

Innovation Accelerating Mission Critical Infrastructure



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Rev. 7/17/13

Optimization Notice

Optimization Notice

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Growing Datacenter IP Portfolio

Technologies for Partner Innovation



Intel® AES-NI
Intel® Secure Key
Intel® Run Sure
Technology

Intel® Turbo Boost
Technology
Intel® TXT
Intel® AVX



Intel® True Scale infiniband
Intel® Ethernet Switch Controller
Intel® Ethernet 10/40Gb

Wind River* Open Network Software
Intel® QuickPath Interconnect
Intel® Silicon Photonics



Intel® Cache Acceleration Software
Intel® Solid State Disks
Lustre*

Intel® Direct Memory Access
NVM Express
Intel® Rapid Storage Technology

A close-up image of a microchip with various components and connections.

Top Processor Capabilities

Leading
performance and
availability

A close-up image of network cables plugged into a switch or router.

Network & I/O

Maximize
Throughput and
Scalability

A close-up image of memory modules in a server rack.

Non-Volatile Memory

Ultra-dense,
persistent memory

*Intel Technologies uniquely positioned to deliver
Future Mission Critical Capabilities*

Family of Mission Critical Processors

Intel Xeon Processor E7



Leading Edge Mission
Critical Innovations
for Windows and
Linux

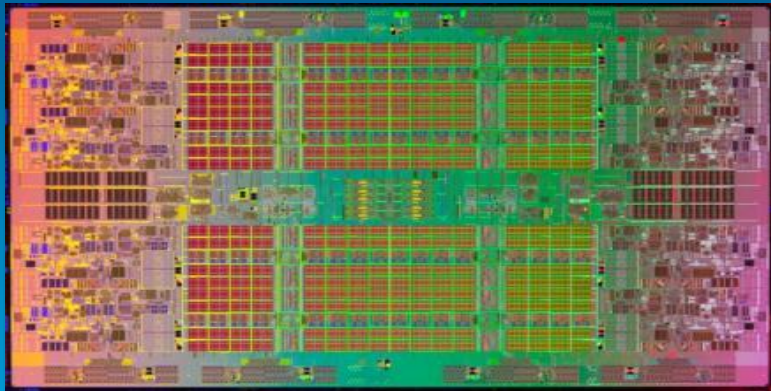
Intel Itanium Processor 9500



Business Continuity
and Application
Compatibility for
Mission Critical UNIX

*Mission-Critical portfolio for comprehensive
coverage of needs*

Itanium® 9500: Most Sophisticated Intel Itanium Processor To Date



Intel Itanium Processor 9500

Advancements over Itanium 9300

- New microarchitecture design
- 2x the cores¹, 2x instruction throughput²
- Up to 2.53Ghz frequency
- Up to 8% lower TDP³, 80% reduced idle power⁴

¹ Source: Intel. 4 cores to 8 cores (Itanium 9300 series vs. Itanium 9500 series)

² Source: Intel. Maximum 6-wide vs. 12-wide instruction issue (Itanium 9300 series vs. Itanium 9500 series)

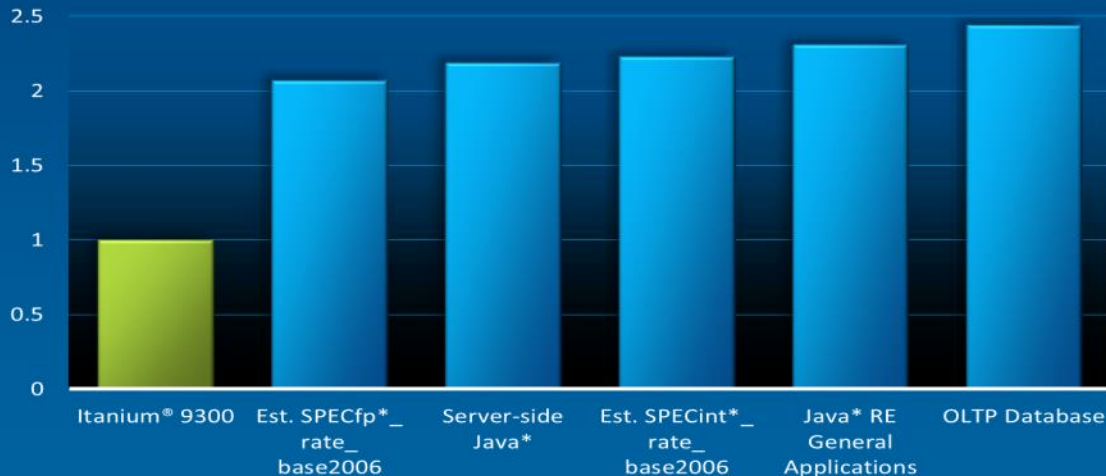
³ Source: Intel. 185W TDP vs. 170W TDP (Itanium 9300 series vs. Itanium 9500 series)

