



# Multicloud Data Management Strategy

that Fuels Digital Transformation

AN IDC INFOBRIEF | MAY 2020

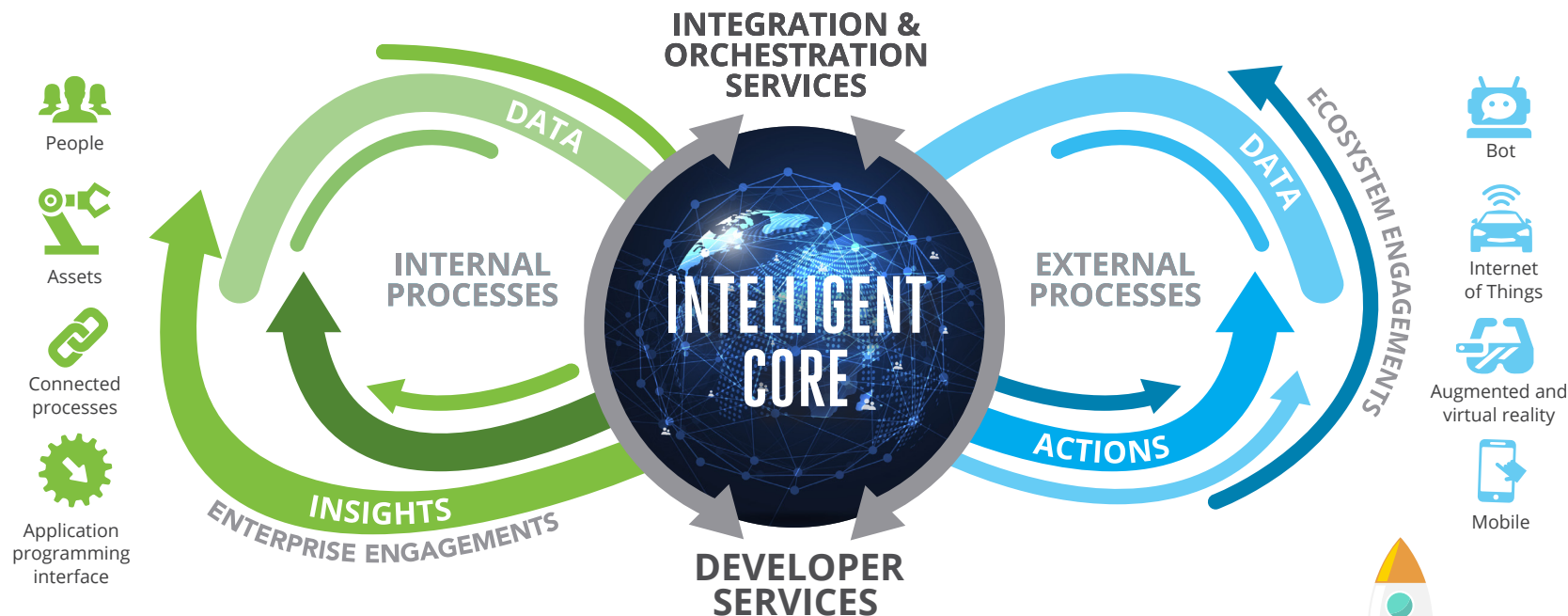


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# Data underpins digital transformation

Digital transformation business objectives are balanced between tactical and strategic objectives, and range from improving operational efficiencies and customer satisfaction, to increasing existing product revenue and profit margins, to launching new digital revenue streams.

Intelligent applications based on artificial intelligence (AI), machine learning (ML), and continual deep learning are the next wave of technological advancement, transforming how consumers and enterprises work, learn, and play. While data is at the core of the new digital economy, it is about how you **sense** the environment, manage and **protect** the data from edge to core to cloud, **analyze** data in near real time, **learn** from it, and then **act** on it to affect outcomes.



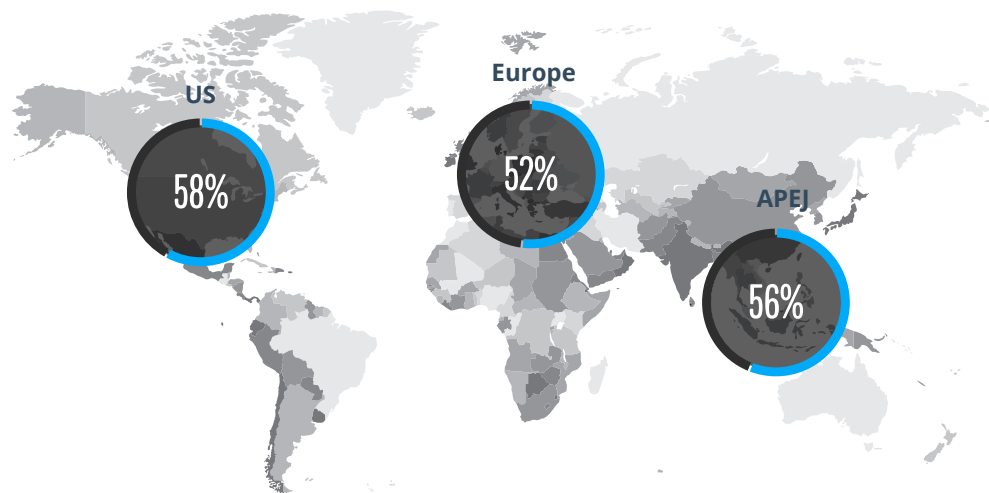
Source: IDC

**Digital transformation is a set of practices and disciplines used to leverage new business, technology, and operating models to disrupt businesses, customers, and markets in the pursuit of business performance and growth.**



# Digital transformation and the importance of data

Digital Transformation has been accelerating across the world. In Asia/Pacific excluding Japan (APEJ), 56% of businesses are already in the mature\* stages of their digital transformation journey. In the US, 58% of businesses are in the same stages while in Europe, 52% of businesses are in the more mature stages of digital transformation.



