

LET'S SEE
WHAT
DEVELOPS.

IDF2013

INTEL DEVELOPER FORUM



Sponsors of Tomorrow.™

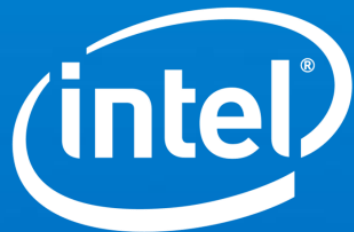


IDF2013
INTEL DEVELOPER FORUM

Transforming Experiences *From Devices to Datacenters*

Diane Bryant

Senior Vice President & General Manager
Datacenter and Connected Systems Group



Sponsors of Tomorrow.™



Exceptional Experiences



Delivered by Amazing Devices



Reaching Beyond Consumers to IoT



All Powered by the Datacenter



Helping Build Smarter Cities, Healthier Communities and Thriving Businesses

Global
Supply Chains



Energy
Conservation



Urban
Growth



Medical
Costs



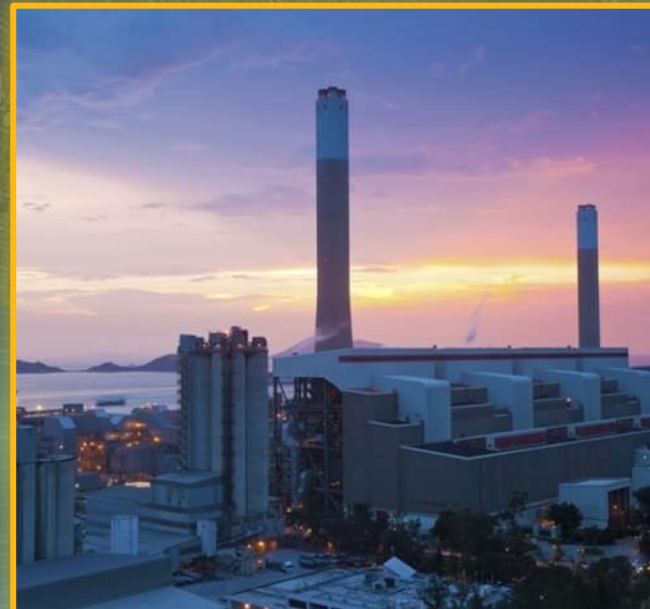
Helping Build Smarter Cities, Healthier Communities and Thriving Businesses

