



Platform Brief

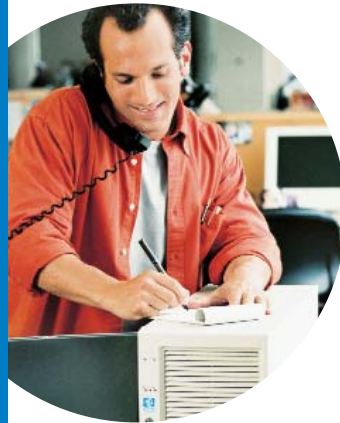
Intel® Pentium® D Processor

Intel® Pentium® 4 Processor

Intel® E7230 Chipset

Entry-level Server Platform

**Entry-level server platform
for outstanding value, performance,
and dependability.**



**Intel® E7230 chipset-based server
platforms enable small and value-conscious
organizations looking for outstanding
dependability and performance
at an affordable price.**



Trust your company to Intel's proven server technology

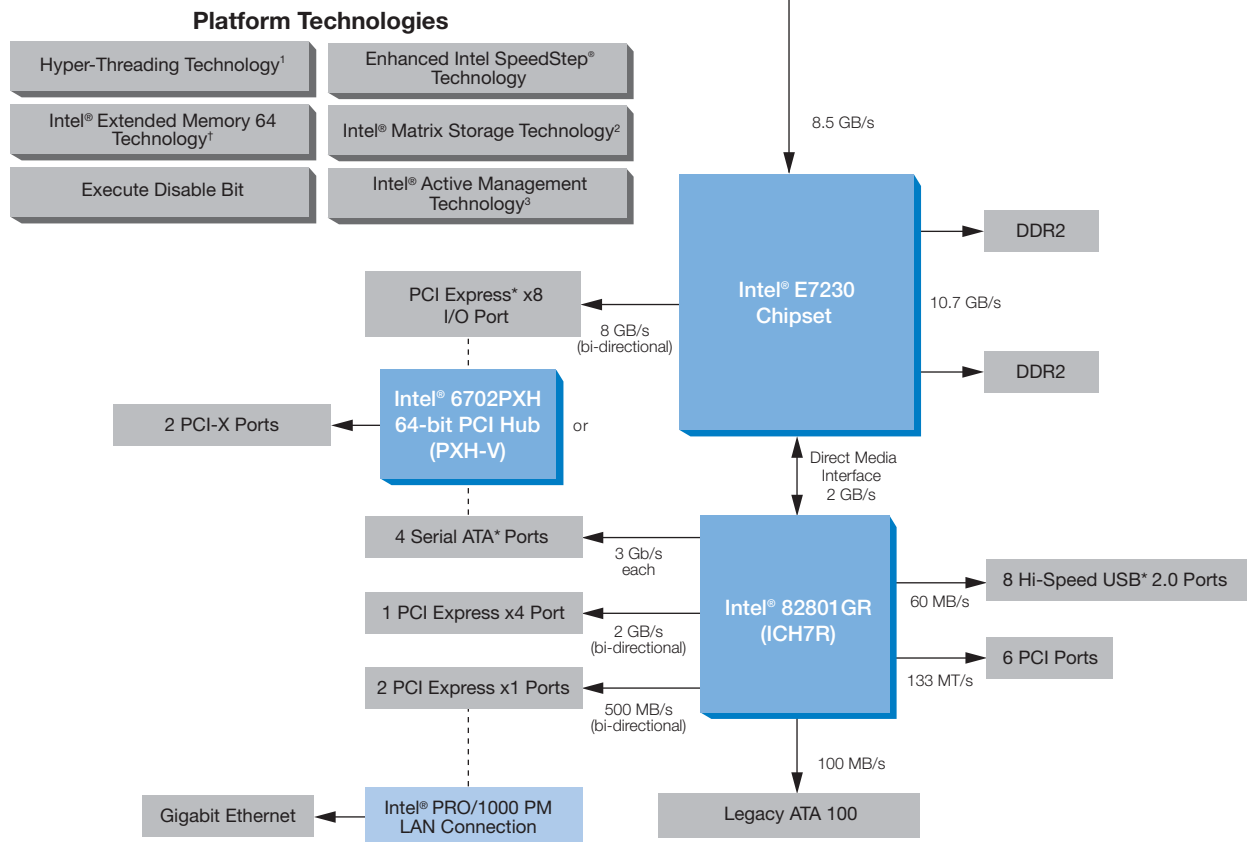
With nearly 30 million Intel® processor-based servers shipped since 1996 and a 20-year track record of proven performance worldwide, you know you can count on Intel to deliver superior quality and reliability. Today, more than 80% of servers are built with Intel® architecture, and that tradition of excellence continues with the introduction of server platforms based on the Intel® Pentium® D processor and E7230 chipset.

Designed with utility and versatility in mind, Intel® technology-based entry-level servers give you the key features needed to support and grow your business. Entry-level servers are ideal for running server applications such as file and print sharing, low volume e-mail, web serving, and business automation applications. For value-conscious business users, these entry-level servers deliver impressive computing performance without compromising speed, affordability or system reliability — a substantial improvement over desktop PCs.

