DATASHEET

NETAPP AFF C-SERIES

Consolidate and grow your general-purpose workloads with unmatched density, scale, and efficiency

The challenge

Organizations are striving to unlock the full potential of their data and drive transformative change, all while facing budget constraints, IT skill shortages, and an escalating need to protect data from cyberthreats. To truly accelerate IT modernization, they need storage solutions that offer seamless, unified scalability; superior density and efficiency; and best-in-class data protection—all with optimal performance and an affordable price.

The solution

NetApp has the answer. NetApp® AFF C-Series product family is game-changing capacity flash storage designed to modernize general-purpose workloads and increase IT agility without breaking the bank. Using ultradense capacity flash and maximizing data efficiency, the AFF C-Series delivers a great balance between all-flash performance and cost-effectiveness. Organizations consolidating workloads from hybrid storage solutions benefit from comprehensive data management and full support for block, file, and object protocols—streamlining workflows while reducing power and cooling requirements.

Data storage without boundaries

Organizations are striving to make their ITOps more cost- and energy-efficient while also meeting their performance and capacity requirements. AFF C-Series systems help customers achieve these goals by reducing data center costs with a solution that's more sustainable and efficient than hybrid flash and HDD systems.

The budget-friendly AFF C-Series is ideal for a wide range of general-purpose applications. It's also a great choice for hosting database and VM copies for DevTest sandboxes and serves as an ultrareliable replication target. Users modernizing from hybrid flash can reduce their footprint by up to 99%, consume up to 97% less energy, and benefit from the performance of capacity-optimized all-flash storage.

AFF C-Series systems are built on high-density NVMe capacity flash technology. They also offer scale and flexibility to meet dynamic storage demands. Unified capacity for block, file, and object workloads provides seamless scaling from 122TB to over 700PB of effective capacity. This facilitates uninterrupted growth and adaptability, making the AFF C-Series ideal for general-purpose applications and consolidated workloads.

The AFF C-Series features comprehensive management with one intuitive interface for all storage and Data Services delivering simplified workflows, centralized administration, and complete control. With the AFF C-Series, your storage infrastructure is not just meeting current demands—it's primed to adapt to the evolving needs of the future.

Maximize density and efficiency

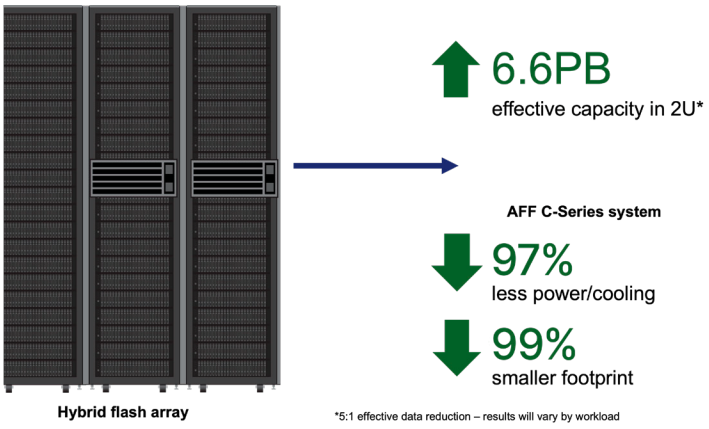

Figure 1) Reduce TCO with capacity flash.

KEY BENEFITS

Unlock unprecedented, unified capacity for block, file, and object workloads

- Achieve nondisruptive growth and adaptability by seamlessly scaling your storage infrastructure from 122TB to 700+PB effective capacity.
- Enjoy comprehensive data management for consolidated workloads, including replication, data tiering, and adaptive QoS.
- The NetApp Console centralizes management across your NetApp systems to simplify operations, consolidate insights, and safeguard every action with secure-first design.
- Built for 99.9999% availability.