Global Supply Chains



4B
RFID Tags*

Energy Conservation



1.5B
Electrical
Utility Meters*

Urban Growth



1.6M
PRC Traffic
Cameras*

Medical Costs



3B
Human DNA
Base Pairs*

Enabling Exceptional Experiences



**Edge to
Datacenter
Analytics**



**Application
Optimized
Datacenter**



**Breakthrough
Innovation**

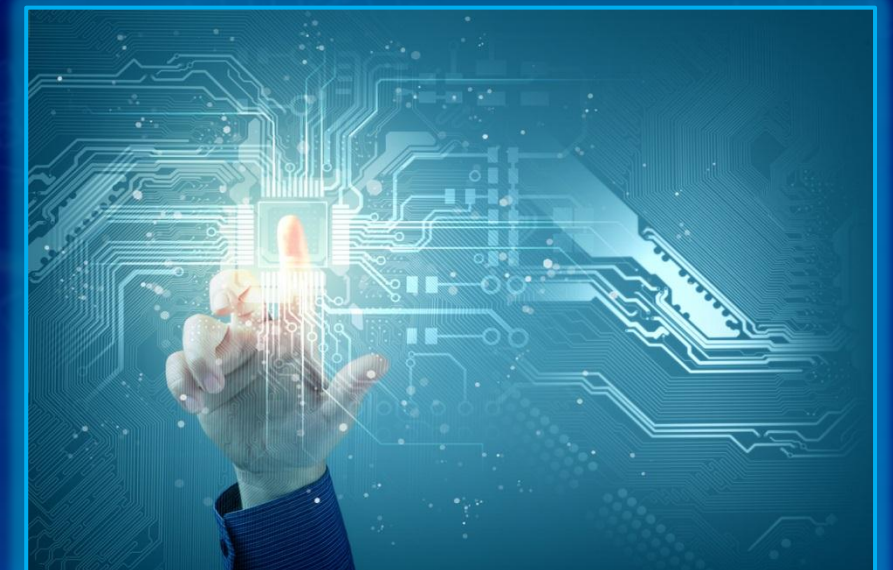
Enabling Exceptional Experiences



**Edge to
Datacenter
Analytics**



**Application
Optimized
Datacenter**



**Breakthrough
Innovation**

The Demands Of "BIG DATA"

Shrinking response time:

days -> hours -> seconds

Expanding data types:

users, sensors, machine to machine

Growing data sets:

GB-> TB-> PB

Growth of Vehicles

Number of civilian vehicles in China

65
Million

91
Million

121
Million

2008

2010

2012

Opportunity: Traffic Optimization



**Camera
Network**



**Edge
Intelligence**



**Datacenter
Analytics**



* Other names and brands may be claimed as the property of others

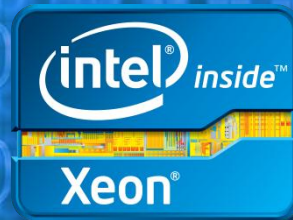
Device to Datacenter Solution

Improves Safety, Reduces Congestion

Camera
Network



Edge
Intelligence



Datacenter
Analytics



Intel® Xeon® E3

For Video Analytics
& Filtering

Intel® Xeon® E5

For System Wide
Analytics

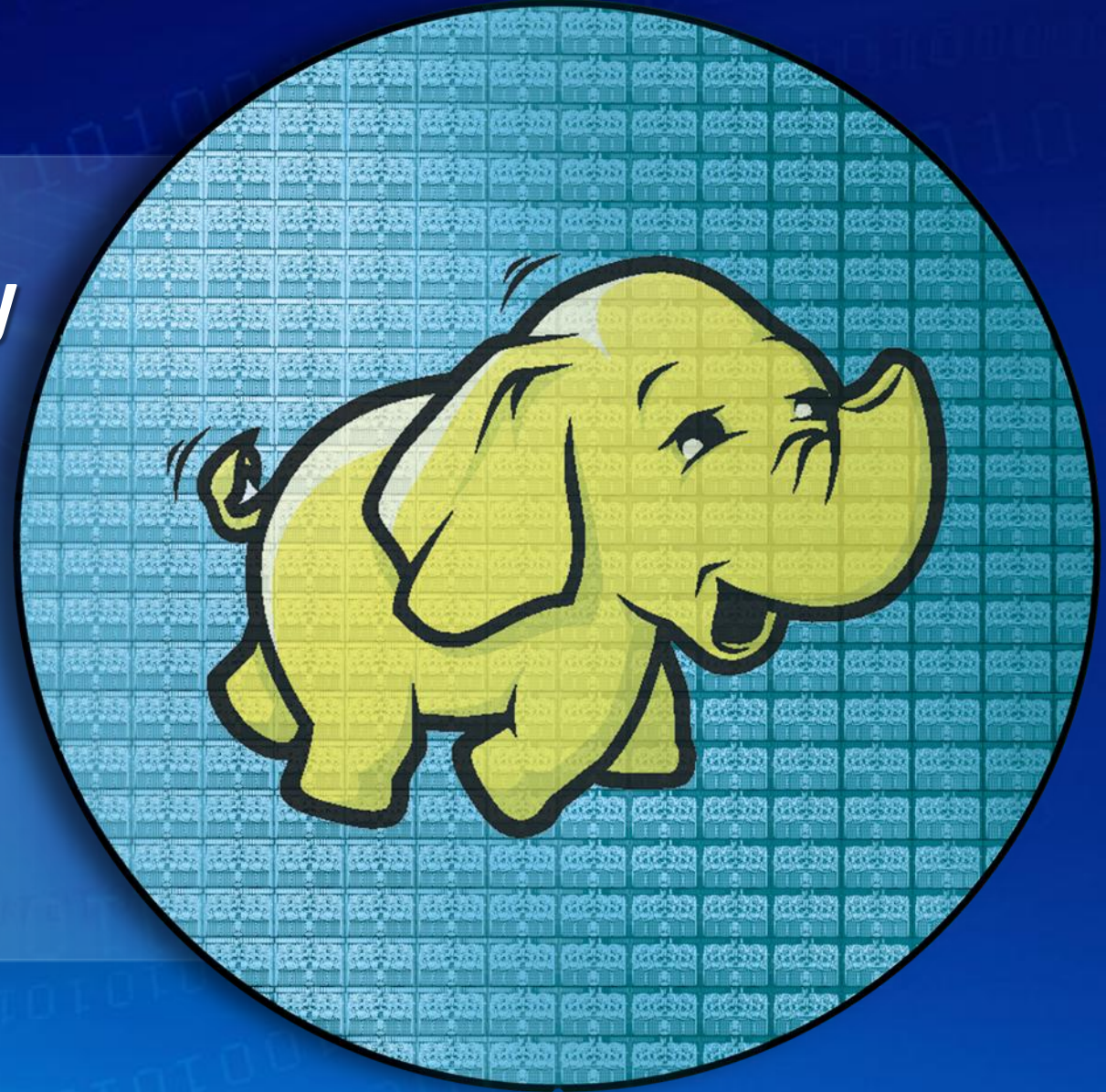
Investment in Hadoop

Contributing code to open source community

Optimized distribution for Xeon®

Hardware-enhanced compression

Automated tuning with Intel® Active Tuner



Analytics Example: China Mobile Group

Challenge:

Deliver real time call data records

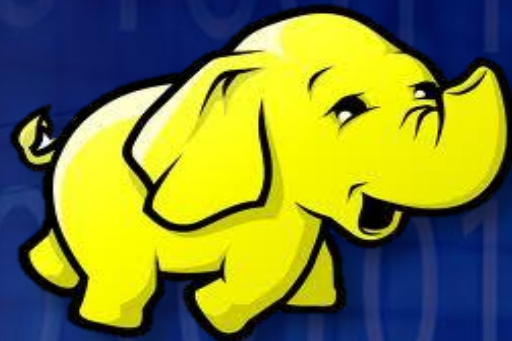
Real-time retrieval of 30 days records

300K records generated every second

35MB per second; 90TB billing data/month



中国移动通信
CHINA MOBILE



Power of Solutions Demonstration

Jason Waxman
Vice President,
General Manager
Cloud Platforms Group

Anatomy of a Hadoop Solution



Latest Intel® Xeon® processor



High bandwidth 10GbE



Low latency SSDs



Optimized Hadoop distribution

> 30X

Reduction in
Sort & Query Time

* Other names and brands may be claimed as the property of others.

Analytics Powering Zhejiang's Smart Grid

Challenge: Improve grid efficiency

In-memory database supporting
100TB and 1M concurrent requests

Reduced waste and carbon emissions

Sensors
supported:

100M+

Accelerate
decisions:

60x

NARI 国电南瑞

Enabling Exceptional Experiences



**Edge to
Datacenter
Analytics**



**Application
Optimized
Datacenter**



**Breakthrough
Innovation**

Diversity of Application Requirements

Global
Supply Chains



Transaction
Processing

Energy
Conservation



In-Memory
Analytics

Urban
Growth



Graphics
Processing

Medical
Costs



I/O
Bandwidth

Complete Range of Datacenter Solutions

Server



Storage



Network



The World's Broadest Datacenter IP Portfolio

Networking and I/O

Intel® QuickPath Interconnect Intel® True Scale infiniband Intel® Ethernet Switch Controller
Intel® I/O Acceleration Technology Wind River* Open Network Software
Intel® Data Direct IO Intel® Integrated I/O Intel® Ethernet 10Gb

