

SOLUTION BRIEF

Pure Storage Support for the DoD Zero Trust Architecture

Trust Nothing, Verify Everything.

Pure Storage is part of an organization's Zero Trust Architecture (ZTA). The built-in features and services offered by Pure Storage allow organizations to Trust No One.

What is Zero Trust?

The National Institute of Standards and Technology (NIST) Special Publication 800-207 describes Zero Trust through "protecting resources (assets, services, workflows, network accounts, etc.), not network segments, as the network location is no longer seen as the prime component to the security posture of the resource." High walls and wide moats are no longer sufficient, a defense-in-depth methodology must be employed. Every access request to a resource must be continuously challenged and verified.

Department of Defense Zero Trust Pillars

The DoD's Zero Trust Strategy states "Defending DoD networks with high-powered and ever-more sophisticated perimeter defenses is no longer sufficient for achieving cyber resiliency." The DoD has consolidated the Zero Trust concepts into seven Trust Pillars. The DoD seven Pillars are¹:

1. **User:** Continually authenticate, access, and monitor user activity patterns to govern users' access and privileges while protecting and securing all interactions.
2. **Devices:** Understanding the health and status of devices informs risk decisions. Real time inspection, assessment and patching informs every access request.
3. **Applications and Workloads:** Secure everything from applications to hypervisors, to include the protection of containers and virtual machines.
4. **Data:** Data transparency and visibility enabled and secured by enterprise infrastructure, applications, standards, robust end-to-end encryption, and data tagging.

¹ Pillar descriptions derived from [DOD Zero Trust Strategy](#)



Innovation Leadership

- A Leader in the 2023 Gartner® Magic Quadrant™ for Primary Storage
- Evergreen Service Models
- Install once and upgrade non-disruptively



Security

- FIPS 140-2 Certified
- SafeMode Immutable Snapshots
- Multi-factor authentication
- Data-at-rest encryption, always on



Customer Experience

- Manage your data experience with Pure1®
- Experience seamless installation
- U.S.-based, 24/7 support

- 5. **Network and Environment:** Segment, isolate and control (physically and logically) the network environment with granular policy and access controls.
- 6. **Automation & Orchestration:** Automated security response based on defined processes and security policies enabled by AI, e.g., blocking actions or forcing remediation based on intelligent decisions.
- 7. **Visibility & Analytics:** Analyze events, activities, and behaviors to derive context and apply AI/ML to achieve a highly personalized model that improves detection and reaction time in making real-time access decisions.

Pure Storage Support of the DoD Trust Pillars

Pure Storage protects organizational data with high availability without sacrificing efficiency. A crucial part of securing user data is the [built-in cybersecurity measures](#) found on Pure Storage’s data platforms. In support of ZTA, Pure Storage works to provide solutions within each of the seven pillars with its many built-in cybersecurity features designed to keep an organization’s data secure².

