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ZT Systems

Under the Hood: Next Generation Cloud Compute Server

Agenda

- **Introduction to ZT Systems**
- **Intel Xeon Processor 5500 Series System Architecture**
- **Intel® Server Board S5500WB (Willowbrook) Features**
- **ZT Systems Willowbrook based product**

ZT Systems

Company Overview

- **Fifteen years of x86 computer design & manufacturing**
 - Continued year-over-year growth w/ sustained profitability
 - Over \$250 million in annual revenue in computing products
- **Private company with Multiple Business Segments**
 - Server, Desktop, and Mobile product lines
- **Secaucus, NJ headquarters with 150+ U.S. Employees**
 - Offices in Redmond, WA and Fremont, CA
- **Top North American OEM**
 - Highly respected by industry leaders



Focus on Growth in Datacenter Server Segment



Top 3 Points

ZT Systems Value Proposition

1. Product Solutions Customers Want

- ❑ **100% Customized products** -- *ZT delivers custom configured servers and has the ability to design to customers specific needs and requirements.*
- ❑ **Cost Savings by Design** -- *ZT delivers servers tailored to individual datacenter requirements and can include custom integration, testing, and more.*

2. How Customers Want It

- ❑ **Rack-Ready Servers** -- *ZT can customize logistics and delivery programs best suited to individual datacenters to reduce deployment and install costs.*
- ❑ **Programs-to -Suit** -- *ZT's value added services include such offerings as tailored logistics, flexible service offerings, scheduled ship releases and more.*

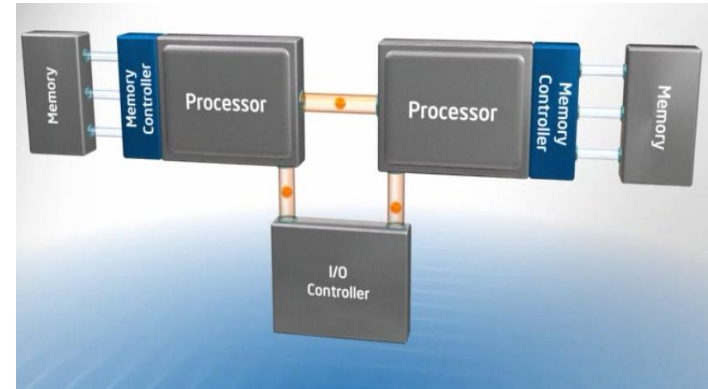
3. At Great Prices

- ❑ **Value Add @ No Additional Cost** -- *Account specific customized server pricing and services included in very competitive datacenter hardware prices.*
- ❑ **Volume and Supply Chain efficiencies** – *ZT has direct relationships with most major vendors and passes on economies of scale savings to customers.*

Intel® Xeon® 5500 Platform

A tremendous step forward in technology

- New Processor Architecture
- New Platform Architecture
- New Memory subsystem
- New I/O subsystem
- New options with SSDs



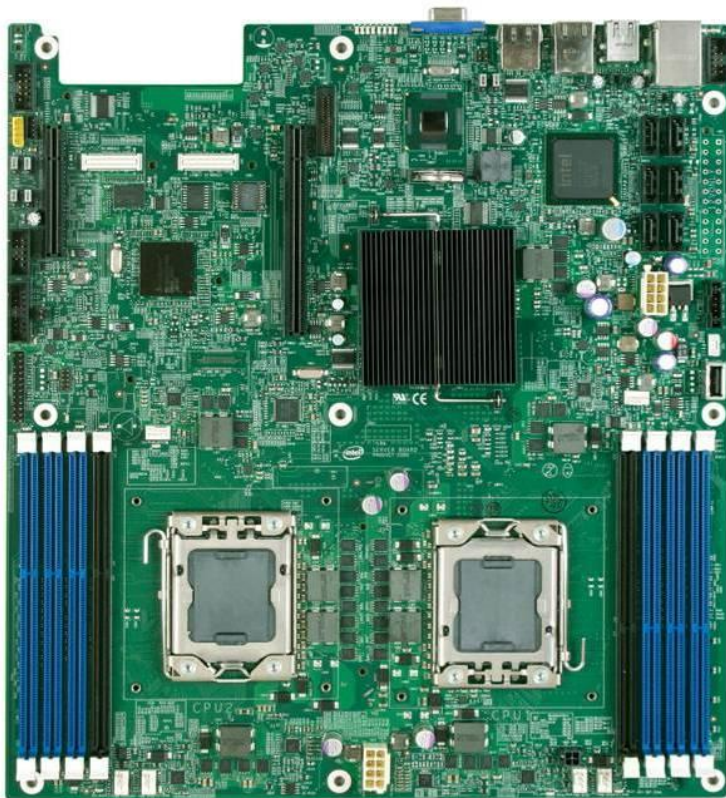
An even bigger step forward for IT Capability

**Intelligent
Performance**

**Automated
Energy Efficiency**

**Flexible
Virtualization**

Intel® Server Board S5500WB (Willowbrook)



Willowbrook Server Board Features:

- **Dual Intel® Xeon processors (Nehalem-EP)**
 - optimized for 60W-80W
 - support up to 95W processor (max)
- **Tylersburg-24D chipset with ICH10R**
- **SSI form-factor 12”x13”**
- **8 DIMMs—native DDR-3 at 800/1066/1333 MHz**
 - Registered or unbuffered ECC options
 - Up to 32GB with 4GB DIMMs
- **Integrated IPMI 2.0 compliant Baseboard Management Controller with remote management and KVM option**
- **I/O Slots**
 - One PCIe2 x8 in slot 6 (x16 mechanical)
 - One PCIe2 x4 in slot 1 (x8 mechanical)
 - One Intel I/O Expansion Module (PCIe2 x8)
 - External options: GbE, 10GbE, SAS, or InfiniBand*
 - Internal options: 4 Port SAS, or 4 Port SAS HW RAID
- **6 SATA ports (3Gbps) via ICH10R with RAID 0/1/10 and optional software RAID5**
- **Intel® 82576EB Gigabit Ethernet Controller**
 - Dual port Gb Ethernet
 - Supports Intel VT for Connectivity (VMDq & I/OAT)
- **12V only and SSI power options**
- **Optimized for power efficiency and lowest TCO**

