

ADVANCED TECHNOLOGY GROUP (ATG)



Accelerate with ATG Webinar:

How to Build an Affordable Policy Based HA Solution Using FlashSystem Value Bundles

Matt Key	Principal Storage Technical Specialist, IBM Advanced Technology Group - FlashSystem
Craig Nelson	Broadcom, Global Sales Executive (IBM Account)
Tim Werts	Broadcom, Global Marketing Manager (IBM Account)



Accelerate with ATG Technical Webinar Series

Advanced Technology Group experts cover a variety of technical topics.

Audience: Clients who have or are considering acquiring IBM Storage solutions. Business Partners and IBMers are also welcome.

To automatically receive announcements of upcoming Accelerate with ATG webinars - Clients, Business Partners and IBMers are welcome to send an email request to accelerate-join@hursley.ibm.com.

2025 Upcoming Webinars – Register Here!

[**AI Data Assistance with IBM Content Aware Storage \(CAS\)**](#) - April 29th, 2025

[**IBM Storage Virtualize 8.7.3 Technical Update & the New FlashSystem C200**](#) - May 13th, 2025

[**Discover What's New: The IBM TS7780 and the New Release 6.0**](#) – May 20th, 2025



Important Links to Bookmark:

Accelerate with ATG - Click here to access the Accelerate with ATG webinar schedule for 2025, view presentation materials, and watch past replays dating back two years. <https://ibm.biz/BdSUFN>

ATG MediaCenter Channel - This channel offers a wealth of additional videos covering a wide range of storage topics, including IBM Flash, DS8, Tape, Ceph, Fusion, Cyber Resiliency, Cloud Object Storage, and more. <https://ibm.biz/BdfEgQ>

Offerings

Client Technical Workshops

- **IBM DS8000 G10 Advanced Functions: April 30 & May 1, 2025 (Coppell, TX)**
- **IBM Fusion & Ceph: May 14-15, 2025 (Durham, NC)**
- **IBM FlashSystem Deep Dive & Advanced Functions: May 21-22, 2025 (Chicago, IL)**
- **IBM Storage Scale & Storage Scale Functions: June 4-5, 2025 (NYC)**
- Cyber Resilience with IBM Storage Defender

TechZone Test Drive / Demo's

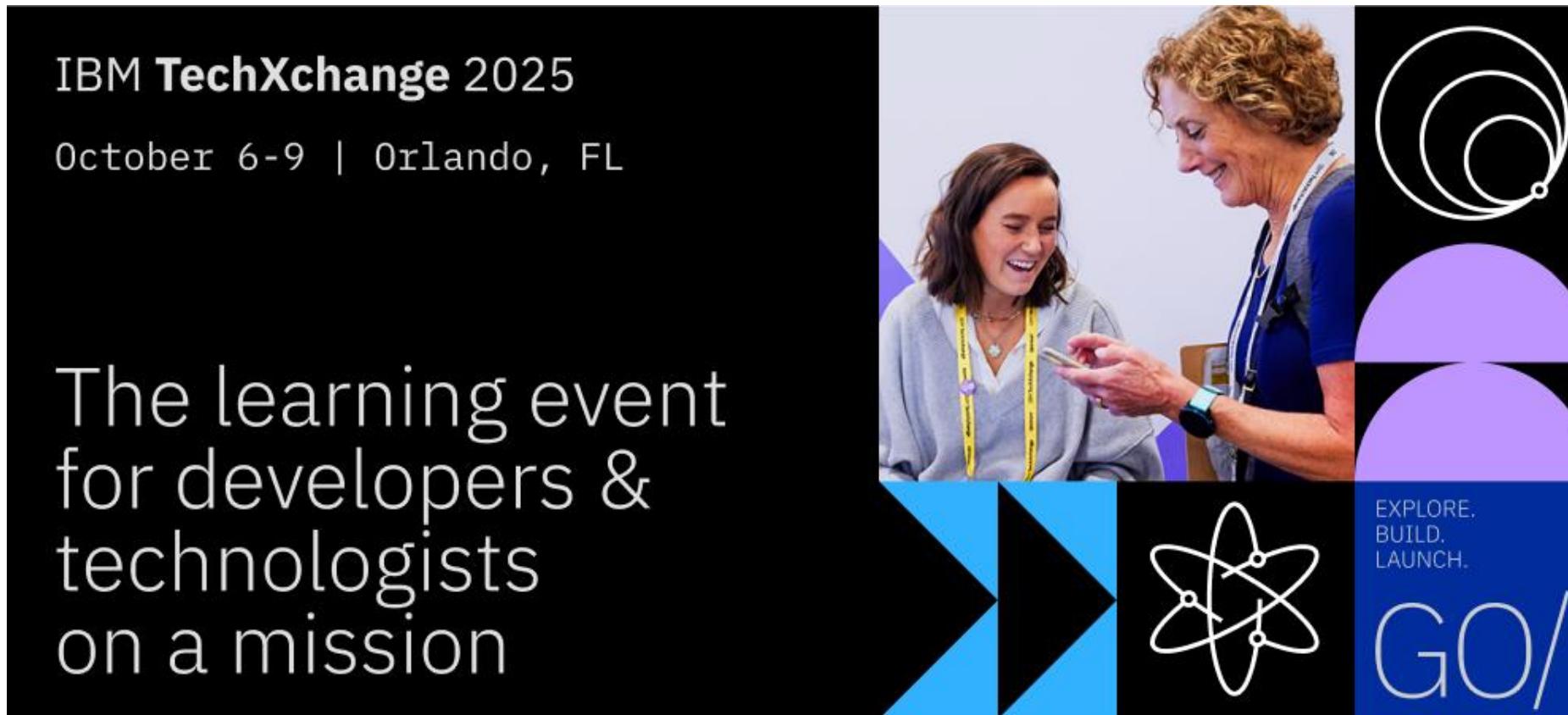
- IBM Storage Scale and Storage Scale System GUI
- IBM Storage Virtualize Test Drive
- IBM DS8900F Storage Management Test Drive
- Managing Copy Services on the DS8000 Using IBM Copy Services Manager Test Drive
- IBM DS8900F Safeguarded Copy (SGC) Test Drive
- IBM Cloud Object Storage Test Drive - (Appliance based)
- IBM Cloud Object Storage Test Drive - (VMware based)
- IBM Storage Protect Live Test Drive
- IBM Storage Ceph Test Drive - (VMware based)

Please reach out to your IBM Representative or Business Partner for more information.

***IMPORTANT* The ATG team serves clients and Business Partners in the Americas, concentrating on North America.**

Announcing the 2025 IBM TechXchange Conference

Our theme this year is simple but powerful: **GO / Explore. Build. Launch.**



For more information, please visit - <https://www.ibm.com/community/ibm-techxchange-conference/>

Accelerate with ATG Survey

Please take a moment to share your feedback with our team!

You can access this 6-question survey via Menti.com with code 5151
0447 or

Direct link <https://www.menti.com/alhsf3bgvxu6>
Or

QR Code



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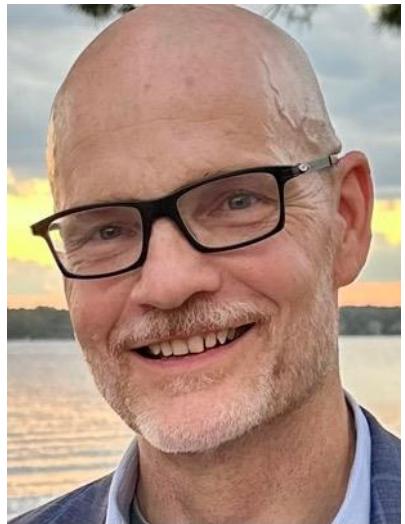
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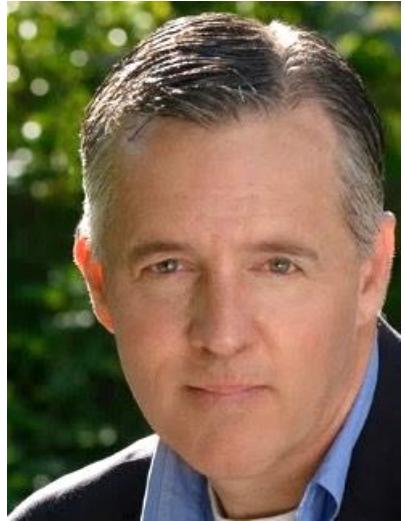


Meet the Speakers



Tim Werts - Global Marketing Manager at Brocade

- 3+ decades in the storage industry
- Current Role - Marketing with Sales enablement focus at Broadcom
- Decade of Business Development at Brocade
- Decade of System Engineering at Brocade
- Decade of Qualification Engineering for Tape and Disk Drives at NCR
- Experienced as trainer, presenter, SAN architect, and part-time troubleshooter



Craig Nelson - Global Sales Executive at Brocade

- Oversees IBM sales across multiple technology divisions
- Includes multiple Broadcom technologies including Brocade, Emulex, and others
- Storage networking expertise since 2000
- Roles at EMC, McDATA, and Brocade (acquired by Broadcom in 2017)
- Worked exclusively with IBM and its Business Partner channel since 2005.
- Frequent presenter at IBM events including Think, Edge, Storage Masters, and TechU.

