Intel® Server Switch Module Product Brief

# Can integrated Ethernet simplify blade server management?

## Yes. Intel reduces cabling and centralizes Ethernet switch management.

Integrated Gb Ethernet switch reduces cabling allowing easier access and service.

### Integrated Gigabit Ethernet Simplifies Management, Service

The Intel® Server Blade Chassis SBCE provides integrated Ethernet support through one or two Gigabit (Gb) Ethernet switches (the Intel® Server Switch Module). By integrating Ethernet switches into the blade chassis, Intel dramatically reduces cabling and the management and service workload in large data centers. Ethernet switch management becomes part of basic server operations. Simply log into a single management console—through the Intel® Server Management Module—to manage both Ethernet switches and eliminate the jumble of cables associated with conventional switches.

### Plenty of Bandwidth Provides Flexibility

The Intel Server Switch Module provides high-speed Ethernet connections between each of the 14 blade servers and the outside network environment. The first switch module connects to the first Ethernet on each blade server in the chassis. To double the bandwidth, install a second Intel Server Switch Module; this connects to the second Ethernet adapter on each blade server.

Two Gb Ethernet switches can be used to add more network bandwidth or to create a dedicated LAN for backup, systems management, or many other applications. You might designate one LAN for production traffic and the second for backup. With both switches installed, the Intel Server Blade Chassis SBCE provides 8 GB of Ethernet uplinks.

### Intel® Server Switch Module

- Four external 1000BASE-T ports for making 10/100/1000 Mbps connections to a backbone, end stations, and servers
- 14 internal full-duplex Gigabit ports to connect to Intel® Server Compute Blades
- Spanning Tree Algorithm (STA) protocol for creation of alternative backup paths and prevention of network loops
- Simple network management protocol (SNMP) version 1
- Fully configurable either in-band or out-of-band control through SNMP-based software
- Flash memory for software upgrades [through trivial file (TFTP) or hypertext transfer protocol (HTTP) Web interfaces]
- Built-in SNMP management

# Intel® Server Switch Module SBCEGBESW Specifications

| Ports |
|---|
| Four external 1000BASE-T ports for making 10/100/1000 Mbps connections to a backbone, end stations, and servers |
| Fourteen internal full-duplex gigabit ports to connect to BladeCenter blade servers |
| Two internal full-duplex 10/100 Mbps ports connected to the management module |

| Performance | |
|---|---|
| Transmission method | Store-and-forward |
| Random-access memory (RAM) buffer | 8 MB per port |
| Packet filtering/ forwarding rate | Full-wire speed for all port connections; 148800 packets per second (pps) per port (for 100 Mbps)<br>1488100 pps per port (for 1000 Mbps) |
| Media access control (MAC) address learning | Automatic update. Supports 28 000 MAC addresses |
| Priority queues | Four priority queues per port |
| Forward Table Age Time | Maximum age: 17 to 2100 seconds. Default = 300 seconds. |
| 802.1D Spanning Tree support | Can be disabled on the entire switch or on a per-port basis |
| 802.1Q Tagged virtual local area network (VLAN) support | Including Generic Attribute Registration Protocol (GARP) VLAN Registration Protocol (GVRP) |
| Support for 256 VLANs in total | Including 128 static VLANs |
| Internet group management protocol (IGMP) snooping support | Per switch and per VLAN |
| Link aggregation with ic 802.3ad support | On four external ports for up to two stat- trunk groups or two link aggregation control protocol (LACP) 802.3ad link aggregation groups |

| Management | |
|---|---|
| Spanning Tree Algorithm (STA) protocol for creation of alterna- tive backup paths and prevention of network loops | |
| Simple network management protocol (SNMP) version 1 | |
| Fully configurable either in-band or out-of-band control through SNMP based software | |
| Flash memory for software upgrades. This can be done through trivial file (TFTP) or hypertext transfer protocol (HTTP) Web interface. | |
| Built-in SNMP management | • Bridge management information base (MIB) (RFC 1493)<br>• MIB-II (RFC 1213)<br>• 802.1P/Q MIB (RFC 2674)<br>• Interface MIB (RFC 2233)<br>• Mini-RMON MIB (RFC 1757) —four groups; the remote monitoring (RMON) specification defines the counters for the receive functions only. However, the switch provides counters for both receive and transmit functions. |
| Supports Web-based management | |
| TFTP support | |
| Bootstrap protocol (BOOTP) support | |
| Dynamic host configuration protocol (DHCP) client support | |
| Password enabled | |
| Telnet remote control console | |

| Network Cables | |
|---|---|
| 10BASE-T | UTP Category 3, 4, 5 (100 meters maximum)<br>100-ohm STP (100 meters maximum) |
| 100BASE-TX | UTP Category 5 (100 meters maximum)<br>EIA/TIA-568 100-ohm STP (100 meters maximum) |
| 1000BASE-T | UTP Category 5e (100 meters maximum)<br>EIA/TIA-568B 100-ohm STP (100 meters maximum) |

| Standards |
|---|
| IEEE 802.3 10BASE-T Ethernet |
| IEEE 802.3ad (Link aggregation) |
| IEEE 802.3u 100BASE-TX Fast Ethernet |
| IEEE 802.3z Gigabit Ethernet |
| IEEE 802.1Q Tagged VLAN |
| IEEE 802.1p Tagged Priority |
| IEEE 802.3ab 1000BASE-T |
| IEEE 802.3x Full-duplex Flow Control |
| ANSI/IEEE 802.3 NWay auto-negotiation |

**For the most current product information on the Intel® Enterprise Blade Server Family, visit:**
**http://www.intel.com/go/enterpriseblades**


0803/DP/JG/LK/MD/PP/5K

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