

# Intel® LB440GX 2U Rack Server Platform

Towering Performance for the Internet Economy

Product  
Brief



intel®

## The new Intel® LB440GX 2U Internet Rack Server lets you deliver reliable Internet services to audiences of all sizes.

**Reliability That Won't Let You Down.** The Intel® LB440GX was designed for Service Providers. The thin form-factor enables you to stack servers in parallel to create highly available services. And its high-integration design enhances interoperability. Ethernet, SCSI, graphics and server management controllers are all there. Plus, the LB440GX is validated on the most popular Internet operating systems<sup>1</sup> — Linux\*, Solaris\* and Windows NT\* — ensuring choice for cutting-edge applications.

**Built-in Server Management.** The server management microprocessor coordinates interaction between sensors inside the system and a remote console displaying critical information on your system administrator's PC. By establishing parameters for critical server voltages, temperatures, and rotational speeds, you can alert administrators to out-of-band conditions so action can be taken to prevent service interruption.

**A Star Performer.** Are your servers ready for the next generation Internet? The new LB440GX server powered by dual Intel® Pentium® III processors delivers processing speeds of up to 550 MHz — so you can stay ahead of the performance curve.

In addition to fast processors, the LB440GX is loaded with fast memory, a fast storage subsystem, and a fast network connection. It can reliably handle the most demanding of front-end service requests — individual mode for small audiences or parallel mode for large audience traffic spikes!

**Scalability to Track Your Growth.** The LB440GX 2U Rack Server is designed to scale with your business. As more users pile onto the Internet, you need servers that can be clustered, load-balanced, brought online on the fly and easily managed. The LB440GX is such a scalable animal, allowing you to expand quickly while maintaining control.

**Proactive Service and Support.** The LB440GX features built-in server management so you can implement sound maintenance procedures. Along with our server management, we offer spares kits so you can always have replacement parts where you need them — on your shelf. And we provide

a free "Smart Tool" CD-ROM to aid self-maintenance so you can replace parts and get your servers back online in minutes... not hours or days.

If you're a Service Provider with big plans, big demands and a tight budget, take a look at the new Intel® LB440GX Internet Rack Server. It's reliable, lightening fast and highly scalable with up to 21 servers per rack. So go ahead, build the network of your dreams — and your competition's envy — using Internet server building blocks from Intel.

### Features

Support for two Intel® Pentium® III processors (550, 500, 450 MHz) or Pentium® II processors (400 and 350 MHz)

2U rack chassis form-factor with rails

Four-drive bay (2x1" and 2x1.6", or 4x1")

Hot-swap storage subsystem

Supports up to 2 GB of 100 MHz SDRAM memory

High integration (Ultra2 SCSI, LAN, Graphics)

Ultra2 and Ultra Wide SCSI Controller

Intel® PRO/100+ Fast Ethernet Controller (82559)

Advanced Intel® Server Management System\*\*

- Server Management Microprocessor
- ISC – Intel® Server Control Software
- EMP – Emergency Management Port
- PEP – Platform Event Paging

Popular Internet operating system validation\*\*

- Microsoft® Windows® NT 4.0
- Red Hat Linux® 6.0
- Solaris® 7 Intel® Platform Edition

### Benefits

Processing performance for demanding Internet applications like secure web and CGI scripts