Maximize storage density and efficiency to accelerate modernization

- Reduce data center footprint with ultradense drives and best-in-class data reduction.
- Boost performance and slash power consumption and environmental impact by modernizing from hybrid flash to the all-flash AFF C-Series.
- Save up to 70% on storage costs through automated data tiering to the cloud.
- Leverage a single storage OS to manage, protect, and mobilize data across your hybrid cloud.

Protect your data through real-time ransomware detection with industry-leading 99%+ accuracy

- Shield your data from cyberthreats with built-in AI/ML-based ransomware detection, SIEM/XDR integrations, and guaranteed recovery that includes end-to-end orchestration.
- Maintain business continuity and speed disaster recovery with integrated solutions that minimize disruptions, even during site failures.
- Provide the highest level of security and compliance for sensitive data with the only enterprise storage validated by NSA CSfC for top-secret data.

Ultradense capacity flash combined with NetApp deduplication and compression delivers superior storage density without affecting performance. The AFF C-Series eliminates inefficient storage silos to reduce storage sprawl, and boosts performance while slashing power consumption. With a single storage OS, you can seamlessly manage, protect, and mobilize data across data centers and hybrid cloud environments, streamlining operations and enhancing data management.

Unified storage OS powered by ONTAP
Part of our unified data storage portfolio, the AFF C-Series is powered by NetApp ONTAP® software, which provides effective, secure data management and consistent access to data services across environments. A unified management experience results in ease of use and efficiency, eliminating infrastructure silos and data bottlenecks and delivering unmatched simplicity at scale.

ONTAP provides a common set of features across on-premises and cloud storage, which simplifies operations so that IT teams can focus on strategic business priorities. It allows you to manage storage across a hybrid multicloud that spans flash, disk, and cloud running block, file, and object workloads. You can easily move data within or between storage clusters or to the cloud—wherever it's most useful. ONTAP is the foundation for the intelligent data infrastructure that powers data to drive innovation.

Consolidate workloads and expand capacity without disruption
Built on the nondisruptive clustering scale-out architecture in ONTAP, AFF C-Series systems allow you to expand capacity with ease, eliminating storage silos and painful data migrations.

You can also:

- Consolidate workloads on AFF C-Series systems, and safeguard SLAs in multiworkload and multitenant environments with built-in adaptive QoS
- Manage massively scalable NAS containers of up to 20PB and 400 billion files with a single namespace

Tier cold data to the cloud for greater storage and energy savings
A hybrid cloud IT infrastructure powered by NetApp technology lets you simplify and integrate data management across cloud and on-premises environments to meet business demands and gain a competitive edge. With the AFF C-Series, you can maximize performance and reduce overall storage costs by up to 70% by automatically tiering cold data to the cloud. This allows you to reserve flash storage for more frequently used data while also consuming less energy. With NetApp's leading cloud integrations, you can also connect to more clouds for more data services, such as backup and recovery, replication, tiering, and ransomware resilience. Best of all you can simply manage all your data, either on premises or in the cloud, with the NetApp Console centralized management plane.

Keep critical data secure, available, and protected

For data-driven enterprises, the business impact of data loss can be dramatic—and costly. Ransomware attacks are getting more sophisticated, bypassing traditional security. The effect can be severe: data loss, financial extortion, and business disruptions.

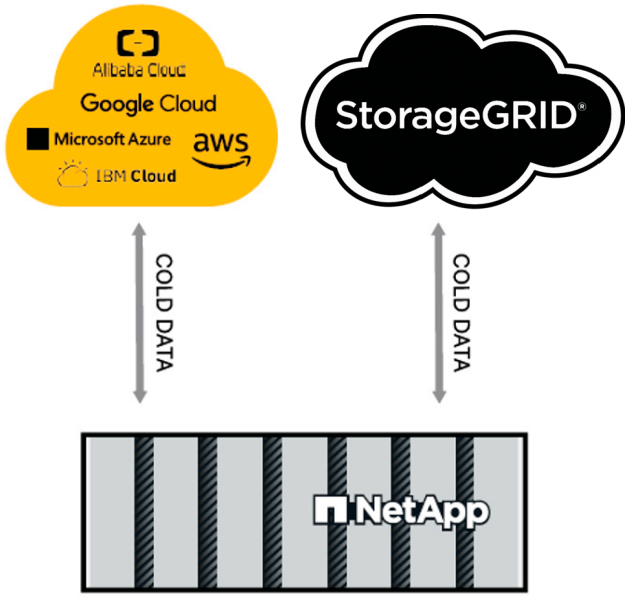

Figure 2) Automatic tiering to the cloud.