Source: "IDC Worldwide Future Enterprise MaturityScope Survey 2019

Enterprises around the world have been experiencing tectonic shifts and many are well along the journey of digital transformation to enable their businesses to adapt to the changing landscape. Organizations are looking at ways to efficiently **protect data, enable workload mobility and have a unified view of their enterprise-wide information**, both on and off premises.

As organizations undergo digital transformation, maintaining **high levels of data availability** is becoming more important. Digital transformation creates an even stronger impetus to **data protection** as organizations find ways to monetize data. This move from indirect support to directly creating revenue streams increases the value and, correspondingly, the potential impact should the data be leaked or otherwise abused.

\*IDC's five stages of digital maturity, with Stage 5 being the most advanced. The figure denotes businesses that are in Stage 3 (Repeatable), Stage 4 (Managed), and Stage 5 (Optimized).

## Why

- Data drives the productivity of the organization.
- Data drives competitive advantages for most organizations.
- Related parties often have vested interests in the data so regulatory compliance is important.
- Legal liability issues arise quickly from data breaches.

## What

- Protect the confidentiality, integrity, and availability of data.
- Protect PII, financial information, intellectual property, and so forth.
- Evaluate the control over data in motion, data at rest, and data in use.
- Assess both structured and unstructured data types.



## How

- Provide data discovery, classification, governance, and monitoring capabilities for all sensitive data.
- Apply access control, encryption, and obfuscation technologies where appropriate.
- Review key management, backup, and data destruction alternatives for use.

## Who

- Data owners, custodians, senior management, and employees within the organization.
- Relying parties such as partners and customers outside of the organization.
- Regulators and auditors protecting the interests of others.

# Customer insights drive analytics

Data growth is inevitable and necessary

IDC predicts that between 2018 - 2023



Global DataSphere will grow at a compounded annual growth rate (CAGR) of **25.8%**.



102.6ZB of new data in 2023 – **3 times** the size in 2018 at 32.6ZB.

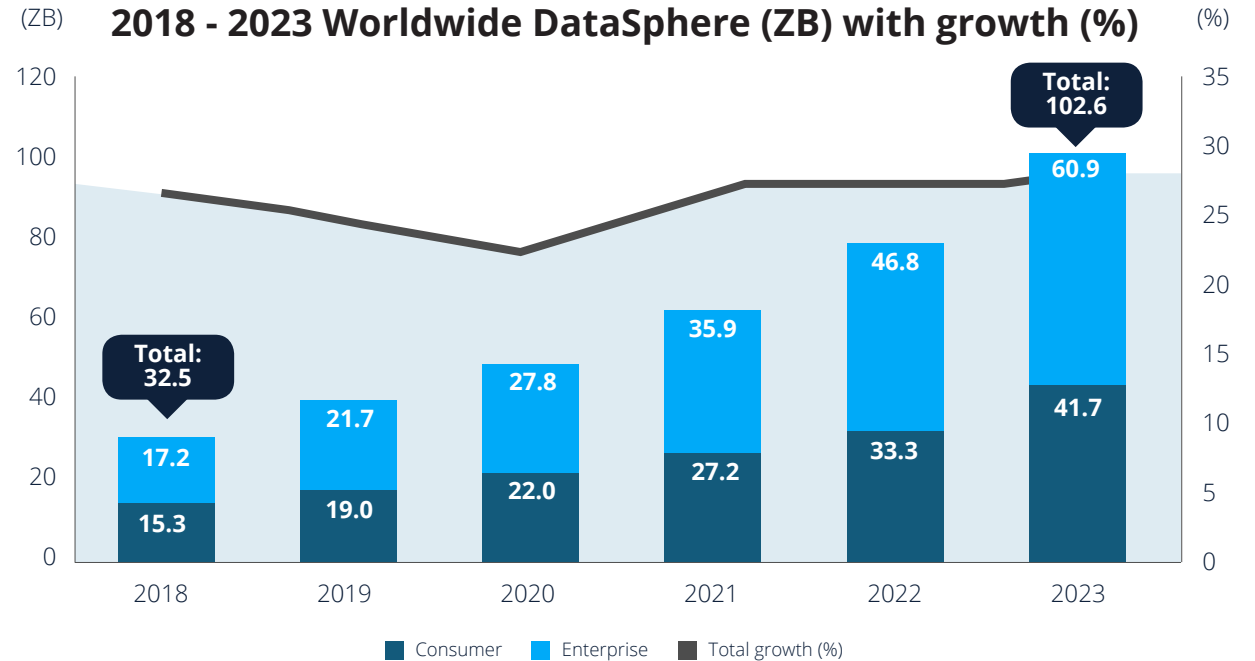


**49 billion** devices in 2023 will be connected to a network churning out data.

IDC forecasts that by then, organizations worldwide will be increasingly adopting a multicloud/hybrid cloud strategy, with data spread across multiple sites. Data will be widely considered the new oil with enterprises focused on mining the data within the organization, and using it to drive innovation and grow the business.



