## HOW TO TAKE A DATA-CENTRIC APPROACH TO CYBER RESILIENCE

To build a strong and resilient data center infrastructure, you need to start with data as the foundation. The challenge is that data is being generated at incredible rates, even as ransomware attacks are surging. The key? Transition to a unified data fabric based on modern, flash-based storage systems. This will improve the efficiency and flexibility of your operations, simplify data management to gain greater visibility into your data, and provide more secure stewardship of that data. Here's how that all comes together.



#### **DATA UNDER ATTACK**

Although the number of ransomware attacks leveled off a few years ago, they are rising again. Government remains a high-profile target: Infrastructure Sectors Affected by Ransomware

Increase in ransomware attacks between 2022 and 2023

Individuals impacted by ransomware attacks on agencies between 2018 and 2022

The estimated overall cost of these attacks

249 Healthcare & Public Health Critical Manufacturing 218 **Government Facilities** 156 137 Information Technology 122 Financial Services 87 **Commercial Facilities** Food and Agriculture 75 44 Transportation Communications Energy Chemical

The National Institute of Standards and Technology's (NIST) Cybersecurity Framework is built around five pillars:



Establish, communicate and monitor risk management strategy, expectations and policy



current risks

**Understand** 



to manage risks



**Emergency Services** 

Water/Wastewater Systems

Defense Industrial Base

possible cyberattacks/ compromises



cybersecurity

incident



## **KEY CONSIDERATIONS IN DATA STORAGE**

Modernizing data storage is a key step to building a foundation for data resilience. Benefits include:



## ownership:

Lower cost of

- Reducing rack space real estate and power and cooling requirements
- Optimizing resources through thin provisioning, deduplication, compression and compaction
- less-frequently used, data in the cloud

Storing "cold," or



#### performance: Nondisruptive scaling in a

- cluster without silos or data migration Unified support across
- different media and protocols, on premises or in the cloud Support for non-volatile
- memory express over Fibre Channel and Transmission Control Protocol connectivity



#### Availability, security and protection of data:

ransomware solutions

Data security and

- Simplified backup and recovery, ensuring apps resume seamlessly
- Business continuity and fast disaster recovery with zero data loss, zero downtime

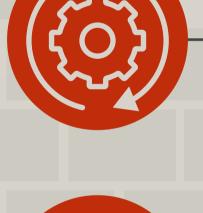


## The core of a modern data storage platform is flash storage, but flash storage alone

software upgrades

THE FOUNDATION: FLASH STORAGE

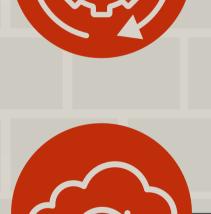
is not enough. Other components and features include:



· Affordable flash for large-capacity, non-mission-critical workloads that don't require sub-millisecond performance • Dedicated storage for storage-area network-based (SAN) workloads that

require high performance, continuous availability and operational efficiency

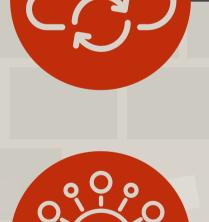
Nondisruptive operations that include hardware scalability and



environments. Use cases include: Storage of cold data Data backup solutions

A hybrid cloud IT infrastructure that enables you to simplify and

integrate data management across on-premises and cloud



Disaster recovery

A **unified data management platform** that provides a common set

of features across your on-premises and cloud storage systems,

eliminating silos and supporting any data, anywhere.



# A MODERN RANSOMWARE DEFENSE

Here are some ways a robust flash storage system and data management platform

can help you address the NIST Cybersecurity Framework:



#### to it and the level of protection required.



## ransomware protection and

end-user behavior analysis. THE PATH FORWARD



as soon as anomalous behavior is detected.

Ransomware and other threats show no sign of abating. If anything, they are likely to worsen as

Learning. Legacy storage and data management platforms are not up to task. ThunderCat and NetApp provide storage solutions that help agencies achieve the vision of a data-centric approach to cyber resilience. One key offering is NetApp ASA, all-flash SAN arrays

malicious actors increase the lethality and velocity of their attacks with Al and Machine

for mission-critical workloads. Another is NetApp AFF C-Series, low-cost capacity flash storage

for general use. Both are powered by NetApp ONTAP data management software.

Learn how to future proof your storage environment Learn about NetApp's Ransomware with the NetApp Storage Lifecycle Program Recovery Guarantee