Organizations must protect their valuable data from ransomware and other external cyberattacks, and also from internal threats, to keep their data available, eliminate disruptions, and quickly recover from failures.

NetApp AFF systems are the only hardened enterprise storage validated by the NSA's CSfC program to store top-secret data. They deliver a comprehensive suite of integrated and application-consistent data protections, including:

- Robust protection through multifactor authentication, immutable tamperproof NetApp Snapshot™ copies, end-to-end encryption, and automatic blocking of malicious file types
- Real-time autonomous ransomware detection, enhanced by embedded machine learning (ML) models, designed for industry-first 99%+ accuracy
- SIEM/XDR integrations
- Integrated active-active business continuity
- Cyber-vault capability that combines advanced encryption, immutable backups, and air-gapped storage
- Application-consistent data protection and clone management with the NetApp SnapCenter® licensed capability
- Replication to any NetApp AFF or FAS system on the premises or in the cloud with NetApp SnapMirror® technology
- Guaranteed recovery with end-to-end orchestration through the NetApp Ransomware Recovery Guarantee* and Ransomware Recovery Assurance Service

NetApp is the only storage vendor that can give you this level of comprehensive, automated protection and guaranteed recovery.

Integrate business continuity and get fast disaster recovery

With AFF, you can maintain constant data availability with zero data loss and zero downtime if a disruption or disaster occurs. NetApp MetroCluster® software replicates your data synchronously to a separate location to protect your entire system. If something goes wrong at one site, your applications automatically and instantaneously switch to the other site. For a more tailored approach, choose NetApp SnapMirror active sync to cost-efficiently replicate the most critical data while taking advantage of the increased performance, greater flexibility, and enhanced load-balancing capability that come with the symmetric active-active architecture.

With NetApp's comprehensive security solutions, you can achieve FIPS 140-2 compliance (Level 1 and Level 2) with self-encrypting drives. And you can meet governance, risk, and compliance requirements with security features such as secure purge, logging and auditing monitors, and write once, read many (WORM) file locking.

Future-proof your investments

When you purchase NetApp AFF storage, you can future-proof your investment with our industry-leading storage ownership program. Make the smart choice today and stay current with technological innovations.

- Eliminate the headache of tech refreshes by using the Storage Lifecycle Program: Get a new controller every 3 years with support-managed updates included, or move to the cloud—whichever best meets your needs.
- Achieve high performance while minimizing storage cost with the Storage Efficiency Guarantee:* If we don't meet your workload goals, we'll make it right at no cost to you.
- Recover data with the Ransomware Recovery Guarantee:* If you can't recover your data copies with help from NetApp or a partner, NetApp will offer compensation.

Flexibly consume storage resources

Like the rest of the NetApp portfolio, AFF C-Series systems are available through traditional capital expenditure (capex) or as a service with the NetApp Keystone® portfolio. Gain financial flexibility as you modernize, and better align IT expenditure to business needs.* Terms and conditions will apply.

