Namecheap Builds a **Next-Generation Hyper-converged Cloud** with **StorPool Storage** and **AMD EPYC™** Processor-based Servers

Success Story

namecheap

Industry
Hosting and Domain Services

Challenges
Increase reliability of services and density of workloads per rack to retain and attract customers.

Solution
Fast and reliable primary storage deployed concurrently with shared hosting workloads.
• Improved service quality and performance
• Low resource consumption
• High density of shared hosting workloads
• No service downtimes or maintenance windows
• Enterprise-class SLAs

Technology Stack
• **Applications:** Shared hosting virtual servers
• **Cloud Platform:** OpenNebula
• **Hypervisor:** Linux® KVM
• **Storage:** StorPool Storage
• **OS:** CentOS
• **Network:** Juniper
• **Servers:** Supermicro (Single socket AMD EPYC™ 7742, all NVMe SSDs)

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Success Story

About Namecheap™

Namecheap is the world's second-largest domain retailer and a global hosting provider[1]. The company offers affordable hosting plans and high-quality services to its customers, helping companies build their digital business for over 20 years. Namecheap now manages over 13 million domains and provides services, including hosting, managed WordPress, professional email, security services and solutions, etc.

As one of the leading hosting services providers offering fast and reliable services and solutions, Namecheap has become a trusted partner for millions of businesses that grow and thrive. The company is committed to realising the digital future for its customers, always adopting the latest technologies to guarantee better performance and user experience.

The Challenge

Having put a lot of effort into creating a robust and functional platform that would meet the high demands of their customers, Namecheap wanted to build a next-generation hosting service that further improved the availability and reliability of their services. Their legacy setup consisted of a fleet of bare-metal compute servers with local storage devices. Having multiple individual servers resulted in 'noisy neighbour' issues where some users' workloads consumed too much server resources. This led to service disruptions for other users' workloads and other problems like single points of failure, downtimes during server upgrades, and extra time spent on managing the infrastructure.

To rethink the entire server deployment model Namecheap chose to go with a next-generation hyper-converged infrastructure (HCI) deployment. HCI enables seamless compute and storage scalability, deploying additional servers with distributed storage as you grow. Namecheap needed a primary storage solution based on a high performance server platform with next generation I/O capabilities.

The Solution

Before transforming its infrastructure, Namecheap used bare-metal servers with local disks in RAID configuration for its Shared Hosting services. The company needed the agility and optimisation benefits of a modern storage solution to improve its cPanel® Shared Web-Hosting platform.

Namecheap searched for a solution that would automatically deal with node and drive failures, network problems and other unexpected technical issues. The hosting provider needed a reliable storage solution that would give maximum speed in terms of IOPS and throughput while delivering low latency. The new solution also needed to come with enterprise-class SLAs to assist their team.
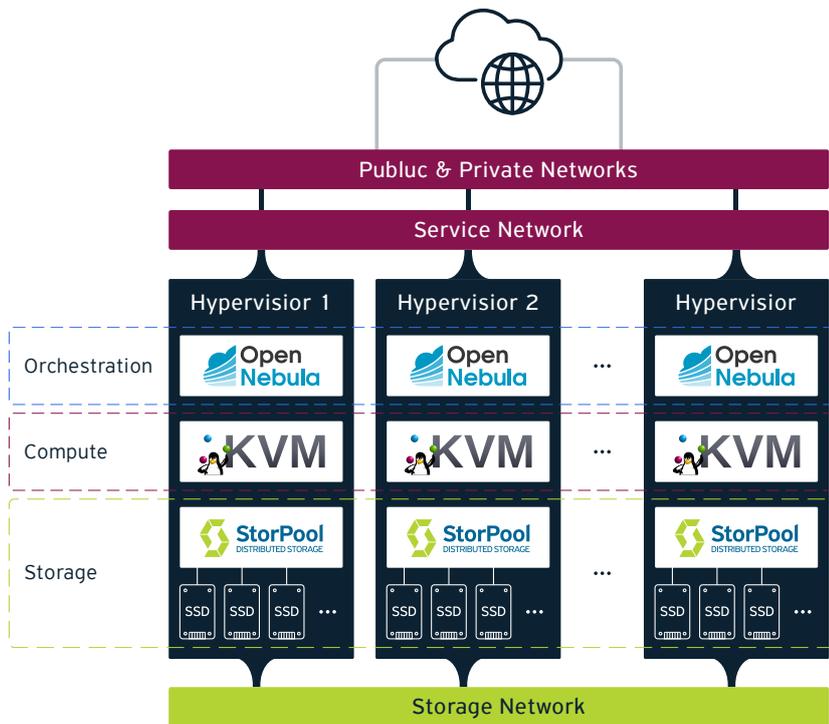
Initially, Namecheap moved away from bare-metal compute servers with local storage devices to a setup where customer workloads and StorPool Storage ran concurrently on multiple HCI clusters hosted on Intel® based nodes. Namecheap chose StorPool Storage after extensive research of the alternatives. Their team evaluated the StorPool solution and tested all possible hardware failure scenarios at various performance loads to validate that StorPool delivers the fastest rebuild times with no impact to production workloads. As a result, Namecheap deployed a new cPanel Shared Web-Hosting infrastructure powered by StorPool, consisting of 8 clusters with 10 hyper-converged nodes each.

