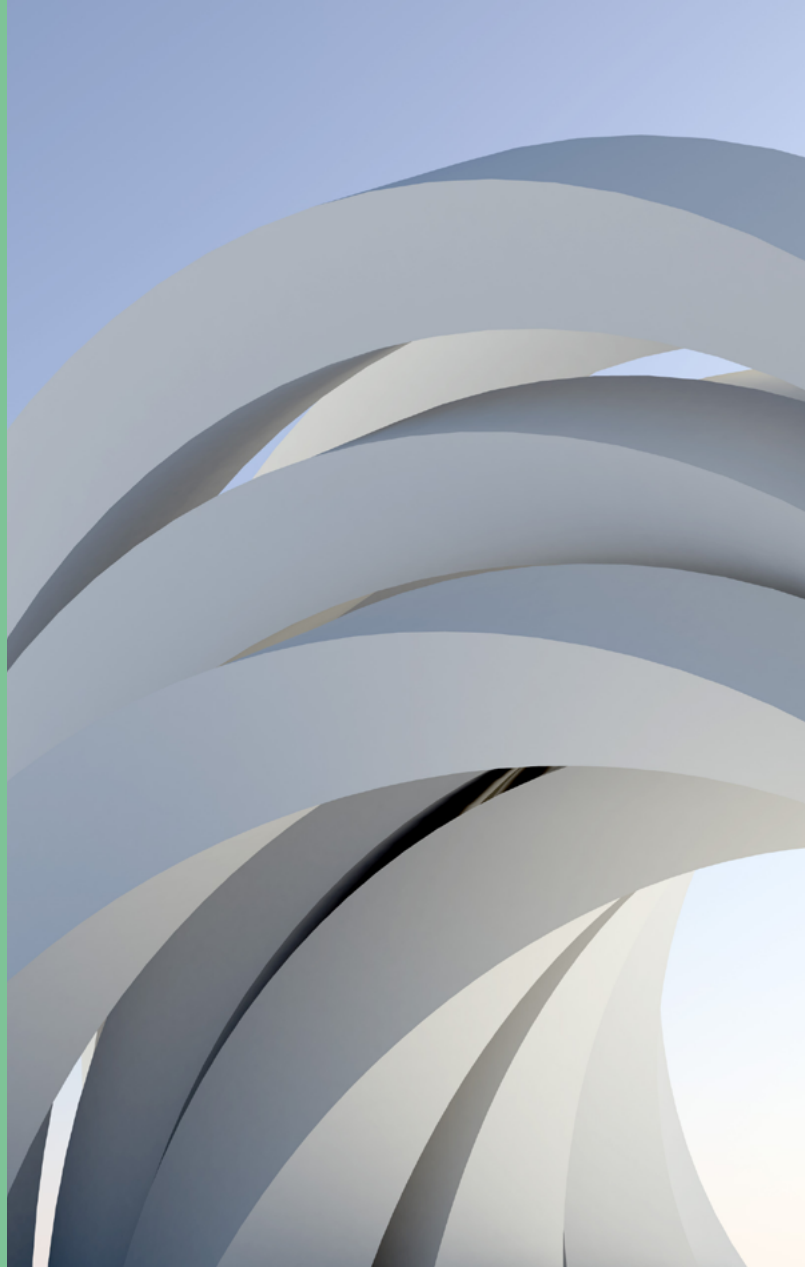
DATASHEET

ONTAP data management software

Foundation for a
unified hybrid cloud



NetApp

LOGICALIS
Architects of Change

The challenge

Businesses today are under pressure to quickly respond to new opportunities. To support their business, IT departments must simultaneously deliver on several key priorities:

- Protect their data from security breaches and ransomware attacks.
- Cost effectively and reliably support all their current applications by delivering the performance, availability, and TCO that they require.
- Easily adapt to new requirements, move data to wherever it's needed, and prepare for future growth, especially with their expanding use of public clouds.
- Free up time for their IT staff, plus address growing staffing issues.

Plus, they typically must do all of this while fitting into constrained IT budgets.

The solution

Create a storage infrastructure that reduces risk, saves time, and optimizes your budget. Build a foundation for your hybrid multi-cloud that simplifies how you manage your data that is spread across your business. NetApp ONTAP, the industry's leading data management software, brings the simplicity and flexibility of cloud to your data center and brings all the enterprise capabilities of your data center to the public cloud. It combines new levels of simplicity, flexibility, and security with proven storage efficiencies, high performance, and leading cloud integration.

