configuring the servers, and creating server profiles. Other features explained in this document such as FlexAddress and configuring power settings, can also be accomplished using the CMC web interface. See section 2.4 for instructions about how to connect to the network.

To navigate within the CMC web interface, you can refer to a tree diagram in the left pane on the page to see their chassis groups, servers, and I/O modules. The CMC web interface also includes a bar at the top which has the following tabs: Properties, Power, Logs, Network, User Authentication, Alerts, Troubleshooting, Update, and Security. Each of the tabs and sub-tabs help you to your tasks more easily. The screenshot shows the CMC web interface General Settings page.

Figure 13 CMC Web Interface



### Note the following:

- Throughout this document, the path to access pages is mentioned. For example, to go to the **Server Profiles** page, click **Overview → Setup → Profiles**. This means, in the left-pane, you must click **Chassis Overview**. To view more specific sub-tabs, one of which is the **Profiles** tab, click on the **Setup** tab on the **Chassis Management Controller** page.
- The refresh button allows you to refresh the page. You should be aware that refreshing the page using the web browser refresh may log out the system, so always use the refresh button in the CMC web interface.
- The third button in the upper right-hand corner opens the context-sensitive help page, which provides more information about certain features and settings. To access the context-sensitive help, click the question mark button at the top right of the page. The help page displays context that is relevant to the page you are currently on. This makes it easier for you to find answers to the questions quickly, rather than having to scroll through a long page.

To access the CMC web interface:

1. *Open a web browser. The default certificate causes a warning on most web browsers. You can continue through to the web interface and replace the default certificate with your own certificate when possible.*
2. *In the address bar, type the IP address of your CMC and pressEnter. This opens the CMC web interface **Login** page.*
3. *Log in with the default username and password.*
  - Username: root
  - Password: calvin
4. *Dell recommends you change your password after your first login, but you may continue using the default if you prefer.*

## 2.4 Configuring the CMC Network

### Configuring the CMC Network

To configure the CMC Network, perform the following steps. Instructions for cabling are listed after these steps if you select a redundant configuration.

1. *Configure an Ethernet port on a workstation to have a static IP address of 192.168.0.110, with a netmask of 255.255.255.0 and gateway of 192.168.0.1.*
2. *Connect the Ethernet port directly to the GB1 port of the CMC.*
3. *Open a browser window (for supported browsers see the CMC release notes) and type the default static IP address of the CMC: 192.168.0.120.*
4. *Log in to the CMC Web Interface as root (password "calvin") as described in "Accessing the CMC Web Interface" section.*
5. *Go to the Network Configuration page at **Chassis Overview → Network → Network** as shown in Figure 3.*
6. *Record the MAC address.*





7. Select the settings that are appropriate for your network environment and select **Apply Changes**. Your current connection to the CMC may get disconnected and may have to reconnect based on the settings you just changed.

**NOTE:** If you have chosen DHCP, the CMC must now be connected to a network with an active DHCP server, and you must either find the assigned address on the DHCP server (using the MAC address recorded in step 6) or log in to the CMC serial port (115200,8,n,1) and examine the output of the command `getnetccfg -m chassis`. In the upcoming general release, the CMC network settings can also be accessible from any server console in the KVM through the iDRAC pre-boot environment **HII** menu under “CMC Network Settings link”

**At this point, if you have chosen “Redundant” for the Management Port 2 setting (STK/GB2), you may connect the STK/GB2 port to the network. See Figure 15 for a diagram on how to cable up the ports.**

**Figure 14 Configuring CMC Network** Network (header tab)

Chassis Overview

Network (sub-tab)

CMC-STOMP14  
PowerEdge FX2s  
root, Administrator

Chassis Management Controller Enterprise Support | About | Log Out

Properties Setup Power Logs Network User Authentication Alerts Troubleshooting Update Security