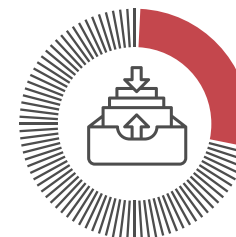
Over **60%** of the new data created in 2023 will require some level of **protection**, but only half of it will be protected.



## Selected segment growth rate



Consumer DataSphere CAGR 22.1%



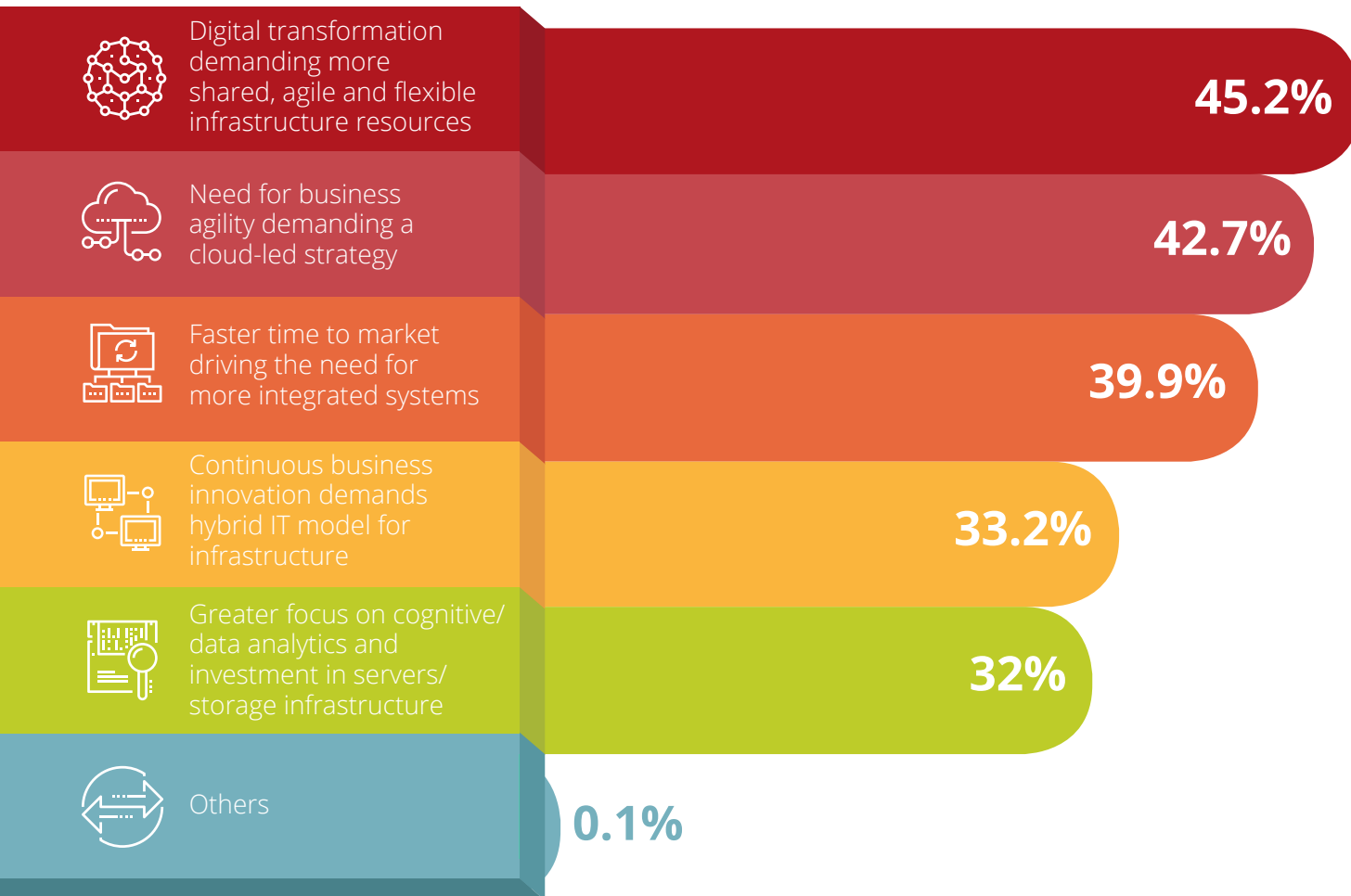
Enterprise DataSphere CAGR 28.8%



Total market CAGR **25.8%**

# Infrastructure requirements need to keep up

What are the business expectations that are driving infrastructure transformation in the company?



## Business requires

- Agility and flexibility
- Integrated systems to achieve speed to market
- Cycle of innovation supported by hybrid cloud

# Digital transformation expands cloud use

Digital transformation can be summed up as the shift from IT supporting business operations to IT driving the business

## Growing cloud infrastructure use cases



Enterprise IT (broad adoption), SaaS expansion, AI/ML, broad, as well as specialized digital transformation initiatives

Webtech apps, analytics, high performance computing, enterprise IT (early adopters)

Backup, disaster recovery (DR), archiving, dev/test

Developer and startup apps

### Core cloud IaaS use cases continue to grow

- Backup, archive and disaster recovery
- Development and staging of new applications
- Production enterprise IT applications

### Emerging use cases add to cloud IaaS usage

- Large footprint scale out applications (next generation AI/ML and big data analysis)
- Core to edge applications integrated through cloud ecosystem

■ Digital transformation — the continuous process by which enterprises adapt to or drive disruptive changes in their operations, customers, and markets — is now being driven by multiplied innovation. Competition is powered by platforms and ecosystems where network effects and innovation feed off themselves.