With ONTAP, you can create an environment that is smart, powerful, and trusted that spans on-premises and cloud resources and is ready to handle your future requirements. Flexibly deploy storage on your choice of architectures—hardware storage systems, software-defined storage (SDS), and public clouds—while unifying data management across all of them. And seamlessly manage your data as it flows to wherever you need it most to help you make the best possible decisions for your organization.

Smart: Simplify operations and reduce costs

Whether you're adding new workloads or managing your existing environment, it's important to automate and simplify your processes to maximize the productivity and responsiveness of your staff. ONTAP gives you a common set of features across your on-premises and cloud storage resources, which simplifies operations so that your IT team can focus on strategic business priorities. Unify data management across a hybrid multi-cloud that can span flash, disk, and cloud running SAN, NAS, and object workloads. Easily move your data within or between storage clusters, or to the cloud—wherever it is most useful. ONTAP is the foundation for a Data Fabric that gives you flexibility, choice, and control across your storage environment.

Key benefits

Smart: Simplify operations and reduce costs

- Streamline IT with one storage environment for your on-premises and cloud resources.
- Automate day-to-day tasks and save time for your IT staff.
- Minimize capex and opex with leading storage efficiency.

Powerful: Respond to changing business requirements

- Accelerate critical workloads with industry-leading performance.
- Scale capacity and performance without disruption.
- Deploy enterprise applications on NetApp storage systems, commodity servers, or in the cloud.

Trusted: Protect from ransomware attacks and secure your data across your hybrid cloud

- Guard against data loss and accelerate recovery with integrated data protection.
- Eliminate business disruptions due to failures, maintenance, and site disasters.
- Protect your company information with built-in data security and automatic ransomware protection.

Deploy workloads in less than 10 minutes

Quickly and confidently provision storage for key workloads in less than 10 minutes—from power-on to serving data. These workloads include Oracle, SAP, SQL Server, and virtual desktops and servers. Years of NetApp experience and best practices enable you to quickly set up your new configuration.

Get proven storage efficiency

With ONTAP, you get a comprehensive portfolio of storage efficiency capabilities. Inline data compression, deduplication, and compaction work together to reduce your storage costs and maximize the data you can store. Plus, you can multiply your savings with space-efficient NetApp Snapshot™ copies, thin provisioning, replication, and cloning technologies.

Tier automatically to cloud
Deliver high performance to your applications and reduce storage costs by automatically tiering cold data from the performance tier to a NetApp StorageGRID object storage solution or a public cloud. Free up space on your performance tier, such as NetApp AFF and FAS systems or Cloud Volumes ONTAP (CVO) instances in a public cloud, so you can consolidate more workloads. For new all-flash system purchases, data tiering enables you to buy a smaller initial AFF configuration.

Maximize investment protection
ONTAP gives you the flexibility to create an integrated, scalable storage environment by clustering your on-premises storage controllers from different families—AFF all-flash and FAS hybrid-flash systems—and from different generations. You can grow your system with the latest hardware, continue to use your older hardware, and connect all of it to an ONTAP environment in the cloud. When it's time to retire a storage system, you can simply upgrade the controllers and keep data in place on the existing disk shelves.

Get simple, powerful management capabilities
NetApp data management infrastructure software, such as Cloud Manager, is designed to manage hybrid multi-clouds. You can centrally monitor the health of your environment by viewing metrics on capacity utilization, performance, availability, and data protection. It can also help automate your storage processes.

In addition, NetApp Active IQ® is a digital advisor that uses AIOps to simplify and automate the proactive care and optimization of your NetApp environment. Continuous risk assessments, predictive alerts, prescriptive guidance, and automated actions help prevent problems before they occur, leading to improved system health, higher system availability and improved security.

Powerful: Respond to changing business requirements
To support your critical applications, you need a storage environment that delivers high performance and availability across your hybrid multi-cloud. But you also need the versatility to scale and adapt as your business changes. ONTAP delivers on all these requirements with performance for scalable, nondisruptive operations.

Get flash optimization
ONTAP delivers the high throughput and consistent, sub-millisecond low latency that enterprise applications require, while providing comprehensive data services. ONTAP is optimized for flash, including AFF systems with NVMe solid-state drives (SSDs) and NVMe over Fabrics.

