Intigua Powers Up QA Environment on Kaminario K2 v5

Challenge

Intigua is a pioneer in software-defined data center operations where enterprise-grade IT system management is delivered as a service. The Intigua Virtual Management platform provides centralized, policy-based provisioning, configuration and ongoing control of the entire IT management stack. It enables enterprise customers to quickly deploy IT-as-a-service with a minimum of overhead and staff.

To ensure that the Intigua management software is able to scale to meet the needs of even the most demanding customer, the Intigua QA group tests against thousands of concurrently running virtual machines (VMs). This sort of massive server consolidation places significant demands on compute, networking and especially the storage infrastructure hardware. Load testing with thousands of actual VMs lets Intigua show their customers exactly how many virtual servers can be supported by their platform under real-world conditions.

In order to complete these QA scale-up tests, Intigua's development group needed storage that could maintain a consistently high level of performance even under loads with rapidly varying random blends of I/O. And it needed to be highly cost-effective without compromising on enterprise-grade features like data deduplication and compression.

> We picked Kaminario's K2 v5 because it has one of the most efficient architectures we've seen, reducing costs to under $2 per usable GB, achieving 20:1 data reduction, and able to run 7,000 VMs on a single array.
>
> ~Shai Toren, General Manager, Intigua

Solution

On just a single K-Block array connected via fibre channel, Intigua was able to concurrently run thousands of virtual servers on a cluster of twelve ESX hosts, far beyond what was possible using other flash arrays. The resulting performance reflected the true potential of an All-Flash Array, without any of the restrictions imposed by other vendor's fixed 4KB block size architectures. During Intigua's testing actual block sizes mostly fell between 8KB and 256KB, allowing K2 to optimize performance using its global variable block size algorithm.

With the test VMware ESX virtual servers setup as linked clones, K2's native selective deduplication was able to achieve a 6:1 capacity reduction ratio while its native compression produces a further 3.3:1 reduction ratio, for a total of 20:1 overall reduction. In addition to radically lowering storage costs, K2 data reduction capability cut required data center resources with one K2 array taking up only 4U of data center rack space yet effectively able to provide 300 TB of usable capacity.

"K2 v5 enabled us to reduce costs to under $2 per usable GB. These cost savings are significant for our QA environment, where we test our software with thousands of virtual servers. We were able to deploy over 7,000 virtual servers on a single K-Block configuration of K2 v5, with an outstanding data reduction rate of 20:1" said Shai Toren, General Manager of Intigua.

intigua

USE CASE:
Product QA and load testing within simulated enterprise data center

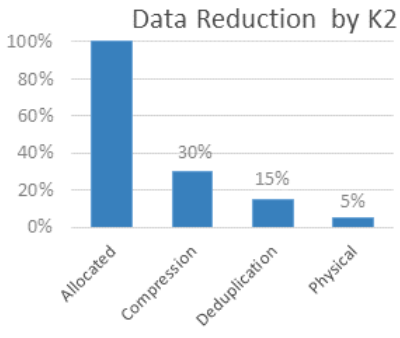
APPLICATIONS:
VMware ESX, Intigua Virtual Management Platform

GOALS:

- Test Intigua management software in a realistic setting, with thousands of real-world virtual servers running off a single flash array

RESULTS:

- Able to run 7,000 virtual servers concurrently on a single K-Block K2 v5 All-Flash Array
- 6:1 deduplication ratio plus 3.3:1 compression ratio giving a total data reduction ratio of 20:1
- Throughput averaged 200 – 400 MB/s, peaking at 900 MB/s
- Performance consistently high even with heavy I/O from booting, migrating, updating, and provisioning thousands of virtual servers simultaneously



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