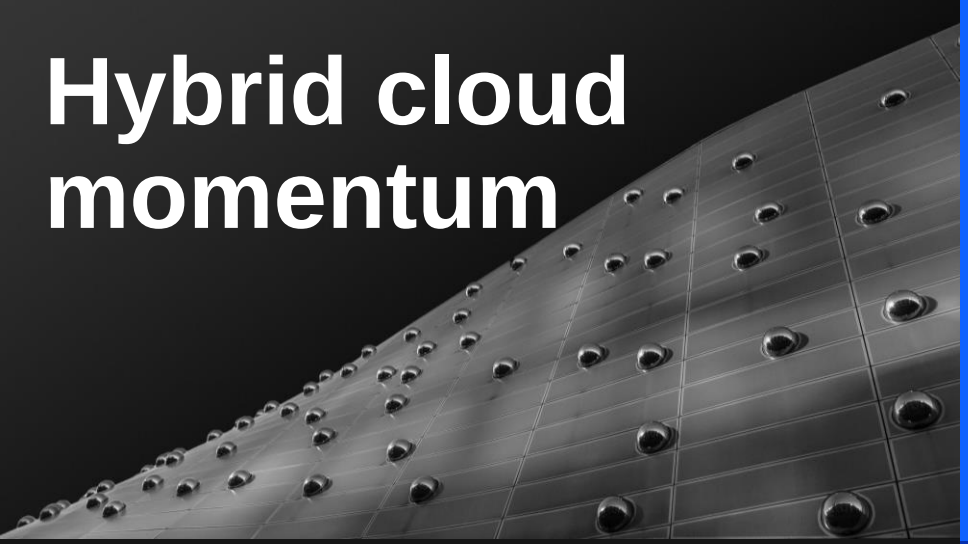
April 2022

IBM Storage made simple for hybrid cloud

LOGICALIS
Architects of Change

Hybrid cloud momentum



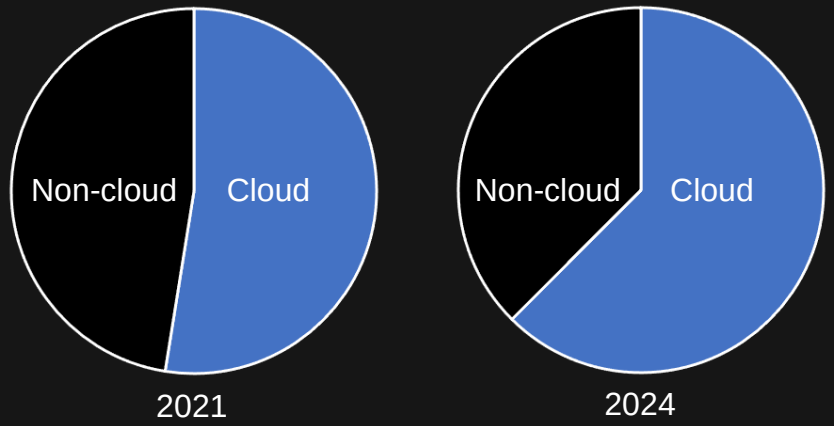
60%

Organizations in 2022 that will have invested in automation and orchestration of cloud-native apps

90%

New applications in 2025 that are cloud-native

IT market – Cloud vs Non-cloud



Hybrid cloud acceleration with the events of 2020

"…flight to safety…"

"…position to withstand the downturn…"

Build once, deploy anywhere

A brief history

c. 1991

c. 1995

c. 1998

c. 2014

Today

On-premises

IBM **Z**
IBM **LinuxONE**
IBM **Power Systems**
x86

AWS
Microsoft Azure
IBM Cloud
Google Cloud

Hybrid cloud has unique needs from storage infrastructure

Data Resilience

Detect threats before disruption

Quickly recover if needed on premises or in the cloud

Data Ops

Consistent efficiency on-premises and across clouds

Pervasive AI/ML, automation, and self-service

Enterprise Transformation

Bare metal, virtual, containerized

Consistent experience for applications-on-the-move across on-premises and multiple clouds

vmware IBM Microsoft Azure aws Red Hat OpenShift

Warning
potential slow down ahead

Hybrid cloud

You choose the best-of-breed technologies, reduce cost, and avoid vendor lock-ins

