Intel® Server Compute Blade SBX82

Features	Benefits
Support for one or two Intel® Xeon® processors starting at 3.20 GHz with 1 MB cache running at 800 MHz front-side bus	More power, bandwidth, and processing performance to meet the demanding requirements of departmental workloads.
Intel® E7520 Chipset with support for up to 8 GB memory, and two-way interleaved DDR2	Maximizes use of Intel® NetBurst® microarchitecture and Hyper-Threading Technology to deliver world-class performance for peak server workloads.
Intel® Extended Memory 64 Technology (EM64T)Φ	Provides compatibility with IA-32 applications plus pathway to future 64-bit-enabled applications.
Dual 1 Gigabit Ethernet channels	Ethernet I/O for demanding, data-intensive applications.
Up to 2 integrated 2.5 SCSI drives	High performance small form factor SCSI hard drives (RAID 1 with 2 HDDs).
Blade storage expansion module (optional)	Ability to easily add hotswappable SCSI hard drives, and additional Ethernet, or Fibre Channel I/O for increased application performance (RAID 1E requires use of the HDDs on the SBX82 as well as the HDDs on the SBESCSI).

Related Products

Processors	Intel® Xeon® processor
Chipsets	Intel® E7520 Chipset
Enterprise Blade Servers	Intel® Server Compute Blade SBXD132
Intel® Server Chassis	Intel® Blade Server Chassis SBCE
Networking and Storage Connectivity Solutions	Intel® Blade Server Ethernet Solution Intel® Blade Server Fibre Channel Solution

Intel® Server Compute Blade SBX82 Specifications

Processor	Supports up to 2 Intel® Xeon® processors with 800 MHz system bus at 3.20 GHz, 1MB L2 cache or faster
System Memory	
Four double data rate (DDR2)	
Memory Capacity	Support for 512 MB to 8 GB
DIMM Sizes	56 MB, 512 MB, 1 GB, 2 GB
Memory Type	2-way interleaved, DDR2-400, PC3200, ECC SDRAM registered DIMMs only
Drives	
Support for up to two internal 2.5-inch hard disk drives	
Support for up to two Ultra320 SCSI hot-swap hard disk drives (80-pin, SCA-2 connectors) available in an optional blade storage expansion module which connects to the server blade. Maximum data transfer: 320MB/sec on each Ultra 320 LVD channel. Supports RAID-1 or RAID-1E with the blade storage expansion module.	
Size	
Height	24.5 cm (9.7 inches)
Depth	44.6 cm (17.6 inches)
Width	2.9 cm (1.14 inches)
Maximum Weight	6.8 kg (15 lbs.)

Integrated Functions	
Two 1 gigabit Ethernet controllers support full duplex, IBM Wake on LAN*, teaming and failover.	
ATI Rage* 7000M video controller.	
Local service processor provides interface for communication with the Intel® Server Blade Chassis and the management module, system and environmental monitoring, event recording and alert capability.	
Light-Guided Diagnostics (LED lights indicate failing component).	
USB buses for communication with keyboard, mouse, diskette drive, and CD-ROM drive.[1]	
Intel® E7520 Chipset	
Front Panel Buttons	
Keyboard / Mouse	This button is for associating the keyboard port and mouse port with this blade server; the LED on this button flashes while the request is being processed, then is steady when ownership has been transferred to the blade server
Power Control Button	This button is located behind the control panel door; press this button to manually turn the blade server on or off
Video	This button is for associating the video port with this blade server; the LED on this button flashes while the request is being processed, then is steady when ownership has been transferred to the blade server
Front Panel LEDs	
Blade-Error LED	When this amber LED is lit, it indicates that a system error has occurred in the blade server
Information LED	When this amber LED is lit, it indicates that information about a system error for the blade server has been placed in the system Error log
Location LED	When this blue LED is lit, it has been turned on remotely by the system administrator to aid in visually locating the blade server; the location LED on the SBCE unit will be on as well
Activity LED	When this green LED is lit, it indicates that there is a hard-disk-drive or network activity
Power-on LED	This green LED indicates the power status of the blade server in the following manner: • Flashing rapidly — the service processor on the blade server is handshaking with the SBCE management module • Flashing slowly — the blade server has power but is not turned on • Steady — the blade server has power and is turned on
Input/Output	Power, cooling, removable-media drives, external ports, and advanced system management are provided by the Intel® Server Chassis SBCE.
Environment	
Air Temperature	Operating (system): 10°C to 35°C (50°F to 95°F); 0 to 914m (2998.69 ft) altitude Operating (system): 10°C to 32°C (50°F to 89.6°F); 914m to 2134m (2998.69 to 7000 ft.) altitude Non-operating (system): —40° to +60°C (-40° to +140°F)
Humidity	Operating: 8% to 80% Non-operating: 5% to 80%

