Ethernet Expansion Card (CFFv) for IBM BladeCenter (Withdrawn)
Product Guide (withdrawn product)

The Ethernet Expansion Card (CFFv) has two 1 Gb Ethernet ports that are designed for IBM BladeCenter servers with CFFv expansion slots. It is based on proven Broadcom 5704 ASIC technology and offers value added features such as BladeCenter Open Fabric Manager and software-based iSCSI support.

This card is installed into the CFFv slot of the supported blade server. It provides connections to Ethernet-compatible modules that are in bay 3 and bay 4 of the supported BladeCenter chassis. The CFFv slot is a PCI-X 1.0 slot. Figure 1 shows the Ethernet Expansion Card (CFFv).

Figure 1. Ethernet Expansion Card (CFFv)

Did you know?

Today's virtualized servers require a larger number of network adapters. The Ethernet Expansion Card (CFFv) adapter is a perfect fit for these environments because it can enable up to eight Ethernet ports per blade server.

Are you planning to implement an iSCSI storage area network (SAN)? Did you know that iSCSI implementations require data on a separate LAN? The Ethernet Expansion Card (CFFv) adapter is an important part of any iSCSI implementation. By using this adapter, you can separate the Ethernet traffic and SAN traffic into different networks.

When using the Ethernet Expansion Card (CFFv) adapter, you can simultaneously use a CFFh adapter to enable more types of I/O to supported blade servers, such as the HS21, when installed in the IBM BladeCenter H chassis. The innovative design of the Ethernet Expansion Card (CFFv) adapter is designed to work with the CFFh adapter to support this combination workload.

Part number information

Table 1 shows the part number to order this adapter.

Table 1. Part number and feature code for ordering

Description	Part number	Feature code
Ethernet Expansion Card (CFFv) for IBM BladeCenter	39Y9310	2969

This part number includes the following items:
- One Ethernet Expansion Card (CFFv) for IBM BladeCenter
- The documentation CD that contains *Ethernet Expansion Card (CFFv) for IBM BladeCenter Installation and User's Guide*
- The IBM *Important Notices* document

Features

The expansion card has the following features:
- PCI-X 1.0 host interface
- Broadcom BCM5704 communication module
- BladeCenter Open Fabric Manager (BOFM) support
- Connection to 1000BASE-X environments using BladeCenter Ethernet switches
- Full-duplex (FDX) capability, enabling simultaneous transmission and reception of data on the Ethernet local area network (LAN)
- Failover support
- Preboot Execution Environment (PXE) support
- Support for direct memory access (DMA)
- Wake on LAN support for both ports

Operating environment

The expansion card is supported in the following environment:
- Temperature:
  - 0° to 45°C (32° to 113°F) at 0 to 914 m (0 to 3,000 ft) operating
  - -40° to 70°C (-40° to 158°F) at 914 m to 2,133 (3,000 to 7,000 ft) storage
- Relative humidity: 5% to 95% (noncondensing)

Supported servers and I/O modules

The Ethernet Expansion Card (CFFv) is supported in the IBM BladeCenter servers listed in Table 2.

Table 2. Supported servers

Expansion card	Part number	HS12	HS21	HS21 XM	HS22	LS21	LS22	LS41	LS42	JS12	JS21	JS22	QS22	PN41
Ethernet Expansion Card (CFFv)	39Y9310	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N

See IBM ServerProven at the following address for the latest information about the expansion cards supported by each blade server type:
http://ibm.com/servers/eserver/serverproven/compat/us/

The Ethernet Expansion Card (CFFv) is also supported in an expansion blade when the blade servers support both the expansion card and that particular expansion blade. Figure 2 shows where the CFFv card is installed in a BladeCenter server.
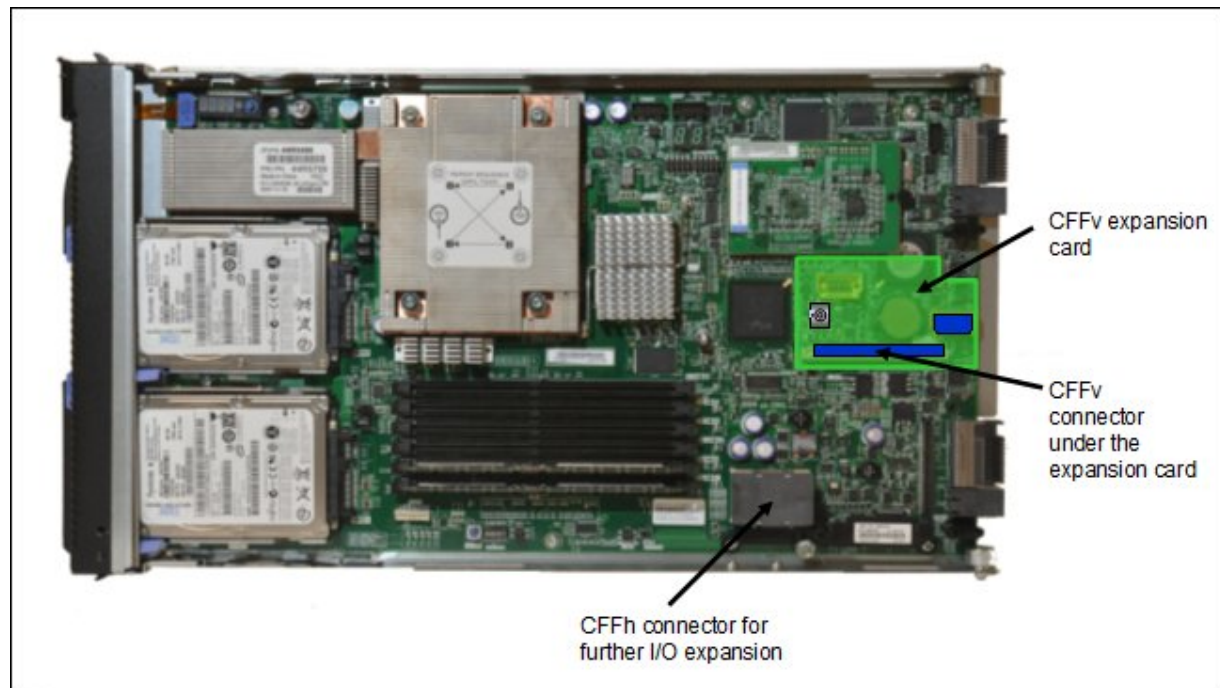