⁴ Source: Intel internal measurements comparing individual core idle dynamic power (Itanium 9500 series vs. Itanium 9300 series)

Delivering a Leap in Performance

Normalized 1.0
Performance

Common Enterprise Benchmarks



Up to **2.4X**
Performance Scaling¹

Up to **40 %**
Faster Frequency²

33 %
Greater Bandwidth³

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>

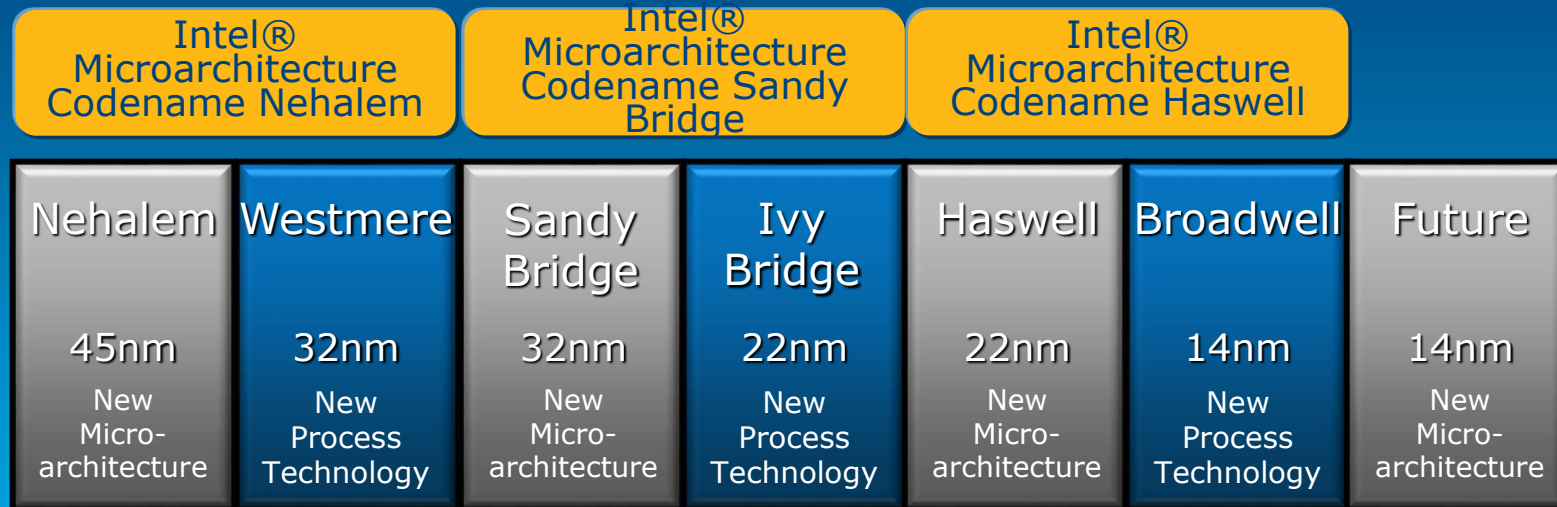
¹Results have been simulated and are provided for informational purposes only. Results were derived using simulations run on an architecture simulator or model. Any difference in system hardware or software design or configuration may affect actual performance.