Meet the Speakers – Matt Key



Matt Key is a 18-year veteran of solid-state storage and came into IBM through the 2012 acquisition of Texas Memory Systems, the Houston-based engineering group behind the FlashCore Modules in IBM's distributed storage portfolio. Currently, he is the technical lead for Flash in the Advanced Technology Group (ATG), the client-facing group of subject matter experts across the portfolios of storage, servers, and software. Matt graduated Texas A&M (WHOOP!) in 2006 with an engineering degree in telecommunications.

Why are we here?

To avoid surprise
WORK OUTAGES ...

ALERT!

Q

... because no one
wants a *work outage*
when they're
out from work.

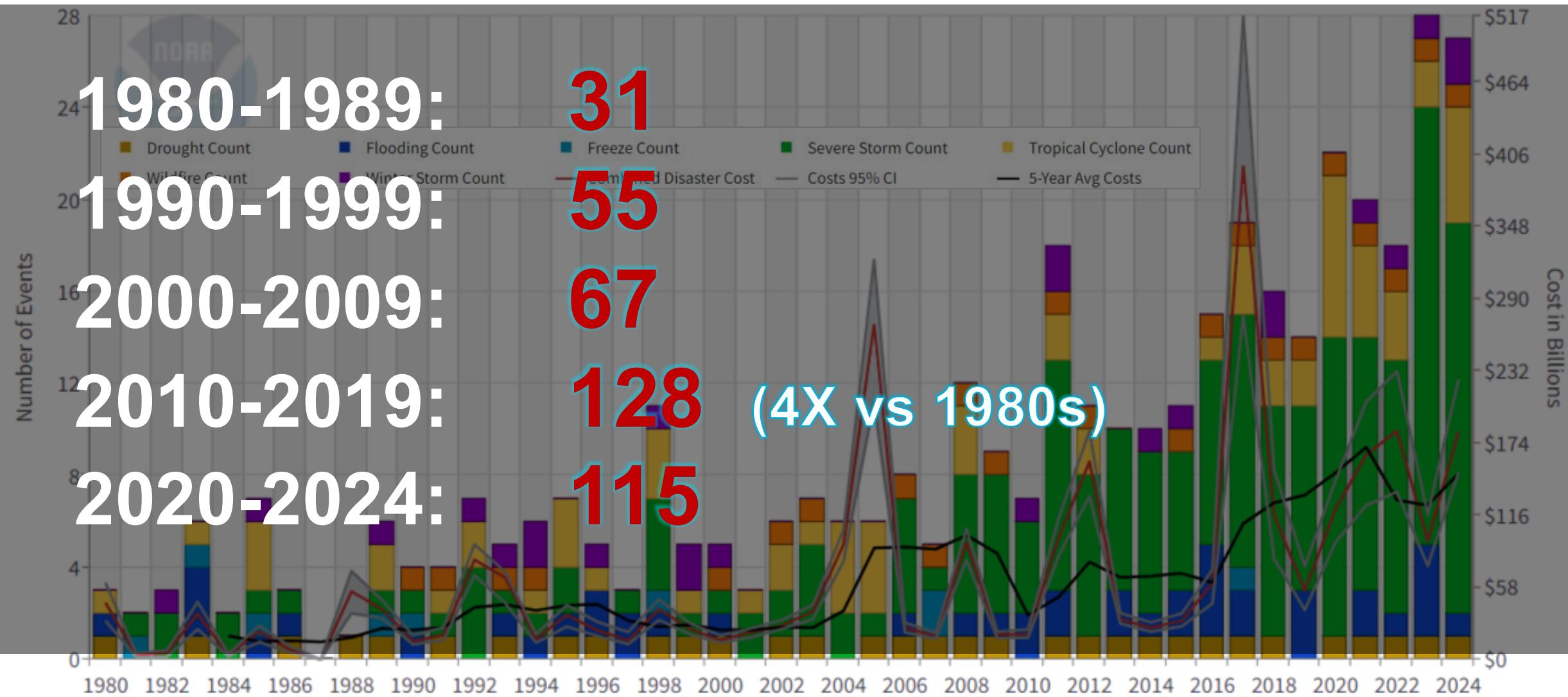


Why are we here?

Avoid outages due to

- **Disasters**

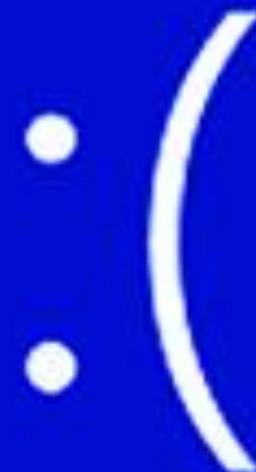
United States Billion Dollar Natural Disaster Events 1980-2024 (CPI Adjusted)



Why are we here?

Avoid outages due to

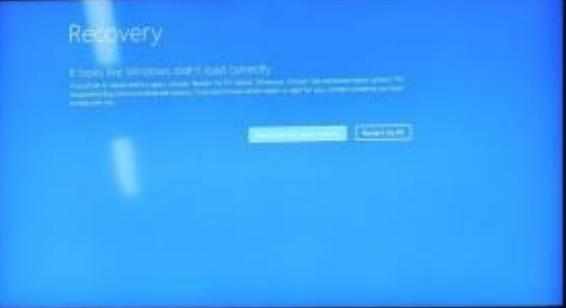
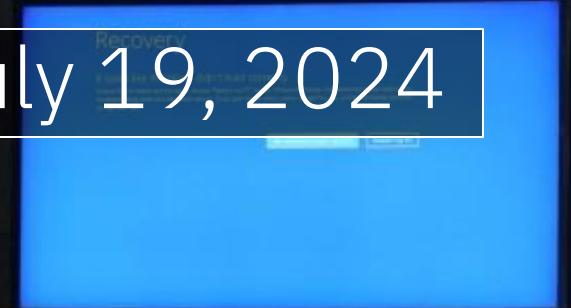
- Disasters
- **Mistakes**



Your PC ran into a problem and needs to restart.
just collecting some error info, and then we'll restart
you.

20% complete

July 19, 2024



July 19, 2024

COST?

July 19, 2024 – What Happened?



“faulty software update”

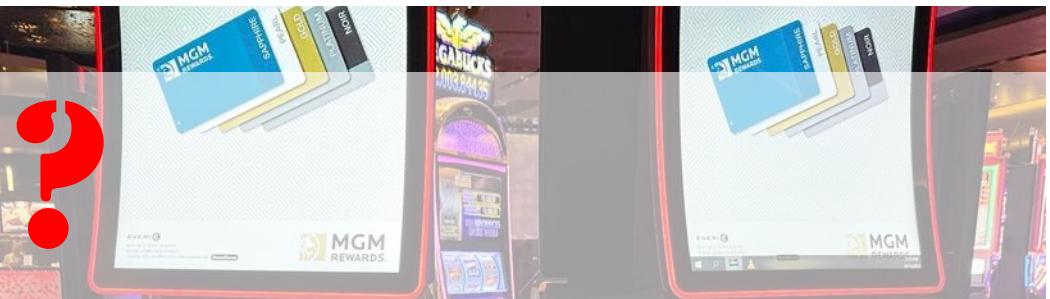


- 5,000 flight cancellations
- **\$500M 1**
- Loss of confidence

Why are we here?

Avoid outages due to

- Disasters
- Mistakes
- Attacks



The High Cost of Downtime: A Growing Challenge

Rising Downtime Costs and Extended Recovery Times

September 2023



1 Day (\$15M²)



10 Days (\$100M+³)

Why are we here?

