Solution Brief

Predictable Storage Performance for All Your VMware Applications

The all-flash array that is built for the next-generation data center

SolidFire Benefits

- Virtual pools of capacity and performance provide granular storage provisioning.
- Quality-of-service with minimum, maximum, and burst settings provides predictable performance for each application volume.
- A REST-based API means that every aspect of the storage system is automated, speeding deployment.

Architected for Predictable Performance

The NetApp® SolidFire® scale-out storage system is purpose-built to provide predictable performance to multiple applications in parallel. SolidFire quality-of-service (QoS) performance virtualization decouples performance from capacity, virtualizing each into separate resource pools that are provisioned as needed. You can expand these resources on demand without interruption or downtime, and you can adjust datastore performance without complex and time-consuming storage reconfiguration.

Integrated with VMware

VMware administrators can control the breadth of storage features that are available from SolidFire through the vCenter interface. The SolidFire vCenter plug-in brings the QoS features and instant performance modification directly to vCenter. You don't have to learn a storage interface to control the SolidFire storage features that VMware uses. You can access the full set of API controls through vRealize Orchestrator and vRealize Automation to further deliver automated workflows and management.

SolidFire also supports VMware Virtual Volumes (VVols) to further enhance the storage provisioning capabilities for each virtual machine (VM). By using VVols, you can assign each VM its own storage volume, giving you more granular control of storage resources and performance per virtual machine. With the SolidFire QoS controls, you can allocate minimum levels of performance discretely to a single VM, providing the application predictability that you need for large consolidation efforts.

Powering the software-defined data center

VMware's vision, to drive increased VM awareness and management granularity at the storage system layer, pairs extremely well with the SolidFire QoS architecture. You can manage and provision storage policies within the virtual infrastructure. These policies are then enforced down to each virtual disk in the SolidFire storage system, which is a far more holistic approach than you can get from legacy storage vendors. You can also:

- Virtualize storage into performance and capacity resource pools that can be allocated by using policies.
- Deploy a complete REST-based API, which means that every aspect of the storage system can be automated.
- Promote predictable virtual machine performance with per-volume QoS controls.
- Scale on demand without interruption or downtime.

The SolidFire Advantage

Only SolidFire integrates with VMware vSphere storage I/O control (SIOC) to provide tunable and predictable performance to each VM. SIOC provides per-VM rate limiting at the hypervisor level. When SIOC is coupled with the innovative SolidFire QoS

NetApp®

vmware® READY

capabilities, you can confirm end-to-end performance. By integrating with SIOC, SolidFire dynamically allocates and manages minimum, maximum, and burst performance on the storage system based on per-VM SIOC requirements in an integrated workflow. With automated orchestration, you can adjust each VM's SIOC settings dynamically, and SolidFire QoS automatically adjusts the volume IOPS allocation to match, eliminating storage administrator intervention and reducing overall operating costs.

Benefits of Running VMware on SolidFire

Deep integration

- Offload common storage tasks from VMware hosts and communicate storage capabilities through vSphere API for Storage Awareness (VASA) integration
- Deliver discrete, predictable VM performance with VMware Virtual Volumes
- Align storage array performance to VMware Storage I/O Control (SIOC) VM settings

End-to-end QoS

The benefits of SolidFire end-to-end QoS include:

- Only SolidFire can combine SIOC with storage-enforced QoS to provide predictable performance to each VM.
- Integration allows automated storage performance allocation that is based on VM SIOC requirements.
- Dynamic performance allocation to datastores eliminates the need to overprovision storage, enabling you to deploy more VMs.
- You can adjust VM SIOC settings dynamically, and SolidFire QoS is automatically adjusted to match, eliminating storage administrator intervention.
- With end-to-end QoS control, you can consolidate multiple performance-sensitive applications on the same infrastructure.

Simplified Management

Streamlined configuration

SolidFire and VMware together provide a streamlined configuration with:

- vSphere Client plug-in
- Centralized management
- Single-click QoS enablement
- No RAID configuration
- Automatic data distribution
- Automatic load balancing

Seamless scaling

With the seamless scaling of SolidFire, you can:

- Eliminate complex capacity planning.
- Set up your system once and keep scaling.
- Add capacity to VMware without storage administrator impact.
- Create datastores and storage volumes together dynamically

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit www.netapp.com. #DataDriven