Entry-level server platforms based on the Intel® Pentium® D processor or Intel® Pentium® 4 processor supporting Hyper-Threading (HT) Technology¹; and the Intel E7230 chipset offer cost-effective features and are ideally suited for small businesses looking for their first server. These platforms are engineered to handle your computing workloads while providing reliable and trouble-free operation, and ensuring that your operational needs are met at every stage of your business growth.



Entry-level server platform



Cost-effective solutions to grow your business

Whether your business is starting up or expanding, entry-level server platforms based on Intel processors and an Intel E7230 chipset can help you do more for your business than ever before.

These platforms boost productivity by providing greater reliability and connectivity with your customers, suppliers, and employees. And with the ability to choose from single- or dual-core Intel processors, you can get the performance you need at an affordable price.

Platforms based on the Intel E7230 chipset support the dual-core Intel Pentium D processor or the single-core the Intel Pentium 4 processor supporting Hyper-Threading (HT) Technology. HT Technology allows a processor to present itself as two “virtual” processors by executing two threads in parallel, allowing you to run multiple demanding applications at the same time. Intel dual-core technology expands on the benefits enabled by the existing HT Technology infrastructure today. Dual-core processors are designed to include two full physical cores in one processor, enabling better system responsiveness and multitasking capability than a comparable single-core processor.

With other advanced features such as DDR2 memory, PCI Express* I/O, high-speed Serial ATA* (SATA*) storage capability, and PCI-X I/O technology, entry-level server platforms based on the Intel Pentium D processor and the Intel E7230 chipset support the demands of entry-level server applications.

For more information on performance, please visit www.intel.com/performance/

All of the processors supported with the Intel E7230 chipset also support Intel® Extended Memory 64 Technology† (Intel EM64T). It allows servers to handle larger data sets, more complex applications, and larger amounts of memory. In addition, Intel® EM64T allows you to run both 32- and 64-bit applications, helping to ensure the smooth migration of your business to 64-bit computing.



Designed with utility and versatility in mind, Intel® technology-based entry-level servers give you the key features needed to support and grow your business.

Enhance performance for data-intensive applications with PCI Express*

With increased computing performance, the I/O (input/output) rate at which data can be supplied to the processor increases. Without sufficient I/O bandwidth, the processor can sit idle, waiting for data to be transferred, which can affect system performance. PCI Express was designed to match the performance capabilities of higher-performing processors with greater I/O delivery rates, helping deliver the data transfer speed required to make the most of the processor's capability.

The PCI Express x8 link I/O interface in the Intel E7230 chipset provides up to 4 GB/s bi-directional peak bandwidth to ensure quick server response. PCI Express I/O adapters have a direct path to the Intel E7230 chipset memory controller, instead of having to go through a bridged component, which minimizes the latency between the adapter and the memory controller and optimizes performance. Unlike platforms designed for the desktop market segment, entry-level server platforms based on the Intel E7230 chipset can support PCI-X server cards in conjunction with the Intel® 6702PXH (PXH-V) 64-bit PCI hub. Both PCI Express and PCI-X server adapters provide enhanced I/O performance as compared to legacy PCI 32-bit I/O — critical to ensuring fast information access and maximizing server productivity.

The Intel® I/O Controller Hub (ICH7R), part of the Intel E7230 chipset, provides additional PCI Express expansion with one x4 (2 GB/s bi-directional peak bandwidth) and two x1 (each link: 500 MB/s bi-directional peak bandwidth) PCI Express links to meet higher server I/O adapter demands.

Improve security and reduce virus-related downtime and repairs

Today, most businesses are appropriately concerned about the security of their business information. Security issues come in many forms: viruses, worms, and Trojan horses. All of which increase your IT resource demands and, in some cases, could destroy data.

One type of invasion is called a “buffer overflow” attack. In a typical attack, a malicious worm creates a flood of code that overwhelms the processor, allowing the worm to propagate itself to the network and other computers. Intel® Execute Disable Bit functionality, a feature of Intel processors supported with the Intel E7230 chipset, can prevent many types of buffer overflow attacks by limiting application code execution to only specific areas of memory. This, when combined with a supporting operating system, helps stop the worm in its tracks and minimizes data loss and large-scale system infection.