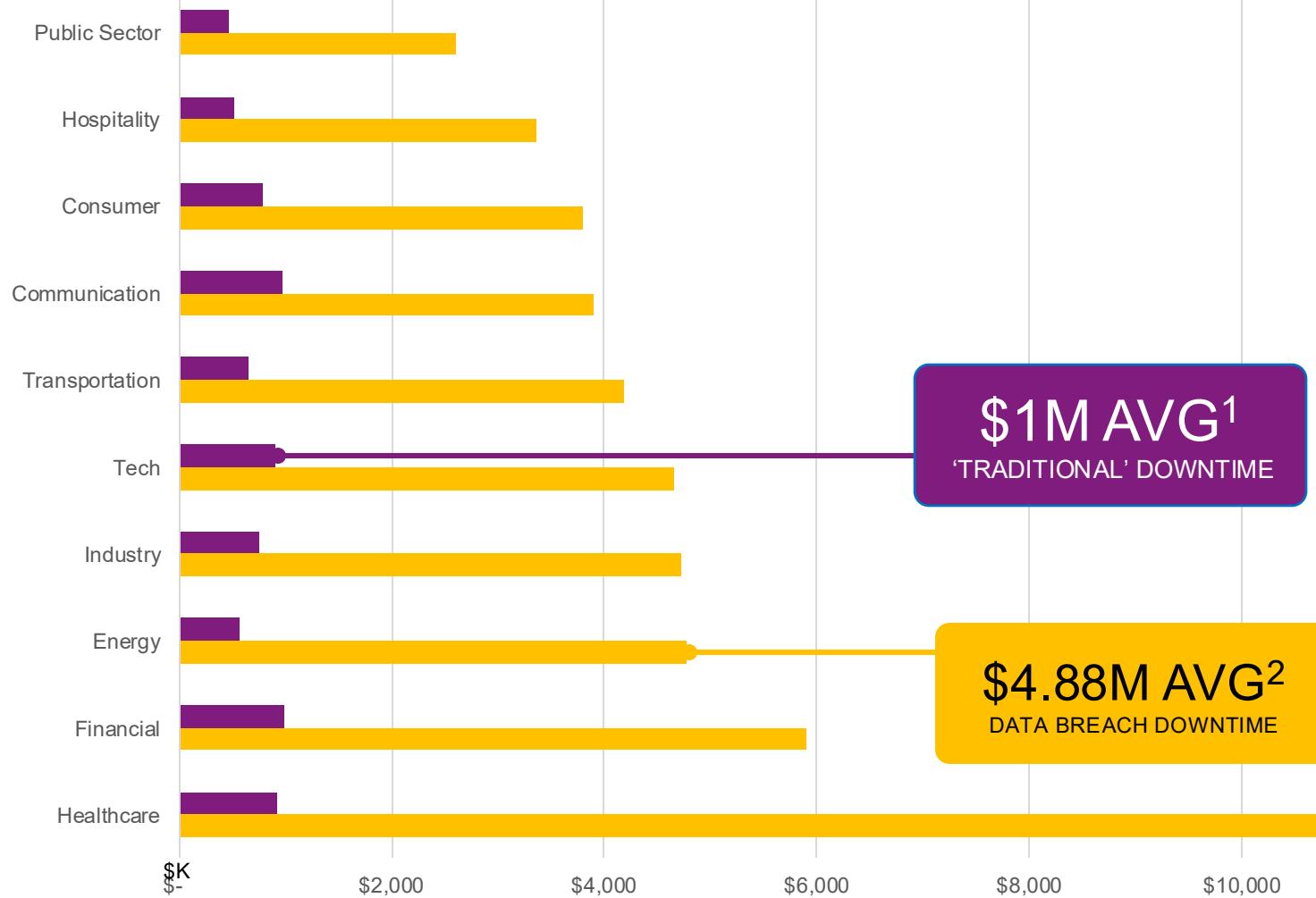
To avoid outages due to

- Disasters
- Mistakes
- Attacks

**What are your
Costs ?**

Costs of Downtime & Data Breach Across Industries

Understanding industry-specific costs and the additional impact of data breaches



1. [Uptime Institute's 2022 Outage Analysis](https://www.uptimeinstitute.com/reports/2022-outage-analysis/)

2. <https://www.ibm.com/security/infographics/data-breach>



How do we
address these
outage challenges?

The Keys to High Availability Solutions



Recovery Point Objective (RPO)

- How much data can you afford to lose?
- How recent is your point-in-time backup?
- Less data loss is better (but costs more)

Recovery Time Objective (RTO)

- What's your maximum tolerable downtime?
- How fast can you restart your applications with good data?
- Faster recovery is better (but costs more)

The Keys to High Availability Solutions



Recovery Point Objective (RPO)

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Recovery Time Objective (RTO)

- What's your maximum tolerable downtime?
- How fast can you restart your applications with good data?
- Faster recovery is better (but costs more)

Is your Data validated & clean?

The Keys to High Availability Solutions



Achieving low RTO & RPO requires:



Smart, Fast, Resilient **Storage**

+



Smart, Fast, Resilient **Network**

The Keys to High Availability Solutions



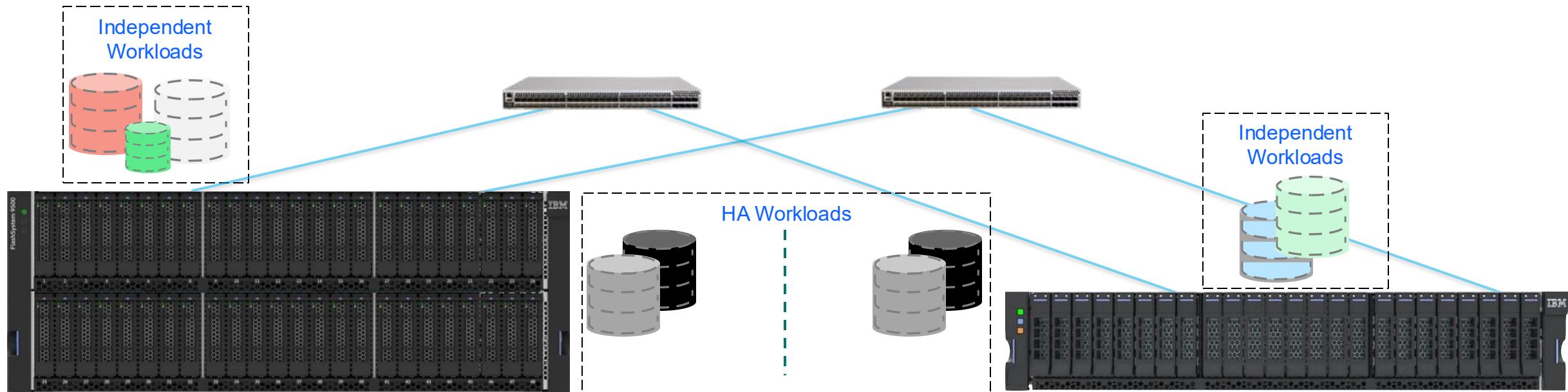
How to minimize
RTO and RPO
with **Clean Data**
without
breaking the bank

Active/Active Sites with Policy-Based High-Availability (PB-HA)

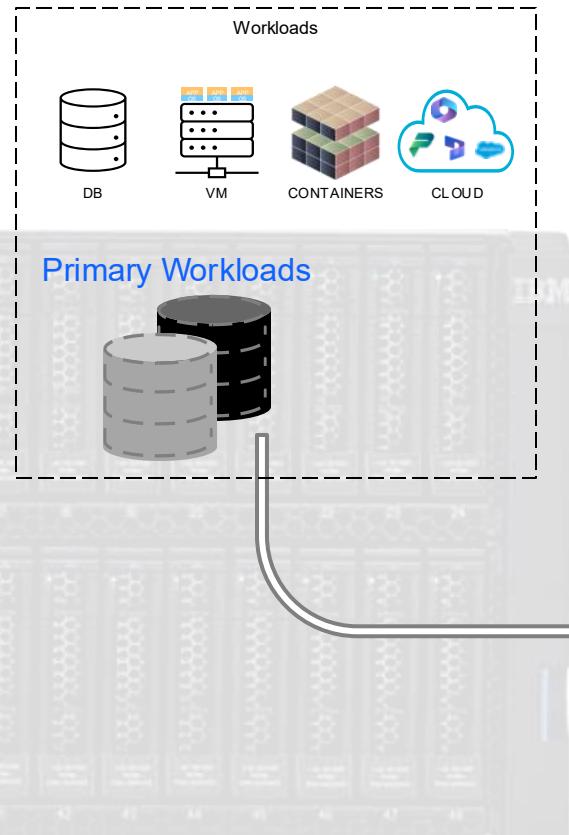
Add High Availability to any block workload with base OS multipathing, including:

- VMware
- AIX
- Windows Clusters

- ✓ Hot-add redundancy
- ✓ Provides Live Workload Mobility
- ✓ Cross-system support of all IBM Storage Virtualize controllers (except FS5015)
- ✓ Even apply HA to 3rd party arrays

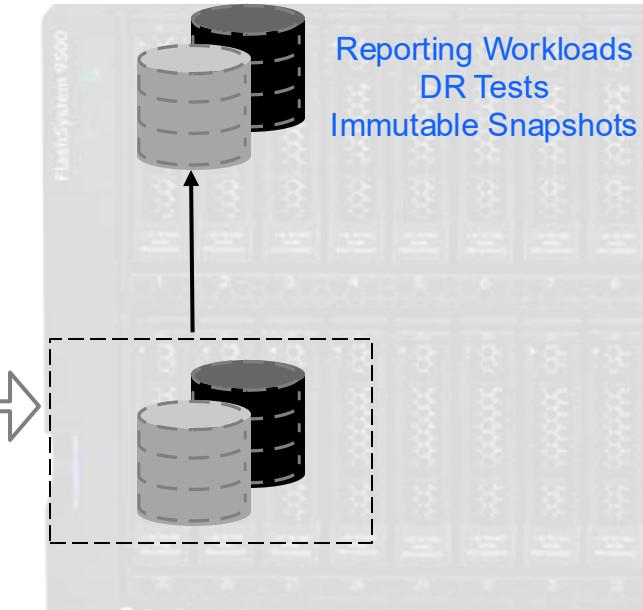


Don't forget DR with Best in Class Replication – Policy-Based Replication



High-Speed Replication over IP or Fibre Channel

- Nominal, sub-second RPO
- Resilient through link failures and overruns
- Operationally free
- Self-orchestrated and self-normalizing for high performance apps



High Availability with Disaster Recovery

Storage partition: PBHA1

PBHA1

Replication overview

HA established

FS9500-2
Logged in here

FS9200-2

DR running

FS7300-2

Manage partition

Storage components

Hosts (1) ✓ Online

Volumes (4)

Volume groups (1) ✓ 1 within RPO

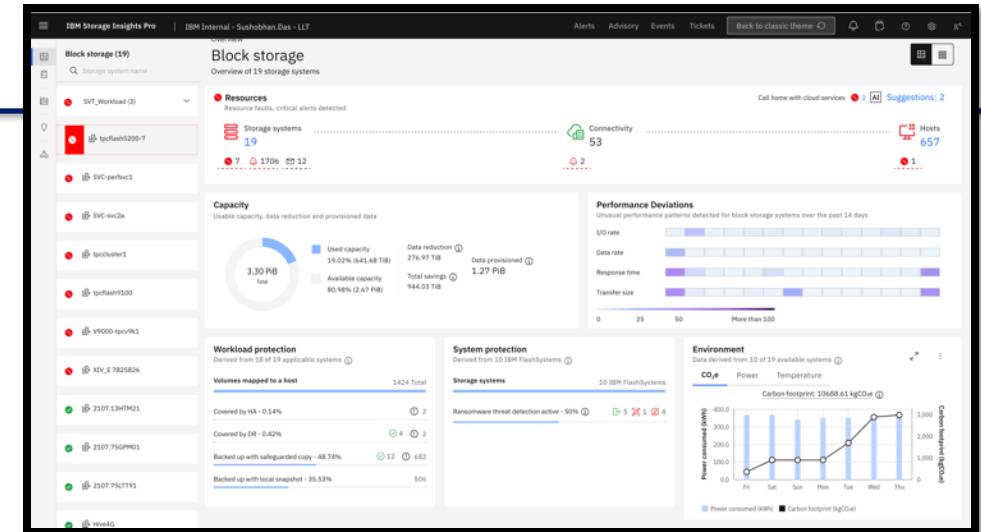
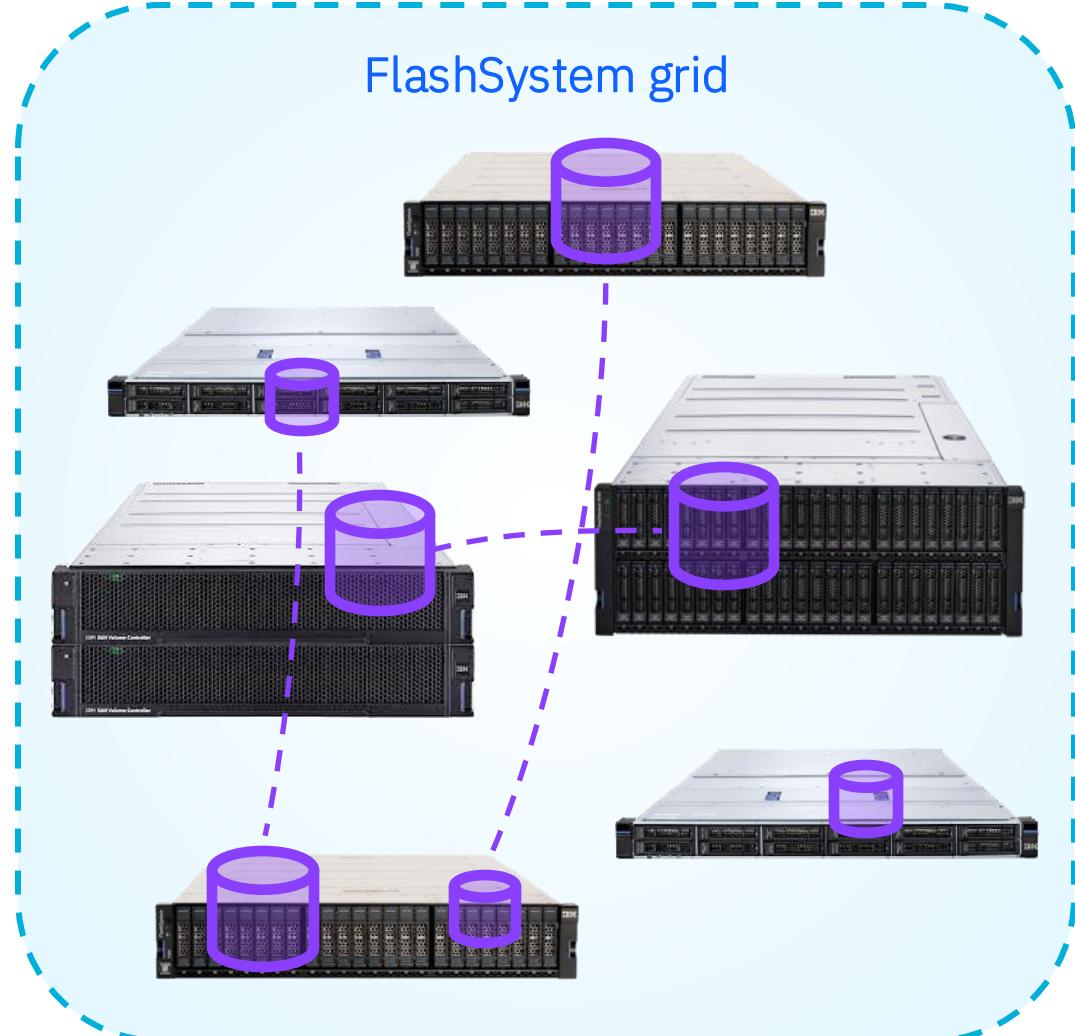
Connectivity

HA partnership (FS9200-2) ● Configured

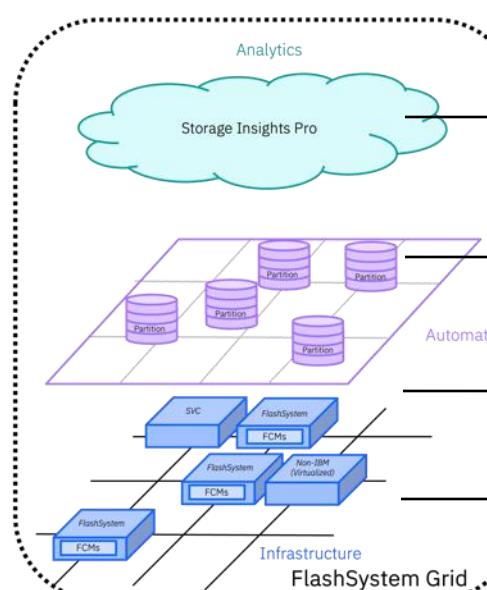
IP quorum ✓ Connected

DR partnership (FS7300-2)