■ But the changes and innovations are not accidental; they are driven by data, analytics, and learning, which feed and multiply more innovation.

■ Data drives intelligence that yields insights and knowledge that enable action and create value. Automation and ML revolutionize operations, stimulating growth in productivity and efficiency.

Time

# The role of cloud in digital transformation

Data — its generation, delivery, concentration, and exploration — is at the heart of virtually all digital transformation efforts. Data collected, delivered, analyzed, and acted upon at the edge is at the heart of this major shift in how organizations connect with customers in new ways, develop new revenue sources, and improve operational efficiency.

The demands of gathering, protecting, and leveraging a deluge of data whether in central cloud environments, or at edge locations, will be a leading challenge for all IT organizations across all industries. Those who effectively control the use and flow of data across all their edge locations through the adoption of a cloud data management platform, will gain the upper hand.



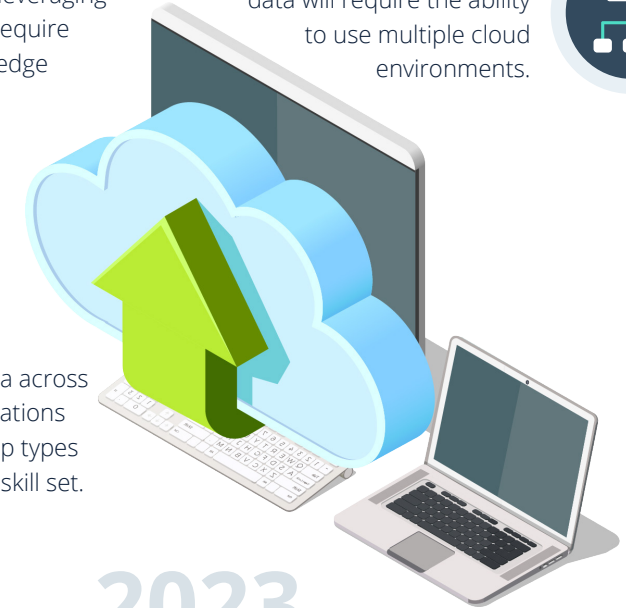
Investment in gathering, analyzing, protecting, leveraging and moving data will require investment in secure edge datacenters.



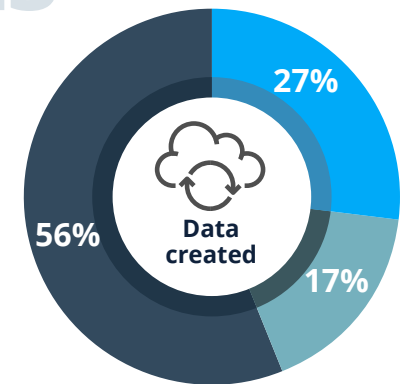
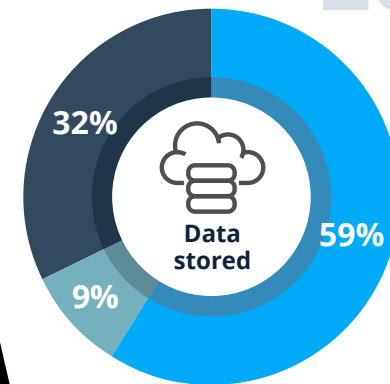
Volume and location of data will require the ability to use multiple cloud environments.



Managing data across platforms, locations and ownership types will be a core skill set.