Network VLANs Services

General Settings

| Attribute                    | Value   |
|------------------------------|---|
| CMC MAC Address              | 74:86:7A:D5:33:50   |
| Enable CMC NIC               | <input checked="" type="checkbox"/>                                       |
| Register CMC on DNS          | <input checked="" type="checkbox"/>                                       |
| DNS CMC Name                 | cmc-STOMP14   |
| Use DHCP for DNS Domain Name | <input checked="" type="checkbox"/>                                       |
| DNS Domain Name              |   |
| Auto Negotiation (1 GB)      | <input type="radio"/> On <input type="radio"/> Off                        |
| Network Speed                | <input type="radio"/> 100 Mb <input type="radio"/> 10 Mb                  |
| Duplex Mode                  | <input type="radio"/> Full <input type="radio"/> Half                     |
| MTU                          | 1500 Valid value range: 576 to 1500                                       |
| Management Port 2            | <input checked="" type="radio"/> Stacking <input type="radio"/> Redundant |

Apply Changes

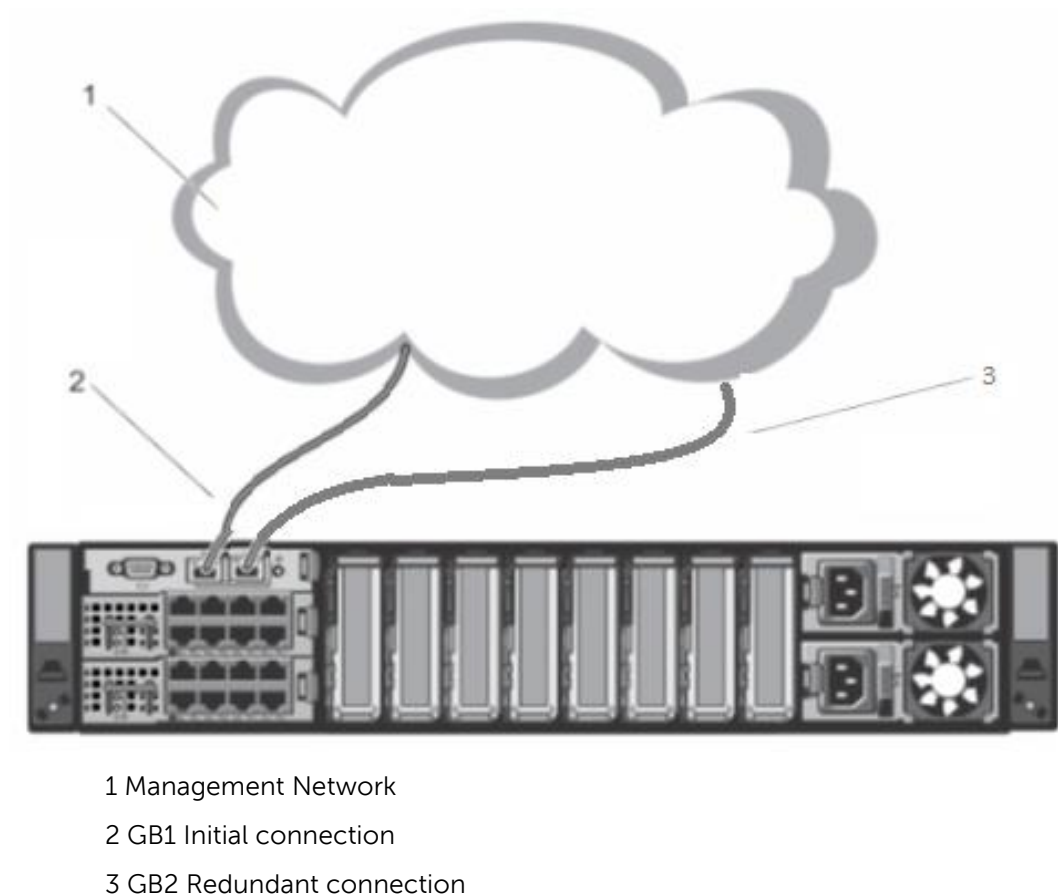
IPv4 Settings

| Attribute                               | Value                               |
|---|-------------------------------------|
| Enable IPv4                             | <input checked="" type="checkbox"/> |
| DHCP Enable                             | <input type="checkbox"/>            |
| Static IP Address                       | 10.35.180.212                       |
| Static Subnet Mask                      | 255.255.255.0                       |
| Static Gateway                          | 10.35.180.1                         |
| Use DHCP to obtain DNS Server Addresses | <input checked="" type="checkbox"/> |
| Static Preferred DNS Server             | 0.0.0.0                             |
| Static Alternate DNS Server             | 0.0.0.0                             |

Advanced Settings Apply Changes



