Broadcom 10 Gb Gen 2 2-port and 4-port Ethernet Expansion Cards (CFFh) for IBM BladeCenter offer multiple interfaces with BladeCenter blades

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At a glance

IBM announces two new 10 Gb offerings for IBM BladeCenter:

• Broadcom 10 Gb Gen 2 2-port Ethernet Expansion Card (CFFh)
• Broadcom 10 Gb Gen 2 4-port Ethernet Expansion Card (CFFh)

The Gen 2 2-port and 4-port Ethernet Expansion Cards provide the following basic functionality:

• Multiport for flexibility when connecting BladeCenter® blades to the external network
• Ability to function in BCH and BCH-T chassis
• CFFh form factor
• Flexibility to choose between two offerings based on need
• Broadcom ASIC 57711 for PCIe Gen 2

Overview

Broadcom 10 Gb Gen 2 2-port and 4-port Ethernet Expansion Cards (CFFh) (46M6168 and 46M6164)

Broadcom 10 Gb 2-port and 4-port Ethernet Expansion Cards (CFFh) for IBM® BladeCenter show IBM's commitment to meet client needs through its BladeCenter offerings. They are the latest addition to the 10 Gb BladeCenter portfolio, enabling high-speed connections to drive bandwidth-intensive applications like virtualization. IBM offers two versions of the card (2-port and 4-port), giving higher flexibility to its clients. The 4-port version of the card allows clients to add up to four High-Speed Switch Modules (HSSMs) in a single chassis to meet the most bandwidth-intensive application needs.

The current 10 Gb Broadcom adapters will be refreshed with the next-generation 10 Gb ASIC from Broadcom. This ASIC maintains all current features and functions and adds new capabilities, some of which are listed below.

These cards:

• Are based on the Broadcom 57711 module for PCIe Gen 2
• Provide a PCI Express x8 host interface for high-speed connection
• Offer connectivity to high-speed I/O modules bays in BCH and BCH-T chassis
• Enable up to four 10 Gb ports from the blade server to the external network
Allow use of four 10 Gb Ethernet HSSMs in a chassis (4-port card)

Performance features:

- TCP offload engine (TOE) with Windows® drivers
- Full fast-path TCP offload
- TCP, IP checksum offload
- TCP, segmentation offload

**Warranty:** One year, Customer Replaceable Unit (CRU), limited warranty

For information on the IBM Statement of Limited Warranty, contact your IBM representative or reseller. Copies are available upon request.

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### Key prerequisites

- IBM BladeCenter chassis (supported on BladeCenter H and HT)
- Supported on IBM blade servers

### Planned availability dates

- September 23, 2009:
  - Broadcom 10 Gb Gen 2 2-port Ethernet Expansion Card (CFFh) for IBM BladeCenter (46M6168)
  - Broadcom 10 Gb Gen 2 4-port Ethernet Expansion Card (CFFh) for IBM BladeCenter (46M6164)
- September 9, 2009:
  - 5U x 26D Tower to Rack Conversion Kit (49Y6873)
  - Addl Intel Xeon Processor E5506 4C 2.13GHz 4MB Cache 800 Mhz 80w (49Y6867)
  - Addl Intel Xeon Processor X5560 4C 2.8Ghz 8M Cache 1333 MHz 95w (46D1356)

### Description

**10 Gb Gen 2 2-port and 4-port Ethernet Expansion Cards (CFFh) for IBM BladeCenter**

These expansion cards (CFFh) for IBM BladeCenter are compatible with several BladeCenter blades, and are competitively priced. Clients can choose from a 2-port or 4-port card to allow connections from the blades, enabling multiple connections from blade servers to the external network.

Key features include:

- Multiport Ethernet connections
- CFFh form factor
- Broadcom ASIC 57711 for PCIe Gen 2 support
- Firmware update to auto-negotiate PCIe Gen 1/Gen 2
- Competitively priced

**Competitive advantages**

BladeCenter is a leader in the industry in delivering integrated storage solutions to the blade server environment. Integrated storage solutions ease deployment, simplify the datacenter, reduce cabling, and help lower cost.
Each BladeCenter server provides redundant connections to the network system. Users can configure their blade servers with dual- or quad-port connections.