36%

cloud customers who think they won't achieve meaningful interoperability between their clouds in two years

Avoid the silos

of workloads and data, thus recreating the problems of legacy data centers

Modernize the storage you already have

Simplify your journey to hybrid cloud

Think of storage as a software foundation

Agility

Move data without disruption among storage systems

Bridge

From traditional to new technologies like Containers and Kubernetes

Cloud

Adopt storage capabilities that can be deployed across hybrid cloud

Data reduction

Store more data on the storage you already own

Encryption

Improve data resiliency by encrypting data at rest

Think of storage…

as helping developers build once and deploy anywhere

CONTAINER
STORAGE
INTERFACE

CSI for Kubernetes

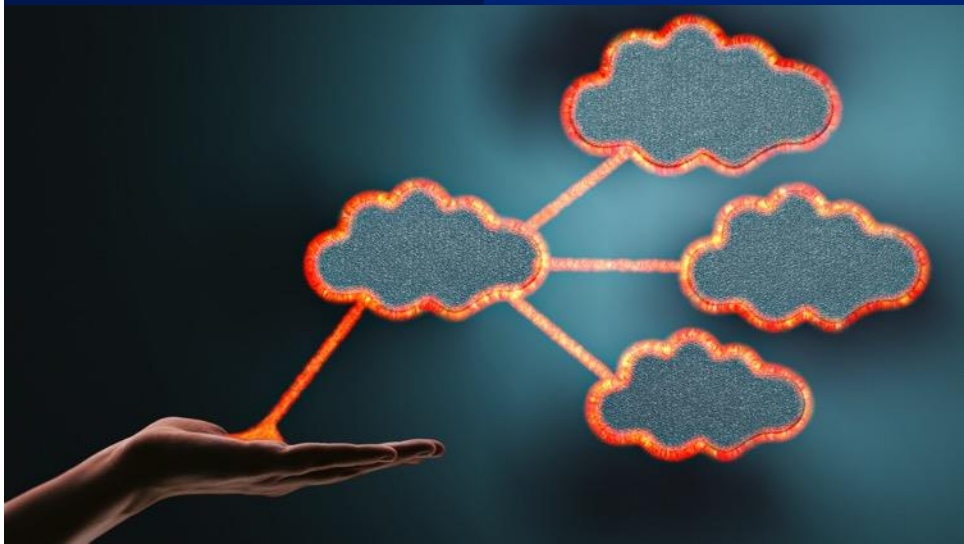
A portable way for containerized applications to consume storage

Provision

storage on the developer's terms – "I need fast block storage"

Move

containers while bringing storage through the transition



Think of storage…

as simplifying operations

29.3%

of enterprises of all sizes experience a downtime cost per hour greater than **$25K**

For storage,

it is increasingly important that cloud-based predictive analytics platforms offer extensive monitoring across the stack

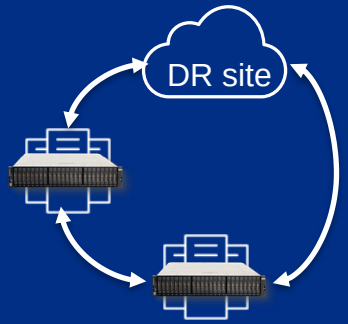
Consistent APIs, procedures, and orchestration extended across all your block storage regardless of your choice in vendors