**Figure 15 CMC Redundant Network Connection**



### **Chassis Power Management**

The FX2 or FX2s chassis power management features can be accessed through the CMC's web interface. Log in to the web interface and go to the **Chassis Overview → Power → Power Monitoring** page. On the **Power Monitoring** (and Budget Status) page, you can view status and statistics for the overall chassis, and also the types of individual servers selected. The **Budget/Redundancy Configuration** page (**Chassis Overview → Power → Configuration**) enables you to set the chassis power parameters, including chassis power capping and power supply redundancy policy.

**Figure 16 Chassis Power Monitoring**

**Chassis Overview**

- Chassis Overview
  - Chassis Controller
    - Server Overview
      - 1 SLOT-01
        - 1a SLOT-01a
        - 1b SLOT-01b
        - 1c SLOT-01c
        - 1d SLOT-01d
      - 2 Extension of 1
        - 3a SLOT-03d-d-d-d
        - 3b SLOT-03d-d-d-d
        - 3c SLOT-03d-d-d-d
        - 3d SLOT-03d-d-d-d
      - 4 Extension of 3
    - I/O Module Overview
      - A1 Gigabit Ethernet
      - A2 10 GbE KR
    - PCIe Overview
      - 1 PCIe Slot 1
      - 2 PCIe Slot 2
      - 3 PCIe Slot 3
      - 4 PCIe Slot 4
      - 5 PCIe Slot 5
      - 6 PCIe Slot 6
      - 7 PCIe Slot 7
      - 8 PCIe Slot 8
  - Front Panel
    - Fans
    - Power Supplies
    - Temperature Sensors

**System Power Status**

| Attribute            | Value |
|----------------------|-------|
| Overall Power Health | ✓     |
| System Power Status  | On    |
| Redundancy           | Yes   |

**Real-Time Power Statistics**

| Attribute                       | Value                |
|---------------------------------|----------------------|
| System Input Power              | 88 W (300 BTU/h)     |
| Peak System Power               | 90 W (307 BTU/h)     |
| Peak System Power Start Time    | 22:53:42 03/13/2017  |
| Peak System Power Timestamp     | 22:57:45 03/13/2017  |
| Minimum System Power            | 86 W (293 BTU/h)     |
| Minimum System Power Start Time | 22:53:42 03/13/2017  |
| Minimum System Power Timestamp  | 03:13:08 03/15/2017  |
| System Idle Power               | 88 W (300 BTU/h)     |
| System Potential Power          | 3371 W (11502 BTU/h) |
| System Input Current Reading    | 0.6 A                |

