A Japanese Fortress for Your Data
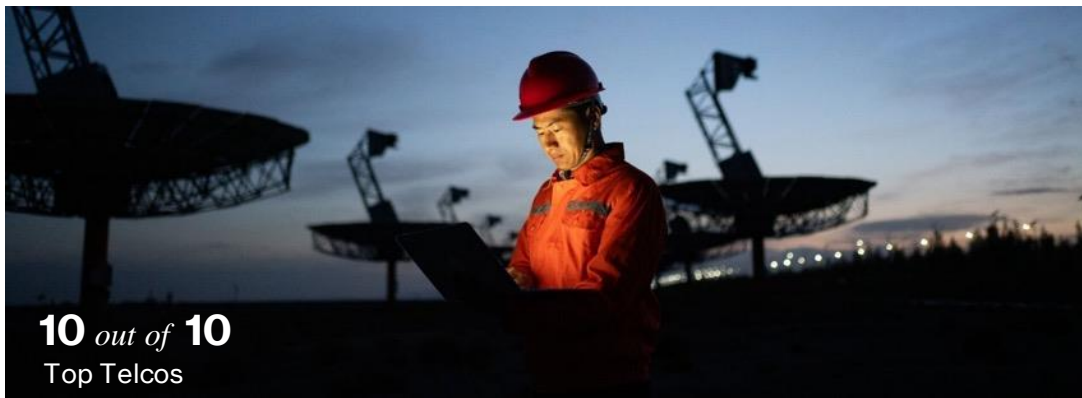
Change demands resilience

Andrej Gursky
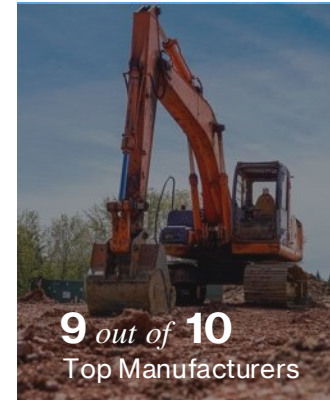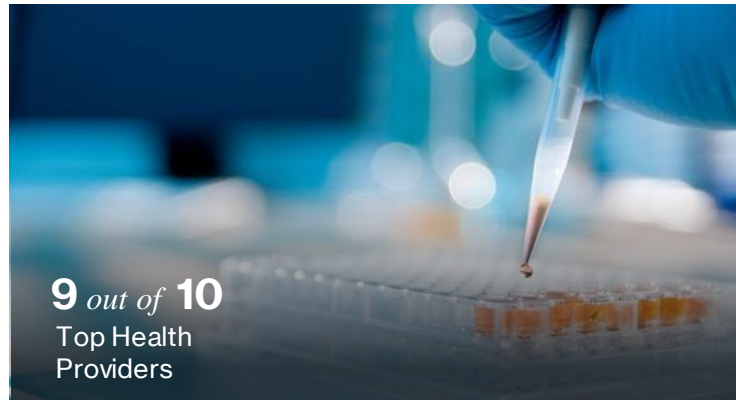
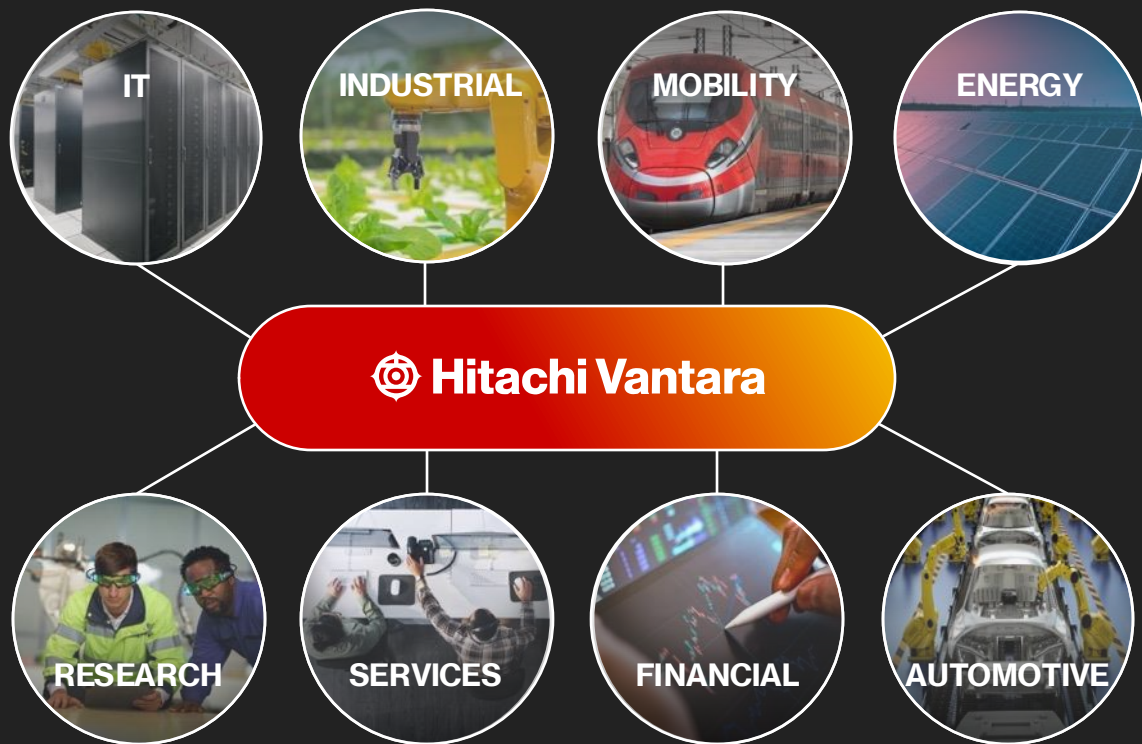Solutions Consultant CEE

