**Trip Report**

**Date:** 28-29 January 2014

**Event:** Open Compute Project

**Where:** San Jose Convention Center

**Lopoco:** Andrew Sharp, Jim Witham

**Objective:** Meet contacts; Determine how to work with OCP framework

**Recap:** 3300 attendees, approximately 2X over last year

Microsoft – announced a OCP server; submitted drawings to OCP which are now available on the website. 1M+ servers installed worldwide. Replace every 3-4 years. OCP design resulted in -40% cost, -15% power and -50% deployment time. 12U rack with fans, power supplies and cabling in back. Shared management and shared cooling. Modular is critical for scaling. When server goes down, they don’t rush to fix … may take 1-2 weeks. Buy servers in 10,000 unit increments. (100,000 installed base users buy in 100-1000 server unit increments; <10k installed base SMB buy servers individually). Time to get server running is important metric. For operation, Transactions per W. T/W measured for each workload (eg Websearh, Azure)

Facebook – change-out servers every 3 years. OCP design resulted in -24% cost, -38% power. $1.2B in savings since adopted OCP. 208V power supply instead of 400V. Now hitting PUE=1.07.

Io – Designed their own canister 12’x12’x43’. 34,000 OCP servers per canister. Greg will put us in touch with designers. Greg will introduce us to customers who need low energy. Io started with colo, but now customers want cloud. #4 in floorspace. Avnet is getting squeezed-out.

BSkyB – Andy Walker said he would put us in touch with the right people. Colo user.

Rackspace – OCP adopted. miniVan full of Rackspace engineers (7 or 8). They segment their customer market as: public cloud, managed hosting, private cloud.

Rorke Global Systems – greenfield division of Avnet. Focus on total IT solution for education, ? and ? RGS will install equipment for customer of host. Interested in collaborating and will meet 2/7 in Milpitas.

Intel – has server reference design. Marketing goes to data center and give reference design to be made at contract manufacturer. Idea is to keep Intel chips flowing to sub-cons and data centers. Evan Zhao is moving to China to repeat model with Chinese data centers.

Riot Games – Automation is critical. Use OCP, not ‘proprietary’ HW. Buy Hyve OCP servers. ‘Windmill’ servers, 30-50% lower power depending on how it’s run, cheaper. At peaks, Riot Games is 3% of internet traffic. Server adoption – try 1 in lab; try 1 with live games (risk dropping 400-800 users if server fails); then more servers; then a rack. Use Fortune in Hillsborough Oregon as one site.

China Mobile – ‘only China Mobile, China Telecom and China ?? are allowed to have data pipes’. 21 Century (partnered with Microsoft) is a name data center.

Severgy – New Group Hug Server. 4U card with PCI bus. ~100W per card (130W max ?). 16 cards per 4U rack (8 cards in each server space, 2 spaces side by side). OCP rack format. Using all companies microprocessors. Server workloads are I/O intensive or CPU Intensive or both. For Hadoop, I/O intensive (Sort & ?), CPU intensive (K means, Bayesian, Word count), both (Terasort, Nutch Index).

Hyve – making 19” rack on inside; OCP rack on the outside. First into business in OCP servers. Other major manufacturers are Quanta & Wiwynn (Steven Lu Senior Director, Mega Data Center Business, steven\_lu@wiwynn.com, Taipei)

Marc Andreessen – “Data Centers are I/O bound, not CPU bound”

Andy Bechtolsheim – “Old way to design computers is dead; new way is edge devices with cloud optimized servers”

**Actions:**

1. Follow-up with interested customers
2. Add speakers to e-mail list and send out direct e-mail





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| Microsoft | Mark Shaw | Director of FA |  |  |  |  |
| Microsoft | Brian Kelly | Senior Platform Software Engineer |  |  |  |  |