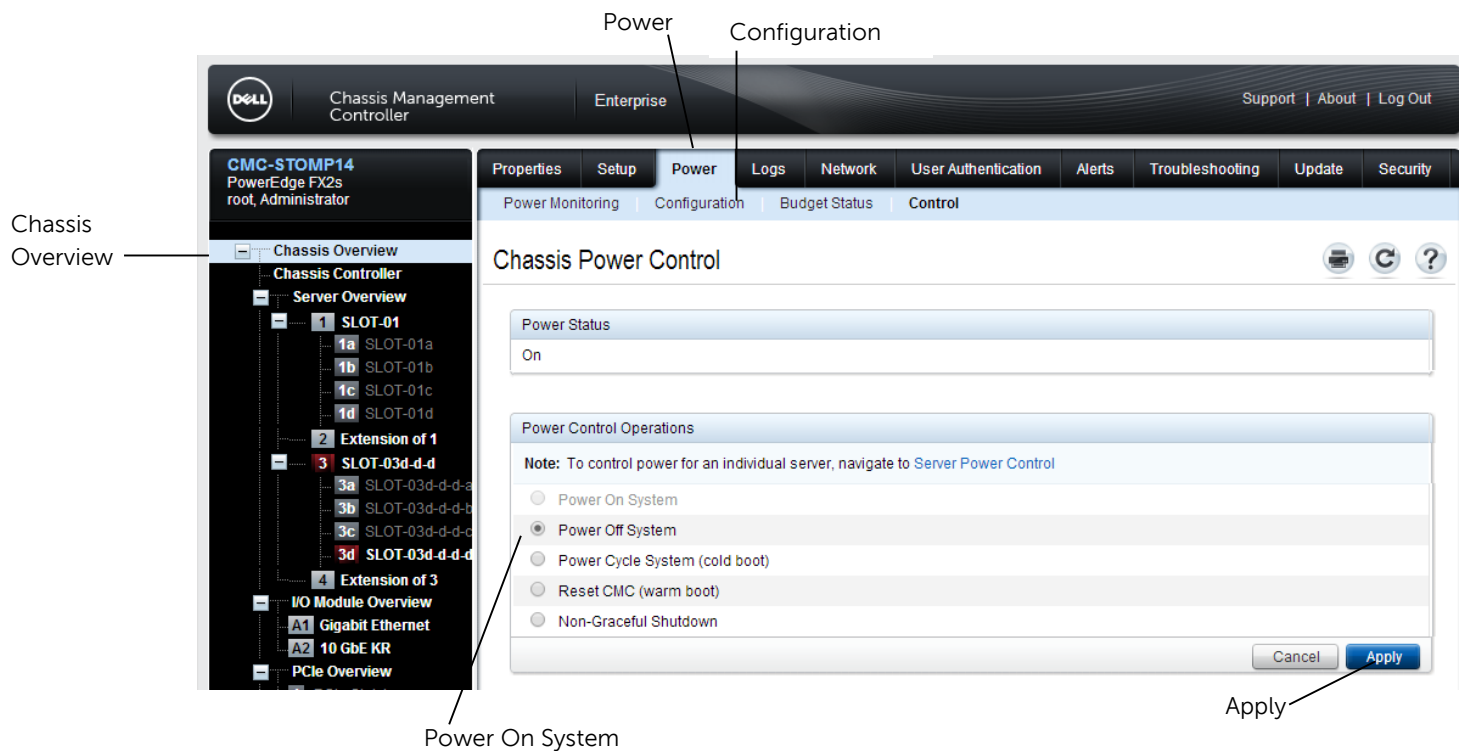
**Real-Time Energy Statistics**

| Attribute                            | Value               |
|--------------------------------------|---------------------|
| System Energy Consumption            | 10.5 kWh            |
| System Energy Consumption Start Time | 18:29:48 03/10/2017 |
| System Energy Consumption Timestamp  | 18:44:02 03/15/2017 |

To continue the configuration of the chassis you must apply power to the infrastructure, which turns on the IOMs and iDRACs. On or off control of the chassis is located on the separate **Chassis Overview → Power → Control** page. On this page, select the **Power On System** option and click **Apply**. Power is applied to the chassis infrastructure components, which initializes during the next minute.