Storage and Memory

Intel® Cache Acceleration Software Intel® SSD Intel® Direct Memory Access
Intel® Rapid Storage Technology NVM Express
Non-transparent bridging Lustre* Asynchronous DRAM Refresh

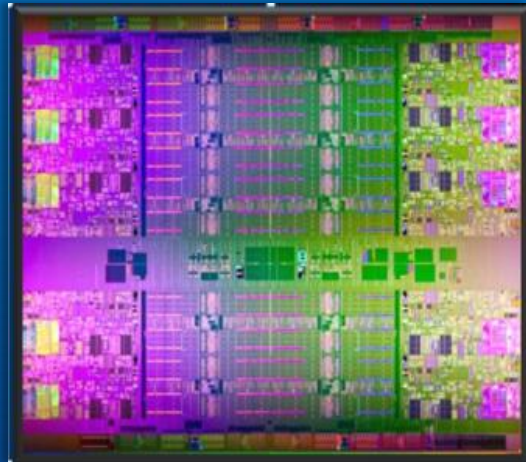
Compute

Intel® Hyper-Threading Technology Intel® AMT Intel® Datacenter Manager
Intel® Turbo Boost Technology Intel® Node Manager
Intel® Virtualization Technology Intel® Run Sure Technology Intel® AVX

Application Performance at the Speed of Silicon

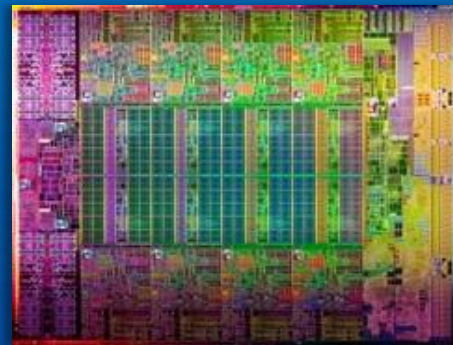
Expanding the Dynamic Range of Capabilities in 2013

Intel® Xeon® Processor E7 Family



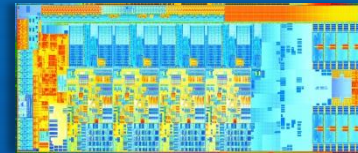
4-8S+: Scalability,
reliability, memory
capacity

Intel® Xeon® Processor E5 Family



2S: High performance,
power efficient

Intel® Xeon® Processor E3 Family



1S: Economical,
general purpose

Intel® Atom™ Processor 1200 Family



1S: Light workloads,
lowest power

NEW!

Upcoming:
Next Gen Intel® Xeon® Processor E7 Family
"Ivy Bridge-EX"

Q4'13



3X Memory Capacity vs Prior Gen:
Up to 12TB in 8S node

Intel® Run Sure Technology:
Building on Xeon's world-class uptime

All products, computer systems, dates and figures specified are preliminary based on current expectations, and are subject to change without notice.

NEW!

Upcoming:
Next Gen Intel® Xeon® Processor E7 Family
"Ivy Bridge-EX"

Q4'13



"SAP is excited by the Intel Xeon processor E7 family's expanded memory capacity for high-performance in-memory database computing."

*Franz Färber,
SVP Technology, Innovation and Platforms HANA*

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Upcoming:

Next Gen Intel® Xeon® Processor E5 Family *"Ivybridge-EP"*

Q3 '13



22nm process technology
Best-in-class performance
Exceptional energy efficiency
Robust hardware enhanced security

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 intel.com/performance

NEW!

