

Sun Wants Its IPTV

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Hoping to leverage its relationship with telecoms and start new ones with cable and online video producers and distributors, Sun is offering a hardware/software package for the video-on-demand market.

Sun Microsystems is preparing to move into the video-on-demand market with a package of hardware and software aimed at creating infrastructure for cable and telecom companies looking to offer customers IPTV.

On April 25, the Santa Clara, Calif., company will unveil its Sun Streaming System, a combination of hardware in a three-rack, 42U (73.5-inch) configuration that includes the vendor's X4100 "Galaxy" servers that use Advanced Micro Devices' Opteron processors, its Sun Fire X4500 storage systems - better known as "Thumper" - and a new switch called the X4950, which will support 160,000 simultaneous, unique video streams at a rate of 2M bps.

The "Thumper" storage server, a NAS (network-attached storage) product package that includes more "Galaxy" servers powered by Opterons and StorageTek backup, was announced last July and is causing most of the buzz in the company's slow-developing storage business. One 19-inch-wide, 7.5-inch-deep (4U) Thumper server contains 48 hot-swappable disk drives totaling as much as 24TB of storage.

The system of switches, servers and storage - designed by Sun's co-founder Andy Bechtolsheim - is aimed at the three main providers of video-on-demand content: Telecom companies, large cable television

providers and smaller cable companies, which provide services to 1 million or less subscribers and make up the bulk of the industry, according to Sun executives.

Sun's Streaming System is also a chance for the company to ingrain itself with these companies at a time when personalized video-on-demand features have only begun to catch on with the larger public and companies are looking for away to have infrastructure in place when this nascent market hits its stride.

The system is also a prime example of Sun trying to find potentially lucrative areas where it can combine its four core business strategies - software, storage, servers and services - into a single offering.

"This is designed expressly for the streaming video market, which we expect to take off hugely in the next five years. Sun has a lot at stake in this market and we intend to take advantage of all the IP we have in it," Bechtolsheim told eWEEK.

This year, the video-on-demand market is worth about \$300 million, but it's expected to grow to more than \$2 billion by the year 2011, said Eve Griliches, an analyst at IDC who follows this market. She added that the pressure on companies to deliver video-on-demand will only increase as customers look to download movies not only to their television but also to PCs and handheld devices.

"The market is looking for companies that have the capability to deliver storage as well as the knowledge of the server side and what the demands are there," Griliches said of cable and telecom companies looking to build their infrastructure as they see the demand for video-on-demand and IPTV growing.

"Looking ahead, the biggest customers of this type of technology are

going to be looking for equipment that is reliable and can function in the telecom environment or within large data centers," Griliches added.

In addition to providing the hardware, Sun is also providing software that will support some 20 different video streaming features, such as standard- and high-definition streaming, encrypted and clear content streaming, personal video recorder capabilities and open-standard software such as CORBA and XML.

By providing open-standards plus the ability to support 160,000 streams, Griliches said that the Sun system will not only be able to deliver video content, but will also have the I/O capability for users to request and find movies from various content providers.

She added that the 160,000 streams is about what other providers offer but she expects the number of streams to climb to between 600,000 and 700,000 in just a few years.

An example of the system within three racks includes a pair of Sun Fire X4950 switches, 16 x4500 4U (7.5-inch) storage servers and 20 X4100 1U (1.75-inch) systems. In addition to the 160,000 streams, the system will also provide 200,000 hours of video content.

In order to deliver 160,000 streams, the Sun Fire switch comes with 32 10-Gigabit Ethernet ports, which allows for high-density switches and routing, as well as a blazing 320G bps of streaming density and 2TB of memory.

"With the Sunfire X4950 streaming switch, a 320G bps non-blocking crossbar switch on 10-Gigabit Ethernet optical networking built into it - this is a very robust system," said Paula Patel, a storage marketing director for Sun.

"It has the power redundancy, redundant optical cards, redundant fans and a total of 2TB of memory. You can store a bunch of movies in their entirety just inside the memory, and stream from the memory. That makes it very fast."

For storage, the Thumper servers each offer 24TB of storage for keeping up to 9,400 hours of 2M bps video content (high-definition video is 8M bps).

Sun executives said that the pricing for video-on-demand will be less than \$50 per stream. Patel also said that the company is looking into offering video-on-demand as a hosted service, but official word on that won't come until later this year.

The new Sun system has been in the hands of a few companies for beta testing. One such company, Acetrax, which has designed and created a movie aggregation and distribution platform for broadband ISPs, and has been testing the system for about 18 months.

Frank Hoffmann, Acetrax's chief technical officer, said his company is now working to combine the Sun system with its own backroom software that handles billing, content management and networking.

Acetrax, which is based in Zurich, Switzerland, is also looking to use the system to develop features such as pause and play options for its users, as well as ways to create and send advertisements along with the actual video content.

"The other challenge that we have is that once we cross networks with a stream, how can we sustain that movie for an hour and a half and offer our users the premium experience," Hoffmann said.

To show the system's ability to stream video, Sun will offer a

demonstration of its new hardware combo at the Tribeca Film Festival in New York City, which kicked off on April 25.

"This is the perfect package for video-on-demand because we have the industrial strength storage, streaming software and switching all in one," Bechtolsheim said. "This is the future of IPTV, right here."

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