**Figure 17 Chassis Power Configuration**



## 2.5 Configuring iDRAC Networking

### Networking

To setup the iDRAC management network on your servers, you can use the CMC Web Interface's iDRAC Deploy page if you have a CMC Enterprise License. Log in to the CMC web interface and go to **Server Overview → Setup → iDRAC**. As you scroll down the page you can see network settings for each server. Enter the required settings on this page. Scroll to the bottom and select **Apply iDRAC Network Settings** to have the CMC send these settings to the iDRACs. It may take a minute for the iDRACs to incorporate the changes. To verify the current iDRAC settings click the refresh button available on top of the page.

Figure 18 iDRAC Networking

The screenshot displays the Dell iDRAC Setup web interface. On the left, a navigation pane shows the 'Server Overview' section expanded, listing various components like Chassis Overview, Server Overview, and I/O Module Overview. The main content area is titled 'iDRAC Setup' and includes tabs for Properties, Setup, Power, Troubleshooting, and Update. Under the 'Setup' tab, there are sub-tabs for iDRAC, VLAN, First Boot Device, Slot Names, FlexAddress, Remote File Share, and Profiles. The 'iDRAC Network Settings' section is active, showing instructions and a button to 'Auto-Populate Using QuickDeploy Settings'. Below this, the 'Slot 3d: SLOT-03d' configuration is shown, with options to 'Enable LAN' and 'Change Root Password'. The 'Enable LAN' section includes checkboxes for 'Enable IPv4' and 'DHCP', and input fields for 'IP Address' (192.168.0.135), 'Subnet Mask' (255.255.255.0), and 'Gateway' (0.0.0.0). The 'Change Root Password' section includes checkboxes for 'Enable IPv6' and 'Autoconfiguration', and input fields for 'IP Address', 'Prefix Length', and 'Gateway'. A button at the bottom right is labeled 'Apply iDRAC Network Settings'.

Server Overview

iDRAC Setup

Chassis Management Controller Enterprise

CMC-STOMP14 PowerEdge FX2s root, Administrator

Properties Setup Power Troubleshooting Update

iDRAC VLAN First Boot Device Slot Names FlexAddress Remote File Share Profiles

Save QuickDeploy Settings

iDRAC Network Settings

Instructions

- To change iDRAC root user password, enter a new password in the QuickDeploy section above.
- Network settings for installed iDRACs can be automatically populated using QuickDeploy settings by clicking the "Auto-Populate Using QuickDeploy Settings" button.

Auto-Populate Using QuickDeploy Settings

Slot 3d: SLOT-03d

Enable LAN ☒ Change Root Password ☐

Enable IPv4 ☒ DHCP ☐ IPMI Over LAN ☐

IPv4 IP Address 192.168.0.135 Subnet Mask 255.255.255.0 Gateway 0.0.0.0

Enable IPv6 ☐ Autoconfiguration ☒

IPv6 IP Address Prefix Length Gateway

Apply iDRAC Network Settings

Apply iDRAC Network Settings

For more information, see the *CMC User's Guide* for the FX2/FX2s section on "Configuring iDRAC Network Settings".

