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It's time to build a better enterprise.
Together.
Barcelona | December 10–12
The Power and Values of HP Proliant Gen8 Servers with Intel® Xeon® E5 v2 Processor (Code named Ivy Bridge)

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Intel® Tick-Tock Development Model: Sustained Microprocessor Leadership

Consistent and reliable cadence of industry leading architecture, process technology and capacity

Tick: Shrink – Introduction of new Semiconductor Process

Tock: Innovation in uArchitecture

New Capacity for 14nm and Beyond

D1X – Oregon Development Fab
Fab 42 – Arizona High Volume Fab

Tick  32nm  Tock  22nm  Tick  14nm

Intel® Xeon 5600 Sandy Bridge Ivy Bridge Haswell Broadwell Skylake

Consistent and reliable cadence of industry leading architecture, process technology and capacity
Intel® Xeon® processor E5-2600 v2 Product Family
First 22nm-based Server CPU

- Socket compatible with Intel® Xeon® processor E5-2600 product family
- Up to 12 cores and 30MB cache expected to deliver up to ~52% more performance in same power envelope
- Improved security with Intel® Secure Key & Intel® OS Guard for additional HW embedded security

More Performance, More Energy Efficiency and More Secure!!
Intel Xeon® E5 Platform Flexibility

**E5-4600 v2**
Density and Cost Optimized 4S
- Up to 4 CPUs
- Up to 48 DIMMs
- Up to 160 PCIe lanes
- Two QPI links per CPU (ring topology)

**E5-2600 v2**
Highest Performance Max Memory
- Up to 2 CPUs
- Up to 24 DIMMs
- Up to 80 PCIe lanes
- Two QPI links

**E5-2400 v2**
Density and Cost Optimized 2S
- Up to 2 CPUs
- Up to 12 DIMMs
- Up to 48 PCIe lanes
- One QPI link

HP DL560 Gen8, HP BL660 Gen8
HP DL380p, DL360p, ML350p, DL160, BL460c, SL230/250/270 Gen8
HP DL380e, DL360e, ML350e, HP BL420c Gen8
## Intel® Xeon® Processor E5-2600 v2 Product Family

<table>
<thead>
<tr>
<th>Feature</th>
<th>Xeon E5-2600</th>
<th>Xeon E5-2600 v2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cores/Threads</td>
<td>Up to 8 cores /16 Threads</td>
<td>Up to 12 Cores/24 Threads</td>
</tr>
<tr>
<td>Last-level Cache</td>
<td>Up to 20 MB</td>
<td>Up to 30 MB</td>
</tr>
<tr>
<td>Max Memory Speed (Mhz)</td>
<td>Up to 1600</td>
<td>Up to 1866</td>
</tr>
<tr>
<td>Idle Power Targets</td>
<td>15W or higher</td>
<td>Est. 10.5W or higher</td>
</tr>
<tr>
<td>Max DIMM Capacity</td>
<td></td>
<td>12 Slots/Processor</td>
</tr>
<tr>
<td>PCIe* Lanes / Controllers/Speed</td>
<td>40 / 10 (PCIe* 3.0 at 8 GT/s)</td>
<td></td>
</tr>
<tr>
<td>TDP (W)</td>
<td>150 (Workstation only), 130, 115, 95, 80, 70, 60</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Features:**
- Intel® Secure Key
- Intel® OS Guard
- Advanced Programmable Interrupt Controller virtualization (APICv)
Improvement of Memory Bandwidth with Intel® Xeon® E5-2600 v2 Product Family

Down bin Performance on STREAM Triad

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more information go to http://www.intel.com/performance. Other names and brands may be claimed as the property of others.
2S World Record Performance on Intel® Xeon® Processor E5-2697 v2

Relative Performance vs. Previous Xeon® Generation

- E5-2690 (8C, 2.9GHz, 135W)
- E5-2697 v2 (12C, 2.7GHz, 130W)

- Up to 52% more performance
- Up to 46% greater energy efficiency

Intel®
Achieving Operational Excellence

**General Purpose Computing**
- X5570 (4C, 95W)
- X5675 (6C, 95W)
- E5-2660 (8C, 95W)
- E5-2660 v2 (10C, 95W)

**Energy Efficiency**
- X5570 (4C, 95W)
- X5675 (6C, 95W)
- E5-2660 (8C, 95W)
- E5-2660 v2 (10C, 95W)

**SPECint*_rate_base2006**
- X5570 (48GB, HDD)
- X5680 (24GB, SSD)
- E5-2690 (128GB, HDD)
- E5-2697 v2 (128GB, HDD)

**SPECpower*_ssj2008**
- X5570 (8GB, SSD)
- X5680 (16GB, SSD)
- E5-2660 (38GB, SSD)
- E5-2660 v2 (48GB, SSD)

Up to 38%
Up to 46%

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Intel® Xeon® Processor E5-2690 vs Intel® Xeon® Processor E5-2697v2
Transactional Processing Demo
Intel® Xeon® Processor X5570 vs Intel® Xeon® Processor E5-2697v2
Performance / Energy Efficiency
Transactional Processing Demo
Intel® Xeon® Processor X5365 vs Intel® Xeon® Processor E5-2697v2
Performance / Energy Efficiency
Transactional Processing Demo
Older Technology is Inefficient & Costly

Servers older than 4 years old deliver 4% of the performance on 65% of the energy.

Age Distribution of Servers
- >4 YEARS OLD: 32%

Performance Capability of Servers
- >4 YEARS OLD: 4%

Server Energy Consumption
- >4 YEARS OLD: 65%

Source: Intel analysis, 2012
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For more information go to [http://www.intel.com/performance](http://www.intel.com/performance)
Throttling Business Innovation

IT sprawl is taking business performance to the breaking point

Business innovation throttled to 26%

- Time to revenue
- Cost of lost time, effort, opportunity
- Unpredictable business cycles
- 74% captive in operations and maintenance
- Rigid & aging infrastructure
- Application & information complexity
- Inflexible business processes

Source: Gartner, IT Metrics: Align IT Investment Levels With Strategy Using Run, Grow, Transform and Beyond (March 2012)
Benefits of Refreshing Old Servers

- Better Performance (CPU, Memory, I/O)
- Less Power
- Better Security
- Fewer Servers
- Less Space
- Software Licencing & Compatibility

Improving your IT Efficiency by refresh aging servers with HP Proliant Gen8 servers with Intel Xeon E5-2600 V2 Processors!
Move Now!
Improving your IT Efficiency by refresh aging servers with HP Proliant Gen8 servers with Intel Xeon E5-2600 V2 Processors!

ThankYou!
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3. Unlock additional information!

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