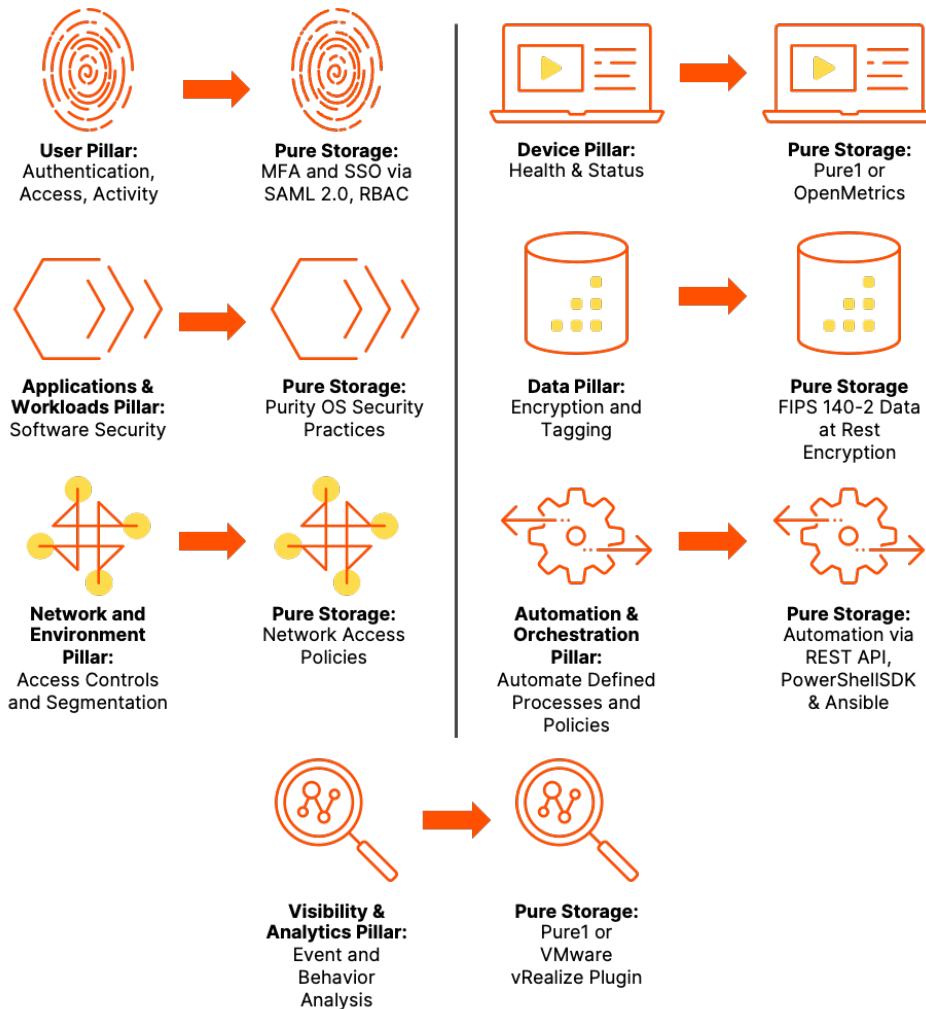


Figure 1. Pure Storage’s functional support in each DoD Trust Pillar.

² Security features can differ between Pure Storage product lines.

Pure Storage's SafeMode Immutable Snapshots

Whether it's a malicious user inside an organization or an external actor deploying ransomware from afar, Pure Storage's [SafeMode](#) immutable snapshots prevent malicious actors from deleting data without a second factor for root authentication, allowing organizations to restore lost data if necessary. In the event of a malicious attack, SafeMode helps to ensure an organization's operations are either not impacted or only minimally interrupted.

Pure1

Pure1[®] Manage is an internet-connected cloud resource provided by Pure Storage. It enables deep visibility into a data environment, analyzes hardware and software status, and assists in the automation and orchestration of data tasks. Pure1 proactively monitors devices for vulnerabilities and hardware and software failures from both the Purity Operating System and devices connected to the data platform. Pure1 leverages AI/ML to analyze storage configurations to provide recommendations and forecasting to implement the right policies for any organization's unique environments.

Summary

Zero Trust is a culture and a strategy, not just a technology. It requires modern rethinking to combat complex and persistent security threats inside an organization instead of relying on a strong perimeter to deter malicious actors. It must be accomplished through collaboration with all technology partners, organizational ownership of implementation, and a shift from a compliance-based mentality to a risk-based one.

A Zero Trust Architecture is comprised of a variety of technologies. These technologies can be a combination of software and hardware solutions including software-defined data centers, next-generation hardware, user entity and behavior analytics, and everything in between. Enterprise data storage arrays need to implement software and hardware solutions to store, manage, and protect data repositories of varying sizes and types at different levels of performance, capacity, reliability, and scalability.

Pure Storage is one part of an organization's greater Zero Trust Architecture. Through features such as multi-factor authentication, network access policies, and proactive monitoring, Pure Storage can authenticate always to ensure who is allowed to access an organization's data.

Additional Resources

- National Institute of Standards and Technology (NIST) Special Publication [800-207](#).
- National Institute of Standards and Technology (NIST) [Defense-in-Depth](#).
- The U.S. Department of Defense [Zero Trust Strategy](#).
- The President of the United States' Executive Order on [Improving the Nation's Cybersecurity](#).

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