Upcoming:
Next Gen Intel® Xeon® Processor E3 Family
"Haswell"

Mid '13



As low as 13W TDP

Integrated graphics for video workloads:
25% more concurrent HD transcodes¹

Media software developer kits:
Available for Linux and Windows² in 2013

1. Results have been estimated based on internal Intel analysis and are provided for informational purposes only. Any difference in system hardware or software design or configuration may affect actual performance. Based on Intel internal testing of Intel® Xeon® processor E3-1285Lv3, 3.1 GHz, 8MB cache, 4x1GB DDR3-1333, 1 hard drive, 1 power supply vs prior generation quad-core Intel® Xeon® processor E3-1285Lv2, 3.2 GHz, 8MB cache, 4x1GB DDR3-1333, 1 hard drive, 1 power supply

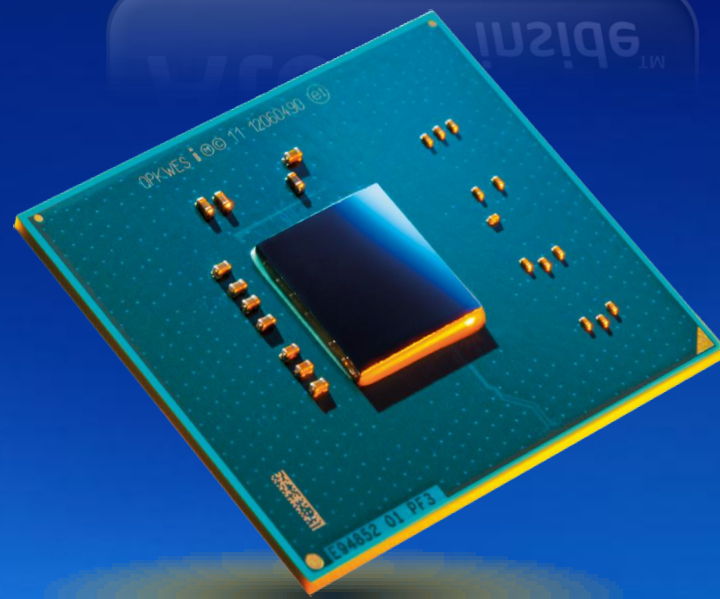
2. Other brands and names are the property of their respective owners; support expected for Ubuntu, SuSE Linux Enterprise Server, and Windows Server 2012 operating systems

All products, computer systems, dates and figures specified are preliminary based on current expectations, and are subject to change without notice.

NEW!

Introducing the
**Intel® Atom™ Processor
S12x9 Product Family for Storage**

Available
Now

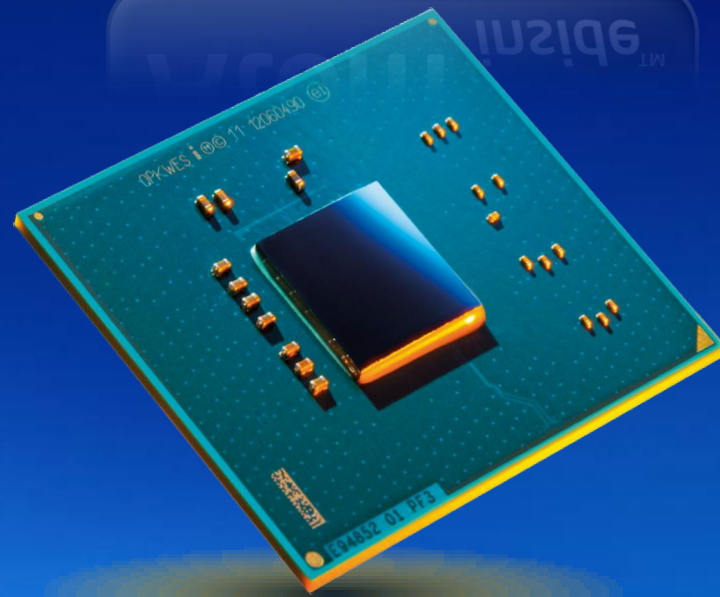


Up to 40 lanes of integrated PCIe* 2.0
Integrated storage intelligence and
RAID acceleration
Asynchronous DRAM Refresh and
Non-Transparent Bridging

NEW!

