

Interest in open source storage picks up steam

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To gain some insight for an upcoming report on open source backup, we recently attended the OpenStorage Summit. Judging from activity at the show, IT organizations – particularly cloud service providers – are finally taking a serious look at the open source alternatives to traditional storage systems. More than 425 people participated at the second annual OpenStorage Summit, almost quadruple the 118 attendees at last year's conference.

The OpenStorage Summit was hosted by open source storage software specialist **Nexenta Systems**, but the company managed to attract a wide range of vendors, resellers and end users. A sampling of those participants includes **Intel, Cisco, Juniper Networks, Arista Networks, Supermicro, Emulex, STEC, Avere Systems, VMware** and open source backup provider **Zmanda**, as well as end users from organizations such as **Korea Telecom (KT), Delano Regional Medical Center, Integral Networks** and **Washburn University**.

KT is a particularly noteworthy convert to open source storage. The company recently rolled out huge private/public clouds with the storage segments built primarily on Nexenta's NexentaStor software, which is based on the open source ZFS file system; supports CIFS, NFS, iSCSI and fiber channel; runs on commodity x86 platforms; and supports features such as compression, thin provisioning, data de-duplication and replication. One of the key reasons why KT opted for open source storage was its low cost. The hosting services provider claims that it can offer hosted services at a 60% lower cost than **Amazon Web Services**. In addition to the NexentaStor storage layer, KT leverages technologies such as **Cloud.com's** CloudStack management layer, **Citrix's** XenServer and commodity storage hardware from Taiwan-based **Quanta Computer**. KT's public cloud infrastructure includes more than 8,000 VMs, and provides hosted services for more than 840 enterprises and 1.5 million users.

KT's embrace of open source storage is notable because the vendor's public cloud is the largest one in Asia. (KT is the largest landline operator and second-largest mobile carrier in Korea.) KT's public cloud was launched earlier this year, and was built within six months, according to the company's presentation at the OpenStorage Summit.

The conference also had a number of presentations from end-user vendors that have replaced standard storage systems with open source storage implementations, or are at least using open source storage in conjunction with standard storage systems (which they often refer to as 'legacy' storage). Most commonly, open source storage is positioned as an

alternative to systems from **Dell/EqualLogic**, **EMC** and **NetApp**. Most users we spoke with at the conference cited low cost as the primary reason why they made the switch (the mantra at the show seemed to be 'enterprise storage without the cost'), but a number of other factors also come into play. For example, a presenter from **Stanford Electrical Engineering**, which is using NexentaStor in its second-tier storage infrastructure, cited low cost as well as reliability, performance and reduced power/space requirements as key motivators for adopting open source storage.

Integral Networks, an IT services provider with considerable experience in open source implementations, cited a number of advantages to using open source storage software, including an unlimited number of snapshots, the ability to easily and rapidly add high availability and storage virtualization, rapid expansion of storage capacity, and good utilization of SSDs. Other reasons to embrace open source storage that we heard from users at the conference included hardware independence and the elimination of vendor lock-in.

In addition to the activity at the OpenStorage Summit, another indicator of heightened interest in open source storage is the growth rate of some of the providers. For example, Nexenta began shipping its software in 2008 and now has more than 3,300 paying customers. This compares to 2,000 paying customers at the beginning of this year and only about 1,000 in early 2010. (NexentaStor is available in a free community version as well as a supported commercial version, and about 25,000 people have downloaded the community version of the code.) Nexenta's headcount has surged from 40 in 2010 to 150 today, and the company expects to have 250-300 employees by the end of the year. Nexenta has roughly 250 global resellers, which is more than twice the 120 channel partners it had at the beginning of this year. The company recently turned profitable, and has raised an initial round of funding led by **Javelin Venture Partners** and **TransLink Capital**. A sampling of Nexenta's corporate customers includes **Beijing Television**, **Hosting.com**, Juniper, **Lockheed Martin**, **NBC**, **NTT** and **Stanford University**.

New products

We initiated coverage of three-and-a-half-year-old Nexenta early this year and delved into its technology and strategy, but here are some recent and upcoming product enhancements that the company highlighted at the OpenStorage Summit. The current version (3.1.1) of NexentaStor added features such as SES-based enclosure management; support for VMware's VAAI protocol; CIFS improvements (primarily for larger environments); enhancements for high-availability clusters; VMware SVA certification; performance improvements, primarily for iSCSI; and the addition of a new replication transport.

NexentaStor 3.1.2 is due in the next couple of weeks, and will add support for Emulex drivers and a MetroCluster feature for long-distance data protection. The company will also launch a new professional services offering. Also due in the November-December time frame is certification for about a dozen new server/storage systems from hardware providers such as Supermicro and **Newisys**.

In December, Nexenta will officially release its namespace cluster feature, an add-on option for NexentaStor that is designed to simplify NAS management in clustered NFS environments. We covered the namespace cluster in an earlier report. Also by the end of this year, the company will launch the first phase of its integration of NexentaStor and

Symantec's OpenStorage APIs, which will result in performance improvements for backup. The next major release of NexentaStor will be the 4.0 version, with a beta version due in the first quarter of next year. The key change in this release is that it will be based on the Illumos code base.

Also at the OpenStorage Summit, Nexenta and Zmanda (an open source backup specialist) announced integration of NexentaStor and Zmanda's open source Amanda enterprise backup software, which enables backup of/to NexentaStor platforms. The enabling client software leverages ZFS and zVols (raw volumes).

Historically, open source storage has been a very difficult sell in the mainstream IT space, but the OpenStorage Summit provided plenty of evidence that IT organizations across a wide variety of vertical markets are starting to take open source storage more seriously. We doubt that EMC and NetApp are quaking in their boots yet, but if end-user interest in open source storage continues to gain momentum it could become a disruptive force – at least on the pricing front.

And the list of vendors/communities selling – or giving away – open source storage seems to be growing. In addition to Nexenta, open source storage software is available from well-known vendors/communities such as **Gluster** (recently acquired by **Red Hat**, which also has open source storage software) and **Oracle's Sun** storage division, as well as smaller players such as **FreeNAS**, **Openfiler** and **GreenBytes**. And open source software created specifically for backup applications is available from firms such as Zmanda, **Bacula Systems** and **Clonezilla**.

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