CASE STUDY: INTERNET SYSTEMS CONSORTIUM (ISC)

High Availability **TrueNAS®** with **VMware**

"*The number 1 reason we went with TrueNAS: Commercial support. We're sticking a lot of eggs in one basket and we needed around the clock support to keep our virtualization infrastructure up.*"

- Peter Losher,
  Senior Operations Architect, ISC

THE STORAGE CHALLENGE

ISC had implemented a virtualization structure for their VMware solution. They started off with local storage running FreeBSD, but it quickly became self-evident that they would need a centralized storage system. They needed more advanced features like vMotion to transfer virtual machines back and forth across their virtualization cluster and wanted to have some disk redundancy in place. Having 24/7 support for their storage system was also a top priority.

They looked at NAS and SAN vendors and talked to iXsystems as well. ISC.org is a customer of iXsystems, and they were pleased to hear about the updates to the TrueNAS VMware capabilities. As a FreeBSD shop, having TrueNAS based on the FreeBSD operating system was a big positive for ISC, and TrueNAS came with the commercial level of support, availability, performance, and scalability required within their desired price point.

"We are a 503c organization, so price point is a very important factor for us. We've been a fan of iXsystems for a while and TrueNAS made it possible for us to have a fully supported storage solution at a price we could afford."

- Peter Losher

"Our TrueNAS is a lovely piece of hardware and gives us the scalability we need for the future. Having the ability to call up support when I am under the gun is a lifesaver."
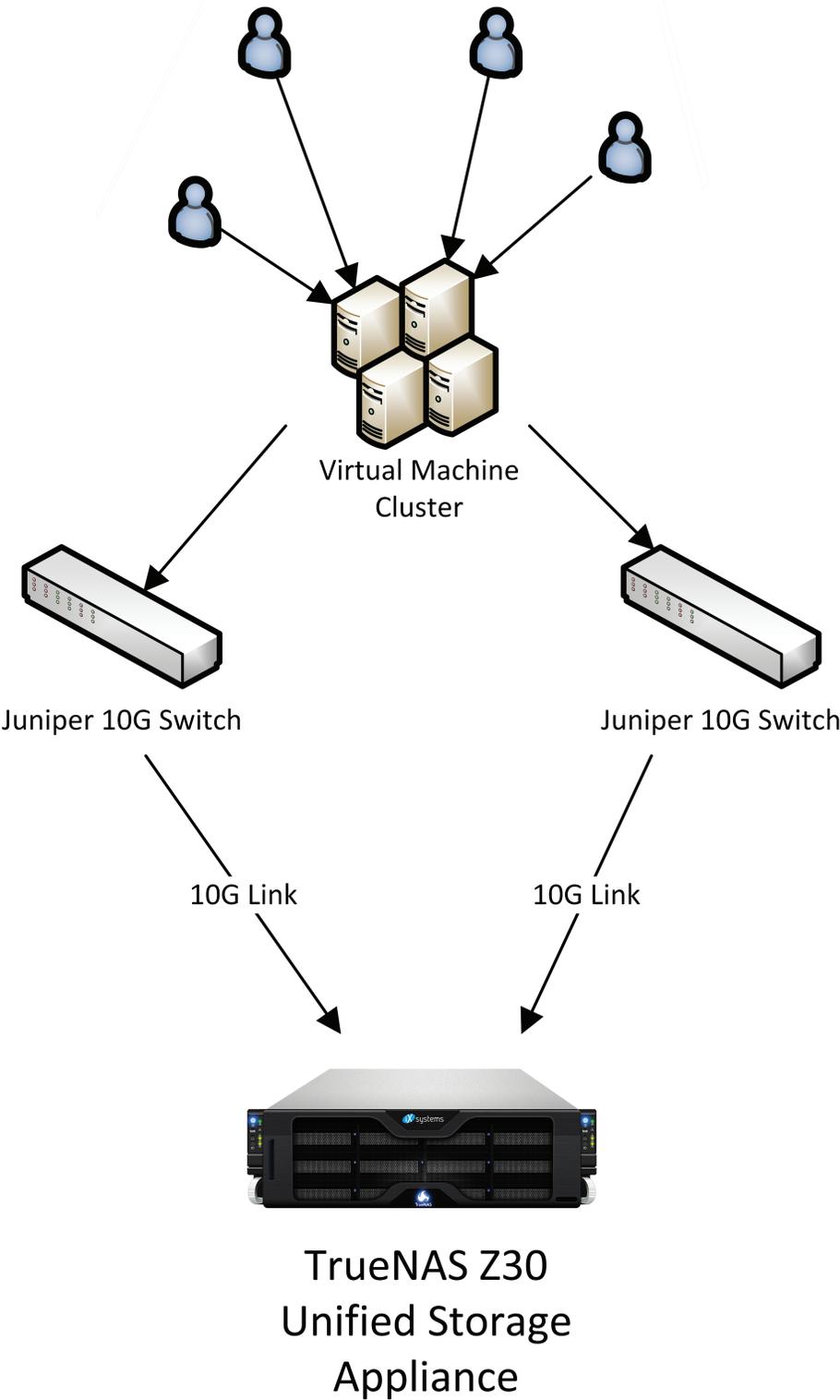
- Peter Losher

