Datasheet

NetApp SolidFire Element OS Product Brief

Simplify and automate data management at scale

NetApp SolidFire Benefits

Fully automated software that delivers agility and guaranteed application performance at web scale to your all-flash storage platform.

- Achieve nondisruptive system expansion with instant resource availability.
- Deliver predictable performance to hundreds of applications on a single platform.
- Drive your business forward with automated operational simplicity.
- Flexible deployment models to fit your next-generation center needs.

The agility to scale, predict, and automate data demonstrated by cloud computing infrastructure has raised the bar on expectations for IT service delivery. In an era when IT is expected to make sure of production-grade support with an abundance of new applications and data, IT architects are looking for new ways to eliminate bottlenecks, enable greater operational efficiency, and move the business forward. The next-generation data center applies a software-defined everything (SDx) discipline in a traditional, hardware-centric business to gain business advantage.

NetApp® SolidFire® Element® OS is the storage operating system for the next-generation data center, providing all the features you demand from primary storage—enterprise-grade reliability, all-flash performance, secure multitenancy, and more—in an innovative, automated architecture that delivers unmatched scalability with guaranteed predictable storage performance.

Scalable

The relentless pace of business change means you need maximum flexibility to adapt to any workload on the fly. With Element OS storage software, you can dynamically scale storage resources to meet those ever-shifting, unpredictable business and application demands.

Element OS allows for nondisruptive system expansion with instant resource availability. No more multiyear capacity and performance planning. Start with exactly what you require and scale your storage infrastructure in a granular fashion over time. Each new node delivers a precise amount of additional performance and capacity for a predictable pattern of scalability. Data is automatically load-balanced in the background across all nodes in the cluster, maintaining even utilization as the system grows.

Forget forklift upgrades. Element OS lets you simply add new nodes into an established cluster. Old nodes are removed and retired on your schedule, not your vendors'. You have nothing to migrate, no interruptions, and no settings to change. The SolidFire scale-out architecture makes sure that there's plenty of horsepower to reduce and rehydrate data, regardless of performance and capacity demands placed on the system. With Element OS, infrastructure managers can easily allocate, manage, and guarantee storage performance natively from each of these orchestration layers, creating efficiencies that actually improve with scale, not vice versa.

■ NetApp®

Predictable

The key to making sure of the system performance needed in mixed workload environments is guaranteed storage quality of service (QoS), and Element OS delivers. Its fine-grained performance control for every workload makes sure of application predictability and allows for meaningful consolidation.

Element OS lets you allocate and manage performance independently from capacity, making sure of predictable performance to every application you run. Forget adding capacity to realize unpredictable performance gains. Each storage volume within a SolidFire system can be allocated a precise amount of capacity and performance, both of which can be changed on the fly without migrating data or interrupting I/O.

This ability means you can guarantee firm performance SLAs for applications, workloads, and tenants across your infrastructure, a key differentiator for cloud service providers and enterprise clouds alike. With Element OS, your SolidFire system can host a broad range of performance-sensitive and business-critical applications. You can offer performance SLAs to internal or external customers and facilitate the migration of applications to a more cost-effective and predictable storage infrastructure.

Always-on efficiencies maximize utilization of resources, reduce your data center footprint, and lower operational costs. Embedded global data deduplication techniques, multilayer data compression, and granular thin provisioning solve traditional storage deficiencies on the fly to make flash at scale an economic reality, all while delivering superior performance.

Automated

In large storage deployments, automation is the key to operational efficiency. By automating complex storage management tasks, orchestrating workflows, and delivering deep management integration, you can efficiently satisfy your service delivery needs and focus on driving your business forward.

Element OS management frameworks provide both an intuitive web-based user interface and a robust REST-based API to automate every aspect of storage provisioning, management, and reporting. Whether you build your own management framework or use an off-the-shelf management stack, our API makes automating storage management simple and straightforward.

Deep integration with industry-leading virtualization and cloud platforms helps minimize your development time and overhead, which enables more complete and agile solutions. Standard tools and integrations coupled with ecosystem plug-ins make direct management seamless.

For VMware environments, Element OS integrates seamlessly into VAAI, VASA, VVols, and vRealize, the tools you already use to automate your VMware infrastructure. And Element OS API functionality has been integrated with the OpenStack, CloudStack, Flexiant, and OnApp frameworks to simplify block storage integration and automation.

Protected

As with any enterprise storage, your data's protection should always be forefront. Element OS software delivers ironclad data assurance using a resilient, self-healing architecture that reduces operational overhead and risk. Its patent-pending Helix data protection can absorb multiple concurrent faults across all levels of the solution without affecting application performance.

Recovering from a failure takes only minutes. In a failure event, each drive in the system redistributes a small percentage of its data in parallel to the free space on all remaining drives. Failure recovery requires no operator intervention, eliminating the fire drills common with traditional RAID-based architectures.

Built-in real-time replication, consistent group Snapshot™ copies, and integration with VMware Site Recovery Manager (SRM) provide a comprehensive set of features that make sure of end-to-end system integrity. Seamless integration with third-party backup applications and any S3 or SWIFT-compatible system makes it easier to create and execute a comprehensive disaster recovery strategy, allowing business operations to continue without impact.

Element OS provides unmatched opportunity to protect your data with SnapMirror replication. Move your data across the NetApp Data Fabric from an Element OS platform to an ONTAP enabled platform for DR. SolidFire customers can leverage AFF or FAS storage to protect against storage outages, with easy setup of disaster recovery relationships. Data replicated from a SolidFire system to AFF or FAS is stored in native format, and can benefit from the rich data management capabilities of ONTAP.

Consumption Models

As companies move from traditional storage infrastructure to the next-generation data center, they have more options for consuming storage than ever before. Even if one consumption model can accommodate enterprise's IT needs today, CIOs should expect to accommodate change over time.

SolidFire Element OS delivers the greatest flexibility for how you purchase and grow your storage infrastructure, so you can achieve the next-generation data center on your terms. And no matter which model you choose, we have you covered with the only consistent software platform able to provide the same features and functionality across every storage consumption model. Now it's extremely simple and economical to use Element OS software across an entire data center footprint, precisely aligned with ever-changing data center needs.

SolidFire All-Flash Array

The SolidFire all-flash array is a 100% programmable platform that delivers unmatched agility and guaranteed application performance. With the ability to mix node clusters, you can build your private cloud architecture at any scale. SolidFire is ready to meet your business needs when you need them.

SolidFire offers innovative pricing options to meet the agility needs of businesses at scale. FlashForward capacity licensing decouples Element OS software from the underlying SF-Series hardware, resulting in a game-changing option for how storage is bought, deployed, and consumed. This model delivers the cost and flexibility benefits of software-only storage without the supply chain, system integration, and support complexity normally associated with this approach.

NetApp HCI

Built on the SolidFire architecture, NetApp HCI overcomes the limitations of first-generation hyper converged infrastructure (HCI) solutions while simplifying consumption with storage and compute.

FlexPod SF Converged Infrastructure

FlexPod® SF is an innovative converged infrastructure solution built on SolidFire with the proven performance, agility, and value required to handle increasingly larger enterprise workloads and constantly changing business demands in a single system.

About NetApp

NetApp is the data authority for hybrid cloud. We empower customers to simplify and integrate data management across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we provide a full range of hybrid cloud data services to help global organizations 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