Intel® Blade Server Ethernet Switch Modules SBCEGBESW1 and SBCEGBESW10

Ethernet switch modules integrate Reduces clutter, realizes space savings, and simplifies deployment and

with blade chassis	management
Easy-to-use, powerful, and flexible management user interface options	Decreases resource requirements for network management operations by simplifying installation, configuration, and monitoring
10K jumbo frames support	Increases performance in data-transfer-intensive environments such as IP storage networks
10Gb uplinks (SBCEGBESW10 only)	Scales existing infrastructures to 10GbE networking today, at a dramatically lower price point than stand-alone 10GbE switches

Ports	SBCEGBESW1: Six external 1000BASE-T ports for making 10/100/1000 Mbps connections to a backbone, end stations, and servers SBCEGBESW10: Six external 1000BASE-T ports and two optional 10 Gbps connections for making connections to a backbone, end stations, and servers Fourteen internal full-duplex gigabit ports to connect to blade servers Two internal full-duplex 10/100 Mbps ports connected to the management module
Access Control	Flow awareness based on L2/L3/L4 headers based on user, QoS, and application information Dual lookups on the packets for deterministic classification
Performance	Wire Speed Policy based switching Line rate L2 switching support for Gb Ethernet or 10Gb Ethernet uplinks Jumbo frame support (up to 10K) for server farm connectivity Policy-based switching of any L2/L3/L4 field in the packet header—MAC SA/DA, VLAN, SIP/DIP, TCP/UDP or a combination on any port Switching based on standard L2 bridging and switching
Quality of Service	8 Traffic classes per port 802.1p priority, DSCP/TOS marking, remarking capable Advanced QoS capabilities including Three color Marking for min/max bandwidth guarantee
Management	Spanning Tree Algorithm (STA) protocol for creation of alternative backup paths and prevention of network loops Simple network management protocol (SNMP) v1, v2, v3 Fully configurable either in-band or out-of-band control through SNMP Flash memory for software upgrades. Firmware upgrades can be done through trivial file (TFTP) or hypertext transfer protocol (HTTP) Web interface. HTML-based user interface allows administration from any PC Built-in SNMP management RFC 1213 – MIB-II RFC 1493 – Bridge MIB RFC 2233 – Interface MIB RFC 2620 – RADIUS Accounting MIB RFC 2674 – 802.1P/Q MIB RFC 2819 – RMON Groups 1,2,3, & 9 RFC 2851 – Internet Addresses MIB DHCP client support

Security	Enhanced system security and control plane protection
	Ability to Schedule and Rate limit exception packets to CPU
	Segment and prioritize control plane traffic without using up ACL rules
	802.1X support with extensions for port-based access control and proprietary MAC based access control

Intel® Optical Pass-thru Module SBCEOPM

Key Features of the Intel® Optical Pass-thru Module

Features

14 internal ports to connect to Intel® Server Compute Blades

14 external network interface ports via 4 Optical Pass-thru SC or LC cables

Fits into any of the chassis' four network bays

Compatibility and interoperability support for heterogeneous network environments

Auto-sensing to support Fibre Channel SAN or Fiber-optic Gigabit Ethernet LAN switches

