

Cisco 12000 Series Internet Router Architecture: Chassis

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Introduction

This document provides an overview of the Cisco 12000 Series Internet Router hardware architecture.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on the following hardware:

- Cisco 12000 Series Internet Router

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, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

Chassis

Cisco 12000 Series Internet Routers are available in the following configurations:

Cisco 12000 Series Internet Routers	Switching Capacity	Slots	Configuration
10 Gbps Internet Routers			
Cisco 12416	320 Gbps	16	Full rack
Cisco 12410	200 Gbps	10	Half rack

Cisco 12406	120 Gbps	6	Quarter rack
Cisco 12404	80 Gbps	4	Eighth rack
2.5 Gbps Internet Routers			
Cisco 12016	80 Gbps (upgradable*)	16	Full rack
Cisco 12012	60 Gbps	12	Full rack
Cisco 12008	40 Gbps	8	Third rack

* The Cisco 12016 may be upgraded to a Cisco 12416 using a switch fabric upgrade kit.

Chassis Slot Overview

Slots 0–15 are for line cards (LCs) (not all chassis support 16 LCs). The Gigabit Route Processor (GRP) can be put in any of these slots. On the Cisco 12012, we recommend using slot 0 and 11 for the GRP, because these slots don't cool as well and the GRP dissipates less heat than the other LCs. The 12016 and 12416 are the same chassis. The only difference is the clock and scheduler card (CSC) and switch fabric cards (SFCs). The 12016 uses the GSR16/80–CSC and GSR16/80–SFC, while the 12416 uses the GSR16/320–CSC and GSR16/320–SFC. If you have a 12016 and want to "upgrade" it to a 12416, all you have to do is replace the GSR16/80–CSC and GSR16/80–SFC with the new GSR16/320–CSC and GSR16/320–SFC.

The alarm cards are integrated into the CSC cards for the 12008. All other chassis have separate alarm cards. The table below provides the slot numbers and corresponding line cards for all chassis:

Slot Number	Line Card
0–15	LC/GRP
16	CSC0
17	CSC1
18	SFC0
19	SFC1
20	SFC2

The table below provides chassis–specific information:

Router	Slot Number	Line Card
12008	24	Power supply A1 (upper)
	26	Power supply B1 (lower)
12012 – Notes: <ul style="list-style-type: none"> • The Alarm card does not show up separately. • Use slots 0 and 11 for the GRP since these slots don't cool as well and the GRP 	24	Power supply 1 (A1)
	25	Power supply 2 (A2)
	26	Power supply 3 (B1)

emits less heat than the other LCs.	27	Power supply 4 (B2)
	28	Top fan and blower module
	29	Bottom fan and blower module
12016 and 12416	24	Upper alarm card
	25	Lower alarm card
	26	Unused
	27	Busboard
	28	Top fan and blower module
	29	Bottom fan and blower module
12406	24	Power supply 1 + alarm module
	25	Power supply 2 + alarm module
	28	Blower module (top fan)
	29	Blower module (bottom fan)
12410 Note: On this chassis, there are five specific SFCs	21	SEC3
	22	SEC4
	24	Power supply 1 + alarm module
	25	Power supply 2 + alarm module
	28	Blower module (top fan)
	29	Blower module (bottom fan)

Related Information

- **Cisco 12000 Series Internet Router Architecture – Switch Fabric**
 - **Cisco 12000 Series Internet Router Architecture – Route Processor**
 - **Cisco 12000 Series Internet Router Architecture – Line Card Design**
 - **Cisco 12000 Series Internet Router Architecture – Memory Details**
 - **Cisco 12000 Series Internet Router Architecture – Maintenance Bus, Power Supplies and Blowers, and Alarm Cards**
 - **Cisco 12000 Series Internet Router Architecture – Software Overview**
 - **Cisco 12000 Series Internet Router Architecture – Packet Switching**
 - **Understanding Cisco Express Forwarding**
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