Deliver consistent performance
To maintain high customer satisfaction, adaptive quality of service (QoS) helps you deliver consistent performance by automatically adjusting storage resource levels to respond to changes in workloads (number of terabytes of data, priority of the workload, and so on). Adaptive QoS simplifies the implementation of policies to keep your workloads within prescribed minimum and maximum throughput targets.

Stay ahead of business changes with seamless scalability
You can start small and grow with your business by using high-capacity SSDs or HDDs or public clouds to scale your ONTAP storage environment. On-premises systems that run ONTAP can handle SAN, NAS, and object workloads that range from a few terabytes up to 176PB. You can scale by adding capacity to existing storage controllers or scale out by adding controllers to seamlessly expand your cluster up to 24 nodes. Or quickly deploy an ONTAP environment in public clouds using CVO.

ONTAP also supports massive NAS data containers that are easy to manage. With NetApp ONTAP FlexGroup, a single namespace can grow to 20PB or 400 billion files while delivering consistent high performance and resiliency.

Future-proof your data infrastructure
ONTAP lets you design and deploy your storage environment across the widest range of architectures, so you can match the approach that's right for your evolving business needs:

- On NetApp hardware systems: AFF all-flash systems, for the best latency for demanding performance, and FAS systems, for a balance of performance and capacity.
- Within a converged infrastructure: FlexPod® converged infrastructure solution from NetApp and Cisco
- As software-defined storage on commodity servers: ONTAP Select
- In the cloud: Cloud Volumes ONTAP (CVO)

You can move your data seamlessly between architectures to place it in the optimal environment for performance, capacity, and cost efficiency.

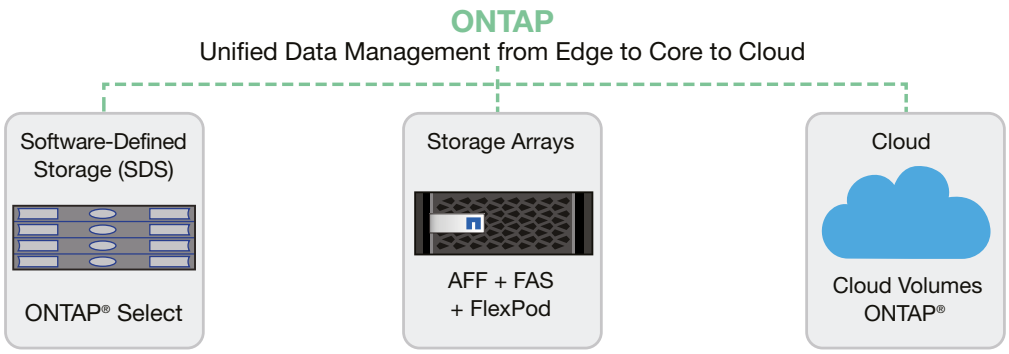


Figure 1) Standardize data management across architectures with a rich set of enterprise data services.

Trusted: Protect and secure your data across your hybrid cloud

Integrated data protection and nondisruptive operations

ONTAP provides NetApp integrated data protection to safeguard your operations and keep them running smoothly.

Meet your requirements for local backup with nearly instantaneous recovery by using space-efficient Snapshot copies. Achieve remote backup/recovery and disaster recovery with NetApp SnapMirror® asynchronous replication or with SnapMirror Cloud when replicating data to a cloud object store in a public or private cloud. Or, to step up to zero data loss protection (RPO=0), leverage SnapMirror Synchronous replication.

For your critical applications that require continuous data availability, NetApp MetroCluster™ and SnapMirror Business Continuity technologies synchronously mirror between locations. The storage arrays can be deployed at a single site, across a metropolitan area, or in different cities. MetroCluster is robust, array-based infrastructure for your SAN and NAS workloads. SnapMirror Business Continuity enables flexibility to consolidate multiple workloads and then granularly choose the most critical SAN applications to support with continuous availability if a data center disaster occurs.

With ONTAP, you can service and update your infrastructure during regular work hours without disrupting your business. Dynamically assign, promote, and retire storage resources without downtime over the lifecycle of an application. Data can be moved without application interruption, so you can get the data on the node that delivers the optimal combination of speed, latency, capacity, and cost.