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² 1.73GHz (Itanium 9300 series) to 2.53GHz (Itanium 9500 series)

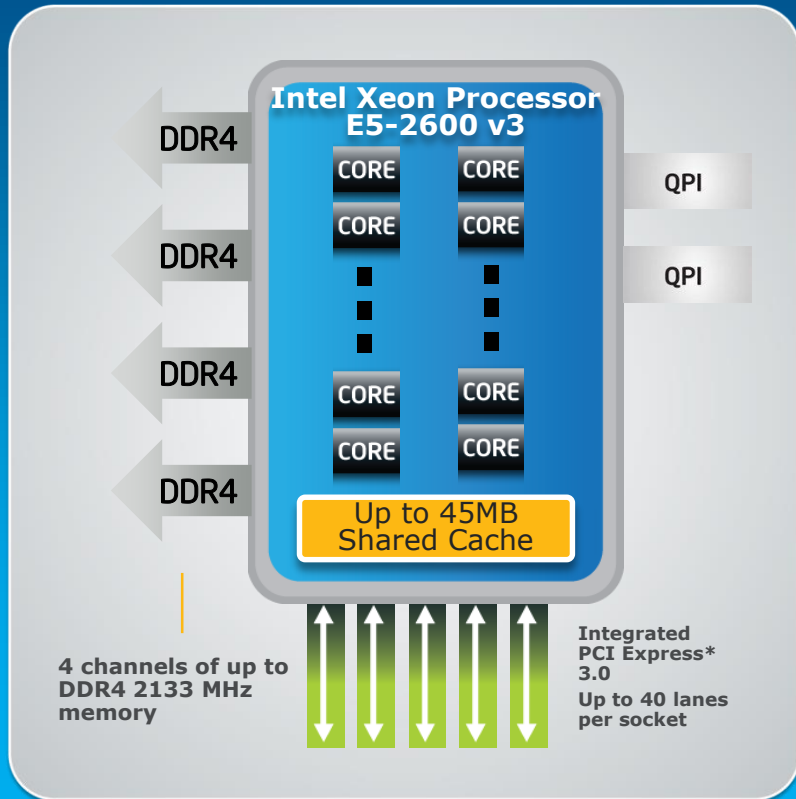
³ 4.8GT/s (Itanium 9300 series) to 6.4GT/s (Itanium 9500 series)

Intel® Xeon® Development Model: Sustained Microprocessor Leadership



On-Going Leap in Performance and Capabilities

Intel® Xeon® E5-2600 v3 Product Family



Up to 70% increase in workload performance with Intel® AVX 2

Up to 18 cores and 45MB cache expected to deliver significant more performance

Up to 36% increase in power efficiency with smarter power cores with Per Core P-States (PCPS)