Upcoming
Intel® Atom™ Processor
"Avoton" & "Rangeley"

2H'13



2nd generation of 64-bit SoC
Built on leading 22nm technology

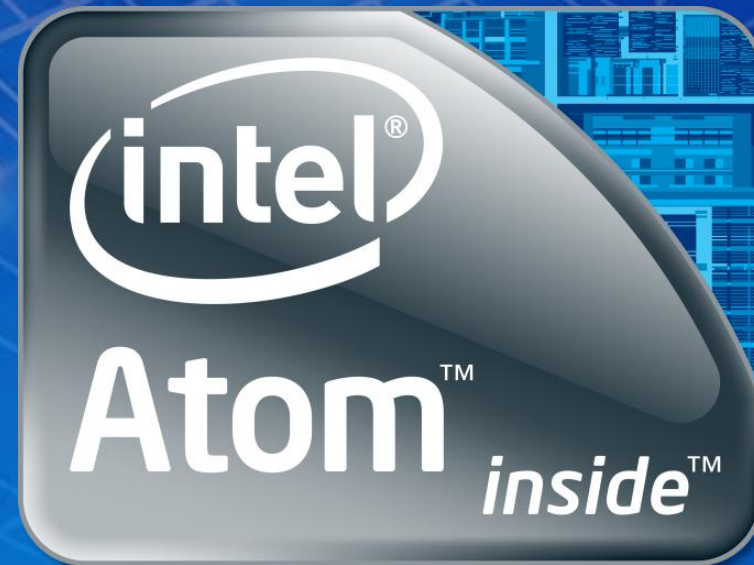
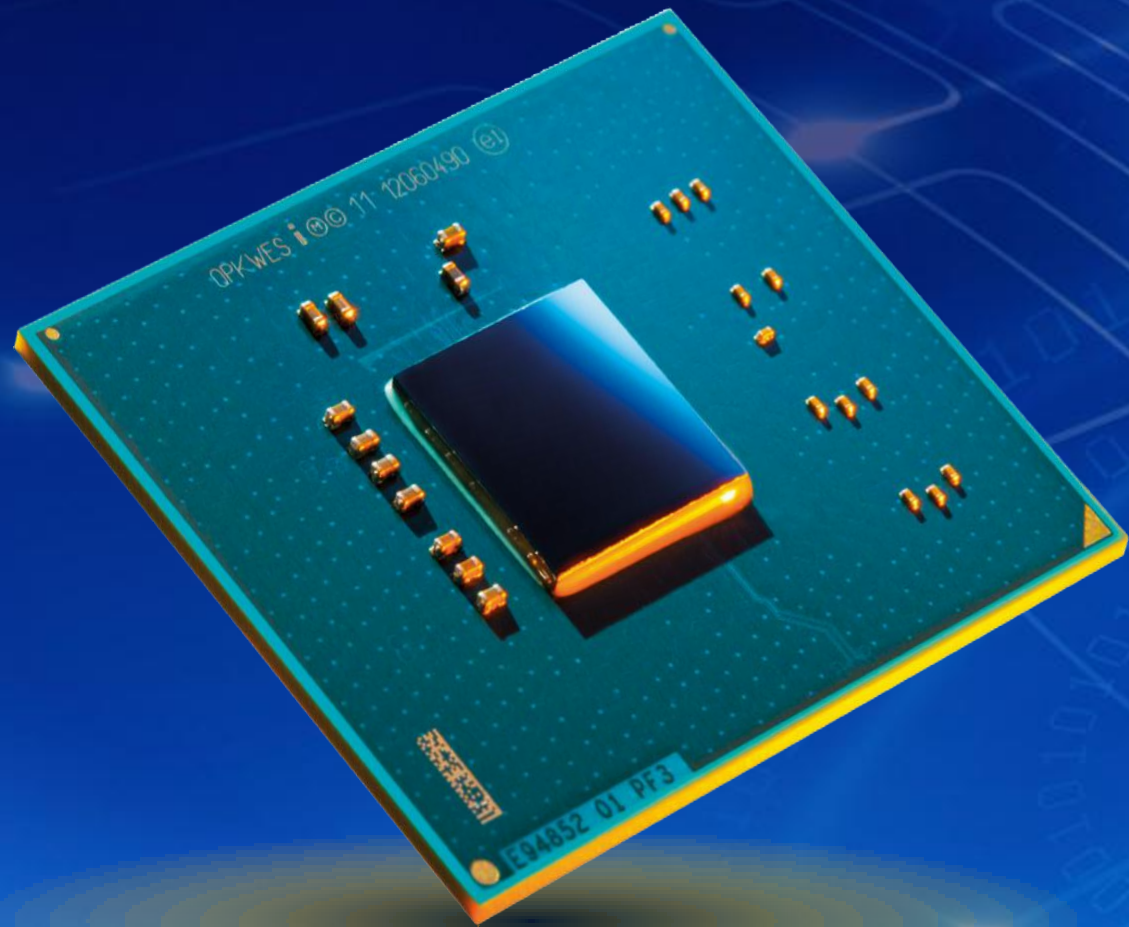
Integrated Ethernet