Manage by the grid

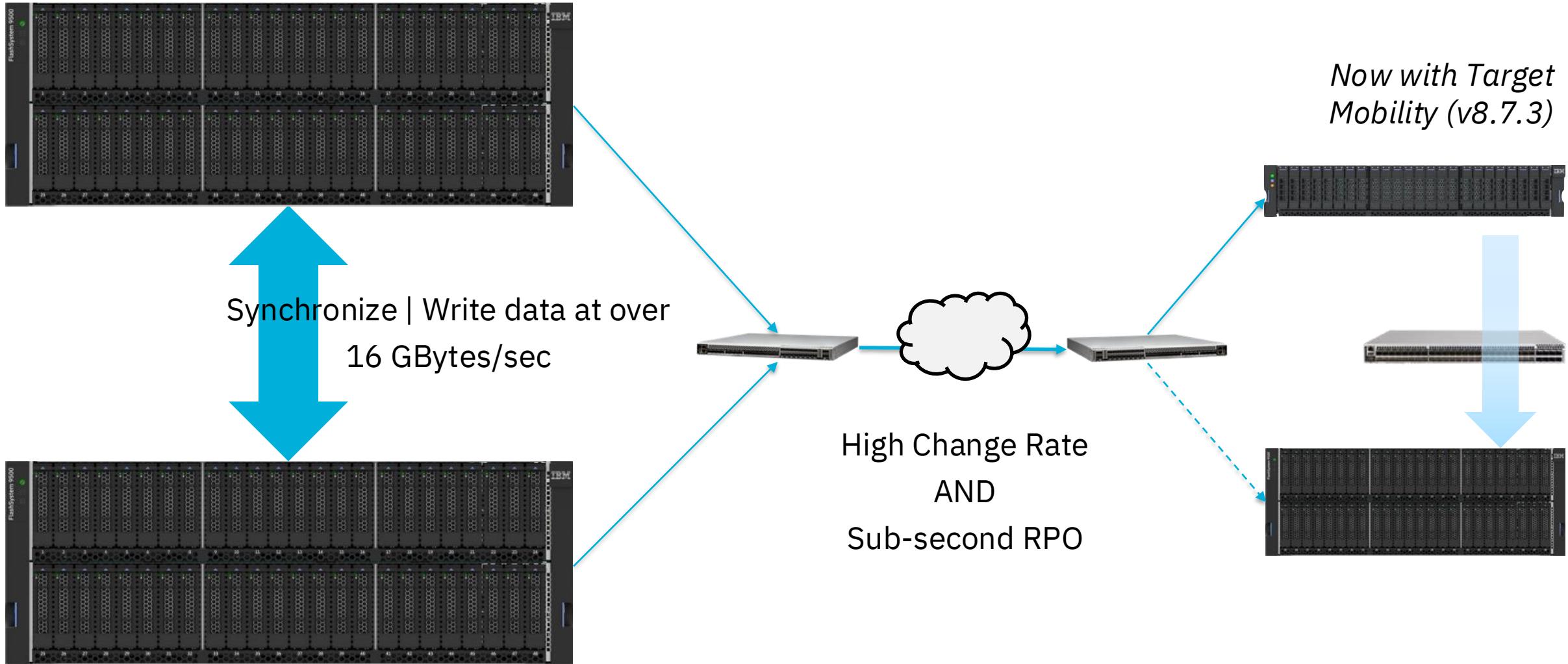


Actionable intelligence with Storage Insights Pro



- Anticipates storage needs to optimize capacity and performance
- Mobilize data non-disruptively for dynamic tiering and rebalancing
- Fleet-wide management of a highly scalable platform
- Virtualize FlashSystem, SVC and even non-IBM storage

Invest in networking = Tier 0 + Mobility + Protection



Making PB-HA Affordable

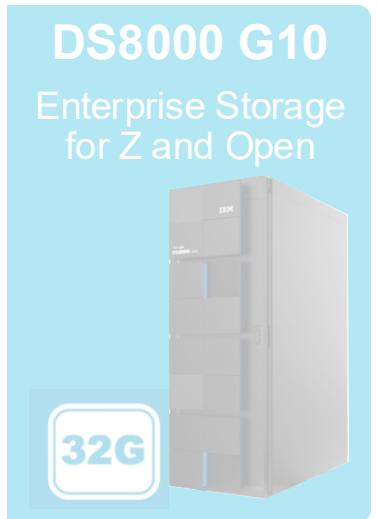
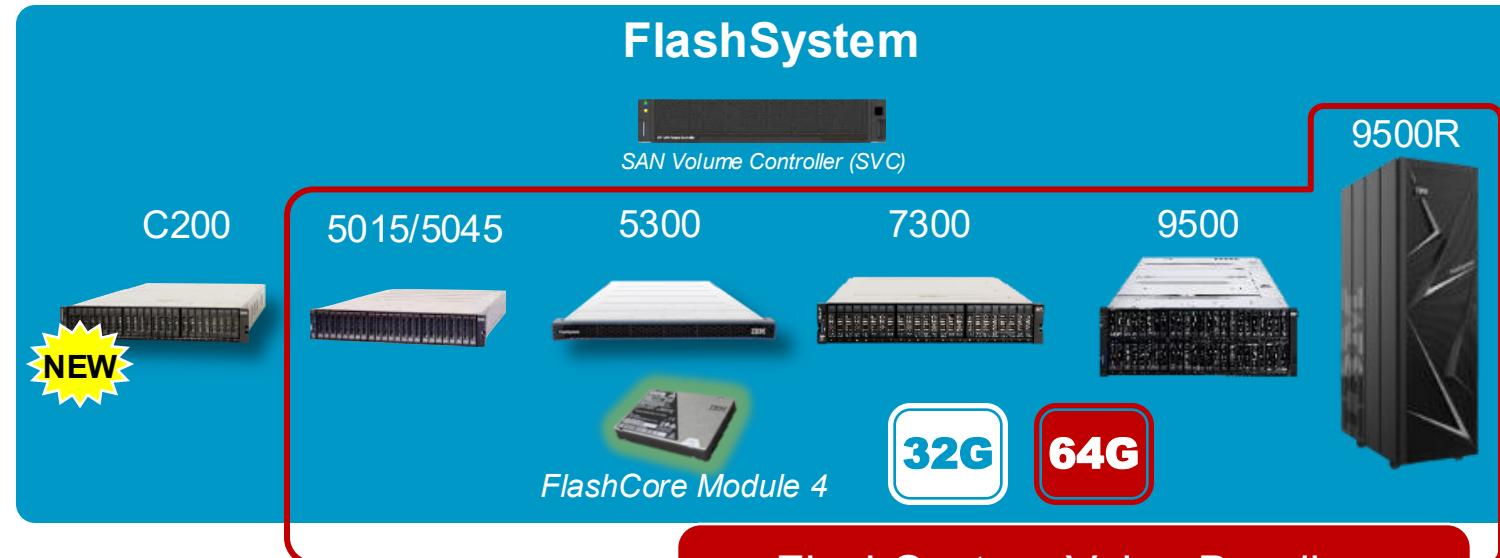
IBM Storage and b-type SAN for Data and Data Path Resilience



IBM b-type Storage Networking supports 32G and 64G for SCSI, NVMe, FICON, and Extension



IBM Storage and SAN Value Bundles

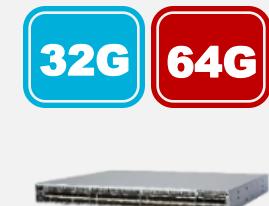


FlashSystem Value Bundles
Perfect for PB-HA

Perfect for PB-R



SAN24B-6
GEN6
FIBRE CHANNEL



SAN64B-7
GEN7
FIBRE CHANNEL



SAN128B-7 **SAN256B-7** **SAN512B-7**
GEN7
FIBRE CHANNEL

IBM FlashSystem Value Bundles

are better together

- Configured for Optimum Performance
- Allows for SAN Flexibility
- Integrated Safeguarded SAN Features
- Save with **up to 20% SAN Discount**

FlashSystem 5045 Value Bundle



Includes two
24-port SAN24B-6
base switches and
8 x 16G SWL SFPs

FlashSystem 5300 Value Bundle



Includes two
24-port SAN24B-6
base switches and
8 x 32G SWL SFPs

FlashSystem 7300 Value Bundle



Includes two
64-port SAN64B-7
base switches and
24 x 32G SWL SFPs

FlashSystem 9500 Value Bundle



Includes two
64-port SAN64B-7
base switches and
24 x 64G SWL SFPs

For PB-HA configuration
configure two Value Bundles ...