Robust security and ransomware protection

The industry-leading portfolio of security capabilities in ONTAP helps you integrate data security and ransomware protection across your hybrid multi-cloud. Autonomous ransomware protection, based on machine learning, quickly identifies malware threats. And Multi-Admin Verification, an industry-first native approach, prevents malicious and accidental changes to your data by requiring multiple approvals for critical admin tasks. With the NetApp Volume Encryption feature that is built in to ONTAP, you can easily and efficiently protect your at-rest data by encrypting any volume on an AFF or FAS system. No special encrypting disks are required. In-flight encryption for backup and replication protects your data in transit. Plus, other features such as multifactor authentication, role-based access control (RBAC), and onboard and external key management increase the security of your data.

Secure consolidation

You can save time and money by sharing the same consolidated infrastructure for workloads or tenants that have different performance, capacity, and security requirements. And with ONTAP, you don't have to worry that the activity in one tenant partition will affect another. With multitenancy, a storage cluster can be subdivided into secure partitions that are governed by rights and permissions.

Rigorous compliance

To meet your stringent compliance and data retention policies, NetApp SnapLock® software enables write once, read many (WORM) protected data for your ONTAP environment. NetApp also provides superior integration with enterprise backup vendors and leading applications. In addition, cryptographic shredding by the NetApp secure purge technology enables you to remediate data spillage online while the system is still in use. It also provides state-of-the-art "right-to-erasure" capability for General Data Protection Regulation (GDPR).

Make a simple, straightforward transition to ONTAP

No matter what your starting point is, NetApp streamlines your move to ONTAP.

Consult our experts to plan and implement your transition and gain the latest ONTAP advantages from day one. You can use NetApp Services or NetApp Services Certified Partners, you can do it yourself by using our proven tools and processes, or you can combine these approaches.

Plus, when you're running ONTAP, you can use the Managed Upgrade Service to get the most from your investment by ensuring that your ONTAP software is always up to date.

Make your move to ONTAP.

About NetApp

In a world full of generalists, NetApp is a specialist. We're focused on one thing, helping your business get the most out of your data. NetApp brings the enterprise-grade data services you rely on into the cloud, and the simple flexibility of cloud into the data center. Our industry-leading solutions work across diverse customer environments and the world's biggest public clouds.

As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services, and applications to the right people—anytime, anywhere.

ONTAP Software and Features

	Function	Benefits
Data compaction	Packs more data into each storage block for greater data reduction	Works with compression to reduce the amount of storage that you need to purchase and operate
Data compression	Provides transparent inline and postprocess data compression for data reduction	Reduces the amount of storage that you need to purchase and maintain
Deduplication	Performs general-purpose deduplication for removal of redundant data	Reduces the amount of storage that you need to purchase and maintain
FabricPool	Automates data tiering to a NetApp StorageGRID object storage solution or a public cloud	Decreases storage costs for cold data and frees up space on your high-performance tier
FlexCache®	Caches actively read datasets within a cluster and at remote sites	Accelerates read performance for hot datasets by increasing data throughput within a cluster, and improves the speed and productivity of collaboration across multiple locations
FlexClone®	Instantaneously creates file, LUN, and volume clones without requiring additional storage	Saves you time in testing and development and increases your storage capacity
FlexGroup	Enables a single namespace to scale up to 20PB and 400 billion files	Supports compute-intensive workloads and data repositories that require a massive NAS container while maintaining consistent high performance and resiliency
FlexVol®	Creates flexibly sized volumes across a large pool of disks and one or more RAID groups	Enables storage systems to be used at maximum efficiency and reduces hardware investment
MetroCluster	Robust infrastructure that combines array-based clustering with synchronous mirroring to deliver continuous availability and zero data loss for SAN and NAS workloads; up to 700km distance between nodes	Maintains business continuity for critical enterprise applications and workloads if a data center disaster occur
Multi-Admin Verification	Require multiple approvals for critical admin tasks, such as "volume snapshot delete" or "volume delete".	Prevent malicious and accidental changes to your data. A single cluster administrator, or a ransomware attacker with a compromised administrator account, cannot execute critical commands without approvals from one or more additional administrators.

