The Next-Generation HP ProLiant Servers Questions & Answers

Questions and Answers

Memory

Q1.   What is Fully Buffered DIMM Memory?

A1.   Fully Buffered DIMM's (FBD), a new memory architecture, addresses scaling needs of capacity and bandwidth enabling memory to keep pace with processor and I/O improvements. Typical DRAM subsystems use a stub-bus (parallel path) topology that requires the data signals from the memory controller be electrically connected to the data lines of every DRAM module on the bus. Until now, server designers have had to choose between limiting memory density to reduce high-speed errors or accepting slower speed to achieve high density. With the introduction of FBDIMM's, designers get a solution that increases reliability, speed, and density.

Fully Buffered DIMM's use an Advanced Memory Buffer (AMB) chip that maintains signal integrity and improved error detection methods that reduce soft errors, making fully buffered DIMM's an ideal system memory solution. Using a point-to-point architecture, the AMB transmits signals among the controller, memory devices, and other modules without sacrificing signal integrity or speed. Unlike modules with stub-bus (parallel path) architecture, FBDIMMs move data serially between the AMB and memory controller.

Drives

Q2.   What is a Serial Attached SCSI?

A2.   Serial Attached SCSI (SAS) is the logical evolution of the SCSI interface that satisfies the enterprise data center requirement of scalability, performance, reliability and manageability, while providing an enterprise storage infrastructure for both enterprise SAS drives and SATA disk drives. The SAS interface is compatible with SATA devices. This compatibility provides users with unprecedented choices for server and storage subsystem deployment.

Q3. What are the end user benefits of Serial Attached SCSI?

A3. Key end user benefits include enterprise class robustness, investment protection in compatible SCSI software and middleware and the choice of direct-attach storage devices (SAS or SATA). In addition, greater performance, smaller form factors and greater addressability will all lead to a new level of flexibility when deploying mainstream data center servers and subsystems. Since SAS is based on the foundation of the industry-leading SCSI specification, reliability and peace of mind will satisfy user's needs for continuity in the data center.

Q4. Where can I find more information on Serial Attached drive technologies like Serial Attached SCSI (SAS) and Serial ATA (SATA)?

A4. For detailed information on SAS and SATA, visit www.hp.com/go/serial. A technology brief is also available.

Controllers

Q5.   Is the Smart Array E200 or P400 controller backwards compatible to Ultra2, Ultra3, and Ultra320 SCSI?

A5.   No, serial attached SCSI controllers are not compatible with parallel SCSI devices.

Q6.   Will the Smart Array E200 or P400 support external drives?

A6.   No. The Smart Array E200 & P400 have 8, 3Gb SAS ports supporting two internal connections using the controllers x4 Wide SAS Ports.

Q7.   What RAID levels are supported by the Smart Array E200?

A7.   The SA-E200/64 supports RAID 0, 1 and 1+0.. RAID 5 is available by adding the 128MB BBWC upgrade .

Q8.   What RAID levels are supported by the Smart Array P400?

A8.   The SA-P400/256 supports RAID 0, 1, 1+0 and 5. RAID 6 (Advanced Data Guarding) is available by adding either the BBWC upgrade or the 512 BBWC upgrade.

Q9.   Will the SA-E200 & SA-P400 support standard server DIMM memory?

A9.   No. The controller DIMM socket is not designed to accommodate standard DIMM memory because standard server memory DIMM does not support battery back-up and does not meet fault tolerant standards for a RAID controller.

Multifunction

Q10.   What is Multifunction networking?

A10.   Multifunction networking products offer accelerated networking, storage networking and clustering in a single, all-in-one device, in much the same way that multifunction printers offer printing, scanning and copying in a single, all-in-one device. A multifunction NIC is one card running over one cable and providing multiple functions.

Q11.   What is TOE?

A11.   TOE stands for TCP/IP Offload Engine. TOE moves the processing of data in the TCP protocol stacks from the server CPU to the NIC, freeing COP cycles for other work.

Q12.   Do I have to do anything special to enable TOE?

A12.   TOE support requires three things i) a multifunction NIC from HP, either stand-alone or embedded, ii) a TOE driver from hp.com, and iii)Scalable Networking Pack directly from Microsoft so that "TOE Chimney" can be installed.

Q13.   What is iSCSI?

A13.   iSCSI is block storage access over TCP/IP. The multifunction NICs support accelerated iSCSI by combining the iSCSI driver with the adapter's TOE capability.

Q14.   How do I get accelerated iSCSI for my ProLiant server?

A14.   Accelerated iSCSI is available for servers by way of a ProLiant Essentials iSCSI Licensing Kit, which is available on the web at hp.com under the networking heading.

Q15.   Where can I find more information about Multifunction Gigabit Server Adapters?

A15.   For more information about the HP Multifunction Gigabit Server Adapters visit
http://www.hp.com/go/multifunctionNICs

Services

Q16.   What Service and Support options are recommended?

A16.   HP recommends same day Hardware support combined with Software Technical
support. This combination provides ready access to technical expertise, will help minimize any
downtime, and enable you to focus on your core business. For a complete listing of Support
Services that are available, go to: http://h20219.www2.hp.com/services/cache/10950-0-0-225-
121.aspx

Q17.   Why HP Services?

A17.   Across the globe, more companies rely on HP servers than on any others. To
complement the performance and reliability of HP ProLiant and BladeSystem servers, HP and its
network of channel partners—the largest in the industry—provide a full set of services designed
to unleash the power of your hardware and software investment. We offer the best of both worlds:
the strong global presence and proven experience of HP, and a familiar local presence in our HP
channel partners. With more than 69,000 trained HP service professionals and 70,000 channel-
partner product and service experts worldwide, we can provide local resources when and where
you need them. When you take on a major operating-system migration, there's no need to go it
alone. HP can bolster your migration efforts with a portfolio of related service offerings that
ranges from consulting and integration services to business-continuity and availability support. No
one is better qualified to design, build, implement, integrate, manage, and support your Microsoft
or Open Source Linux environment than HP. Our goal is to help you reap cost and productivity
benefits with greater speed and confidence—while getting the highest levels of performance and
value from your IT environment.

To learn more visit: http://www.hp.com/services/proliantservices