Later in 2021, the joint team analyzed the performance and potential TCO savings of the second generation AMD EPYC™ processors. The decision was to move future HCI infrastructure to single socket AMD EPYC™ processor based nodes, providing up to 128 PCIe® Gen 4 I/O lanes as well as more than 200W per server of power savings over traditional dual-socket systems. To achieve the required compute density and I/O throughput, Namecheap chose Supermicro servers with 64-Core AMD EPYC™ 7742 processors, NVMe SSDs and Intel® NICs.

Net Benefits of StorPool AMD EPYC™ Processor-based Solution

Namecheap's new distributed platform built on StorPool Storage is extremely reliable and speedy. The hosting provider has reported a significant boost in performance and accomplished the key result they were expecting - to increase the density of VMs hosted per rack within the same power limits. Thanks to the energy efficient single-socket design of the new hardware platform, based on a 64-Core AMD EPYC™ 7742 processor, Namecheap was able to deploy **20% more servers** in each rack **and run 60% more applications per HCI cluster** compared to the initial configuration with dual-socket, 24-core Intel® Xeon®-based CPUs.

StorPool's software delivers exceptional IOPS at low latency while consuming very few CPU cores (2 to 4 CPU cores) and memory (1GB RAM per 1TB raw space), enabling effective utilisation of the hardware resources. The new cloud infrastructure based on AMD EPYC™ CPUs, combined with StorPool's next-generation storage solution,

delivers the reliability and high availability, crucial for Namecheap to retain its customers and attract new users. StorPool completely eradicates data corruption issues thanks to its end-to-end data integrity algorithms. It allows Namecheap to perform planned hardware maintenance with no downtime, speeds up new virtual machine deployments, and helps ensure maximum performance at scale.

In addition, Namecheap's technical team doesn't have to maintain the storage system anymore. That is entirely outsourced to StorPool's operations team, which provides timely assistance and manages all aspects of the storage layer at Namecheap.

> We always strive to keep our customers' data safe and secure. In a sense, that is why we chose the StorPool solution, based on AMD processors, providing high performance combined with impressive fault tolerance and data availability rates.
>
> **Max Semenyaka**
> Technical Operations Services Manager at Namecheap

Key StorPool Solution Benefits

- End users are experiencing improvements in service quality and performance
- Low resource consumption lets processors run compute tasks
- High density of highly available shared hosting workloads
- Eliminated service downtimes and the need for maintenance windows
- Experienced Hands-on Support with Enterprise-class SLAs

About StorPool Storage

StorPool Storage is a primary storage platform designed for large-scale cloud infrastructure. It's the easiest way to convert sets of standard servers into primary or secondary storage systems. The StorPool team has experience working with various clients - Managed Services Providers, Hosting Services Providers, Cloud Service Providers, enterprises, and SaaS vendors. StorPool Storage comes as a software, plus a fully-managed data storage service that transforms standard hardware into fast, highly available, and scalable storage systems.

About AMD

For over 50 years AMD has driven innovation in high-performance computing, graphics, and visualisation technologies—the building blocks for gaming, immersive platforms, and the data center. Hundreds of millions of consumers, leading Fortune 500 businesses, and cutting-edge scientific research facilities around the world rely on AMD technology daily to improve how they live, work, and play. AMD employees around the world are focused on building great products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit amd.com/EPYC.