Figure 2. Location on the BladeCenter server planar where the CFFv card is installed

The Ethernet Expansion Card (CFFv) requires that a supported I/O module is installed in bay 3 and bay 4 of the chassis in which the cards and servers are installed. The following I/O modules are supported :
- Any IBM, BNT, or Cisco Ethernet Switch Module (standard form-factor switch module)
- Optical Pass-thru Module
- Copper Pass-thru Module
- Intelligent Copper Pass-thru Module

Popular configurations

There are two popular configurations for using the Ethernet Expansion Card (CFFv).

Adding two extra Ethernet ports per blade server

Most often, the Ethernet Expansion Card (CFFv) is used to expand the number of Ethernet ports per blade to increase network bandwidth as shown in Figure 3.
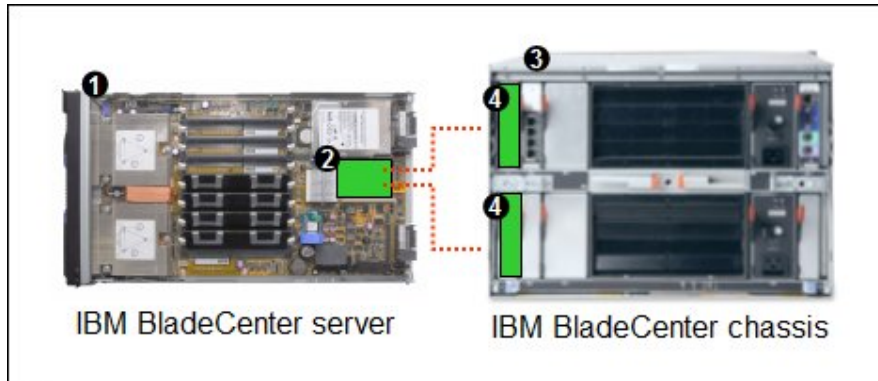

Figure 3. The Ethernet Expansion Card (CFFv) providing two extra Ethernet ports per blade server

Table 3 lists the components that are used in this configuration.

Table 3. Components for connecting the Ethernet Expansion Card (CFFv) to an external Ethernet network

Diagram reference	Part number / machine type	Description	Quantity
❶	Varies	Supported IBM BladeCenter server	1 to 14
❷	39Y9310	Ethernet Expansion Card (CFFv)	1 per server
❸	Varies	IBM BladeCenter E, BladeCenter H, or BladeCenter S*	1
❹	Varies	Any Ethernet-compatible switch module (standard form factor)	1 or 2

* The expansion card can be installed in servers in the BladeCenter S (8886). However, by doing so, you lose the ability to connect to the BladeCenter S Disk Storage Modules (DSMs). The Ethernet expansion card goes in the place of the SAS expansion card that is needed to connect to the DSMs. Instead, use the 2/4 Port Ethernet Expansion Card (CFFh), part number 44W4479.

