NetApp and Data Management for the Joint Information Environment (JIE)

What Is JIE?

JIE is a secure joint information environment, comprised of shared information technology (IT) infrastructure, enterprise services, and a single-security architecture to achieve full spectrum superiority, improve mission effectiveness, increase security and realize IT efficiencies. JIE is operated and managed per the Unified Command Plan (UCP) using enforceable standards, specifications, and common tactics, techniques, and procedures (TTPs).

JIE Transformation Execution Order, November 29, 2012

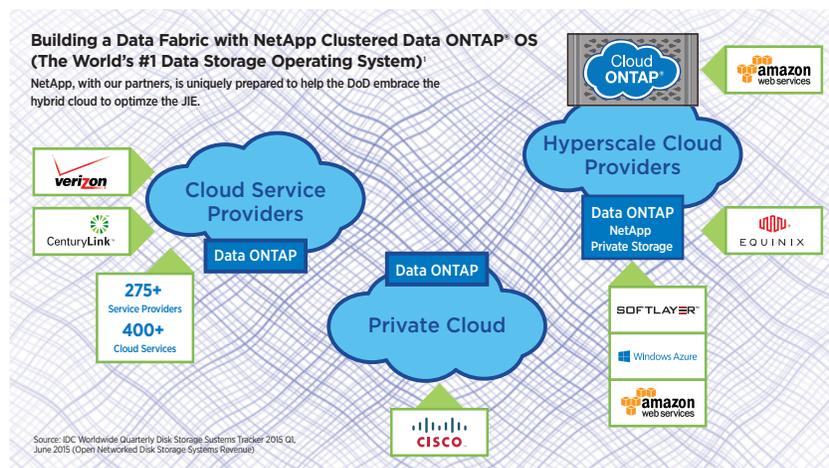## Data Access, Data Security, and Information Sharing Are Critical Enablers of JIE

For JIE to be successful, what is needed is an infrastructure that is flexible, open, and agile. JIE needs solutions that are adaptable to different service and agency environments as well as to new requirements from the U.S. DoD and our alliance partners These solutions must be in compliance with multiple security guidelines. The infrastructure must support data that exists in tactical, mobile, small office, data center, and private and public cloud environments concurrently. In addition, the data must be easily managed and mobile across all environments in order for JIE to be accepted and embraced.

NetApp® is uniquely positioned to provide data management for the JIE. As the leading data storage provider to the Department of Defense, NetApp creates innovative storage and data management solutions that boost IT efficiency and flexibility and has a long history of meeting stringent DoD security guidelines. Military organizations that use NetApp solutions do more with less; they no longer have to choose between saving money and quickly accomplishing goals.

Moreover, NetApp helps commands, programs, and weapons systems deliver higher quality IT services more quickly with lower capital and operating expenses. Currently NetApp data management is key to global DoD operations, with over 12,500 systems deployed and more than 1.5 million Microsoft® Exchange mailboxes supported across Army Battle Command/DCGS, USMC CoC, Navy ISNS and NGEN, USAF AOCs, and the Defense Information Systems Agency. Agencies such as DARPA, DLA, CAF, and DFAS are large-scale users of NetApp technology.

To support DoD's JIE, and its stated desire to move to the cloud, NetApp is the only data storage provider that provides a Data Fabric that seamlessly knits together and enables data movement among: on-premises/private cloud implementations; hosting capabilities provided by cloud service providers; and hyperscale cloud providers such as Amazon Web Services, Microsoft Azure, and IBM Softlayer.

Additionally, NetApp provides data management at the end points of the network as part of joint regional security stacks (JRSSS), provides converged infrastructures for on-premises solutions, and provides comprehensive enterprise monitoring and optimization tools. Each is described on the reverse side of this paper.

Building a Data Fabric with NetApp Clustered Data ONTAP® OS (The World's #1 Data Storage Operating System)[1]
NetApp, with our partners, is uniquely prepared to help the DoD embrace the hybrid cloud to optimze the JIE.

Cloud ONTAP®
Hyperscale Cloud Providers
Cloud Service Providers
Data ONTAP
Data ONTAP
NetApp Private Storage
275+ Service Providers
400+ Cloud Services
Private Cloud
Data ONTAP

Source: IDC Worldwide Quarterly Disk Storage Systems Tracker 2015 Q1, June 2015 (Open Networked Disk Storage Systems Revenue)

End-point Data Management
NetApp E2700 System

The smooth, secure execution of the JIE depends on the capabilities of security stacks operating at very high speeds for packet capture, SIEM, and analysis. Consistent performance in a complex environment is key. And resources, space, and power are limited.

The solution is a storage capability with enterprise-class features purpose-built to optimize performance for mixed workloads. NetApp's E2700 delivers low latency and incredible IOPS with no data loss at network speeds of over 80-Gbps/Sec while minimizing complexity, maintenance, power, and space requirements. The intuitive interface of the E2700 simplifies installation and maintenance. Its growth flexibility makes the E2700 the ideal solution for the rapid, unpredictable growth expected in JIE. The E2700 provides enterprise-level storage capabilities, delivering consistent performance, data integrity, and security. Its SANtricity® OS features application-aware plug-ins for Microsoft, Oracle, and VMware environments. This simplifies administration and lowers storage management costs. Full-disk encryption is supported, with negligible impact on performance.

Converged Infrastructures
FlexPod from NetApp and Cisco
To meet the competing demands of responsiveness and reduced cost in an on-premises JIE environment, DoD organizations are rapidly evolving from do-it-yourself IT to much more efficient integrated infrastructures.

Beyond cost savings and speed of deployment, DoD users expect converged solutions to support completely new IT capabilities that can't be delivered any other way.

The first-in-class FlexPod® platform is the integrated infrastructure solution from NetApp and Cisco. The latest validated designs feature new technologies and enable new use cases that dramatically change the way IT delivers value:


- New designs with NetApp FAS8000 storage bring the unique benefits of unified scale-out storage, flash accelerated and cluster enabled for new levels of performance and scale.

- Software-defined innovations such as Cisco Application Centric Infrastructure allow smart software to automate hardware resources across next-generation data centers.

- In terms of units sold, FlexPod is the leading converged infrastructure for the DoD and the world.

Storage Resource Management
NetApp OnCommand Insight Tool
Execution of the JIE involves economic pressures that force IT teams to continually improve efficiency, reduce costs, and respond more quickly to mission needs. Shared IT infrastructures and the cloud are increasingly viewed within the DoD as the only ways to sustain continued IT improvement. The reality is that most DoD data center infrastructures are a heterogeneous mix of server, network, and storage solutions. Some applications are virtualized, while others are not, and data growth continues at alarming rates.

OnCommand® Insight is the answer. It is part of the portfolio of NetApp OnCommand products that help administrators better control, automate, and analyze their storage infrastructure, OnCommand Insight helps DoD organizations of all sizes optimize the infrastructure they already have for maximum benefit while simplifying the process of determining what and when to buy.
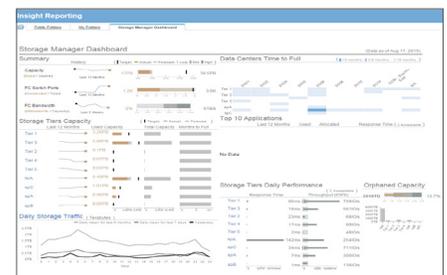
OnCommand Insight also takes the risk out of complex technology migrations. It lets DoD IT leaders manage storage as an end-to-end service and to integrate storage into their entire IT service delivery chain.