2023

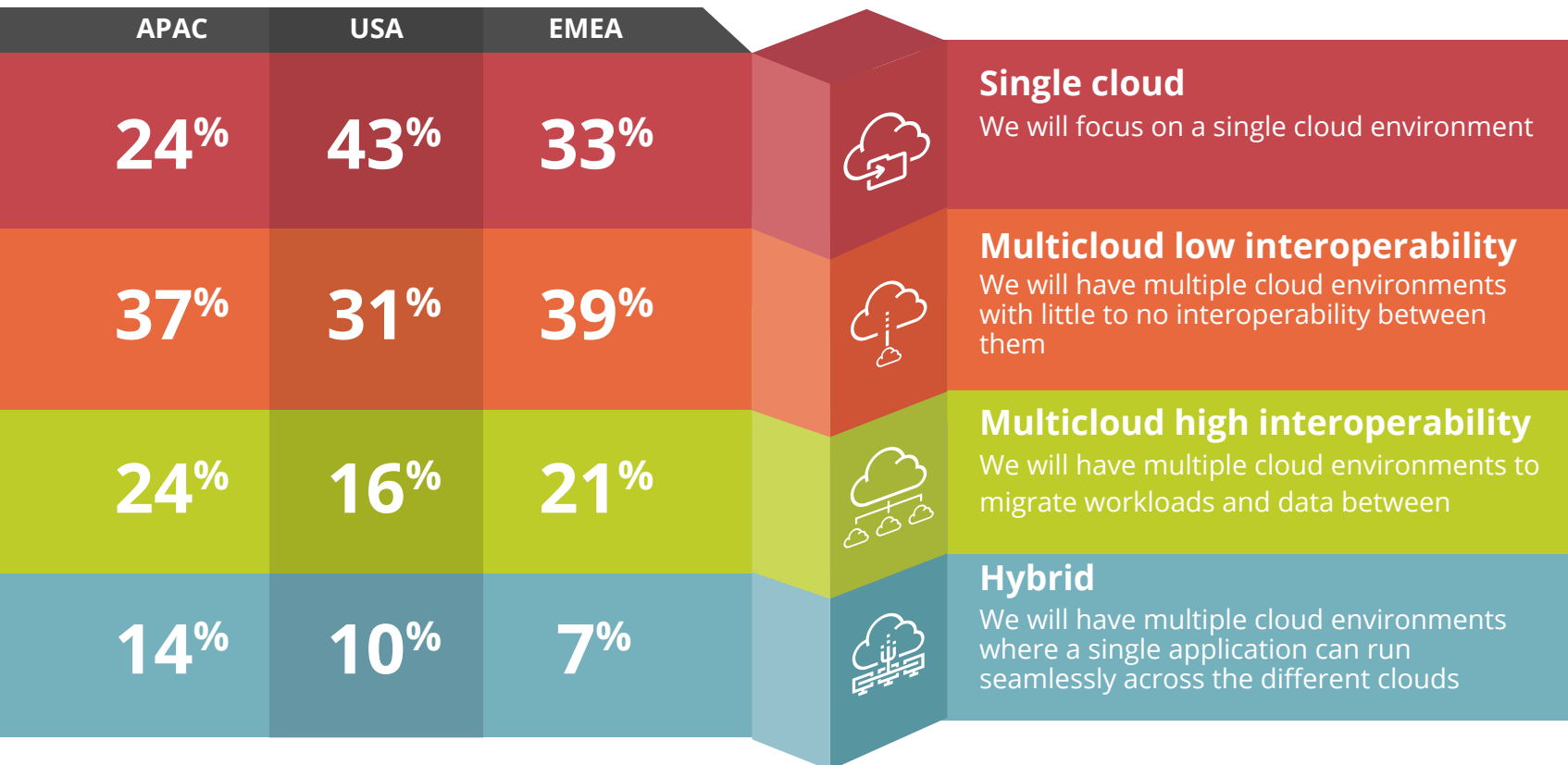


■ Core ■ Edge ■ Endpoint

# It's a multcloud universe

As the number of organizations with multcloud environments grows, there is an increasing trend for clouds to interoperate.

Over the next two years, how would you describe your organization's use of different on-premises and off-premises cloud environments?



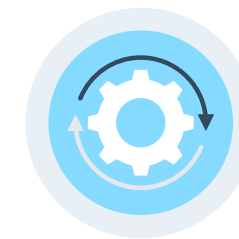
## Leading multcloud management challenges:



**Security and governance** policies implementation



**Cost transparency** and cloud consumption optimization



**Automation,** skills, culture, and expertise



**Performance management** and integration of business and application processes

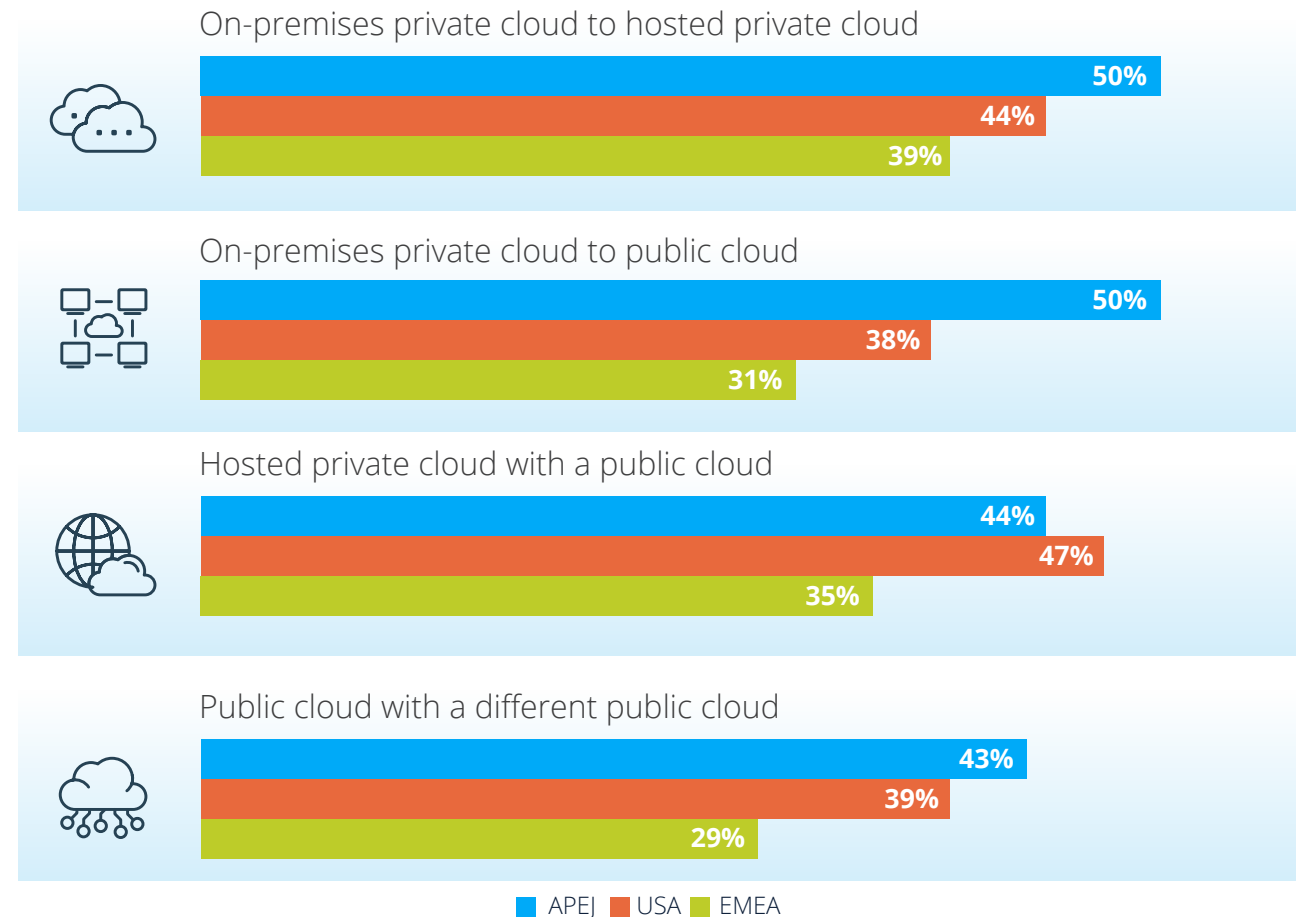


# Interoperability stretches across, within and without

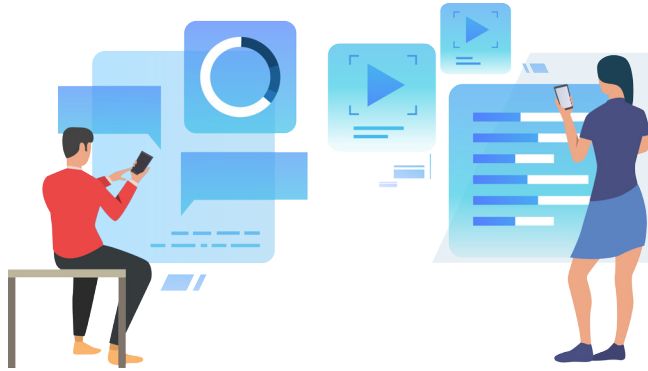
Interoperability in the cloud is most often built between on-premises private cloud and public cloud, and between on-premises private cloud to hosted private cloud.

## Multicloud connection points

Has your organization enabled any of the following clouds to interoperate?



# Interoperability requirement leads to multiple challenges in the data-to-insight journey

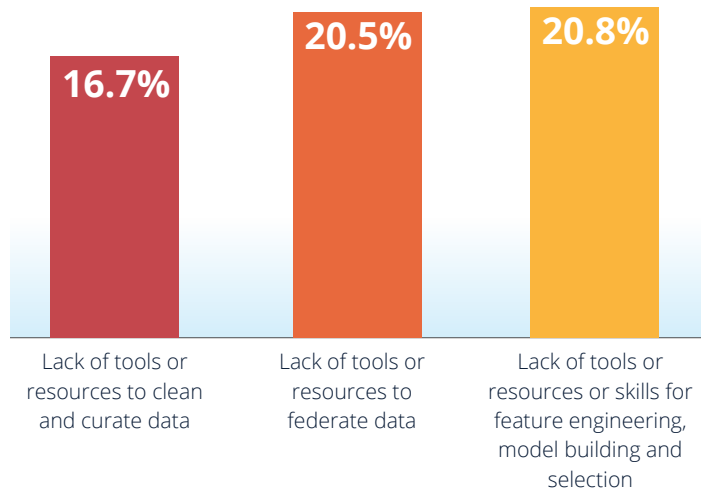


Across industries, organizations find it challenging to deliver insights – among the top reasons is the **lack of tools or resources** to federate data, and cleaning and curating it.

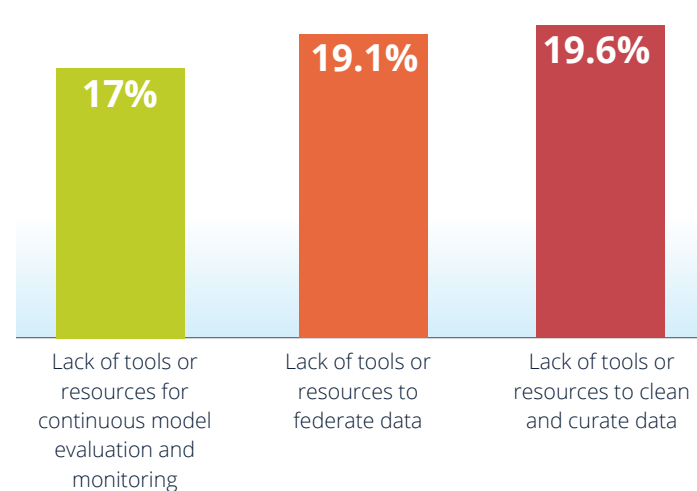


Storage is integral to an organization's data strategy as it is an active contributor to the process of storing and analyzing information. The challenge is to **build storage systems that can handle such large volumes of data but keep costs low** without compromising on performance.