"Avoton" SoC for Microservers

"Rangeley" SoC for network infrastructure

Powered on & sampling now

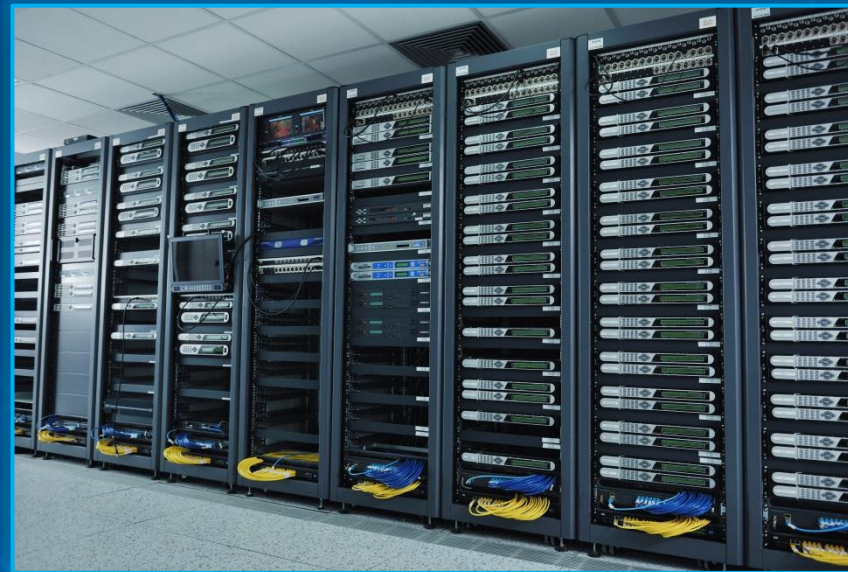
First Ever Live Demo of Atom



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**Breakthrough
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Helping Build Smarter Cities, Healthier Communities and Thriving Businesses