	Function	Benefits
Performance capacity	Provides visibility of performance capacity that is available for deploying new workloads on storage nodes	Simplifies management and enables more effective provisioning of new workloads to the optimal node
QoS (adaptive)	Simplifies setup of QoS policies and automatically allocates storage resources to respond to workload changes (number of terabytes of data, priority of the workload, and so on)	Simplifies operations and maintains consistent workload performance within your prescribed minimum and maximum IOPS boundaries
Ransomware Protection	Provides built-in, robust features that detect ransomware activity, prevent its spread, and enable quick recovery—including automatically taking snapshots and alerting administrators when ONTAP detects abnormal file activity	Protects automatically against ransomware attacks and enables quick recovery, to avoid paying the ransom
SnapCenter®	Provides host-based data management of NetApp storage for databases and business applications	Offers application-aware backup and clone management; automates error-free data restores
SnapLock	Provides WORM file-level locking, preventing changes and deletion of the file	Supports regulatory compliance and organizational data retention requirements. Plus, enables air-gap separation of Snapshot copies for enhanced ransomware protection and quick recovery from an attack
SnapMirror	Provides integrated remote backup/recovery and disaster recovery with incremental asynchronous data replication; preserves storage efficiency savings during and after data transfer	Provides flexibility and efficiency when replicating data to support remote backup/recovery, disaster recovery, and data distribution
SnapMirror Business Continuity	Combines flexible array-based clustering with more granular synchronous mirroring to deliver continuous availability and zero data loss for SAN workloads	Consolidate all your workloads and decide on the most critical SAN applications to support with continuous availability to maintain business continuity if a data center disaster occurs
SnapMirror Cloud	Provides integrated remote backup/recovery and disaster recovery with incremental asynchronous data replication leveraging S3 cloud resources	Provides flexibility and efficiency when replicating data to a cloud object store in a public or private cloud, to support remote backup/recovery, disaster recovery, and data distribution
SnapMirror Synchronous	Delivers incremental, volume-granular, synchronous data replication; preserves storage efficiency savings during and after data transfer	Achieve zero data loss protection (RPO=0)
SnapRestore®	Rapidly restores single files, directories, or entire LUNs and volumes from any Snapshot copy	Instantaneously recovers files, databases, and complete volumes from your point-in-time Snapshot copy
Snapshot	Makes incremental data-in-place, point-in-time copies of a LUN or a volume with minimal performance impact	Enables you to create frequent space-efficient backups with no disruption to data traffic
NetApp Volume Encryption	Provides data-at-rest encryption that is built into ONTAP	Lets you easily and efficiently protect your at-rest data by encrypting any volume on an AFF or FAS system; no special encrypting disks are required

Table 1) ONTAP offers a robust set of standard and optional features.

ONTAP software	Features
Required software:	
Core Bundle (all systems except AFF A900 and FAS9500)	All protocols (SAN/NAS/Object), SnapRestore, FlexClone, FlexCache, FPolicy, Encryption[1]
ONTAP Enterprise Edition (only for AFF A900 and FAS9500)	All protocols (SAN/NAS/Object), SnapRestore, SnapMirror, SnapCenter, FabricPool (to ONTAP-S3 and StorageGRID), FlexClone, FlexCache, FPolicy, Encryption[1]
Optional software:	
Data Protection Bundle (not needed for AFF A900 and FAS9500)	SnapMirror, SnapCenter
Security and Compliance Bundle	Autonomous ransomware protection, SnapLock, multi-tenant key management
Hybrid Cloud Bundle	SnapMirror Cloud

1 Availability subject to Global Trade Compliance

The Logicalis + NetApp Partnership

Why Logicalis + NetApp Hybrid Cloud?

Data is the new driver of growth and change. As a NetApp Partner, Logicalis enables data-driven digital transformation by making it easier to deploy new business services, whether they are on-site or in the cloud. The team delivers deep experience in storage technology, tools that manage all your cloud storage needs, and an a la carte service menu for maximum flexibility.

About Logicalis

Award-winning Logicalis US works alongside our customers to recommend, plan, and implement a digital transformation strategy that aligns with their business goals. Through our consulting and managed services and with our longtime strategic partners, we then deliver custom security, network, collaboration, cloud, and data center solutions.

As Architects of Change™, we help our customers to deploy and adopt technologies that engage their employees and customers, optimize and manage IT operations for improved agility and cost savings, and employ emerging technologies that deliver innovative outcomes.

Logicalis US is part of the Logicalis Group, which has more than 6,500 employees and annualized revenues of $1.5 billion, from operations in Europe, North America, Latin America, Asia Pacific and Africa.

Contact your Logicalis Account Executive or fill out a form by clicking “Contact Us.”

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