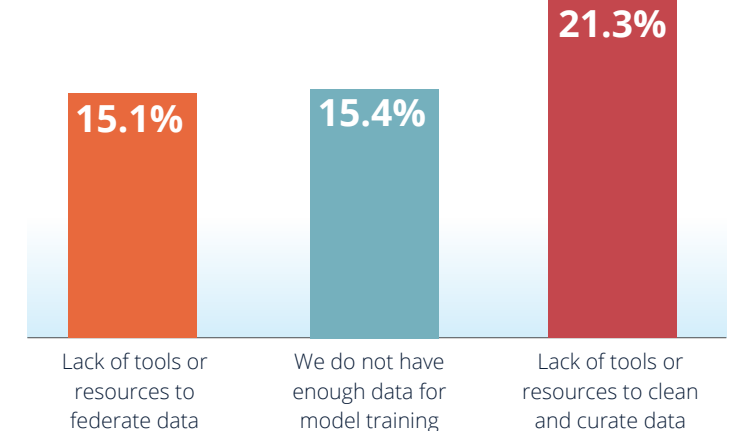
## Financial services



## Public sector

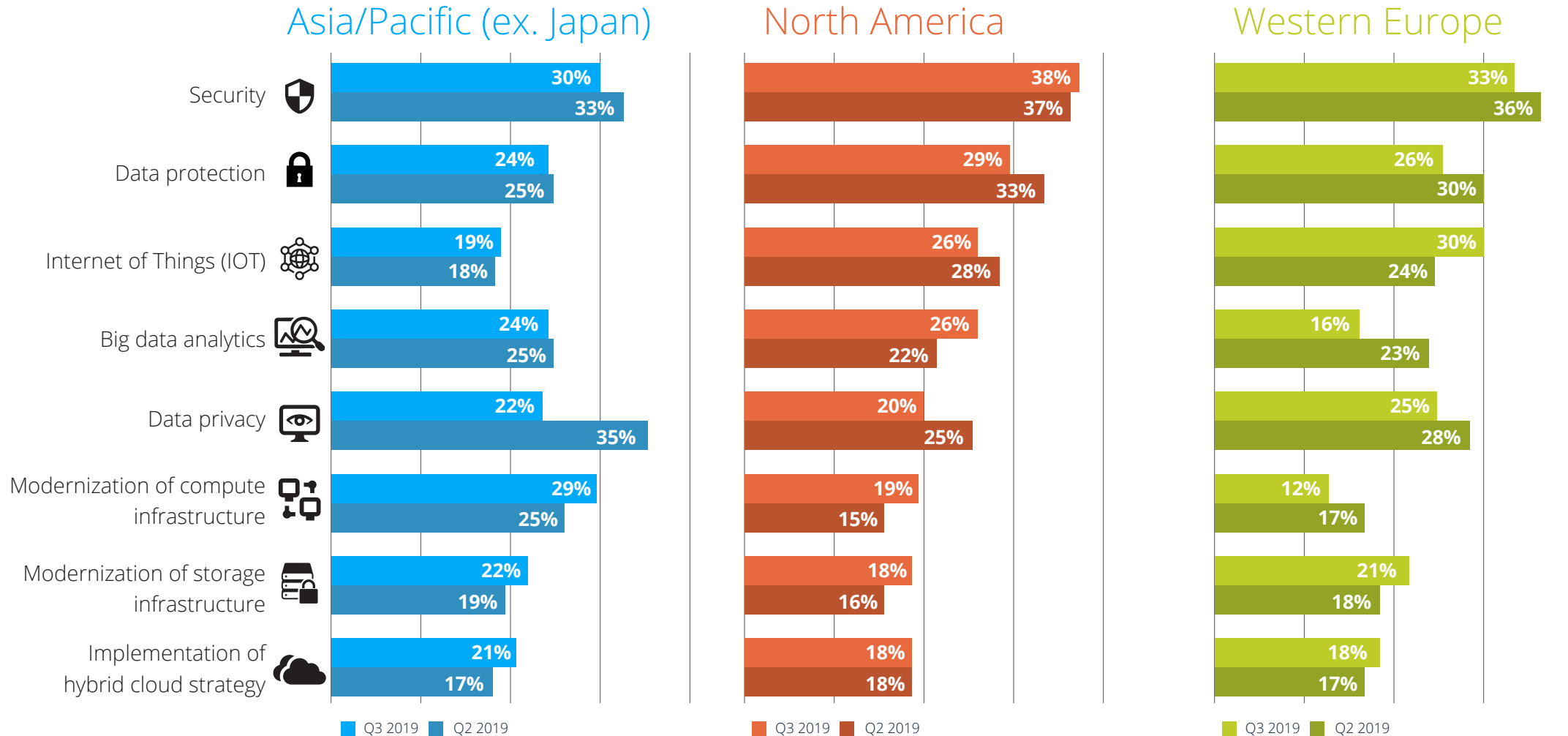


## Communication/media/transport



# Security is the top project driving IT infrastructure spending across each surveyed region

What are the TOP projects driving IT infrastructure spending at your company this year? (Multiple responses.)



Note: Multiple dichotomous table - total will not sum to 100%.