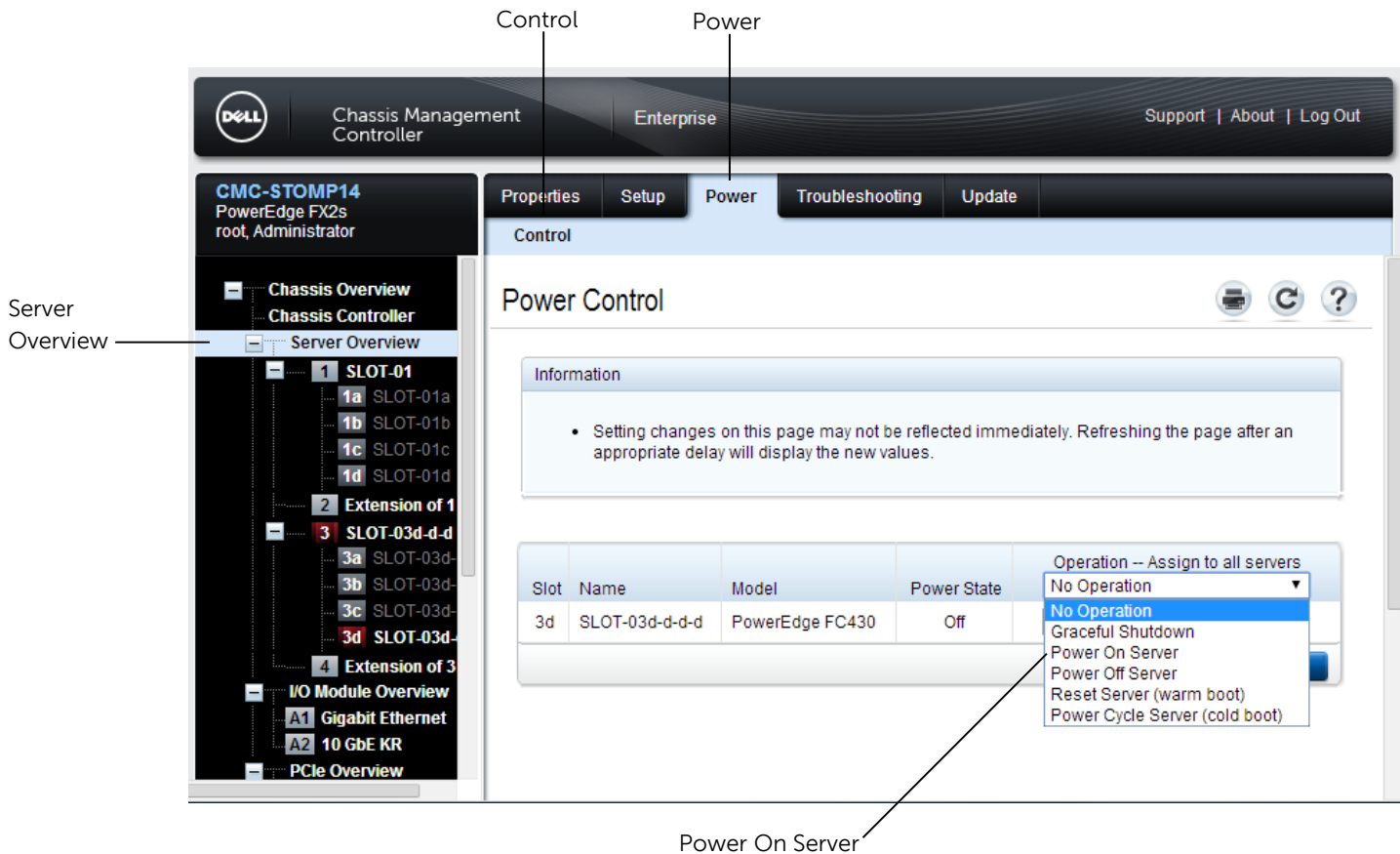
## 2.6 Accessing the Server Console

To access the server console, the servers must first be turned on using the CMC Web Interface. To turn off the servers, click **Server Overview** → **Power** → **Control**. On the Power Control page, select **Power On Server** from the drop-down list for the server you want to turn on, and click **Apply**. You can also select all the servers to be turned on simultaneously.

The console for the server can be accessed in several ways. There is physical KVM access from the front of the chassis (fig. 2). For more information about how to connect through physical KVM, refer to the *User's Guide*. With an Enterprise license on the iDRAC, a more convenient method is to use the virtual KVM available from both the CMC and iDRAC Web Interface. On the CMC, for both Express and Enterprise licenses, to find the **Remote Console** button click **Server Overview** → **Power** → **Control**. The **Remote Console** button is next to the button for launching the iDRAC Web Interface. Selecting the **Remote Console** button directly opens a separate window in which the console is displayed. The server console is used for initial configuration of the server.