SaaS
keeps your monitoring infrastructure running

AI
improves proactive management and problem resolution

Think of storage as improving data resilience

2-site and 3-site replication
Short RTO

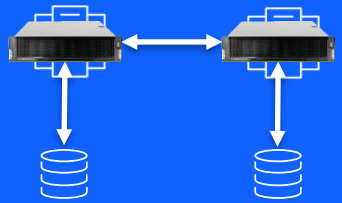


On-prem, on cloud or hybrid

High-availability
Zero RTO

100% data availability guarantee

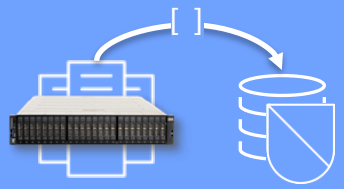
Enhanced high-availability
Zero RTO



Multi-Platform Support

Pure HPE IBM
Dell/EMC NetApp 500+ others…

Immutable copy



Air-gap

Encryption

FIPS 140-2

Decision point

Modernize and stop

bank the savings and be proud of your progress

Innovate

for your hybrid cloud future

Choices when modernizing storage can impact your hybrid cloud future

Consistent APIs
and operations across **on-premises and cloud**

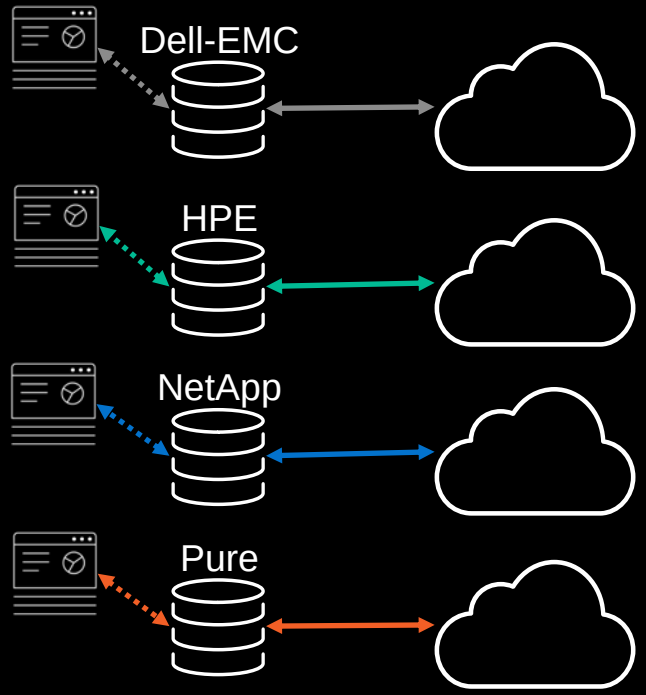
Latest physical infrastructure
innovations adopted **on-premises and cloud**

A software foundation

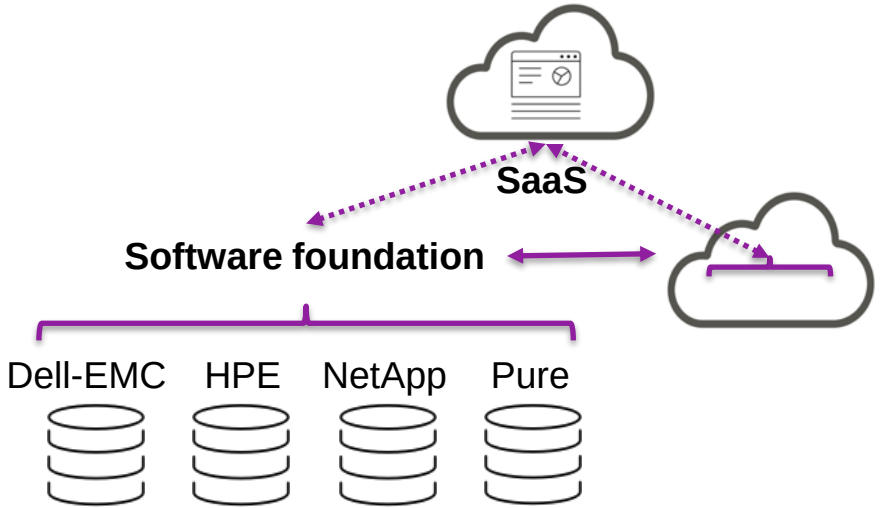
- Windows / VMware -> **Containers / Kubernetes**
- Move data between **on-premises and cloud**
- Data reduction across **on-premises and cloud**
- Data resilience across **on-premises and cloud**