Enables 21 servers to be racked in a 42U Cabinet

Large storage capacity; data protection with add-in RAID Controller

Reduces server downtime

Supports a wide number of applications with ample headroom for future expansion

Improved performance, compatibility, ease of use

High-performance disk access (80 MB/s) and support for tape back-up

Scalable network bandwidth from 10 to 100 MB

Remote, real time server management capabilities to reduce server downtime

Ensures a wide choice of software applications today and tomorrow

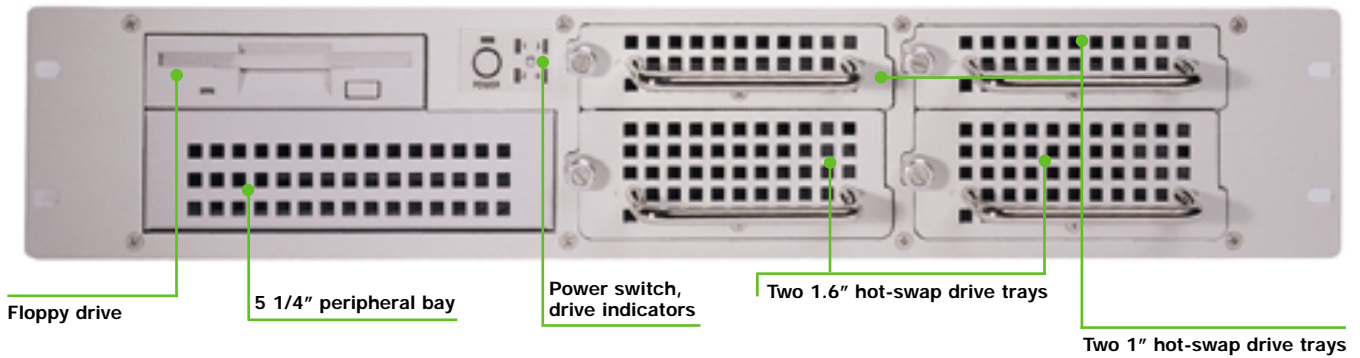
\*\* Visit your personal Intel® Internet Service Provider Web site at: [www.intel.com/isp](http://www.intel.com/isp) for the latest updates on BIOS, firmware, server management and drivers.

[www.intel.com/isp](http://www.intel.com/isp)

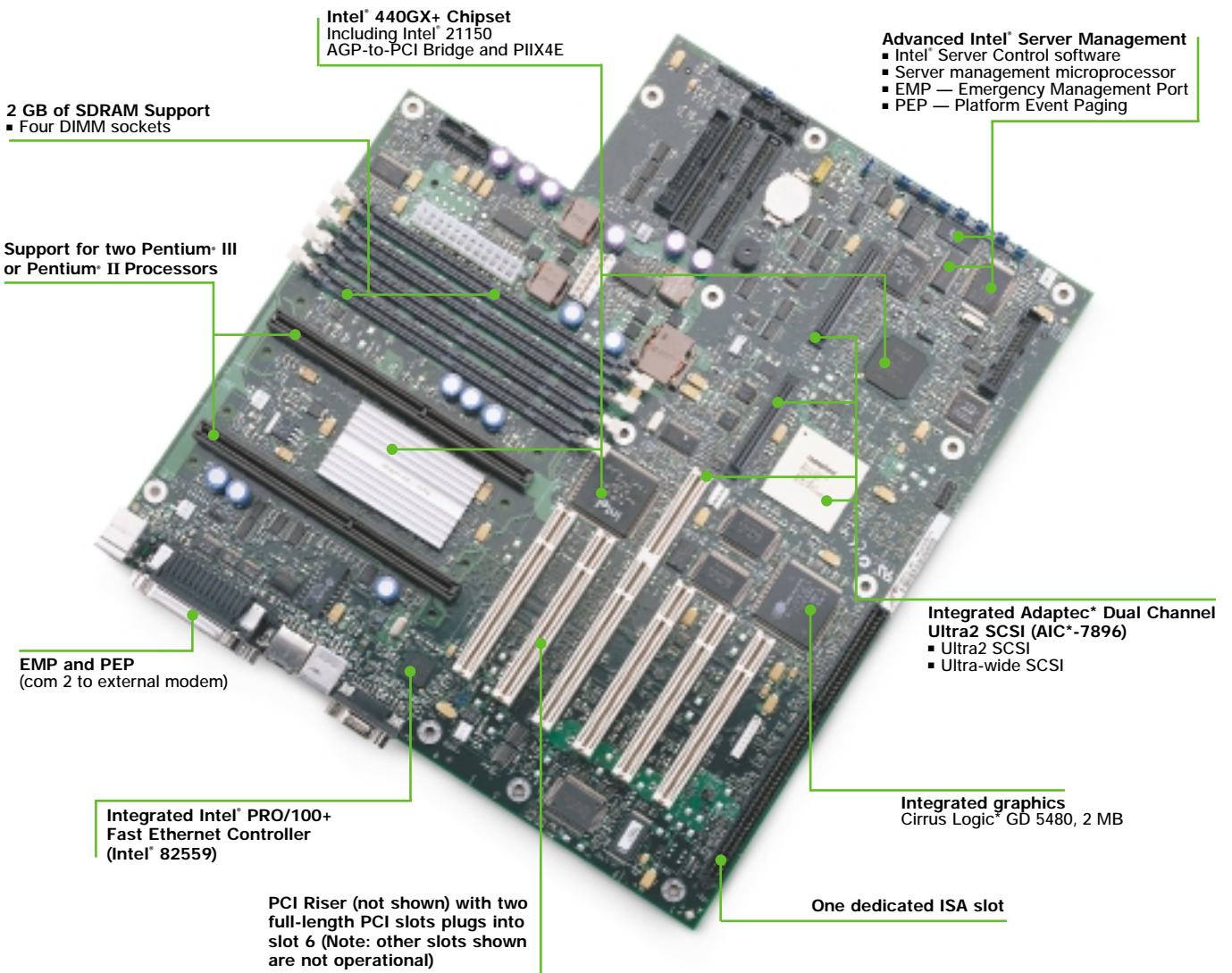
<sup>1</sup> The Local/Regional ISP Opportunity 1999, Infonetics Research, Inc., May 1999.