**FlashSystem
5015/5045
Value Bundle**



Includes two
24-port SAN24B-6
base switches and
8 x 16G SWL SFPs

**FlashSystem
5300
Value Bundle**



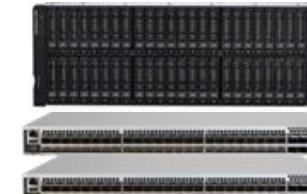
Includes two
24-port SAN24B-6
base switches and
8 x 32G SWL SFPs

**FlashSystem
7300
Value Bundle**



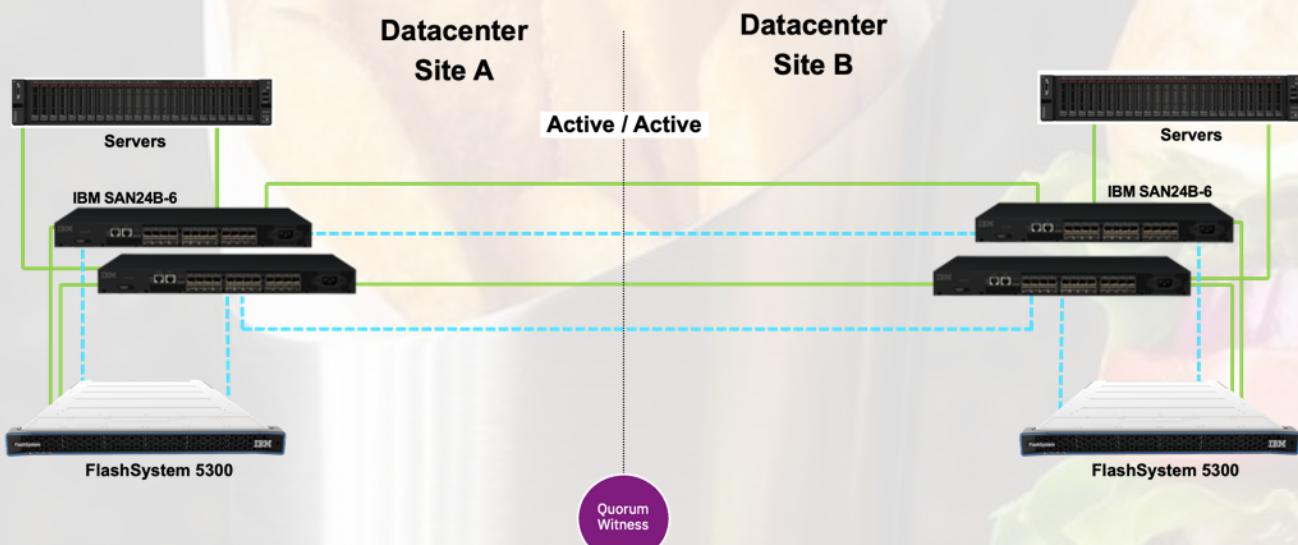
Includes two
64-port SAN64B-7
base switches and
24 x 32G SWL SFPs

**FlashSystem
9500
Value Bundle**



Includes two
64-port SAN64B-7
base switches and
24 x 64G SWL SFPs

and connect them across two metro sites
for Active-Active Replication ...



**FlashSystem
5015/5045
Value Bundle**



Includes two
24-port SAN24B-6
base switches and
8 x 16G SWL SFPs

**FlashSystem
5300
Value Bundle**



Includes two
24-port SAN24B-6
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**FlashSystem
7300
Value Bundle**



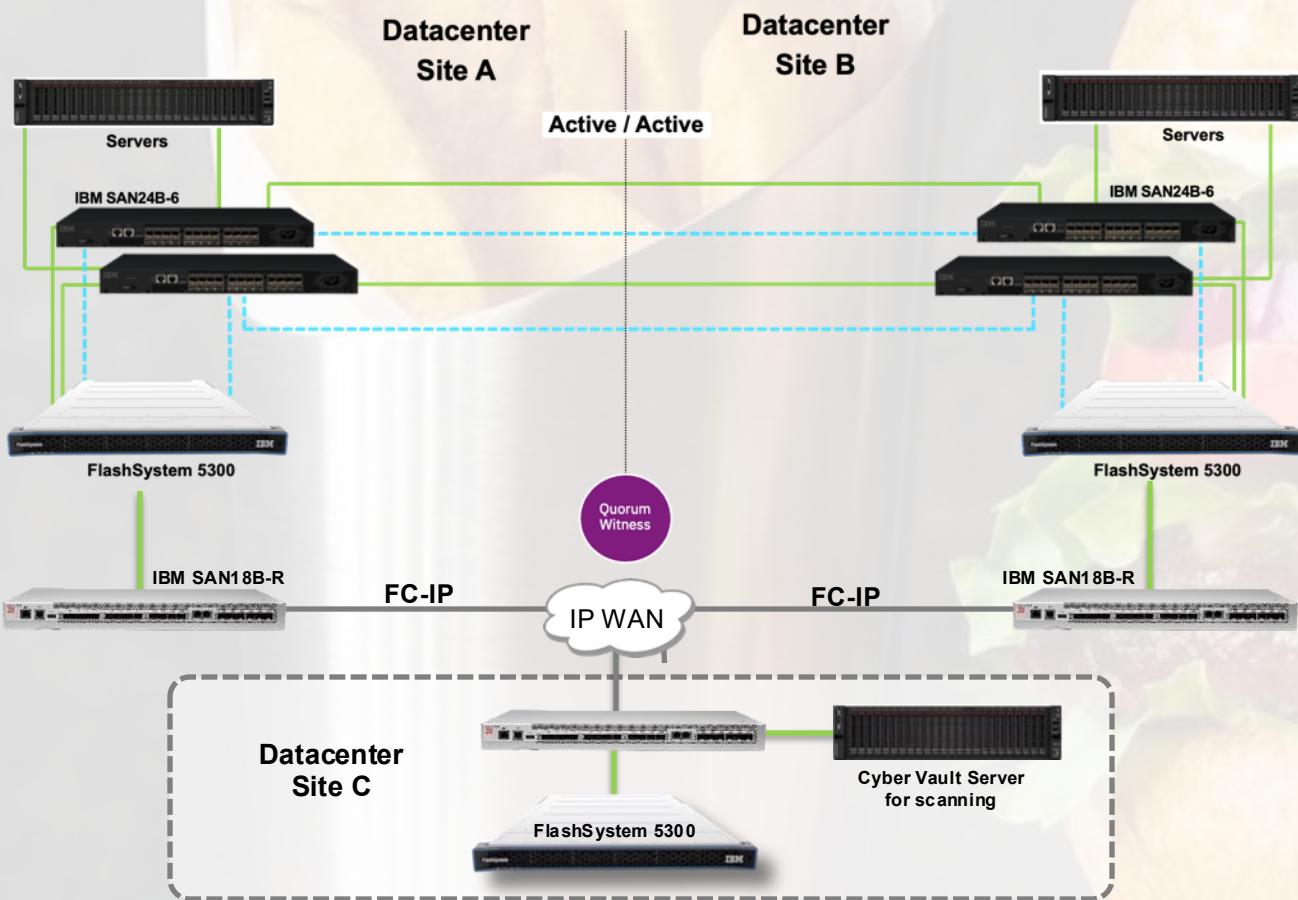
Includes two
64-port SAN64B-7
base switches and
24 x 32G SWL SFPs