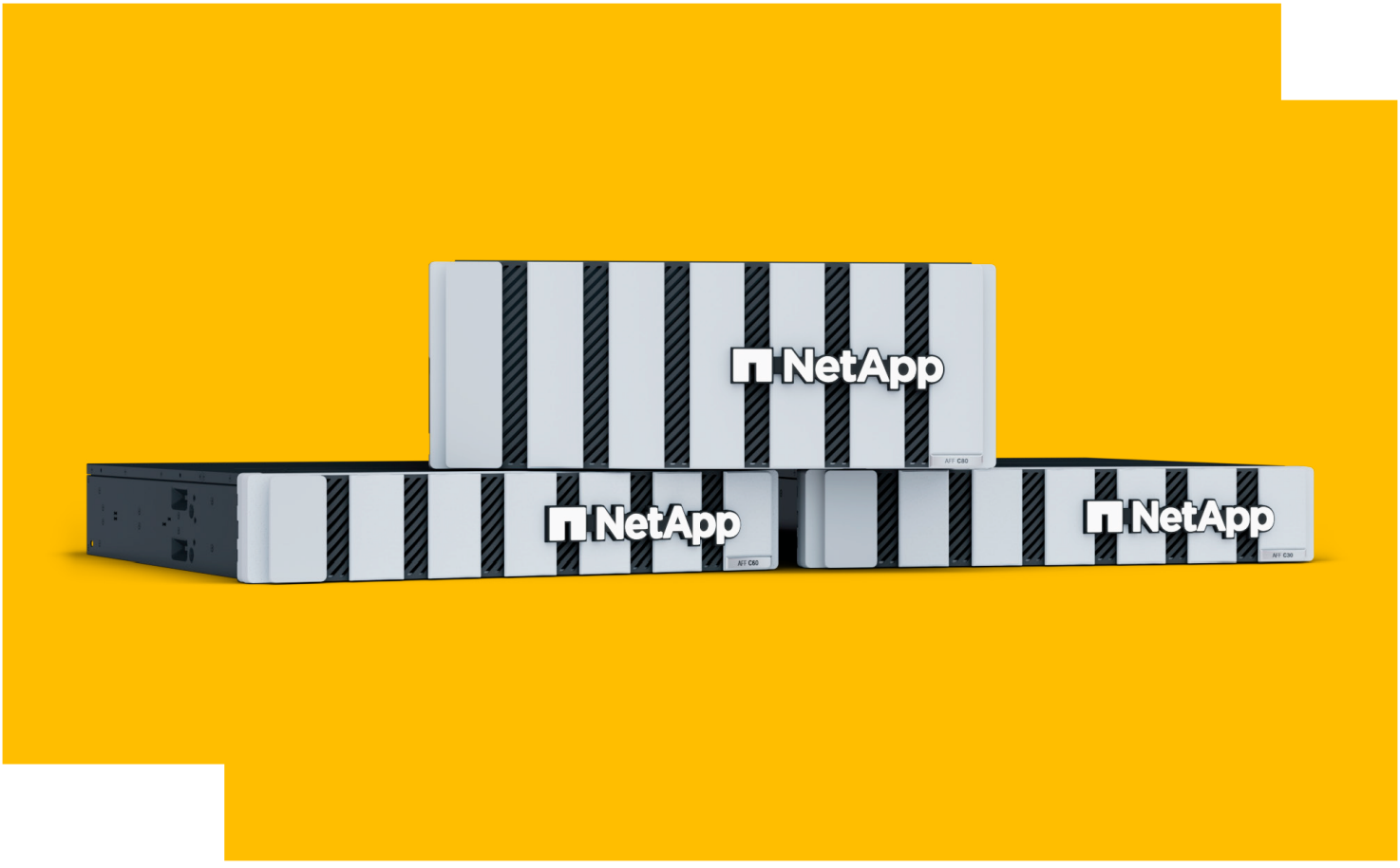

Table 1) AFF C-Series technical specifications.