Strength of a software foundation

Infrastructure tied to hardware



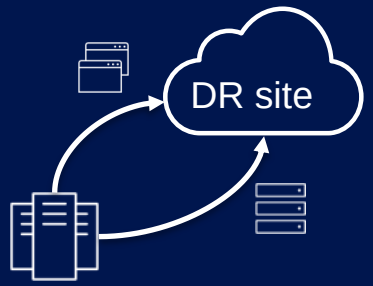
Open, portable software foundation



Storage choices matter because of cloud use cases

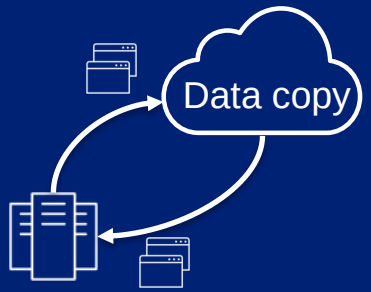
Business Continuity

leveraging rented Public cloud resources



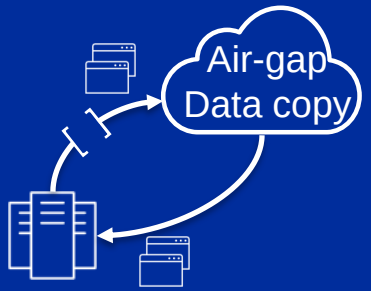
DevOps Analytics

temporary data copy from on-premises to cloud



Data Resiliency

continuing to deliver outcomes despite cyber incidents



Workload Migration

permanent data migration to cloud

Hybrid cloud

permanent state of operating infrastructure both on-premises and in Public cloud

Bring cloud economics on-premises

60%

enterprises will utilize flexible consumption-based IT by 2023

A variable OPEX pricing model is one reason that cloud is so attractive

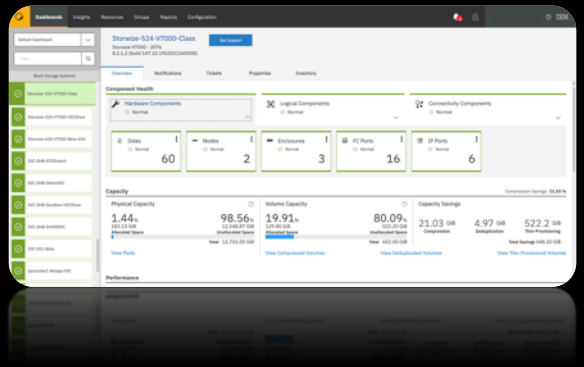
IBM Storage for hybrid cloud

Storage Insights
Spectrum Virtualize

One platform.
18 months.
Still accelerating!

IBM Storage Insights

- The cloud service that monitors the performance, capacity and health of your infrastructure
- AI helps predict and prevent storage problems before they impact your business
- We automate aspects of the support process to enable faster resolution of issues



~23 million

telemetry data points collected daily from a single device

3+ Exabytes

storage under management

Demo

ibm.biz/insightstour1

24x7

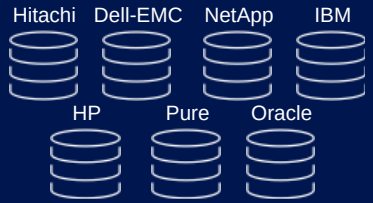
IBM is now part of your operational team, maintaining, and upgrading Storage Insights

66% of system issues resolved automatically

40% faster action plan after ticket opened

IBM Spectrum Virtualize

Agility



data movement and AI-driven tiering without disruption among storage systems

Bridge

OPENSHIFT Container Platform

kubernetes

CSI

from traditional to new technologies

Cloud

IBM Cloud

amazon web services

Azure*

storage capabilities that can be deployed across hybrid cloud

* Statement of direction

Data reduction
(guaranteed)

reduction up to 5:1

highest performance 2:1 with IBM FlashCore

Encryption

encryption regardless of vendor

FIPS 140-2 with IBM FlashCore

IBM Spectrum Virtualize immutable copy

Immutable copies

When you need a copy that bad actors can't reach

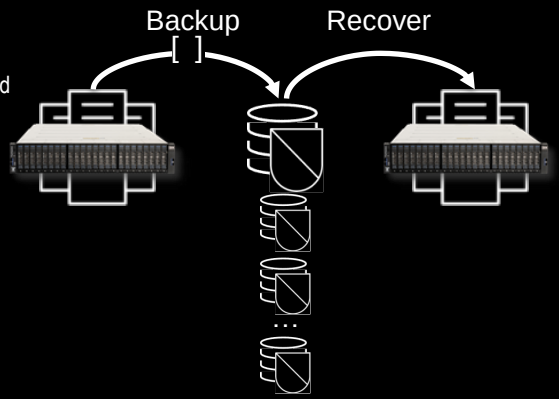
Built with
IBM Spectrum Virtualize

Integrated with
IBM Security QRadar

Cross-vendor support

Enterprise storage from entry to high-end
IBM FlashSystem

Heterogeneous storage with
SAN Volume Controller
Pure HPE IBM
Dell/EMC NetApp 500+ others…