**FlashSystem
9500
Value Bundle**



Includes two
64-port SAN64B-7
base switches and
24 x 64G SWL SFPs

Add a 3rd site using SAN extension for PBHA +R to add Async Disaster Recovery



**FlashSystem
5015/5045
Value Bundle**



Includes two 24-port SAN24B-6 base switches and 8 x 16G SWL SFPs

**FlashSystem
5300
Value Bundle**



Includes two 24-port SAN24B-6 base switches and 8 x 32G SWL SFPs

**FlashSystem
7300
Value Bundle**



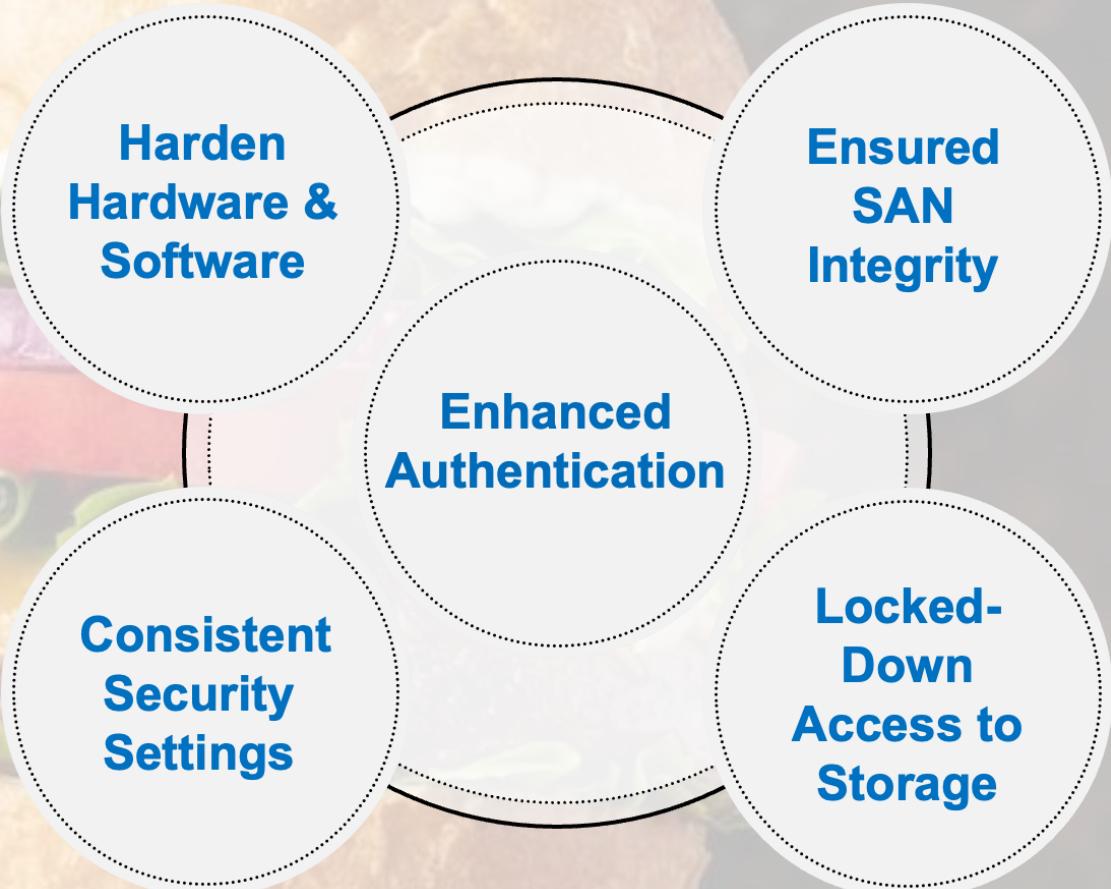
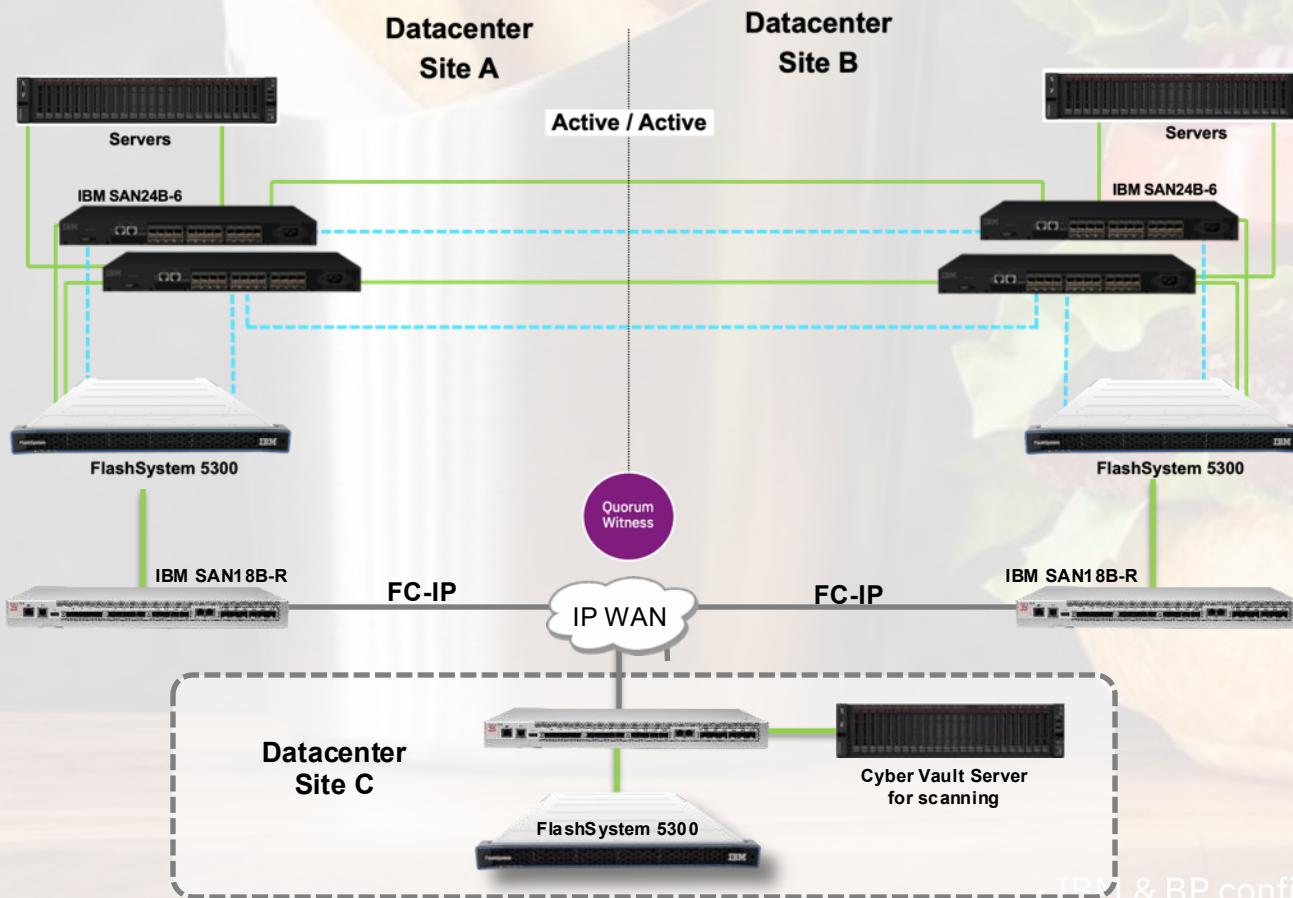
Includes two 64-port SAN64B-7 base switches and 24 x 32G SWL SFPs