Intel® Xeon® E7 v2 Product Family

Optimized Performance

Up to 15 cores
Low core/high frequency options
22nm Process Technology

More Scalability

Up to 6TB DDR3 Memory in 4S platform
Increased bandwidth - integrated PCIe 3.0

Advanced Reliability

Intel® Run Sure Technology

Flexible virtualization platform

Virtualize the biggest, most critical workloads or drive the highest VM density

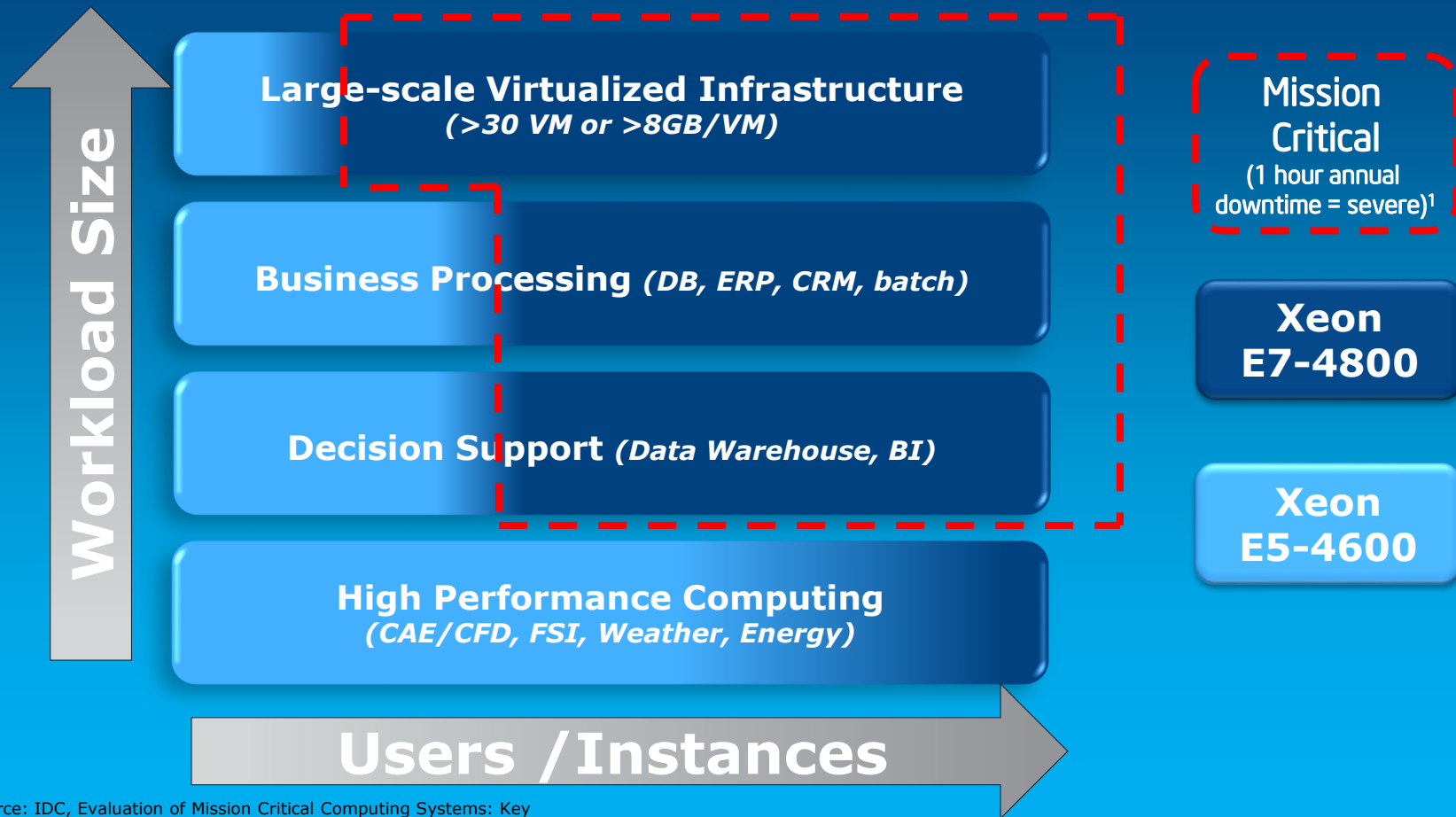
Ultimate Analytics & Transaction Engine

In memory means REAL TIME
Terabyte-scale computing with never before seen performance

Higher Availability

Increasing availability with enhanced Machine Check Architecture

Xeon E7 vs E5 Workload / Usage



¹ Source: IDC, Evaluation of Mission Critical Computing Systems: Key Criteria for High-End System Customers, June 2011

A close-up image of a microprocessor die, showing its intricate circuitry and gold bonding wires.

Top Processor Capabilities

Leading
performance and
availability

A close-up image of a network switch or patch panel, showing numerous ports and cables.

Network & I/O

Maximize
Throughput and
Scalability

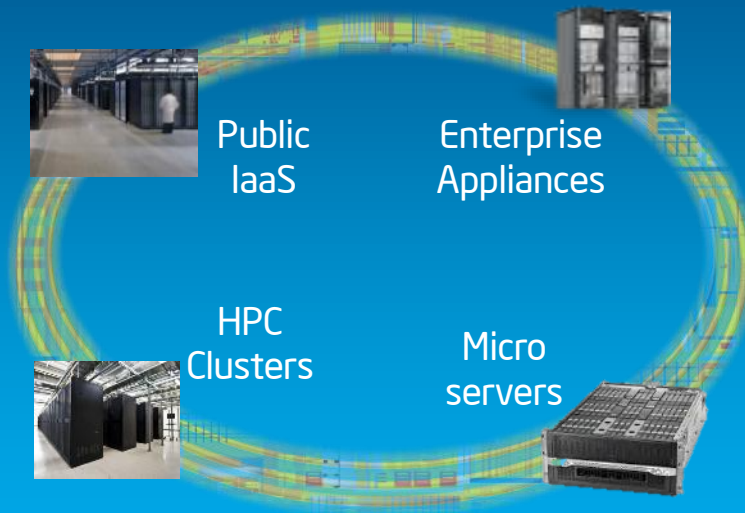
A close-up image of memory modules installed in a server rack.