	AFF C80	AFF C60	AFF C30
Maximum scale-out	2–24 nodes (12 HA pairs)	2-8 nodes (4 HA pairs)	2-8 nodes (4 HA pairs)
Maximum SSDs	2880	480	288
Maximum effective capacity[1]	707PB	118PB	29.4PB
Controller form factor	4U with 48 SSD slots	2U with 24 SSD slots	2U with 24 SSD slots
PCIe expansion slots (per HA pair)	18	8	8
FC target ports (64Gb autoranging)	56	24	24
200GbE ports (100GbE/40GbE autoranging)	24	n/a	n/a
100GbE ports (40GbE autoranging)	36	16	16
25GbE ports (10GbE autoranging)	56	24	24
10GBASE-T (1GbE autoranging)	56	24	24
Storage networking supports	NVMe/TCP, NVMe/FC, FC, iSCSI, NFS, pNFS, CIFS/SMB, S3	NVMe/TCP, NVMe/FC, FC, iSCSI, NFS, pNFS, CIFS/SMB, S3	NVMe/TCP, NVMe/FC, FC, iSCSI, NFS, pNFS, CIFS/SMB, S3
OS version	ONTAP 9.16.1 or later	ONTAP 9.16.1 or later	ONTAP 9.16.1 or later
Shelves and media	NS224 (2U, 24 drives, NVMe QLC SSDs)	NS224 (2U, 24 drives, NVMe QLC SSDs)	NS224 (2U, 24 drives, NVMe QLC SSDs)
Power consumption (median)	1654W[2]	628W[2]	628W[2]
Host/client OS supported	Windows Server, Linux, Oracle Solaris, IBM AIX, HP-UX, macOS, VMware ESX		

Technical specifications for previous AFF C-Series models.

[1] Effective capacity based on 5:1 (NAS) storage efficiency ratios with the maximum number of SSDs installed; space savings will vary dependent on workload and use cases.

[2] Estimate under typical conditions—awaiting field data for new product.

Table 2) AFF C-Series software

Data access protocols	FC, iSCSI, NVMe/FC, NVMe/TCP, FCoE, NFS, SMB, S3
High availability	• Active-active controller architecture • Up to 4 nodes per site on SnapMirror active sync (formerly SnapMirror Business Continuity) • Nondisruptive maintenance, upgrade, and scale-out clustering • Multisite resilience for continuous data access
Storage efficiency	• Inline data compression, deduplication, and compaction • Space-efficient LUN, file, and volume cloning • Automatic data tiering
Data management	• Intuitive onboard GUI, REST APIs, and automation integration • AI-informed predictive analytics and corrective action • QoS workload control • Easy provisioning and data management from market-leading host operating systems, hypervisors, and application software • Asymmetrical striping of large files across ONTAP FlexGroup volumes • API support for NAS volumes sharing their data through S3
Scalable NAS	Large-scale single namespace management with local and remote caching
Data protection	• Application-consistent Snapshot copies and restore • Integrated remote backup/disaster recovery • Synchronous zero-data-loss replication • Tamperproof Snapshot copies
Security and compliance	• Autonomous ransomware protection • Multifactor admin access • Secure multitenant shared storage • In-flight and data-at-rest encryption • Regulatory-compliant data retention • Multi-admin verification before executing sensitive commands
Cloud integration	• Seamlessly tier, back up, replicate, and cache data to private and public clouds • Move data between major public cloud services • Cloud mediator in NetApp Console

Get more business value with services

Whether you're planning your next-generation data center, need specialized know-how for a major storage deployment, or want to optimize the operational efficiency of your existing infrastructure, NetApp Professional Services and NetApp Certified Partners can help.

Contact Us

About NetApp

NetApp is the intelligent data infrastructure company, combining unified data storage, integrated data, operational and workload services to turn a world of disruption into opportunity for every customer. NetApp creates silo-free infrastructure, harnessing observability and AI to enable the industry's best data management. As the only enterprisegrade storage service natively embedded in the world's biggest clouds, our data storage delivers seamless flexibility. In addition, our data services create a data advantage through superior cyber resilience, governance, and application agility. Our operational and workload services provide continuous optimization of performance and efficiency for infrastructure and workloads through observability and AI. No matter the data type, workload, or environment, with NetApp you can transform your data infrastructure to realize your business possibilities. Learn more at www.netapp.com.

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