Willowbrook Optimizations

Power and cooling:

- *Voltage regulator design*: Reduces heat created by low efficiency power conversion
- *Spread core design*: Lower system level fan speeds → less power wasted by moving air
- *Input voltage*: 12V input power option

Server Management:

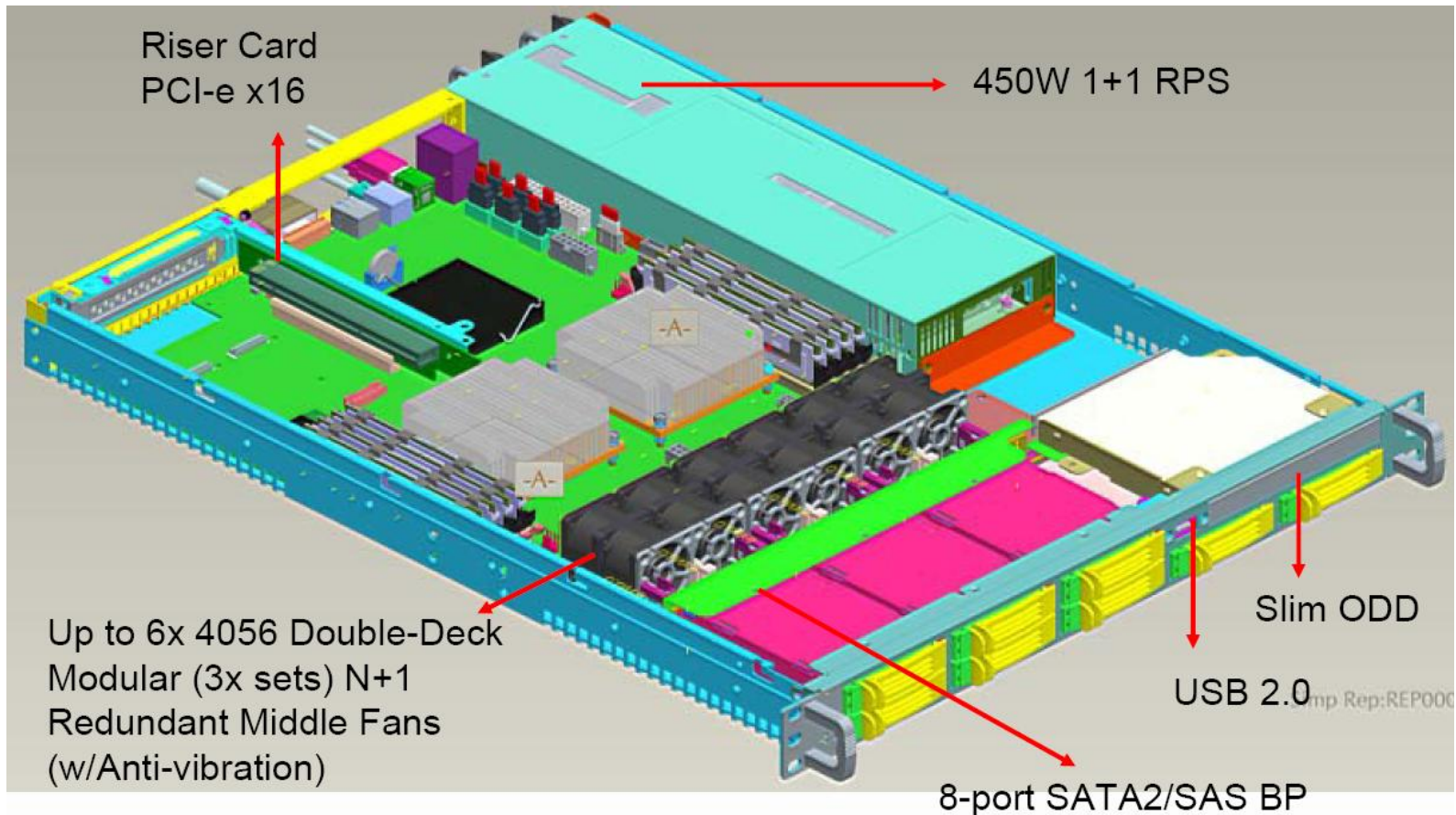
- *Management specs*: Support for the new simplified Data Center Management Interface (DCMI) as well as IPMI 2.0
- *Power capping*: Intel® Intelligent Power Node Manager

Cost:

- Removes unneeded items typically found on more general purpose products
 - Examples: Extra DIMMs, I/O slots, connectors, headroom for worst case memory / processors configs

**Optimized Board Designed to Meet the Needs of
Cloud Computing Customers**

ZT Systems Willowbrook Product



- 8 or 10 x 2.5" drive 1U system
- 4 x 3.5" drive 1U system

Intel® Enabled Server Acceleration Alliance

- **Intel® Enabled Server Acceleration Alliance (ESAA)**

- Intel program that provides comprehensive validation of specific solutions on Intel server boards
- ZT Systems is an ESAA member



- **ZT product based on Willowbrook will complete ESAA validation for Parallels**

- Complete 2H09

Turn-key solution for cloud computing applications

Q & A

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