Source: IDC Enterprise Infrastructure Market Pulse, n = APEj: 280 (Q2), 281 (Q3); North America: 495 (Q2), 495 (Q3); Western Europe: 225 (Q2), 228 (Q3)

# Data protection and recovery (DP&R) – core to application availability

## Data growth compounds DP&R

Petabyte-scale deployments are becoming commonplace. Existing infrastructure and traditional backup methodologies sized for today's data volumes gradually become insufficient to cope.

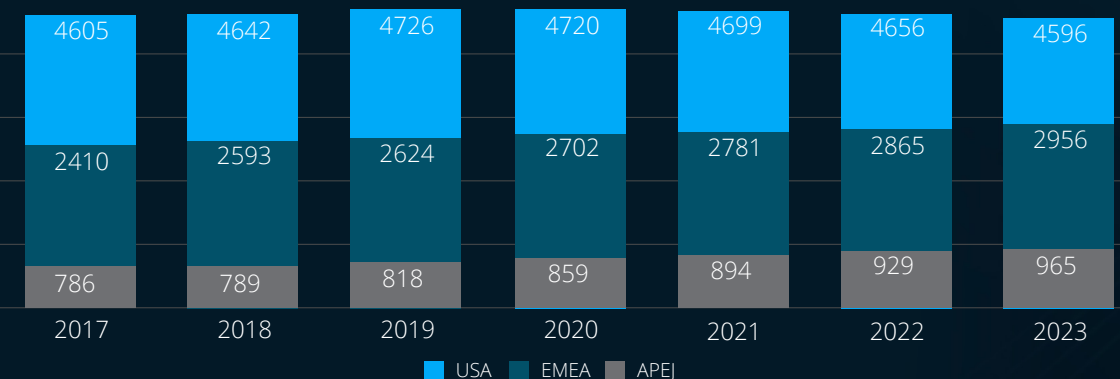
## New data types, protocols and containerization, and changing data protection requirements make traditional DP&R solutions inadequate

Newer databases often have built-in analytics, are able to access more dynamically changing data sets, are stateless, and are designed using newer data stores such as NoSQL databases, and data management platforms like Hadoop. They largely eschew standard datacenter storage protocols like NFS, SMB, and iSCSI, and utilize RESTful protocols instead. Moreover, containers may include not only data but application logic as well. Such applications are delivered via microservices. The confluence of all these factors will result in ongoing innovation in the DP&R space to meet changing datacenter requirements.

## 3<sup>rd</sup> Platform makes DR affordable

As organizations deploy applications in widely distributed environments – multiple clouds, varied operating platforms, numerous data types and file systems, and different geographic locations – IT managers must find ways to protect the data. With the rise of the 3<sup>rd</sup> Platform, converged systems, cloud computing, and digital transformation, two key events have taken place — application and data availability are significantly improved, and cloud economics have made DR affordable for Tier 2 and even Tier 3 applications.

## Data replication and protection market growth forecast, 2017 - 2023 (US\$M)



# Essential guidance



## Build an intelligent core

In the near future, a majority of enterprises will create data management or monetization capabilities, thus enhancing enterprise functions, strengthening competitiveness, and creating new sources of revenue. An intelligent core based on data management, cognitive/artificial intelligence, and ML will be a key part of it.



## Protect data

Data-related challenges – protection, security and compliance, migration, integration, and orchestration – have risen in complexity as organizations increasingly adopt hybrid cloud and multicloud environments. This growing fragmentation of data across multiple infrastructures requires organizations to develop a comprehensive data protection and management posture, and to deploy capabilities to address the full spectrum of requirements.



## Make data repatriation an integral part of workload repatriation

Workload repatriation is a capability that will help organizations leverage the value of multicloud and hybrid cloud environments. Data repatriation is a key component of efficient workload repatriation and must be included as an integral part of the process.



## Adopt a unified approach

To become true data stewards, organizations should adopt a unified management approach for their multicloud and hybrid cloud environments to address complexity and to overcome end-to-end data challenges of protection, integrity, security, quality, visibility, and availability.



## Reassess the data life cycle

Becoming a data-driven organization requires a new generation of infrastructure, data management, and analytics technologies, as well as a change in processes, skills, and attitude towards data. Organizations that reassess the complete data life cycle —collection, storage, management, information governance, and analytics — in the hybrid cloud context will be the ones that will effectively monetize data.

Message from the Sponsor

# Realizing the Power of Enterprise Data

**Organizations estimate that they lose over US\$2 million per year as they struggle with data management challenges, according to a study conducted by Veritas.**

Surveying 1,500 IT decision makers across 15 countries, the study revealed that data management challenges were having a severe impact on employee efficiency, productivity and the profitability of businesses. Thirty-six percent of IT leaders say employees are less efficient due to siloed data management processes, while 38% say strategic decision-making in their organizations is slowed down because of ineffective data management processes.

From knowing where data is located, to understanding its true age, to the degree of importance and whether or not it is permissible to site in the cloud, there is more to data management than there has ever been before.

This study specifically explores:



The challenges of modern data management in the enterprise



The costs of ineffective data management



Key factors for driving success and capturing the benefits of enterprise data management

Read the full report **here.**



IT DECISION MAKERS WASTE

# 2 HOURS DAILY

LOOKING FOR RELEVANT DATA

ORGANIZATIONS LOSE OVER

# \$2 MILLION US DOLLARS

PER YEAR AS THEY STRUGGLE WITH  
DATA MANAGEMENT CHALLENGES



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