### Product number

<table>
<thead>
<tr>
<th>Description</th>
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<tr>
<td>Broadcom 10 Gb Gen 2 2-port Ethernet Expansion Card (CFFh) for IBM BladeCenter</td>
<td>46M6168</td>
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</table>

### Terms and conditions

These products are available from IBM under the terms and conditions for purchase.

**Warranty and service**

- The warranty period is: One year
- HelpWare®: Contact your IBM HelpWare number, your place of purchase, or your local IBM office.

### Technical information

**Product names**

- Broadcom 10 Gb Gen 2 2-port Ethernet Expansion Card (CFFh) for IBM BladeCenter (46M6168)
- Broadcom 10 Gb Gen 2 4-port Ethernet Expansion Card (CFFh) for IBM BladeCenter (46M6164)
- 5U x 26D Tower to Rack Conversion Kit (49Y6873)
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- Addl Intel Xeon Processor X5560 4C 2.8GHz 8MB Cache 1333 MHz 95w (46D1356)

**Performance specifications**

Broadcom 10 Gb Gen 2 2-port and 4-port Ethernet Expansion Cards (CFFh) function as an Ethernet PCI-Express blade server I/O card.

Key features are:

- Low cost
- Multiport capability connections to the network
- Support for PCIe Gen 1/ Gen2
- CFFh form factor to allow blade server I/O connectivity to high-speed I/O module bays in the BladeCenter high-speed BCH and BCH-T chassis.

**Physical specifications**

- Height: 159 mm (6.26 in)
- Width: 125 mm (4.92 in)
- Depth: 12.7 mm (0.50 in)
- Weight: .0975 kg (0.215 lb)

**Note:** All weights and measurements are approximate.

**Operating environment**
- Temperature: 10 to 35 deg (C) 50 to 95 deg (F)
- Relative humidity: 8% to 80%, noncondensing

**Agency approvals**
- UL 60950-1, 1st Edition
- CSA C22.2 No 60950-1-03, 1st Edition
- C-Tick
- CISPR 22 Class A
- VCCI Class 2
- FCC Class A
- CE-Mark
- EN 55022/55024 1998

**Energy Star compliance**
Is this product Energy Star Compliant? No

**Note:** The Energy Star emblem does not represent EPA endorsement of any product or service.

**Hardware requirements**
IBM systems: The Broadcom Gen 2 2-port and 4-port Ethernet Expansion cards, P/N 46M6168 and 46M6164, are supported on the following IBM platforms.

<table>
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<tr>
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<td>BladeCenter HS22</td>
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</tbody>
</table>

Non-IBM systems: The Gen 2 2-port and 4-port Ethernet Expansion Cards are supported on the following non-IBM platforms.

None

**Software requirements**
None; uses the blade server operating system.

**Compatibility**
Use with BladeCenter blade server systems.

**Note:** Some configurations may not be compatible.

**Limitations**
None
Planning information

- Additional cable orders required: No
- Approximate installation time: 20 minutes

Packaging

One box

10 Gb Gen 2 2 or 4 Port Ethernet (CFFh) Expansion Card

- Single box (HxDxW): 58 mm (2.28 in) x 147 mm (5.80 in) x 167 mm (6.57 in)
- Weight: 2.0 lb

Shipment group

- 10 Gb Ethernet Expansion Card (46M6168 or 46M6164)
- Installation and Users Guide CD
- Documentation CD

Security, auditability, and control

This product uses the security and auditability features of the host hardware, host software, and application software.

Terms and conditions

IBM Direct terms and conditions

Features and options only

- Field Installable: Yes
- Customer Setup: Yes
- Warranty Period*: 1 year*
- Service Type (CCE/CCR/CRU): CRU
- Maintenance Agreement: No
- Optional Upgrade: No
- Licensed Programs: No

Note: Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the feature or option. All other terms and conditions are the same as those applicable to the IBM machine type in which the feature is installed.

* To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or call IBM.

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IBM may release changes to the machine code. IBM plans to make the machine code changes available for download from the IBM BladeCenter technical support Web site.

http://www-304.ibm.com/systems/support/

If the machine does not function as warranted and your problem can be resolved through your application of downloadable machine code, you are responsible for downloading and installing these designated machine code changes as IBM specifies.
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**Corrections**

(Corrected on September 3, 2009)

Information describing basic functionality was revised.