



THE ROLE OF A DATA-DRIVEN SOLUTION PORTFOLIO IN DIGITAL TRANSFORMATION (DX)

An IDC Infobrief, sponsored by NetApp, Inc. | April 2018

EXECUTIVE SUMMARY

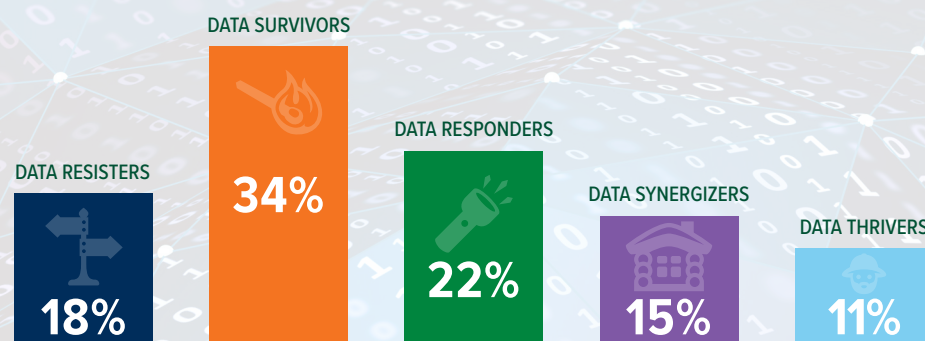
Successful DX relies on converting data into actionable insights, and using a closed-loop process to better use data in decision making. This reliance on data is contributing to a new digital era. 3rd platform (Cloud, Social, Mobile and Big Data) computing is the underpinning of DX worldwide. Artificial Intelligence is poised to transform next generation IT and business processes.

IDC recently completed a global research study with NetApp to understand organizations data related challenges, stage of DX maturity, and strategies and solutions they can employ to embrace and accelerate DX.

The key conclusions are as follows:

As per IDC study, nearly half of the businesses are at stage 1 and 2 of maturity on a 5 stage data-driven DX maturity model

Organizations' Assessment of Data-Driven DX Maturity



Source: Become a Data Thriver Study, sponsored by NetApp, November 2017

Data-driven digital transformation drives superior business outcomes. Compared to Data Survivors, over the past three years Data Thrivers have achieved:

- » **6X** improvement in operational efficiency
- » **3X** increased profitability, new customer acquisition, and employee productivity
- » **2X** top-line revenue growth, customer satisfaction improvement, and ability to drive incremental revenue from new product innovations/business transformation

Data Thrivers develop a data-driven DX roadmap of new roles, staffing models and investments to innovate and remain competitive in today's business climate.

New Roles

- » Chief Data Officer
- » Chief Transformation Officer
- » Data Management Executive
- » Data Scientists



New Staffing Models

- » DX cross-functional team including IT
- » Dedicated IT DX team
- » IT staff for LOB DX projects



New Investments

- » All-flash arrays with NVMe and SCM
- » Data Services for Hybrid Cloud
- » Hyperconverged and Container Optimized Storage
- » Intelligent Infrastructure



Data-Driven Digital Transformation

ACCELERATE AND OPTIMIZE ANALYTICS/AI WORKLOADS

Customer value statements are provided by NetApp

60%
of Data Thrivers
are Modernizing
their Infrastructure

Customer Value	NetApp Offering <i>Functionality</i>
Flexibility and simplicity in dealing with different types of data sources and formats.	ONTAP Unified access to data (block/file; structured and unstructured)
Cost-effective scale for massive datasets.	AFF/FAS/ONTAP FlexGroup All-flash guarantee; Dedupe and compression; scale to 20PB and beyond in single volume; linear performance scaling .
Superior performance for Real-time analytics and AI deep learning training cluster.	AFF/ONTAP FlexGroup Low latency and high throughput with performance scaling for random read, heavy metadata profiles and streaming IO; NVMe and SCM support.
Speed, security and cost-efficiency.	ONTAP SnapMirror, NetApp Volume Encryption (NVE), and ONTAP FabricPool Highly efficient smart data mover technology
Simplified and integrated data management; single solution for deep learning pipeline from edge to cloud.	ONTAP Select (edge), ONTAP 9 (core), ONTAP Cloud (cloud) Data Fabric integration from edge to core to cloud.
One copy of a filesystem to serve both big data analytics (Hadoop, Spark) and AI/ML/DL workloads.	NetApp In-place Analytics Module

To learn further how NetApp can help you modernize your Infrastructure, click on the link below:

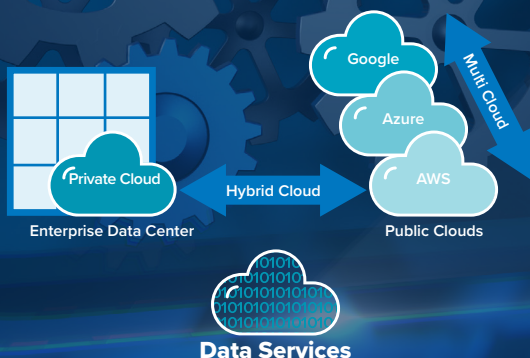
NetApp Flash Storage Transforms Infrastructure

INTEGRATE AND OPTIMIZE CLOUD

Customer value statements are provided by NetApp

33%
of Data Thrivers
are Adopting
Data Services
for Hybrid Cloud

(Location- and Infrastructure-independent software)



Customer Value

NetApp Offering *Functionality*

Good RTO (in minutes), longer retention and granular restores for SaaS applications.

Cloud Control

Backup and restore SaaS applications e.g. Office 365 to AWS.