iSCSI SAN storage solution

In addition, the Ethernet Expansion Card (CFFv) can be used to connect to an external iSCSI-based entry-level SAN, as shown in Figure 4.
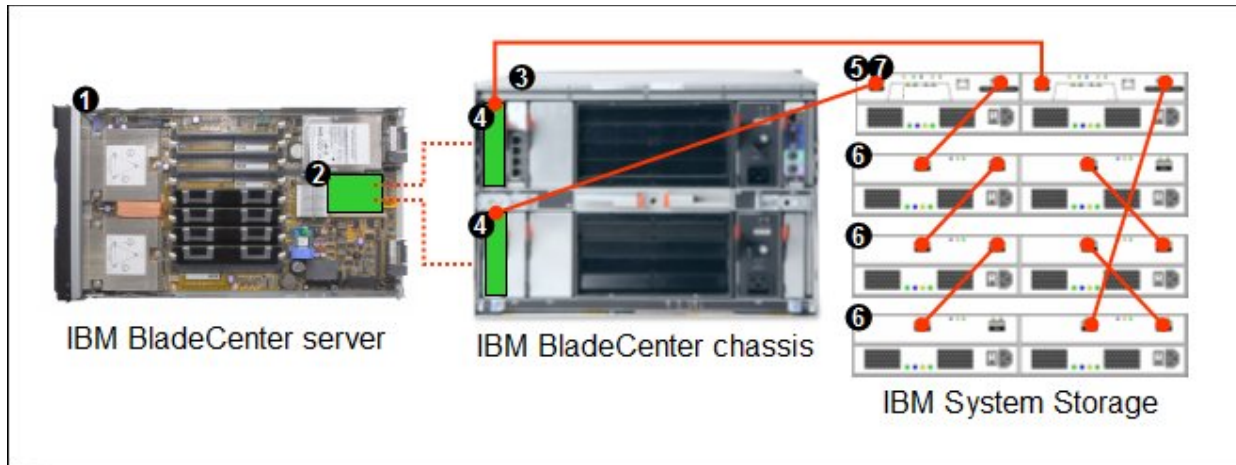
Figure 4. IBM BladeCenter connected to an external IBM System Storage DS3300 storage solution

Table 4 lists the components that are used in this configuration.

Table 4. Components for connecting the Ethernet Expansion Card (CFFv) to external iSCSI disk storage

Diagram reference	Part number / machine type	Description	Quantity
❶	Varies	Supported IBM BladeCenter server	1 to 14
❷	39Y9310	Ethernet Expansion Card (CFFv)	1 per server
❸	Varies	IBM BladeCenter E, BladeCenter H, or BladeCenter S*	1
❹	Varies	Any Ethernet-compatible switch module	1 or 2
❺	1726-31X or 1726-32X	IBM System Storage DS3300 (Single or Dual Controller)	1
❻	1727	Optional: IBM System Storage EXP3000 (Single or Dual ESM)	1 to 3
❼	39R6536	DS3000 Partition Expansion License	1

* The expansion card can be installed in servers in the BladeCenter S (8886). However, by doing so, you lose the ability to connect to the BladeCenter S DSMs. The Ethernet expansion card goes in the place of the SAS expansion card that is needed to connect to the DSMs. Instead, use the 2/4 Port Ethernet Expansion Card (CFFh), part number 44W4479.

This configuration also requires cabling between the chassis and the storage server and between the storage server and expansion units. (The cable part numbers are not listed in Table 4.)

Supported operating systems

The following operating systems support the expansion card:
- Microsoft Windows Server 2003/2003 R2, Datacenter Edition

- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition

- Microsoft Windows Server 2003/2003 R2, Enterprise Edition

- Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition

- Microsoft Windows Server 2003/2003 R2, Standard Edition

- Microsoft Windows Server 2003/2003 R2, Standard x64 Edition

- Microsoft Windows Server 2008 HPC Edition

- Microsoft Windows Server 2008, Datacenter x64 Edition

- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Enterprise x86 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Standard x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Storage Server 2003/2003 R2, Enterprise Edition x64
- Microsoft Windows Storage Server 2003/2003 R2, Standard Edition
- Microsoft Windows Storage Server 2003/2003 R2, Standard Edition x64
- Microsoft Windows Storage Server 2003/2003 R2, Workgroup Edition x64
- NetWare 6.5
- Red Hat Enterprise Linux 3 AS for AMD64/EM64T
- Red Hat Enterprise Linux 3 AS for x86
- Red Hat Enterprise Linux 3 ES for AMD64/EM64T
- Red Hat Enterprise Linux 3 ES for x86
- Red Hat Enterprise Linux 3 WS for AMD64/EM64T
- Red Hat Enterprise Linux 3 WS for x86
- Red Hat Enterprise Linux 4 AS for AMD64/EM64T
- Red Hat Enterprise Linux 4 AS for x86
- Red Hat Enterprise Linux 4 ES for AMD64/EM64T
- Red Hat Enterprise Linux 4 ES for x86
- Red Hat Enterprise Linux 4 WS/HPC for AMD64/EM64T
- Red Hat Enterprise Linux 4 WS/HPC for x86
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 9 for AMD64/EM64T
- SUSE LINUX Enterprise Server 9 for x86
- VMware ESX 3.5
- VMware ESX Server 3.0
- VMware ESXi 3.5

See IBM ServerProven at the following address for the latest information about the specific versions and service packs that are supported:
http://ibm.com/servers/eserver/serverproven/compat/us/

Select the blade server and then select the expansion card to see the supported operating systems.

Related publications

For more information, see the following documents:
- Ethernet Expansion Card (CFFv) Installation and User's Guide
  http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5070475
- IBM US Announcement Letter for the Ethernet Expansion Card (CFFv)
  http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS107-088
- IBM BladeCenter Interoperability Guide
  http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5073016
- IBM Redbooks publication *IBM BladeCenter Products and Technology*, SG24-7523
  http://www.redbooks.ibm.com/abstracts/sg247523.html

Related product families

Product families related to this document are the following:

- Blade Network Adapters

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