Figure 19 Server Console



## Server Profiles

After configuring a server for an operation, a CMC with an Enterprise license can record the server's configuration settings in a profile. The profile can then be used as a standard configuration pattern for other servers. The application of a profile to a server is much simpler and faster than the configuration of individual settings.

Log in to the CMC web interface and go to **Server Overview → Setup → Profiles**. The Profiles page displayed enables you to create, manage, and apply profiles to the servers in this chassis. The top section has links for saving, selecting, and applying profiles, along with check boxes to select the server(s) to which the operation is immediately applied. The middle section is an inventory of the profiles currently available on the CMC SD card, including the names and descriptions that were entered when the profile was created. You can also store and retrieve profiles from a network share in this section. Further down the page is a section for the configuration of QuickDeploy. This feature automatically applies a slot-assignable profile to a server that is inserted into the chassis.

Figure 20 Server Profiles

The screenshot displays the Dell Chassis Management Controller (CMC) interface for a PowerEdge FX2s chassis. The top navigation bar includes 'Properties', 'Setup', 'Power', 'Troubleshooting', and 'Update'. The 'Setup' tab is active, showing sub-tabs for 'IDRAC', 'VLAN', 'First Boot Device', 'Slot Names', 'FlexAddress', 'Remote File Share', and 'Profiles'. The 'Profiles' sub-tab is selected, leading to the 'Server Profiles' page. The left-hand navigation pane shows a tree structure with 'Server Overview' highlighted. The main content area features a 'Server Profiles' section with a table listing profiles for different slots. The table has columns for Slot, Slot Name, Model, Server Profile, and Status. One profile is listed for Slot 3d (SLOT-03d-d-d-d) with a model of PowerEdge FC430. Below this, there are sections for 'Profiles on SD Card' and 'Profiles for QuickDeploy', each with their own options and tables.

As with other pages, if you select the question mark at the top of the page, context sensitive help content is displayed on the page. More information is available in the “Configuring BIOS Settings Using Server Clone” section of the *FX2 CMC User’s Guide*.

## FlexAddress

The FlexAddress feature comes with the Enterprise license that eliminates the need to reconfigure Ethernet network management tools and SAN resources for each new server module you insert.

FlexAddress allows CMC to assign WWN or MAC IDs to a particular slot and override the factory IDs. Therefore, if the server module is replaced, the slot-based WWN or MAC IDs remain the same. This feature eliminates the need to reconfigure Ethernet network management tools and SAN resources for a new server module. Additionally, the override action only occurs when a server module is inserted in a FlexAddress enabled chassis, no permanent changes are made to the server module. If a

server module is moved to a chassis that does not support FlexAddress, the factory-assigned WWN or MAC IDs is used, only for the server LOMs or NDC ports. The same does not apply to the PCIe cards. For more information about Flex Address, refer to the *FX2 Chassis Owner's Manual*.

## 2.7 Configuring an I/O Aggregator

### Management Network Port

An I/O Aggregator (IOA) provides a flexible networking resource that can be configured to meet your requirements. To setup the IOA, go to **I/O Module Overview → 10 GbE KR → Setup → Deploy** and configure the settings for the out-of-band management interface. This networking port is available through the CMC networking connector.

### VLAN Management

The CMC facilitates VLAN assignment through the IOA. Go to **I/O Module Overview → Setup → VLAN Manager** and note the current setup of VLANs. You can graphically select the IOA, server(s), and port ranges, and then specify VLAN tagging for that combination. The summary of the current configuration is displayed in the bottom two sections of the page.

For more information, see the *CMC User's Guide* for the FX2/FX2s sections on "Managing Network Fabrics" and "Using VLAN Manager".