Non-Volatile Memory

Ultra-dense,
persistent memory

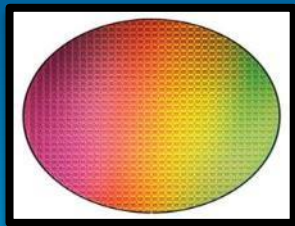
*Intel Technologies uniquely positioned to deliver
Future Mission Critical Capabilities*

Network & IO: Innovation Across Segments

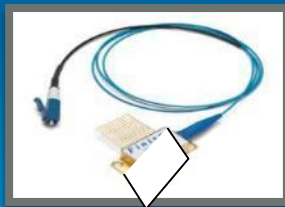


Intel Silicon Photonics

Si Manufacturing



Optical



*OPTICAL
ANYWHERE,
INCREDIBLE
POTENTIAL*

Build Upon the Experience and Advantages

- High Volume
- Low Cost
- Highly Integrated
- Scalable

Realize the Advantages

- High Bandwidth
- Longer Distances
- Immunity to Noise

Overcome the Challenges

- High Cost
- Large Form Factor
- Discrete Manufacturing

A close-up image of a microprocessor die, showing its intricate circuitry and gold bonding wires.

Top Processor Capabilities

Leading
performance and
availability

A close-up image of a network switch or patch panel, showing numerous ports and cables.

Network & I/O

Maximize
Throughput and
Scalability

A close-up image of memory modules installed in a server rack.

Non-Volatile Memory

Ultra-dense,
persistent memory

*Intel Technologies uniquely positioned to deliver
Future Mission Critical Capabilities*

Intel® SSDs for the Data Center

Feed your Starving Apps

Consistent performance providing high minimum IOP performance

Stress Free Protection

Enterprise class End-to-end data and power loss protection to help ensure data integrity

Non-Volatile Memory Express (NVMe)

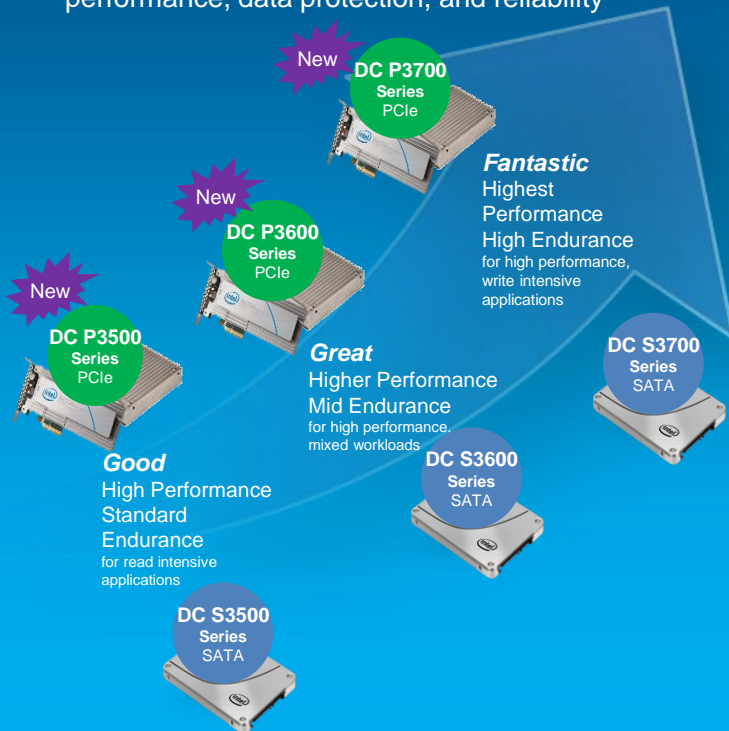
Lowers memory latency

PCI Express Interface

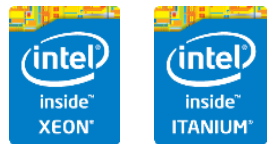
Designed to deliver amazing speeds

Intel® SSD Data Center Family

Maximize your \$/IOPs with consistent performance, data protection, and reliability



Innovation on Intel Architecture



HP Systems

Software Partners



Microsoft

vmware



sas

amdocs

A few as example

Innovation first, and sometimes only on Intel Architecture... Follow the Innovation

Summary

Mission Critical innovation accelerating
with Intel technologies

HP and Intel: Uniquely positioned to
deliver the best mission critical platform,
today and for the coming decade