Eliminate high cost of storing inactive data and backups. Eliminate the need for tapes in datacenters.

AltaVault

Compress, dedupe, encrypt, transform and store cold data in the public cloud.

Works with any primary storage and all backup applications.

Enterprise grade subscription based offering – pay-as-you-go model. Ability to maintain data control, data sovereignty and consistent performance on AWS and Azure. Advantages of cloud with performance of flash for the most demanding applications.

NetApp Cloud Volumes with SnapMirror

NFS and iSCSI as a service, Private or multi-tenant

Ability to use cloud analytics services e.g. EMR, Redshift and RDS.

Cloud Sync

Automated file data migration and transform between on-premise and AWS

Better availability, performance and cost for applications built natively on AWS. Ability to exploit Lambda function on AWS for StorageGrid WebScale.

StorageGrid Webscale

Auto-tiering to public cloud; metadata management.

Better monitoring and resource optimization of hybrid cloud environments.

OCI

Performance, capacity and cost monitoring across on-premise and cloud.

Optimize unstructured data.

ONTAP OS FabricPool

Auto tiering to S3 clouds; metadata management.

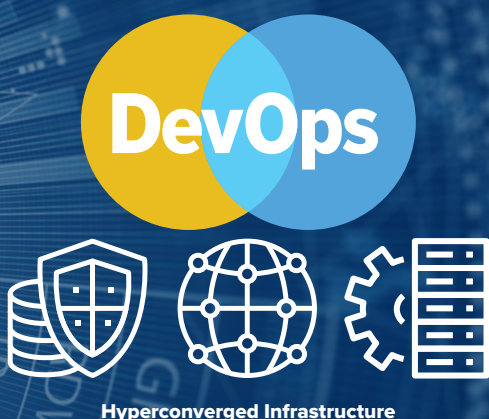
To learn further how NetApp can help you adopt Hybrid Cloud Data Services, click on the link below:

NetApp Hybrid Cloud Data Services

SIMPLIFY AND AUTOMATE APPLICATION DEVELOPMENT

Customer value statements are provided by NetApp

43%
of Data Thrivers
are Implementing
Next Generation
Infrastructure



Customer Value

NetApp Offering *Functionality*

Accelerate application development and time to production; Reduction in CAPEX and OPEX; Improved developer productivity.

NetApp HCI & SolidFire

Agile, scalable and reliable infrastructure backed by full-featured APIs, SDKs, and numerous integrations.

Hyper converged offering to consolidate and isolate workloads.

Ability to clone and distribute large data sets for developer workspace; Ease of management and native integrations with preferred tools.

ONTAP, ONTAP Select, ONTAP Cloud

Robust data management capabilities. Snapshot and Clone large datasets quickly and easily. SnapMirror between on-premises and cloud.

Integrations with many common tools in toolchain including Jenkins, Ansible, and Appenda.

Access to enterprise grade persistent storage for containerized applications.

NetApp HCI, SolidFire, SANtricity (E-Series) or ONTAP with Trident-Kubernetes Plugin

Automated dynamic provisioning of persistent storage for container on/off premises as well as ONTAP Cloud.

Native utilization of snapshot and cloning.

Improved portability and performance for containerized applications.

Improved IT productivity, reduced CAPEX, and preventive maintenance.

ActiveIQ

Capacity usage monitoring and prediction; Automated upgrade alerts; Automated case creation and parts replacement; Best practices and configuration recommendations; Watson AI enabled issue resolution.

Level 1 and Level 2 support automation, improved Level 3 support.

Performance and capacity optimization.

To learn further how NetApp can help you implement Next Generation Infrastructure, click on the link below:

NetApp Next Generation Infrastructure

CONCLUSION

Digital disruption is real. Average company lifespan on S&P 500 index (in years) in the 3rd platform era is 18 years vs. 25 years during the 2nd platform era. To survive, companies need to embrace and accelerate Digital Transformation (DX). No industry is exempt from the impact of digital transformation. Organizations that embrace data-driven DX are attracting new customers and developing new revenue streams faster than their competitors.

- » This IDC study is based on a global survey of 800 LOB executives, IT leaders, and technology-savvy workers conducted in September 2017. Respondents were from 7 countries: the United States, Canada, the United Kingdom, France, Germany, Japan, and China with data weighted according to regional GDP. The sample consisted of large- and medium-sized companies (those with 1000+ employees in the United States and 500+ employees in other countries). Respondents were decision makers with budget control or ability to influence budget spend for DX projects, were involved in DX projects for their company and were responsible for evaluating or architecting at least two data services for hybrid cloud. Job titles included chief data officers, analytics professionals, and DevOps/cloud architects.
- » This IDC study also draws upon two focus groups run in the United States across industries and three sets of job titles (LOB, IT, and DevOps) and in-depth interviews conducted with dozens of U.S. customers using data services for hybrid cloud and leveraging big data and analytics technology to deliver better business outcomes.

Learn how data thrivers beat the competition and drive better business outcomes in this global study of 800 companies

Thrive with Digital Transformation

Message from the sponsor

To learn more about NetApp Solutions, select one of the options below:

- » How NetApp can help you accelerate DX, visit — <https://www.netapp.com>
- » How NetApp can help you Modernize your Infrastructure, click on the link: **NetApp Flash Storage Transforms Infrastructure**
- » How NetApp can help you adopt Hybrid Cloud Data Services, click on the link: **NetApp Hybrid Cloud Data Services**
- » How NetApp can help you implement Next Generation Infrastructure, click on the link: **NetApp Next Generation Infrastructure**