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Supply Chains



Energy
Conservation



Urban
Growth



Medical
Costs



**Requires Collaboration And Innovation
Across The Industry**

Reinventing the Datacenter Rack

Today

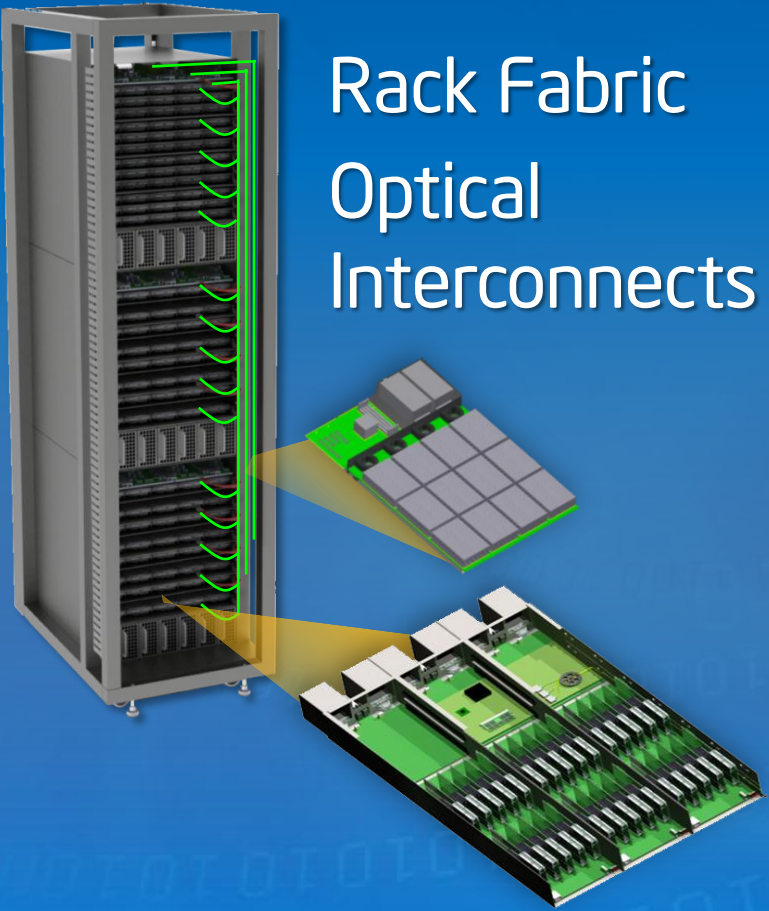
Physical Aggregation



Shared Power
Shared Cooling
Shared Management

Emerging

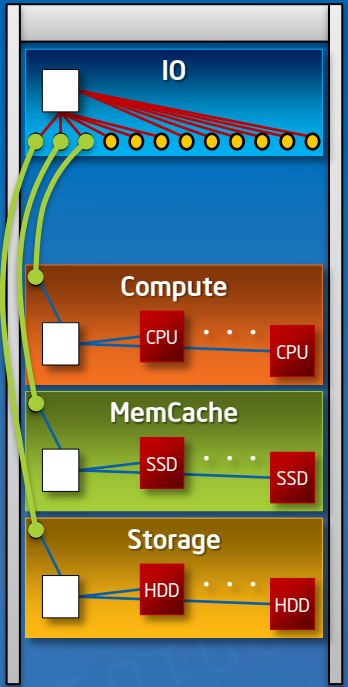
Fabric Integration



Rack Fabric
Optical Interconnects

Future

Subsystem Aggregation



Pooled Compute
Pooled Storage
Pooled Memory
Shared Boot

Project Scorpio Update

Committee of Project Scorpio

 Alibaba Group
阿里巴巴集团

 Baidu 百度

 中国电信
CHINA TELECOM

 Tencent 腾讯

Technical support by:



Eric Chen
*Chairman,
Project Scorpio*



Announcing the Intel China **CLOUD INNOVATION CENTER**

**Access to latest technology
and Intel solutions specialists**

**Enable developers and users to
deploy projects faster**





**We are Proud to Partner
with China to Build:
Exceptional Experiences
Smarter Cities
Thriving Businesses**

A perspective view of a server room with rows of server racks. The racks are filled with server units, and the room is lit with a blue glow. The text "Thank You" is overlaid in the center in a large, white, sans-serif font.

Thank You

The logo for the Intel Developer Forum 2013. The text "IDF2013" is rendered in a large, white, sans-serif font with a bright white glow. The number "3" is partially obscured by a stylized sunburst or starburst graphic with yellow and orange rays. The background is a dark blue gradient with faint, repeating binary code (0s and 1s) in a lighter blue color.

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