ENABLING
ARM® SERVER TECHNOLOGY
FOR THE DATACENTER

SURESH GOPALAKRISHNAN
CVP & GM, SERVER BUSINESS UNIT
BUILDING ON A HERITAGE OF INNOVATION

OUR APPROACH

Providing the Ecosystem Innovation & Choice

Offering Performance x86, ARM & GPU

Address Infrastructure Outside the Central Datacenter as it Migrates to Software
How do we enable ARM® server technology in the Datacenter?

IT IS ALL ABOUT SOFTWARE
How do we enable ARM® server technology in the Datacenter?
AMD OPTERON™ A1100 SERIES PROCESSOR, “SEATTLE”

64-BIT ARM® IN A TRUE ENTERPRISE SoC
- Reliability and Performance Features
- Integrated Security and ARM TrustZone®
- Management and Deployment Features

ECOSYSTEM READY FOR DEPLOYMENT
- Linux® Distributions
- Compilers and Tool Chains
- Boards and Platforms

TARGET WORKLOADS
- Innovative Storage Platforms
- IoT Gateways
- Web Front End Server

SBSA COMPLIANT
Open standards enable long-term platform sustainability

AMD works with many development projects to bring standards to 64-bit ARM® Server Technology

Developers are the winners

PCI Express® is extremely important to the 64-bit ARM ecosystem
OS & HYPERVISORS
DEVELOPMENT TOOLS

GCC

OpenJDK

python

Java

php

Ruby

perl
**TRUSTED EXECUTION ENVIRONMENT**

- **Dedicated 32-bit microcontroller (ARM Cortex®-A5)**
- **Isolated on-chip ROM & SRAM**
- **Cryptographic co-processor RSA, SHA, ECC, AES engine**
- **Access to system memory and resources**
- **Secure off-chip non-volatile storage access for firmware and data**
1U half-depth rack mount developer system
Low-power, highly efficient platform
Targeting robust development and application testing environment

**SoftIron Overdrive 3000 system features:**
- Eight-core AMD Opteron™ A1100 Series processor
- Two 10 Gigabit Ethernet ports
- Eight SATA3 ports
- Eight lanes of PCIe® Gen3
- Advanced memory characteristics

Systems are available now in limited quantities from SoftIron.
### AMD OPTERON™ A1100 SERIES SOLUTION STACKS

#### STORAGE
- **STORAGE APPLICATIONS:** Ceph (Object, Block), OpenStack Swift (Object)
- **BIG DATA INFRASTRUCTURE:** Hadoop Distributed File System, Apache Cassandra, Hbase

#### WEB SERVING
- **LAMP STACK:** Linux, Apache, MySQL, PHP or Python
- **JAVA APP SERVING:** TomCat, Jetty
- **WEB SERVING:** Apache Server, NGinX
- **BLOG PLATFORM:** Wordpress
- **CACHING:** Memcached, Squid

#### SOFTWARE DEVELOPMENT
- **COMPILERS:** GCC, LLVM
- **JAVA:** Oracle JDK, OpenJDK
- **SCRIPTNG:** PHP, Perl, Python, Ruby
- **TEST INFRASTRUCTURE:** Linaro LAVA, OpenJDK test bed, regression test beds

#### VOLUME OF APPLICATIONS

### OS & HYPERVERSOR
- **OS:** CentOS, Fedora, OpenSUSE, Red Hat, SUSE
- **HYPERVERSORS:** KVM, Xen
- **3RD PARTY DRIVERS:** NICs | Storage | Memory | Interconnects
- **SOC DRIVERS:** SATA | 10GE | PSP | UART | USB | PCIe

### FIRMWARE
- **UEFI, ACPI, SMBIOS**

### PLATFORMS
- **DEVELOPMENT**
- **PRODUCTION**

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READY FOR ARM® SERVER TECHNOLOGY IN THE DATACENTER

- Foundation for a healthy sustainable ecosystem
  - Standard software development target
  - Cross platform portability
  - Simplified manageability and deployment

- Build on this momentum and take ARM server application development to the next level.

THANK YOU
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