**Intel® LB440GX 2U Rack Server Chassis (includes rail kit for mounting to standard 19" cabinets)**



**Intel® LB440GX Server Board for Intel® Pentium® III Processors**



# Intel® LB440GX 2U Rack Server Specifications

## Processor/Cache

**Processors Supported** Intel® Pentium® III processors 550 MHz, 500 MHz and 450 MHz with 512 KB of integrated L2 cache  
Intel® Pentium® II processors 450 MHz, 400 MHz, and 350 MHz with 512 KB of integrated L2 cache

## Intel® Chipset

Intel® 82443GX+ (includes Intel® 21150 AGP-to-PCI Bridge), Intel® PIIX4E

## System Memory

### Memory Capacity

Four DIMM sockets for up to 2 GB of SDRAM (32 MB minimum)

### Memory Type

PC/100 100 MHz SDRAM, 72-bit ECC or 64-bit non-ECC, 168-pin gold plated DIMMs

### DIMM Sizes

32 MB, 64 MB, 128 MB, 256 MB, 512 MB

### Memory Voltage

3.3V only

### Error Detection

Corrects single-bit errors, detects double-bit errors (using ECC memory)

## Expansion Slots (all full length)

### Description

Two full-length PCI slots (32-bit/33 MHz) on riser card (not shown)

## Integrated Adaptec® SCSI Controller

### Controller

Adaptec® AIC®-7896 Dual Channel- one Ultra2 (LVD) (up to 80 MB/s), one Ultra Wide (up to 40 MB/s)  
Two 68 pin "wide" SCSI connectors

## Integrated Intel® Network Adapter

### Controller

One Intel® PRO/100+ Fast Ethernet Server Controller (Intel® 82559)  
Supports 10BASE-T and 100BASE-TX, RJ45 output

## Integrated Graphics

### Controller

Cirrus Logic® GD 5480

### Maximum Resolution

1,280 x 1,024; 16 colors

### Graphics memory

2 MB 10 ns SGRAM

## Integrated PCI/ISA IDE Xcelerator (PIIX4e)

### IDE

Two independent channels for a total of four IDE devices  
PIO Mode 0, PIO Mode 3, PIO Mode 4, ATA-33 and CD-ROM support

### USB

Two stacked USB connectors

## Integrated Super I/O

### Controller

National® Super 87309

### Serial ports

Two Asynch, RS-232C, 9 pin and 10 pin

### Parallel port

IEEE 1284, 25 pin bidirectional

### Floppy Controller

1.44 MB, 2.88 MB, 3-mode support

### Keyboard/mouse

PS/2, 8240A compatible

## System BIOS

### BIOS Type

8 MB Flash EEPROM with Intel® Phoenix® BIOS, Multi-boot BBS (BIOS Boot Specification) 1.0 Compliant

### Special Features

Plug and Play, IDE drive autoconfigure, DMI 2.0, ECC/Parity support, multilingual support and jumperless processor speed setup