Platform Feature	User Benefit
1066/800 MHz System Bus	<ul style="list-style-type: none"> Platform longevity and increased platform performance with support for high-performance Intel® processor frequencies to meet the demands of server environments Supports Intel® Pentium® D processor and other Intel Pentium processors in the LGA775 socket, with scalability for future processor innovations
Intel® Extended Memory 64 Technology ¹	<ul style="list-style-type: none"> Runs 64-bit code and accesses larger amounts of memory, while also capable of running existing 32-bit applications
Hyper-Threading Technology ¹ Support	<ul style="list-style-type: none"> Delivers higher processing throughput and faster response times for multi-tasking, multi-threading workload environments
Enhanced Intel SpeedStep® Technology	<ul style="list-style-type: none"> Enables focused platform and software power management to lower average power consumption while maintaining application performance and improving acoustics
Dual-Channel DDR2 Memory with ECC Support	<ul style="list-style-type: none"> Larger memory capacity than previous generation for more demanding and complex applications ECC for data integrity protection
PCI Express* I/O Interfaces	<ul style="list-style-type: none"> Eliminates the need for bridge solutions and reduces server bottlenecks PCI Express I/O x8 port for increased I/O server performance Configurable Intel® I/O Controller Hub (ICH7R) 1x4/2x1 PCI Express ports to meet higher I/O server demands
PCI-X Interface	<ul style="list-style-type: none"> Support legacy PCI-X server adapters using the Intel® 6702PXH 64-bit PCI hub
Integrated Serial ATA* Controller	<ul style="list-style-type: none"> Facilitates high-speed storage and data transfers up to 3 Gb/s Supports latest storage technology with four independent SATA hard disk drives
Intel® Matrix Storage Technology ²	<ul style="list-style-type: none"> Boosts storage performance with RAID 0 while protecting data with RAID 1 on the same disk. RAID 5 and 10 provide both increased data protection and performance
Intel® Active Management Technology ³	<ul style="list-style-type: none"> Helps improve IT efficiency by providing remote down-the-wire server management to allow asset management, out of band management, and diagnostics regardless of system state

Manage and protect your critical data and assets with Intel technologies

Entry-level servers based on the Intel E7230 chipset support ECC (Error Correction Code) memory for better data integrity, reliability, and system uptime. ECC can detect multiple-bit memory errors and can locate and correct single-bit errors.

You have the ability to access data faster and protect your data in the event of hard drive failure with Intel® Matrix Storage Technology² built into the Intel I/O Controller Hub (ICH7R). Intel Matrix Storage Technology with integrated RAID 0, 1, 5, or 10 utilizes the latest high-speed SATA interface for accelerated disk performance, enhanced data protection, and redundancy. This ensures improved system availability by providing increased fault tolerance or redundancy, and by allowing for recovery of your critical data in the event of a hard drive failure without disrupting your business.

As you know, system hardware is only a small fraction of your Total Cost of Ownership (TCO). Managing, maintaining, protecting, and updating servers can be time consuming and labor intensive. Intel® Active Management Technology³ helps to reduce maintenance costs by allowing servers, workstations, and corporate clients to be efficiently managed from a central location. Intel Active Management Technology provides you with the necessary tools to discover all your hardware and software computer assets, diagnose and heal systems remotely regardless of the OS or system state, and help protect your systems from malicious software attacks. Intel Active Management Technology is supported in Intel E7230 chipset platforms when coupled with the Intel® PRO/1000 PM LAN Connection.

**These Intel server platforms
boost productivity by
providing greater reliability
and greater connectivity
with customers, suppliers,
and employees.**



**Save on power costs with Enhanced
Intel SpeedStep® Technology**

Enhanced Intel SpeedStep® Technology, a feature on select Intel processors supported with the Intel E7230 chipset, allows the server to dynamically adjust processor voltage and core frequency while maintaining application performance, which can result in decreased average power consumption and decreased average heat production.

**Put more focus on your business
with proven technology**

For over 35 years, companies have been turning to Intel to solve their toughest business and IT challenges. Intel's server platforms continue this tradition by helping you mitigate risks, grow your business, and lower costs with proven and innovative server solutions.

**For more information, visit the Intel Web site:
www.intel.com/products/server/chipsets**

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**For more information, visit the Intel Web site:
www.intel.com/products/server/chipsets**

¹ Hyper-Threading (HT) Technology requires a computer system with an Intel® Pentium® 4 processor supporting HT Technology and an HT Technology-enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See www.intel.com/info/hyperthreading for more information including details on which processors support HT Technology.

² Intel® Matrix Storage Technology requires a motherboard with the Intel® 82801FR (ICH6R) or Intel® 82801GR (ICH7R) I/O Controller Hub System. The system must also have the RAID controller in the BIOS enabled and the Intel Matrix Storage Technology software driver installed. Please consult your system vendor for more information.

³ Intel® Active Management Technology requires a system with an Intel® E7230 Chipset or Intel® 955 Express Chipset or Intel® 945 Express Chipset; an Intel® PRO/1000 PM Network Connection; and appropriate third-party software. The system must be plugged into a power source and connected to a LAN.

⁴ Intel® EM64T requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. See www.intel.com/info/em64t for more information including details on which processors support Intel® EM64T or consult with your system vendor for more information.

⁵ Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See http://www.intel.com/products/processor_number for details.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/limits.htm>.

Relative performance for each benchmark is calculated by taking the actual benchmark result for the first platform tested and assigning it a value of 1.0 as a baseline. Relative performance for the remaining platforms tested was calculated by dividing the actual benchmark result for the baseline platform into each of the specific benchmark results of each of the other platforms and assigning them a relative performance number that correlates with the performance improvements reported.

Intel® Pentium® processors with Intel® EM64T requires a computer system with a processor, chipset, BIOS, OS, device drivers and applications enabled for Intel EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel EM64T-enabled OS, BIOS, device drivers and applications may not be available. Check with your vendor for more information.

*Other brands and names may be claimed as the property of others.

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