

OpenPOWER Foundation Unveils First Innovations and Roadmap

San Francisco, CA – Open Innovation Summit – 23 April 2014 – The [OpenPOWER Foundation](#), an open development community dedicated to accelerating data center innovation, today took its first steps to deliver transformative system designs based on [IBM's new POWER8 processor](#).

At the Open Innovation Summit today, with over 100 leading industry executives and technologists on hand, the Foundation showed the first reference board and OEM systems, and innovations including many forms of acceleration, advanced memory and networking. OpenPOWER has grown to more than two dozen members including global hardware and software thought leaders.

Formed by Google, IBM, Mellanox Technologies, NVIDIA, and Tyan, the Foundation makes POWER hardware and software available for open development, as well as POWER intellectual property licensable to other manufacturers. OpenPOWER is greatly expanding the ecosystem of innovators providing value back to the industry and end users.

“We are very pleased with the growth of the OpenPOWER community and the progress made by the Working Group members even at this early stage,” said Gordon MacKean, Chairman, OpenPOWER Foundation. “The projects feeding the innovation pipeline to date will greatly enhance the performance of the next generation of servers by eliminating system-level bottlenecks.”

Initial OpenPOWER Designs

At the summit, the OpenPOWER Foundation presented its first white box server details including a development and reference design from Tyan, and firmware and operating system developed by IBM, Google, and Canonical. The OpenPOWER Software stack in this white box design is targeted for ease of implementation in hybrid deployments. IBM noted it will be deploying systems leveraging this OpenPOWER hardware and software stack in Softlayer later this year. Information on OpenPOWER projects is available on the Foundation's new web site, www.openpowerfoundation.org.

Example Innovative Solutions

OpenPOWER also announced new ways to use POWER-based technologies to address critical big data, cloud, and application challenges facing modern data centers. An early live demonstration of these innovations will be performed at the IBM Impact 2014 Global Conference, Las Vegas Nevada, April 27 – May 1. These include:

- **Mellanox RDMA exploitation on POWER** – Using RDMA a 10X throughput and latency improvement of Key Value Store applications was described. These capabilities will be further accelerated with future exploitation of POWER8 capabilities.
- **NVIDIA GPU Accelerators** – NVIDIA is adding CUDA software support for NVIDIA GPUs with IBM POWER CPUs. IBM and NVIDIA are demonstrating the first GPU accelerator framework for Java, showing an order of magnitude performance improvement on Hadoop Analytics applications compared to a

CPU-only implementation. NVIDIA will offer its NVLink™ high-speed GPU interconnect as a licensed technology to OpenPOWER Foundation members.

- **Xilinx and Altera FPGA accelerators with CAPI attach** – IBM described two CAPI attach accelerator solutions, a memcached Key Value Store showing a 35X power/performance improvement with an order of magnitude latency reduction, and Monte Carlo financial instruments models with a 200X speedup using Altera FPGAs with a CAPI attach.
- **Micron, Samsung Electronics, and SK Hynix memory** – Each of these innovative memory companies is committed to supporting the OpenPower Foundation through the supply of memory and storage components for an open ecosystem.

New OpenPOWER Foundation Members

Twenty-five members have joined OpenPOWER including Canonical, Samsung Electronics, Micron, Hitachi, Emulex, Fusion-IO, SK Hynix, Xilinx, Jülich Supercomputer Center, Oregon State University, and several others since OpenPOWER formed as a legal entity in December 2013.

About OpenPOWER Foundation

The goal of the OpenPOWER Foundation is to create an open ecosystem, using the POWER Architecture to share expertise, investment, and server-class intellectual property to serve the evolving needs of customers.

- OpenPOWER enables collaborative innovation for shared building blocks
- OpenPOWER supports independent innovation by members
- OpenPOWER builds on industry leading technology
- OpenPOWER thrives as an open development community

For further details, a full membership roster, and getting involved in the OpenPOWER Foundation, visit www.openpowerfoundation.org.

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