Comparison of the HP Z200 and HP Z400 architectures

The HP Z200 is a new Intel® Xeon®-based entry workstation, positioned below the HP Z400 Workstation. Its architecture introduces high performance with lower cost for customers who need an optimal price/performance solution.

Windows®. Life without Walls™. HP recommends Windows 7.

Processor technology

The HP Z200 and HP Z400 both support Intel® 45nm and 32nm processors utilizing Intel® Hyper-Threading, Turbo Boost, and Smart Cache Technologies to provide significantly better performance than the previous generation. The HP Z200 uses processors up to 95W from the latest quad-core Intel® Xeon® Processor 3400 Series and dual-core Intel® Celeron® G1101, Intel® Pentium® G6950, and Intel® Core™ i3/i5 (with integrated graphics) Processor families, along with the Intel® 3450 PCH (platform controller hub).[1,2,3] The HP Z400 uses processors from the Intel Xeon Processor 3500 and 3600 Series along with two Intel I/O controllers. The HP Z200 two-chip architecture is more cost efficient than the HP Z400 three-chip architecture with its higher performance capabilities in memory, graphics and I/O. This robust expandability on HP Z400 is enabled through a larger power supply.

Memory technology

The HP Z200 and HP Z400 both support ECC-protected unbuffered DIMMs (UDIMMs) based on DDR3[4] 1333 MHz technology. Only the top HP Z400 bin is at present capable of 1333 MHz interface, with the rest being 1066 MHz capable. The HP Z200 Core i3/i5 and Xeon 3400 Processor Series, which were released later, are capable of 1333 MHz memory interface. Additionally, the HP Z200 also supports non-ECC UDIMMs. The HP Z200 supports system memory sizes up to 16 GB[5] (using 4GB DIMMs) through two direct attach memory channels, while the HP Z400 support system memory sizes up to 24 GB through three memory channels.
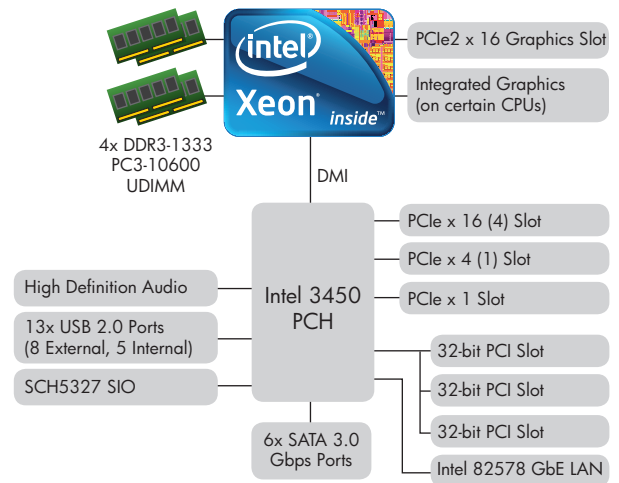
I/O Slots

The HP Z200 provide a total of seven high-performance graphics and I/O slots. In addition to the one full x16 PCIe Gen2 slot, several PCIe slots at Gen1 speeds are provided. One PCIe x16 (4) slot (x16 mechanical, x4 electrical) provides support for a second graphics card, and one PCIe x4 (1) slot (x4 mechanical, x1 electrical) and one PCIe x1 slot provide extra I/O bandwidth for high speed I/O cards. Three PCI 32-bit/33 MHz slots support 64-bit PCI card installation. In comparison, the HP Z400 provides a total of six slots, including two full x16 PCIe Gen2 slots, one PCIe Gen2 x8 (4) slot (x8 mechanical, x4 electrical), one PCIe x8 (4) slot, and two PCI 32-bit/33 MHz slots that support 64-bit PCI card installation.
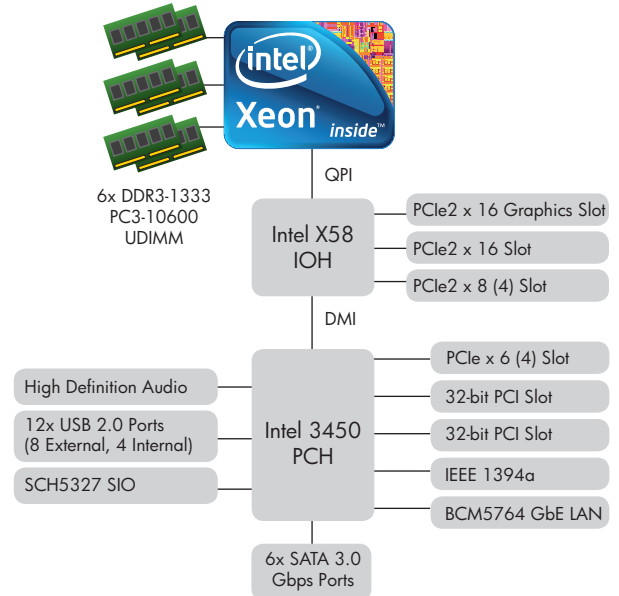
Other Features

Leveraging the latest power supply technology, the HP Z200 has an 89% efficient 320W power supply while the HP Z400 has an 85% efficient 475W power supply. The HP Z200 is also the first HP workstation to eliminate BFR and PVC materials in the system board for environmental leadership. Intel® Active Management Technology (AMT) is supported for the HP Z200 and DASH management technology is supported for the HP Z400. HP Quiet Fan Technology enables quiet system operation on both products.

HP Z200 block diagram

- 4x DDR3-1333 PC3-10600 UDIMM
- Intel Xeon inside™
- PCIe2 x 16 Graphics Slot
- Integrated Graphics (on certain CPUs)
- DMI
- Intel 3450 PCH
  - PCIe x 16 (4) Slot
  - PCIe x 4 (1) Slot
  - PCIe x 1 Slot
  - 32-bit PCI Slot
  - 32-bit PCI Slot
  - 32-bit PCI Slot
  - Intel 82578 GbE LAN
- High Definition Audio
- 13x USB 2.0 Ports (8 External, 5 Internal)
- SCH5327 SIO
- 6x SATA 3.0 Gbps Ports

HP Z400 block diagram

- 6x DDR3-1333 PC3-10600 UDIMM
- Intel Xeon inside™
- QPI
- Intel X58 IOH
  - PCIe2 x 16 Graphics Slot
  - PCIe2 x 16 Slot
  - PCIe2 x 8 (4) Slot
- DMI
- Intel 3450 PCH
  - PCIe x 6 (4) Slot
  - 32-bit PCI Slot
  - 32-bit PCI Slot
  - IEEE 1394a
  - BCM5764 GbE LAN
- High Definition Audio
- 12x USB 2.0 Ports (8 External, 4 Internal)
- SCH5327 SIO
- 6x SATA 3.0 Gbps Ports