Predictive Flash for Your Cloud Infrastructure

Whether you call it Private Cloud or Hybrid Cloud or simply “cloud-like,” people want the scalability and simplicity of cloud operations within their (on-premises) datacenter. Microsoft promises to bring just that by combining their core virtualization, management and automation technologies into the Microsoft Cloud Infrastructure.

The Nimble Storage Predictive Flash Platform delivers the performance your business applications require, with reliability and intelligence through Nimble Storage InfoSight™ predictive analytics, while providing a radically simple way to operate your Microsoft Cloud Infrastructure.

The Nimble Storage Unified Flash Fabric™, together with InfoSight predictive analytics, enables businesses to deploy a single platform for all of the workloads in their Microsoft Cloud Infrastructure — from virtual machines running on a Server Hyper-V cluster to microservices running in Windows Docker containers to “bare metal” Windows Server applications and even Windows Server Nano. Deliver absolute performance, scale without disruption, and manage storage as just another aspect of the Microsoft Cloud Infrastructure.

All Flash Performance

Nimble Storage Unified Flash Fabric allows you to scale the storage performance to the workload requirements — from All Flash array performance to Adaptive Flash to all-disk performance. You can adjust the storage performance of your applications as conditions change. And you can do all this without having storage silos with different storage operations for the different workloads. Nimble Storage even supports service-provider-like capabilities such multi-tenancy and Quality of Service (QoS) so you can provide your internal customers with the isolation and consistent performance they require.

Nimble Storage systems are built on the patented Nimble Storage Unified Flash Fabric, which uses either All Flash, or Adaptive Flash (featuring dynamic flash caching). This makes it ideal for the wide range of application workloads found in Microsoft Cloud Infrastructures. Deliver the absolute performance of the Nimble Storage All Flash arrays for your performance-critical applications but use more cost-efficient Adaptive Flash for dev/test or replication.

Storage performance can unlock additional value in your Windows infrastructure. Once you have solved the app-data gap with your I/O constrained workloads, you may find you can now deliver significantly more application horsepower on the same infrastructure. With the InfoSight predictive analytics helping you predict capacity growth and performance peaks, you may find that you need fewer server cores at your next server refresh, saving on licensing costs as well as hardware.

Radically Simple Cloud Infrastructure Operations

Traditional storage requires storage-specific skills and tends to create a very storage-first point of view. Administrators tasked with Microsoft Cloud Infrastructure start from the application and want to provision, tune, and manage from that point of view. The simplicity of deploying Nimble storage eliminates this inherent conflict because Nimble integrates with Windows technologies to make storage operations feel like just another part of the Microsoft Cloud Infrastructure.
Microsoft provides multiple avenues for storage vendor integration — from Microsoft-driven proprietary protocols like Volume Shadow Copy Services (VSS) and PowerShell to industry standards such as ODX, SMI-S, WBEM, RestAPI, and CIM. Storage arrays do a better, more efficient job than servers with storage specific tasks such as volume copies, snapshots, replication, compression, and encryption. Nimble takes advantage of these technologies to offload these storage tasks and leave the server to focus on its main job — delivering applications.

Microsoft and Nimble work with industry standard technologies such as CIM and SMI-S to provide storage provisioning and management capabilities from Windows-specific products. For example, administrators can provision storage from Microsoft System Center Virtual Machine Manager (SCVMM) or Server Manager (SM) without having to switch to a different console or use esoteric command-line storage directives. You can even manage and provision Nimble Storage with standard Windows PowerShell Cmdlets. Managing storage just becomes part of managing the Microsoft Cloud Infrastructure. Windows admins and IT generalists can manage most of the storage tasks and your storage gurus can focus on the business needs for the future instead of being tied down on the mundane operations tasks today.

A key part of any cloud infrastructure is automation. Microsoft Cloud Infrastructure builds automation into the System Center family of products. Nimble Storage builds on that technology to allow admins to not just provision storage, but to perform snapshots, create clones, and provision them back to Windows. Nimble can do that at the Windows host level, for Hyper-V virtual machines, and coming soon Nimble will allow you to manage snapshots, clones, and provisioning for SQL Server. No worrying about data volumes and log volumes, etc. The application admin just selects the database and Nimble will handle the rest. Nimble can even automatically register a cloned Cluster Shared Volume with Microsoft Failover Cluster as a shared resource.

Another key Microsoft technology supported by Nimble is Volume Shadow copy Services (VSS). VSS allows snapshots to be performed with participation from the applications (such as SQL server) ensuring that the snapshot includes only completed transactions. These snapshots are then “application-consistent”, which means they can be restarted instantly without time-consuming crash recovery operations. Nimble supports VSS for applications running on “bare metal” windows or inside Hyper-V virtual machines.

Server Message Block (SMB)

Another key technology in the Microsoft Cloud Infrastructure is the use of SMB for file share and in particular SMB 3.1.1. Microsoft developed the SMB 3.1.1 spec and has built quite a bit of functionality into the Microsoft Cloud Infrastructure. Many customers will want to implement the Microsoft Cloud Infrastructure with traditional iSCSI and fiber channel SANs, but some will want to take advantage of some of the new features in SMB 3.1.1. For those customers, Nimble Storage has built a reference architecture for a Microsoft Scale-out-File-Server (SOFs) featuring Nimble Storage as the data storage layer. This becomes a best of breed solution with the new capabilities of SMB 3.1.1 but with the guaranteed speed, reliability, and data services of Nimble Storage.

Unmatched Reliability through Predictive Analytics

Every four hours, InfoSight collects and correlates trillions of sensor data points to find the needle in the haystack and solve your most complex issues, even beyond storage. It’s like having an army of IT experts keeping your infrastructure running perfectly and predicting future needs.

InfoSight predicts and prevents issues across the application-to-storage stack that slow data velocity. It enables you to avoid disruption and time wasted dealing with infrastructure problems. Due to the power of InfoSight, nine out of ten problems are automatically detected before they become production issues.

InfoSight can also help you predict storage capacity growth and performance peaks and valleys. This unique viewpoint allows administrators to ensure that they can always meet capacity and performance requirements without embarrassing outages or slowdowns.

Nimble Storage is the ideal storage platform for your Microsoft Cloud Infrastructure. It delivers the performance, manageability, and deep, seamless integration that your administrators require.

Get started on your journey:

Download our Technical Report >>

Contact your local authorized reseller.

Email us at info@nimblestorage.com for a demonstration of the Nimble Storage solution for your Microsoft Cloud Infrastructure.

NIMBLE STORAGE
211 River Oaks Parkway, San Jose, CA 95134
Phone: 408-432-9600; 877-364-6253
Email: info@nimblestorage.com
www.nimblestorage.com

© 2016 Nimble Storage, Inc. Nimble Storage, the Nimble Storage logo, CASL, InfoSight, SmartStack, and NimbleConnect are trademarks or registered trademarks of Nimble Storage. All other trade names are the property of their respective owner. SB-MSCL-0916