NetApp IT makes public cloud affordable with Spot by NetApp

∏ NetApp

**Public cloud agility without breaking the bank?
Yes, please.**

Problem solved
Like many enterprise IT organizations, NetApp IT is looking for ways to use public cloud compute to enable cloud bursting and to reduce its data center footprint. But public cloud has been cost prohibitive. Until now.

Client outcomes
NetApp IT implemented Spot by NetApp to take advantage of the cost savings from the use of spot instances on AWS while maintaining availability. Early results from the first apps that IT migrated over reveal savings of 49% to 75% over AWS EC2 On-Demand Instances.

49% to 75%
savings on cloud compute infrastructure

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Michael Morris,
Senior Director of IT Platform, Cloud, and Infrastructure Services

Enabling application-driven infrastructures in the cloud
NetApp IT oversees platform, infrastructure, and cloud services for NetApp's many business applications. For this global Fortune 500 company, it means everything from running data centers, servers, storage, and networking to managing public cloud services, automation, tooling, service management, and application development.

The heart of NetApp IT is CloudOne, a hybrid multicloud environment that provides a one-stop shop for everything that NetApp developers need to focus on their applications. The NetApp Support site, which is accessed more than 200,000 times a month by NetApp customers around the world, is just one of 56 applications that are built and run on CloudOne.

Like other enterprise IT organizations, NetApp IT is perpetually on the hunt for ways to take advantage of public clouds to support applications with burstable compute requirements and to reduce its data center footprint.

But scaling up virtual machines for business applications in the public cloud means paying the market rate for on-demand services in Amazon EC2. And that can get expensive. It would be extremely difficult for the public cloud to compete with the cost of NetApp IT's on-premises private cloud, which is built on NetApp® HCI and NetApp AFF.

"Public cloud was simply cost prohibitive compared with what we could do in our private cloud," says Michael Morris, senior director of IT Platform, Cloud, and Infrastructure Services. "We wanted a way to get public cloud costs competitive with our private cloud costs."

NetApp IT explored spot instances on AWS, which offer users access to Amazon's excess compute capacity. Compared to on-demand compute pricing, spot instance pricing was discounted by up to 90%. Although spot instance pricing is based on long-term trends in supply and demand for compute capacity, you need to be on your toes. AWS can terminate these spot instances on short notice to service other customers who are paying on-demand or reserved capacity pricing

IT can now move
1 data center
to public cloud in the next 3 years

"Even if we hadn't bought the company, we would still be using the product because of the huge potential for cost savings. Simply put, Spot by NetApp makes public cloud cost possible for enterprises like ours."

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"That's a lot of risk," says Morris. "Your ability to react in such a small window takes a lot of planning and automation. That just doesn't work for production applications that are running 24/7."

Morris and his team had learned from their counterparts in NetApp Engineering about Spot (now referred to as "Spot by NetApp"[1]). Spot offers a suite of products to automate and to optimize cloud compute, from cost visibility and analysis to continuous optimization for containers and autoscaling applications. With Spot products, customers can use spot instances without the risk of disruption. Elastigroup, Spot's product to autoscale applications, uses machine learning models to monitor compute usage and to predict

spot interruptions in advance, migrating at-risk instances to new instances to avoid disruption.

The NetApp Engineering department had already demonstrated that they could achieve up to 65% cost savings per instance in AWS by using Elastigroup. It sounded promising, but for Spot to work for NetApp IT, it had to meet three critical criteria. It would need to:

- Make public cloud cost equal to or better than running in a NetApp data center.
- Provide nonstop availability for developers and their production applications.
- Be self-sufficient, which means incurring little to no management overhead.

"Spot Elastigroup met all of our criteria," says Morris. "We moved five applications to Elastigroup and instantly realized a 49% to 75% drop in costs compared with using On-Demand Amazon EC2 Instances. We received alerts from AWS about upcoming interruptions, but because Elastigroup predicted and automatically migrated those spot instances to new ones, we never experienced a disruption. Spot's automation, APIs, and slick UI make it easy to use, so we're able to focus on other parts of our environment without worrying about how to ensure efficiency and availability for our compute infrastructure."

1. NetApp acquired Spot on July 13, 2020, after NetApp IT's proof of concept of Spot.

The cherry on top? It's also totally transparent to the end user. Application developers at NetApp have no idea that they're running on spot instances. (Although they'll know now.)

By the end of August 2020, NetApp IT will have migrated every nonproduction container node in the CloudOne DevOps platform to Spot products—including the Support site. After that, the team plans to migrate another 48 applications off its legacy hybrid cloud environment and onto CloudOne running on Spot.

"What's most exciting is that this will enable our 'grand strategy,' which is to eliminate a traditional data center running subproduction applications and DR workloads over the next 3 years," adds Morris. "That's a big deal to us because it will help us simplify IT and free up our team to focus on more strategic projects."

NetApp Active IQ® Digital Advisor, which uses artificial intelligence for IT operations (AIOps) to automate the proactive care and optimization of NetApp environments, may also soon move from its home in Amazon EC2 to lower-cost spot instances.

"When we were doing the proof of concept, my team had no idea that Spot and its products would soon become part of NetApp," says Morris. "Even if we hadn't bought the company, we would still be using the product because of the huge potential for cost savings. Simply put, Spot by NetApp makes public cloud cost possible for enterprises like ours."

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