### Configuration Utilities

System Set-up Utility (SSU) enables easy system setup of BIOS and utilities, plug and play

## Jumpers and Front Panel Connectors

### ATX Connectors

Speaker, reset, power LEDs, HD LED, power on/off  
Wake On LAN (WOL) Enable: flash configuration jumpers include: fault-resilient booting timer, boot-block protection, boot recovery, CMOS clear, password protect, BMC Forced Update

## Server Management Instrumentation

### Failure detection

Voltage variation, thermal, operating-system Watchdog timer, fan failure, power-supply failure, processor status, ECC memory, heat-sink fan check

### Emergency Remote

Reset, power up/down control, read system

### Management Port

Event log (external modem required)

### Platform Event Paging

Paging on 12 configurable events (external modem required)

### Event Logging

Nonvolatile storage to prevent loss of logs in the event of system failure

### Security

Video blanking, password protection

## Intel® Server Control (ISC)

### Managed Server

Operating systems supported:  
Windows NT® Server 4.0  
Solaris® 7.0

### Management Consoles

ISC integrates into the leading management supported consoles:  
Intel® LANdesk® Server Manager 6.01  
HP OpenView® Network Node Manager 5.02  
CA TNG® Framework 2.01 for Windows® NT

### Stand-alone Consoles

Microsoft Management Supported Console  
Internet Explorer® 3.02 and higher  
Netscape Navigator® 3.0 and higher with ActiveX® snap-in

### System Health Monitor

Temperature, voltage, cooling fans, ECC memory, processor status, power-supply status, on-board NIC and SCSI. OS hang monitoring via Watchdog Timer

### Alert Notification

When a configured event takes place these methods of notification are available:  
Network broadcast, SNMP trap, writing into System Event log (non-volatile storage), Message box

### Critical Event Actions

Graceful operating system shutdown with reboot or power off at administrator's discretion  
Immediate power off, resets or NMI

## Environment

### Ambient Temperature

Operating 10°C to +35°C  
Non-operating/storage -40°C to +70°C ambient

### Relative Humidity

Non-operating 95% @ 30°C non-condensing

## Regulations

### Safety Regulations

U.S. & Canada  
Europe

UL1950-CSA 950-95, 3rd Edition (UL, cUL)  
EN60950, 2nd Edition – TUV  
CE Mark-Compliance to EU Directive 73/23/EEC

International

IEC60 950, 2nd Edition

Nordic

EMKO-TSE (74-SEC) 207/94 – NEMKO

Australia/New Zealand

AS/NZS 3260 (Based on IEC60 950 CB Report)

Russian

GOST Mark

## EMI/RFI

### U.S.

FCC, CFR 47 Part 15, Class B

### Canada

ICES-003, Class B

### Europe

EN55022, EN50082-1, EN61000-3-2

CE Mark – Compliance to EU Directive 89/336/EEC

### Japan

VCCI

### International

CISPR-22, Class B

### Australia/New Zealand

AS/NZS 3548, Class B – C-Tick Mark

### Korea

RRL Certificate

## System

### Form Factor

Rack

### Height

2U (3.46")

### Width

16.75"

### Depth

28"

### Weight

59 lbs. (minimum configuration)

## Hot Swap Drive Bay

### Drives

Supports 2x1.6" and 2x1" or 4x1" SCA 3.5"

### SCSI Backplane

SCA Connectors

### Drive Cooling

Two fans

## Electrical Power Supply

### AC Voltage

115v/60Hz; 230v/50Hz

### and Frequency

### DC Power Supply

300W PFC

### +5VDC

26A maximum continuous

### +5V Standby

0.8A maximum continuous

### +12V

10A maximum continuous

### +3.3V

16A maximum continuous

### -5V

0.25A maximum continuous

### -12V

0.5A maximum continuous

### Remote Voltage Sense

Senses voltage levels on server board for more precise power-supply voltage regulation, leading to more efficient use of power

## Intel Order Code: SLWBR (server), FBRSPRS (spare kit)

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