

## Selling Trillions of Ads in the Blink of an Eye with the SM15000 Server

**Website**

www.rubiconproject.com

**Background**

Rubicon Project is the leading technology company automating the buying and selling of online advertising globally. REVV, the industry's largest independent technology platform, is used by more than 500 of the world's premium publishers to transact with more than 140,000 advertisers across a massive marketplace that powers over 3 trillion bid transactions per month..

**Applications**

Hadoop (MapR), Apache HTTP Server, Memcached, REVV—Rubicon Project's real-time trading platform

**Challenges**

- Substantial data center footprint due to growth of customers and transactions
- Long lead times and substantial CAPEX investments to support growth
- Complex networking and cabling introducing latency and constant topology changes

**Solution**

- SeaMicro SM15000-XN™ high density server
- 256 Intel® Xeon® (Ivy Bridge) cores in 10 RU system
- 64 servers over 1.28 Tbps SeaMicro Freedom™ Supercompute Fabric

**Results**

- Replaced two racks of equipment with one SeaMicro SM15000-XN high density server
- Slashed provisioning lead times from six months to five days
- RubiCube, a converged compute, storage and networking system in 10 RU



Just six years old, Rubicon Project has emerged as the leading independent technology company focused on automating the buying and selling of digital advertising. REVV, its real-time ad trading platform, enables hundreds of premium publishers to transact automatically with hundreds of thousands of buyers, all in trades frequently completed in under 30 milliseconds.

Forty percent of the comScore 100 leading publishers power their advertising business through REVV. Notable clients using REVV include eBay UK, Time Inc., ABC News, People, and NBC Universal. The combined reach of these premium publishers has enabled REVV to lead comScore's reach measurement for US Internet users (97 percent of users) for 10 months in a row.

The scale and reach of REVV requires a commitment to engineering excellence, from the hardware to the network to the software. That need for innovative engineering in hardware and networking led Rubicon Project to the collaboration with AMD that enabled this new-to-the-world hardware.

### RubiCube Enables Global Micro POP Standardization

As Rubicon Project continues its growth and international expansion, the need for an easy-to-deploy technology infrastructure has become increasingly urgent. REVV must process each ad trade in real-time while the user views a web page. When the latency involved in trans-oceanic Internet traffic could not support the speed required for real-time ad trading,

Rubicon Project needed to create a standardized hardware configuration that met the following requirements:

- Compact data center footprint
- Scalable computing capacity to process the bidding and ad trading for a local ad exchange market
- Modularity to partition and rapidly enable greater computing capacity as needed

Rubicon Project evaluated solutions from the leading vendors and selected AMD's SeaMicro SM15000™ server over the HP ProLiant ML350 Gen8 server because it met the system requirements with a lower total cost of ownership. The SeaMicro SM15000 system is the highest-density, most energy-efficient server in the market. In 10 rack units, it links up to 512 compute cores, 160 Gigabits of I/O networking, and more than five petabytes of storage with a 1.28

“The SeaMicro SM15000 RubiCube solution optimizes our CAPEX and simplifies our operations by providing the highest computing density with a unique architecture that removes the constraints of traditional data center architectures. The solution is a game changer for the advertising industry, and Rubicon Project's operations team can now do in days what used to take months because of the SeaMicro SM15000 innovations.”

**Jan Gelin**

Vice President, Real Time Cloud, Rubicon Project

terabyte high-performance supercompute fabric, called SeaMicro Freedom™ Fabric. The SM15000 server eliminates top-of-rack switches, terminal servers, hundreds of cables and thousands of unnecessary components for a more efficient and simple operational environment.

AMD's SeaMicro server product family currently supports the next-generation AMD Opteron™ ("Piledriver") processor, Intel® Xeon® E3-1260L ("Sandy Bridge") and E3-1265Lv2 ("Ivy Bridge"), and Intel® Atom™ N570 processors. The SeaMicro SM15000 also supports the SeaMicro Freedom Fabric storage products, enabling a single system to connect with more than five petabytes of storage capacity. This approach delivers the benefits of expensive and complex solutions, such as network attached storage (NAS) and storage area networking (SAN), with the simplicity and low cost of direct attached storage.



**SeaMicro SM15000 RubiCube Solution**

“The scale at which REVV must operate can be challenging to fathom. It powers over 3 trillion bid transactions per month, and each of those trades needs to occur in milliseconds.”

**Jan Gelin**

Vice President, Real Time Cloud, Rubicon Project

RubiCube is the game changing hardware platform that is powering the continued growth of Rubicon Project's REVV platform. Rubicon Project and AMD worked in close collaboration to develop capabilities in the hardware that optimized the performance of REVV and offered a high performance, flexible platform with computing, storage and networking all in a 10 RU form factor. The close collaboration has resulted in a solution that is poised to fuel the growth of the multibillion-dollar digital ad industry and improve the online experience of the world's 2.4 billion Internet users.

For more information about AMD and the SeaMicro family of high density, low power servers, please visit [www.seamicro.com](http://www.seamicro.com).

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