VMWARE WITH VMOTION ON TRUENAS

ISC acquired a High Availability TrueNAS Z30 storage solution for their Palo Alto office. The system currently has about 9TB of usable storage running RAID 1 and high performance read and write cache devices. Their unit has 2 heads for storage controller failover, along with dual port 10 Gb Chelsio NICs with each port connected to a 10Gb Juniper switch. This gives them network redundancy. Their TrueNAS Z30 supports about 40 VMs with iSCSI block storage, most of which run FreeBSD.

TrueNAS reduced VMware upgrade times by almost 8 times and more than doubled the throughput seen by each VM. The network cards that came with their TrueNAS system nearly doubled their network throughput to almost 6Gb/s. Having dual heads on their TrueNAS means that they can run updates and perform maintenance on one while keeping VMs online. Furthermore, TrueNAS provides them with near-instant snapshot and remote replication capabilities that they will utilize to replicate their Palo Alto system to another TrueNAS system in Chicago.

"*Previously, updates to VMware would take everything down for 3 to 4 hours. With our TrueNAS system, they only take about 30 minutes. In addition, we used to see about 2 or 3 Gb/s of network throughput with our old system, but now we are seeing closer to 6Gb/s.*"

- Peter Losher

Virtual Machine
Cluster

Juniper 10G Switch   Juniper 10G Switch

10G Link   10G Link

TrueNAS Z30
Unified Storage
Appliance

"Replication is a big need for us. We are going to replicate from Palo Alto to our location in Chicago. We plan to use TrueNAS' ZFS Snapshots and Replication."

- Peter Losher

CONCLUSION

ISC.org needed a unified storage solution to support their VMware infrastructure, as localized, direct attached storage did not provide the level of availability and redundancy they needed to keep their virtual machines online. Switching to TrueNAS with HA gave them that availability and came with commercial grade support for any issues that they might have. They also enjoyed very substantial performance improvements. Combined with a price point that fit their budget as a 503c corporation, TrueNAS met all their needs as an organization and provided the scalability to grow with their needs.

ABOUT INTERNET SYSTEMS CONSORTIUM

Founded in 1994, Internet Systems Consortium, Inc. (ISC) is a public benefit (501c3) corporation who is behind the ongoing development and distribution of BIND (Berkeley Internet Name Domain), the most widely used software for implementing DNS protocols on the Internet. Developed in the 1980's at UC Berkeley, BIND is an open source, production grade software suitable for use in high-volume and high-reliability applications.

ISC also provides the same leadership for development and standards for the DHCP protocol, along with other software, public services and professional solutions. ISC has also run F-Root, one of the thirteen name servers in the world that connect IP address with their corresponding URLs, since 1994. As a not for profit organization, they've contributed more that $68,000,000 in software and engineering hours to the internet community with the aim of a faster, more secure and more reliable experience.

ABOUT IXSYSTEMS

By leveraging our almost 20 years of design expertise, contributions to many Open Source software communities, and corporate stewardship of leading Open Source projects, iXsystems is an industry leader in building innovative storage solutions and enterprise servers for the global marketplace that relies on open technology.

Thousands of companies, universities, and government organizations rely on iXsystems' storage, servers, and customer-first commitment to excellence. Headquartered in Silicon Valley since 1996, our dedication to white-glove customer service, industry-leading support, and transparent technological contributions has never wavered and continues to help pave the way to a new era powered by open technology.