**FlashSystem
9500
Value Bundle**

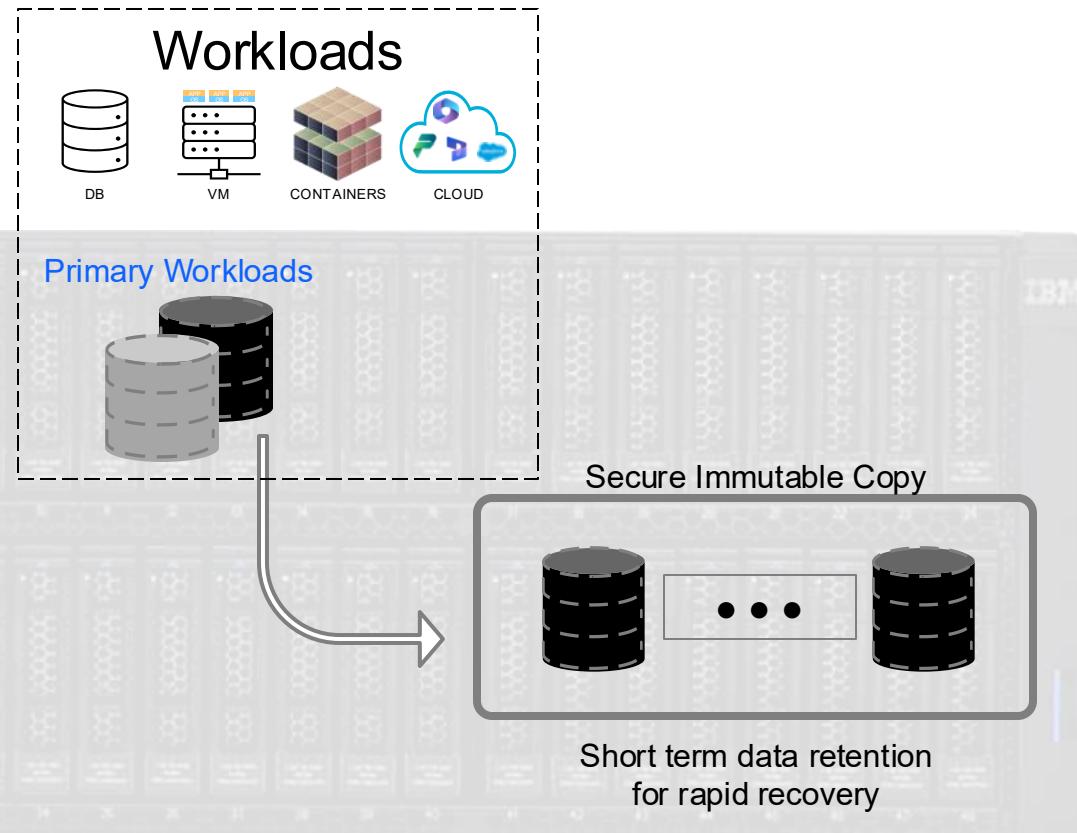


Includes two 64-port SAN64B-7 base switches and 24 x 64G SWL SFPs

... with Brocade's **Safeguarded SAN** features to protect the data path.



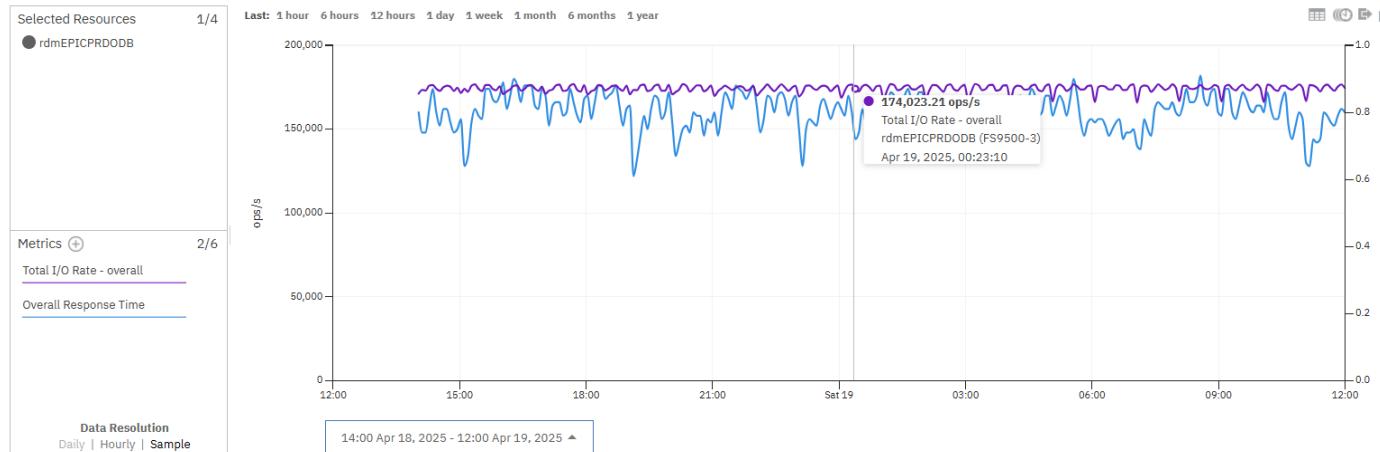
Immutable Snapshots – Safeguarded Copy



Safeguarded Copy augments the current data protection strategy for mission critical applications to enable rapid recovery.

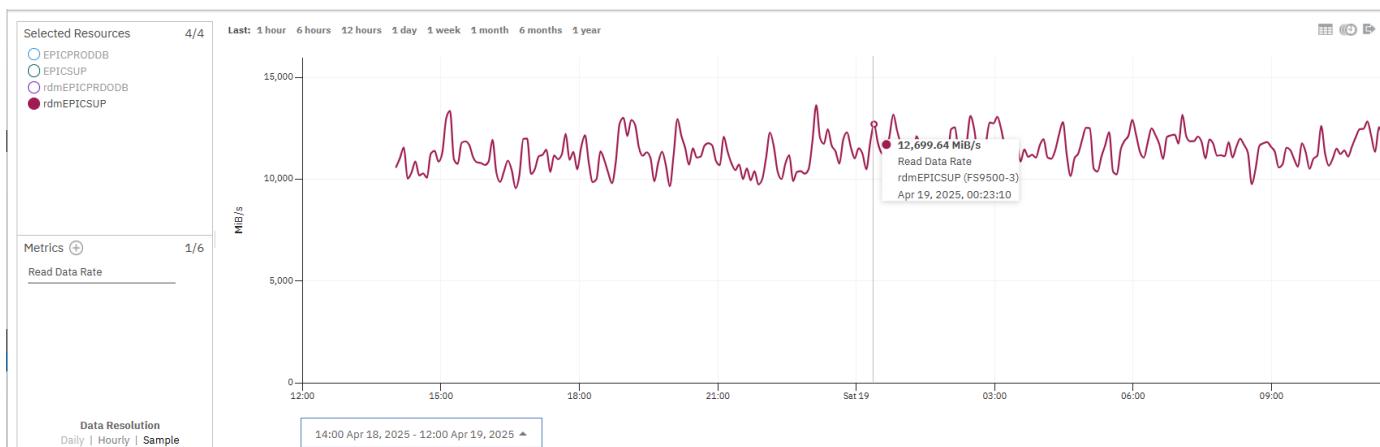
- Policy enabled, hidden from hackers
- Small, space-efficient buckets of change data
- Located on primary array – no data movement
- Operationally free
- **Two-person integrity** authority without the need to contact support

Build Confidence in Your Recovery Options



Validate your date and KNOW you have a quick recovery option

175K transactional IOPS @ <1ms with a 13Gbps average snapshot read rate



Less than 1/3rd of a FlashSystem 9500 utilization

but...

You MUST invest in the networking

Putting it all
together

Why are we here?

To build **Affordable** and **Effective** High Availability Storage Solutions

1) Start with

FlashSystem Value Bundles

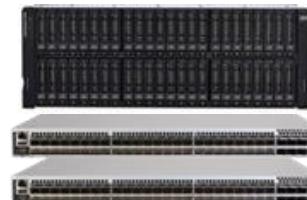
FlashSystem
5300
& SAN24B-6



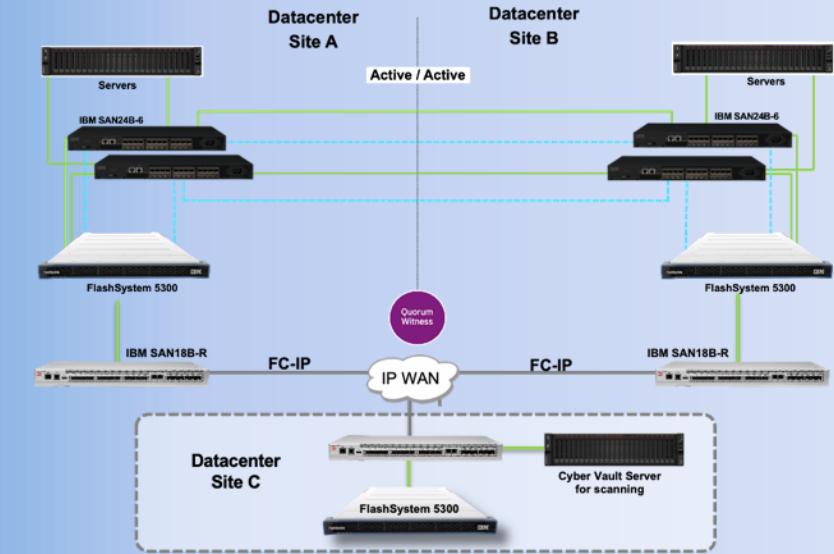
FlashSystem
7300
& SAN64B-7



FlashSystem
9500
& SAN64B-7



2) Build
Policy Base
HA Solutions



3) Save \$\$

4) Keep your business data resilient, secure, & operational

Why are we here?



... and
enjoy our time
OUT from WORK



Accelerate with ATG Survey

Please take a moment to share your feedback with our team!

You can access this 6-question survey via Menti.com with code 5151
0447 or

Direct link <https://www.menti.com/alhsf3bgvxu6>
Or

QR Code



THANK YOU!