Figure 21 I/O Aggregator VLAN Manager

Chassis Management Controller
Enterprise
Support | About | Log Out

**CMC-STOMP05**  
PowerEdge FX2  
root, Administrator

Group: MyGroup  
CMC-STPST07  
Chassis Controller  
Server Overview  
1 SLOT-01  
1a SLOT-01a  
1b SLOT-01b  
1c SLOT-01c  
1d SLOT-01d  
2 Extension of 1  
3 SLOT-03  
3a SLOT-03a  
3b SLOT-03b  
3c SLOT-03c  
3d SLOT-03d  
4 Extension of 3  
I/O Module Overview  
A1 Gigabit Ethernet  
A2 10 GbE KR  
PCIe Overview  
1 PCIe Slot 1  
2 PCIe Slot 2  
3 PCIe Slot 3  
4 PCIe Slot 4  
5 PCIe Slot 5  
6 PCIe Slot 6  
7 PCIe Slot 7  
8 PCIe Slot 8  
Front Panel  
Fans  
Power Supplies  
Temperature Sensors  
1 Member 1  
2 Member 2  
3 Member 3  
4 Member 4  
5 Member 5  
6 Member 6  
7 Member 7  
8 Member 8  
9 Member 9  
10 Member 10  
11 Member 11  
12 Member 12  
13 Member 13  
14 Member 14  
15 Member 15  
16 Member 16  
17 Member 17  
18 Member 18  
19 Member 19

Properties
Setup
Power
Troubleshooting
Update

Deploy
VLAN Manager

## VLAN Manager

Jump to: [Summary VLANs of All Ports](#) | [I/O Aggregator VLANs: Internal Ports](#)

Instructions

- Use this page to assign or view VLAN settings on the IOMs.
- For server WWN/MAC addresses, see the following link: [WWN/MAC](#)
- Valid IDs are 1 to 4094. Use comma (,) to separate IDs, hyphen (-) for ID range. Example: 1-20,30,35.
- VLAN setting changes may not be reflected immediately. Refreshing the page after an appropriate delay will display the new settings.

VLAN Assignment

Step 1: Select an IOM

Custom Configuration

A1  
A2

Note: Only CMC Managed IOMs are selectable.

Step 2: Specify Port Range

☒ IOM Port (1,3,5,7)  
☐ IOM Port (2,4,6,8)  
Note: Ports 2,4,6,8 provided by quad-port cards.  
☐ Select/Deselect All

Step 3: Edit VLANs

Add Tagged VLANs

VLAN Assignment Summary

Add Tagged VLANs:  
I/O Module: A2

Cancel
Apply

Back to top

Summary VLANs of All Ports

| IOM | VLANs                   |
|-----|-------------------------|
| A1  | Not Managed by CMC      |
| A2  | All VLANs, 1 (Untagged) |

Export

Back to top

I/O Aggregator VLANs: Internal Ports

| IOM | Slot | IOM Port (1,3,5,7) | VLANs (Ports 1,3,5,7)   | IOM Port (2,4,6,8) | VLANs (Ports 2,4,6,8)   |
|-----|------|--------------------|-------------------------|--------------------|-------------------------|
| A2  | 1    | 1                  | All VLANs, 1 (Untagged) | 2                  | All VLANs, 1 (Untagged) |
|     | 2    | 3                  | All VLANs, 1 (Untagged) | 4                  | All VLANs, 1 (Untagged) |
|     | 3    | 5                  | All VLANs, 1 (Untagged) | 6                  | All VLANs, 1 (Untagged) |
|     | 4    | 7                  | All VLANs, 1 (Untagged) | 8                  | All VLANs, 1 (Untagged) |

Export

24 | FX2 Chassis Management Controller (CMC) Deployment Guide |



## A Additional resources

- [\*FX2 Chassis Owner's Manual\*](#)
- [\*FX2 CMC User's Guide\*](#)
- [\*Getting Started Guide and Rack Installation Guide\*](#)
- Dell Server Administrator User's Guide on the [OMSA Manuals](#) page
- [\*FX2 CMC RACADM Guide\*](#)
- [\*iDRAC with Lifecycle Controller Quick Start Guide\*](#)
- [\*iDRAC7 User Guide\*](#)

