Dell PowerEdge VRTX Switch Modules, R1-2401 and R1-2210 Getting Started Guide

Regulatory Model: E12M

Regulatory Type: E12M001, E12M002

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware, or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Regulatory Model: E12M

Regulatory Type: E12M001, E12M002

November 2013 P/N 5MM18 Rev. A00

Contents

1

Introduction

This document provides basic information about the Dell VRTX 1Gb and 10Gb switch modules, including how to install a switch and perform the initial configuration.

For information about how to configure and monitor switch features using the web-based Network Administrator, see the Dell PowerEdge VRTX Switch Modules R1-2401 and R1-2210 User Guide.

For information about how to configure and monitor switch features using the CLI, see the Dell PowerEdge VRTX Switch Modules R1-2401 and R1-2210 CLI Reference Guide.

2

Hardware Overview

This section describes the device hardware.

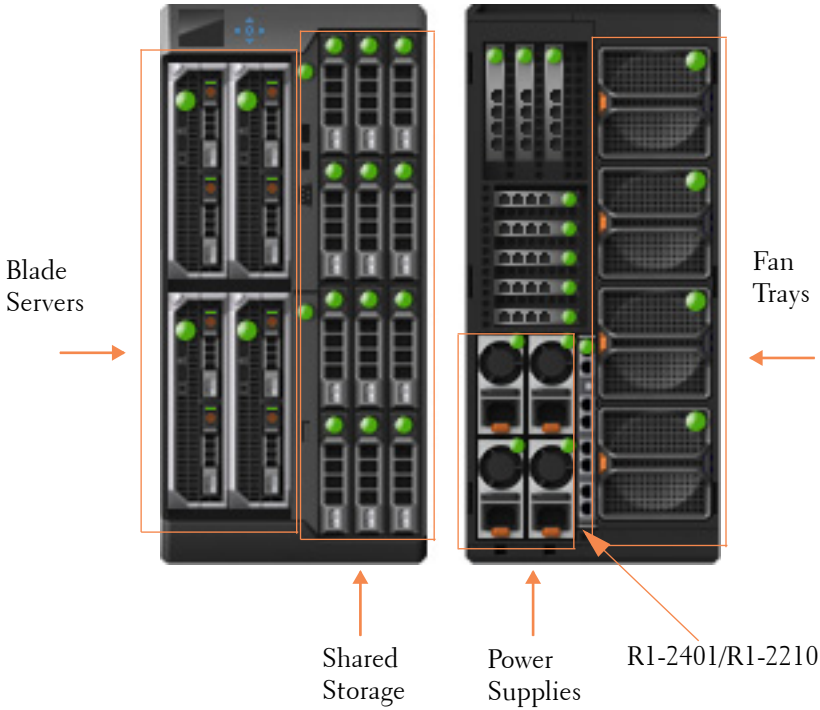
It contains the following topics:

- Switch Layout
- Ports
- Front Panel LEDs

Switch Layout

Figure 2-1 shows the R1-2401/R1-2210 devices within the chassis.

Figure 2-1. R1-2401/R1-2210



Ports

The devices have five groups of ports, numbered 0-4. Group 0 contains the external ports and groups 1-4 contain the internal ports that are connected to blade servers 1-4.

The following naming convention is used for internal and external ports:

- 1G Ethernet Ports:

  gigabitethernet group/port_number or gi group/port_number

- 10G Ethernet Ports:

tengigabitethernet group/port_number or te group/port_number

In addition, the switch supports an Out-of-Band (OOB) port that is connected to the management network of the chassis.

Port Types

The following ports are found on the R1-2401 switch:

- **24 x 1G Ethernet Ports.** These consist of:
  - 8 **external ports**—Connected to network (visible when the switch is in the chassis)
  - **16 internal ports**—Connected to blade servers (not visible when the switch is in the chassis)
- **1 Out-of-Band port** (this port is the same as used for CMC)

The following ports are found on the R1-2210 switch:

- **20 x 10G Ethernet Ports.** These consist of:
  - **4 external ports**—Connected to network (visible when the switch is in the chassis)
  - **16 internal ports**—Connected to blade servers (not visible when the switch is in the chassis)
- **2 x 1G Ethernet Ports**
- **1 Out-of-Band port** (this port is the same as used for CMC)

Table 2-1 and Table 2-2 map the hardware network port numbers to the software interface port numbers and describe how they are referred to in the CLI/GUI (short version) for the R1-2401 and the R1-2210, respectively:

Table 2-1. R1-2401 Port Mapping Table

Port Type and Number	Software Port Naming Convention in CLI/WEB
External 1G ports 1-8	gi0/1.... gi0/8
Internal 1G ports 1-4	gi1/1.... gi1/4
Internal 1G ports 5-8	gi2/1.... gi2/4
Internal 1G ports 9-12	gi3/1.... gi3/4
Internal 1G ports 13-16	gi4/1.... gi4/4
Out-of-Band port	oob

Table 2-2. R1-2210 Port Mapping Table

Port Type and Number	Software Port Naming Convention in CLI/WEB
External 10G ports 1-4 External 1G ports 1-2	te0/1.... te0/4 gi0/1.... gi0/2
Internal 10G ports 1-4	te1/1.... te1/4
Internal 10G ports 5-8	te2/1.... te2/4
Internal 10G ports 9-12	te3/1.... te3/4
Internal 10G ports 13-16	te4/1.... te4/4
Out-of-Band port	oob

Front Panel LEDs

The front panels of both devices contain the following LEDs:

- Status and Power LEDs, described in Table 2-3.
- LEDs associated with external ports, described in Table 2-4 and Table 2-5.