No configuration is required

Related Products

Processors	Intel® Xeon® Processor
Blade Server Chassis	Intel® Blade Server Chassis SBCE
Server Compute Blades	Intel® Server Compute Blade SBXD132 Intel® Server Compute Blade SBX82
Networking and Storage Connectivity	Intel® Blade Server Ethernet Solution Intel® Blade Server Fibre Channel Solution

Intel® Optical Pass-thru Module Product Specifications

Module

Pass-Thru Ports

Number of Ports	14 internal ports to connect to blade servers, 4 external bi-directional interface ports to connect to Optical Pass-thru Module cable.
External Port Type	Each port on the Optical Pass-thru Module supports four channel pairs of optical connectors to connect to your existing 2-Gbit/sec FC SAN or 1 GbE-LX/SX network infrastructure. Auto sensing between network interfaces.
Internal Port Type	2-Gbit/sec FC SAN (or) 1 GbE Ports

Port Characteristics

External ports are automatically detected and self configuring

Cables

Pass-thru Module Cables

Network Cables	Optical SC Cable Optical LC Cable

Pass-Thru Module

Switch Maintainability

Diagnosis	Power-on self-test (POST) is performed on all functional components. Port operational tests include internal, external, and online tests.

User Interface	LED indicators
Dimensions	
Width	29 mm (1.14 in.)
Height	A112 mm (4.41 in.)
Depth	260.3 mm (10.25 in.)
Weight	.91 kg. (2 lb)
Environmental	
Temperature and Altitude	Operating: 10°C to 35°C (50°F to 95°F) at an altitude of 0 to 914m (0 to 3,000 ft.), 10°C to 32°C (50°F to 89.6°F) at an altitude of 914 to 3000m (0 to 10,000 ft.)
Humidity	Operating: 8% to 80%, non-condensing
Electrical	
Heat output:	85.3 Btu (25 watts)
Operating voltage:	12V dc
Circuit protection:	Internally fused with over-current

4Gb Fibre Channel SAN Solution for Intel® Enterprise Blade Servers

Brocade* 4Gb SAN Switch Module (SBCEBFCSW4)Key Features
- 10-port switch with seven internal ports to blade servers and three external uplinks
- Non-disruptive upgrade of the 10-port switch to 15 or 20 ports using a ports-on-demand software license key
- Support for connectivity to 2Gb and 4Gb Intel® Blade Server Fibre Channel Expansion Cards
- Simplified SAN deployment and administration through Brocade WEBTOOLS
- Advanced Zoning support for increased SAN security and simplified configuration
- Full forward and backward compatibility with the Brocade SilkWorm* family of products.

Intel® Enterprise Blade Servers now support 4Gb Fibre Channel connectivity for mission-critical applications requiring high performance storage. This industry-leading SAN solution features a Brocade* 4Gb SAN Switch Module, based on the Brocade SilkWorm* family of products, and a 4Gb Intel® Blade Server Fibre Channel Expansion Card—both designed to seamlessly integrate into an existing 1Gb or 2Gb SAN environment. The solution offers:
- Enhanced performance and expanded switch connectivity. The 4Gb SAN solution delivers significantly

higher performance than a 2Gb SAN to meet the most demanding applications.
- Simplified deployment and administration. Integrated Brocade WEB Tools centralize administration and simplify fabric management.
- Flexible, affordable scalability. The 10-port 4Gb SAN Switch Module is ideal for small-to-medium (SMB) deployments. A ports-on-demand option, activated by a software license key, allows the switch module to be easily upgraded to 15 or 20 ports.
- Investment protection. The 4Gb SAN Switch Modules integrate seamlessly into a Brocade SAN environment insuring backward compatibility with existing 2Gb SAN fabrics.
- Lower cost of ownership. The 4Gb SAN Switch Module is integrated into the blade server chassis and directly connects to the Fibre Channel Expansion Cards on the blade server without requiring expensive cables and optical modules.
- Easier servicing. The integrated cable-less SAN configuration makes server and

network servicing easier, while reducing data center clutter.