Safeguarded Copy

Immutable point-in-time copies of production data

Isolated logical air-gap offline by design

Separate privileges for admins of production data and Safeguarded Copies

Consistent automation with other copy services

Spectrum Virtualize for your choice in storage vendors

SAN Volume Controller

IBM FlashSystem Family

Storage made simple for hybrid cloud

Watch the demo
ibm.biz/**flashsystemdemo**

Entry Enterprise

FlashSystem 5200

FlashSystem 5035
FlashSystem 5015

Midrange Enterprise

NEW in 2022

FlashSystem 7300

High-End Enterprise

NEW in 2022

FlashSystem 9500
and 9500R

Hybrid Cloud

ENHANCED in 2021

IBM Cloud
Azure
AWS

IBM Spectrum Virtualize

Consistent software capabilities

IBM Storage Insights

The confidence to purchase, own, and upgrade your IBM storage

Acquisition

High Availability Guarantee

Data Reduction Guarantee

All-inclusive Licensing

Operation

Comprehensive Care

Cloud Analytics

Flash Endurance Guarantee

Migration

Storage Upgrade Program

Cloud-Like Pricing

Migrate For Free

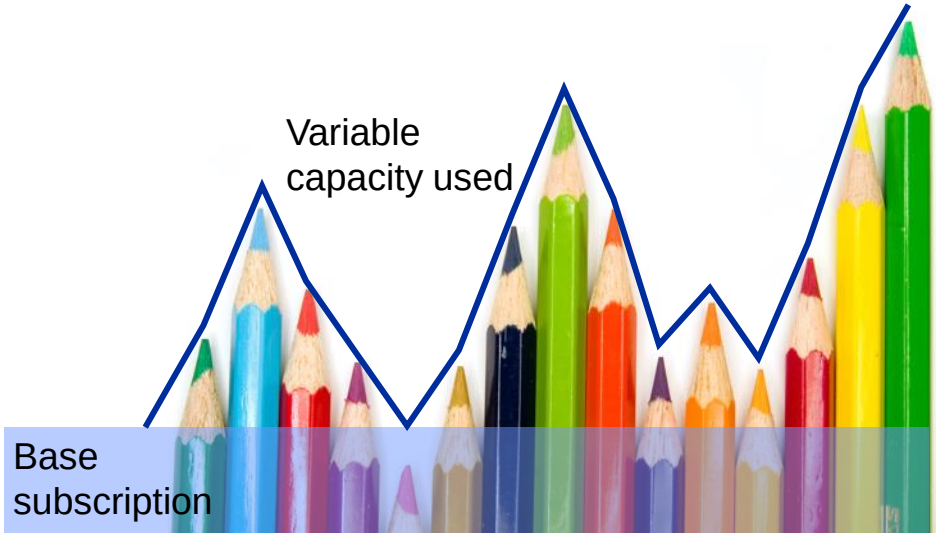
IBM Storage
cloud pricing

Base subscription
+
Variable utilized capacity

Metered by
IBM Storage Insights

See the **case study**

Pay only for the capacity you consume, as opposed to purchasing bulk capacity in advance and hoping you use it efficiently



Build Once, Deploy Anywhere

IBM Cloud Paks

Container data protection with IBM Spectrum Protect Plus

IBM Storage Suite for IBM Cloud Paks

Data services & Management

IBM Spectrum Discover

IBM Cloud Object Storage

IBM Spectrum Scale

IBM Spectrum Virtualize for Public Cloud

Red Hat Ceph Storage

Red Hat OpenShift Container Storage

IBM FlashSystem

IBM DS8900F

IBM Elastic Storage System

IBM Cloud Object Storage

Learn more

Operations made simple with IBM Storage Insights

Storage made simple with IBM Spectrum Virtualize

Entry Enterprise storage	Midrange Enterprise storage	High-end Enterprise storage	Storage Virtualization	Storage software for Public Cloud
				public

LOGICALIS
Architects of Change