Table 2-3. System LEDs on R1-2401 and R1-2210

State of Switch	Status LED	Power LED (Green)	Description
Off	Off	Off	Switch is powered-off.
Healthy/Booted	Blue	On	Switch is functionally normally.
Fault	Amber Blink 1 HZ	On — Self-diagnosed fault Off — Configuration error or other CMC-detected fault	Switch has issued a fault.
Booting	Off	On	Boot in progress.
Identify	Blue Blink 1 HZ	On	CMC is identifying the switch

Table 2-4. R1-2401 External Port LEDs

LED	Color
Link	**Off** — No link **Solid green** — Link at 1G speed **Solid amber** — Link at 10/100M speed
Activity	**Off** — No link **Blinking green** — Traffic is being received/forward

Table 2-5. R1-2210 External Port LEDs

LED	Color
1G Link	**Off** — No link **Solid green** — Link at 1G speed **Solid amber** — Link at 10/100M speed
1G Activity	**Off** — No link **Blinking green** — Traffic is being received/forward
10G Link and Activity	**Off** — No link **Solid green** — Link is up **Blinking green** — Traffic is being received/forward

3

Installation

Site Preparation

Before installing the switch or switches, make sure that the chosen installation location meets the following site requirements:

- Clearance — There is adequate front and rear clearance for operator access. Allow clearance for cabling, power connections, and ventilation.
- Cabling — The cabling is routed to avoid sources of electrical noise, such as radio transmitters, broadcast amplifiers, power lines, and fluorescent lighting fixtures.
- Ambient Temperature — The ambient switch operating temperature range is 10° to 35°C (50° to 95°F).

NOTE: Decrease the maximum temperature by 1°C (1.8°F) per 300 m (985 ft.) above 900 m (2955 ft.).

- Relative Humidity — The operating relative humidity is 8% to 85% (non-condensing) with a maximum humidity gradation of 10% per hour.

Unpacking the Switch

Package Contents

When unpacking each switch, make sure that the following items are included:

- One VRTX switch module
- One USB type A-to-DB-9 female cable
- Getting Started Guide
- Safety and Regulatory Information
- Warranty and Support Information
- Software License Agreement

Unpacking Steps

NOTE: Before unpacking the switch, inspect the container and immediately report any evidence of damage.

1. Place the container on a clean, flat surface and cut all straps securing the container.
2. Open the container or remove the container top.
3. Carefully remove the switch from the container and place it on a secure and clean surface.
4. Remove all packing material.
5. Inspect the product and accessories for damage.

4

Initial Configuration of the Switch

This section describes how to initially configure the Dell VRTX 1Gb and 10Gb switch modules.

NOTE: Before proceeding further, read the latest documentation and release notes for this product, which can be downloaded from the Dell Support website at dell.com/support.

To logon to the switch after it is inserted into the chassis, perform the following:

1. Turn on the chassis. To display the IP address configured for the out-of-band interface, go to the CMC GUI, options: **I/O Module Overview > Setup.** See the CMC User Guide for further information on how to access the CMC GUI.
2. Log on to the switch in one of the following ways:
   - Establish a Telnet session to the out-of-band IP address obtained in the last step, and log on with the default user/password: **root/calvin**. Continue managing the switch through the CLI (see the Dell PowerEdge VRTX Switch Modules, R1-2401 and R1-2210 CLI Reference Guides).
   - Open a GUI session from the CMC GUI, options: **I/O Module Overview > Properties > Launch IOM GUI**. In the Login menu, select either Basic or Advanced mode and use the default user/password: **root/calvin**. Continue managing the switch through the Network Administrator. See the Dell PowerEdge VRTX Switch Modules, R1-2401 and R1-2210 User Guide.
   - Connect to the IOM serial interface through the CMC. For that, use the CMC command: **connect switch**. See the CMC Command Line Reference from dell.com/support/manuals.

Table 4-1 describes the major switch defaults:

Table 4-1. Major System Defaults

Feature	Defaults
SNMP	Enabled. SNMP version: V3. SNMP Local Engine ID: 0000000001. SNMP Notifications: Enabled.
Login and Authentication	Telnet authentication login is from the local user data base. HTTP authentication login is from the local data base. HTTPS authentication login is from the local data base.
Authentication Servers	No RADIUS server is defined. No TACACS server is defined.
Logging	No SYSLOG server is defined.
System Time	SNTP is supported.
DHCP	DHCP server is disabled. DHCP auto configuration is enabled.
Ports	24 GE regular ports (for VRTX 1Gb). 20 10G ports plus 2 GE regular ports (for VRTX 10Gb). Full duplex is enabled. Negotiation is enabled. Flow control is Off. No LAGs are defined.
Multicast	Multicast filtering is disabled.
IGMP Snooping	Disabled
MLD Snooping	Disabled
Spanning Tree	Enabled
VLANs	Default VLAN is enabled. Default VLAN ID is 1.

Table 4-1. Major System Defaults

Feature	Defaults
Default IP Address	DHCP enabled by default; If DHCP is disabled, the default IP address of 192.168.2.1 over the OOB interface is used.
Default system mode (for VRTX 1Gb only)	Layer 2

NOTE: CLI and/or GUI need only be used if the default configuration is not sufficient.

The switch can be configured in the following modes from the GUI:

- **Basic** — Elementary network configuration for the switch.
- **Advanced** — Full network configuration mode that enables configuration of all switch capabilities. This mode is intended for advanced network administrators.

EAC

Printed in the U.S.A.

dell.com/support

5MM18A00