September 2024, Budva

The Data Foundation the World Relies On

100% available | #1 fastest recovery | 40% less energy | enterprise AI ready | cloud economics | industry expertise

10 *out of* **10**
Top Insurers

9 *out of* **10**
Top Health Providers

9 *out of* **10**
Top Manufacturers

10 *out of* **10**
Top Telcos

8 *out of* **10**
Top Banks

Hitachi Vantara

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Co-Create with the
Hitachi Ecosystem

IT

INDUSTRIAL

MOBILITY

ENERGY

Hitachi Vantara

RESEARCH

SERVICES

FINANCIAL

AUTOMOTIVE

Software Innovation
GlobalLogic + Hitachi Vantara

Grid Intelligence
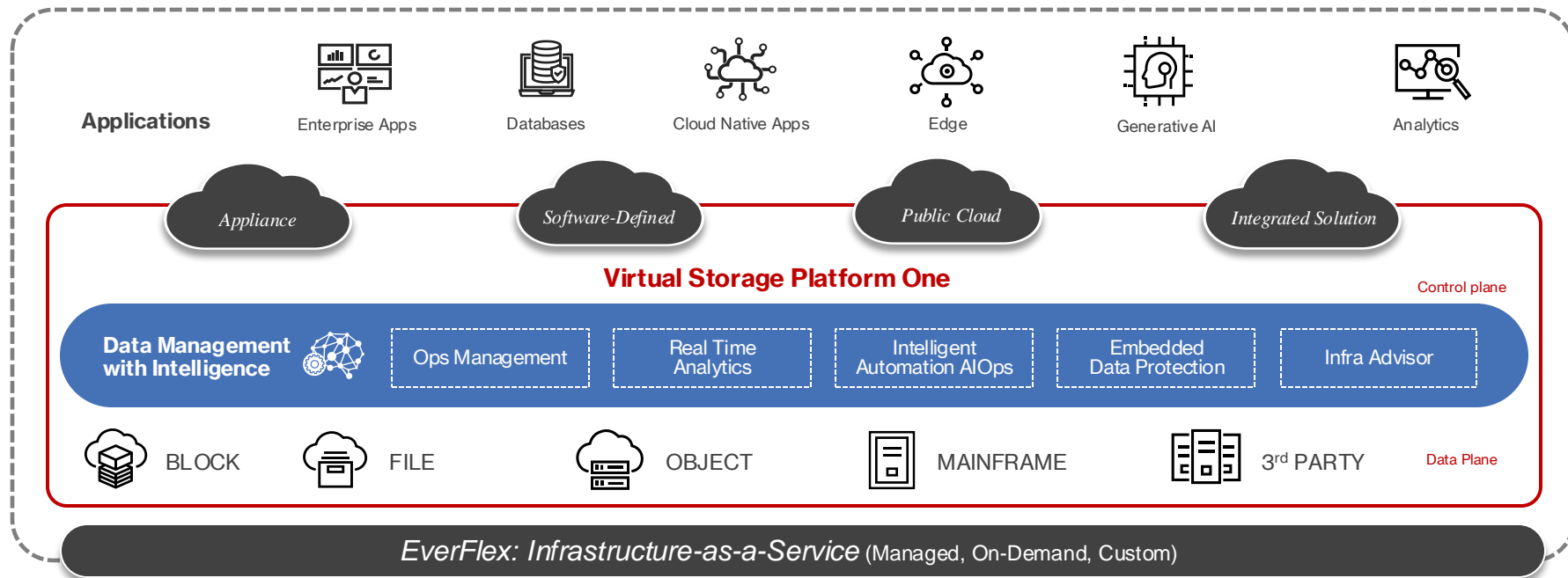Hitachi Energy + Hitachi Vantara

Smart Urban Mobility
Hitachi Rail + Hitachi Vantara

Hitachi Vantara

R/Evolution: Hybrid Cloud Storage Platform

One Hybrid Cloud Data Platform. No Hassles. No Silos. No Limits.

Applications

Enterprise Apps | Databases | Cloud Native Apps | Edge | Generative AI | Analytics

Appliance | Software-Defined | Public Cloud | Integrated Solution

Virtual Storage Platform One

Control plane

Data Management with Intelligence

| Ops Management | Real Time Analytics | Intelligent Automation AIOps | Embedded Data Protection | Infra Advisor |

BLOCK | FILE | OBJECT | MAINFRAME | 3rd PARTY

Data Plane

EverFlex: Infrastructure-as-a-Service (Managed, On-Demand, Custom)

We Partner With the Companies You Work With

Technology Alliances

BROADCOM | CISCO | Commvault | VERITAS
intel | VM20/20 | veeAM | ORACLE | SAP

Cloud Alliances

Azure | Google Cloud | aws | EQUINIX

Managed Service Providers

LOGICALIS Architects of Change | ThinkOn | Telefónica | gammergroup | Perfekt

ISV and Technology Partners

NVIDIA | splunk> | snowflake | CLOUDERA
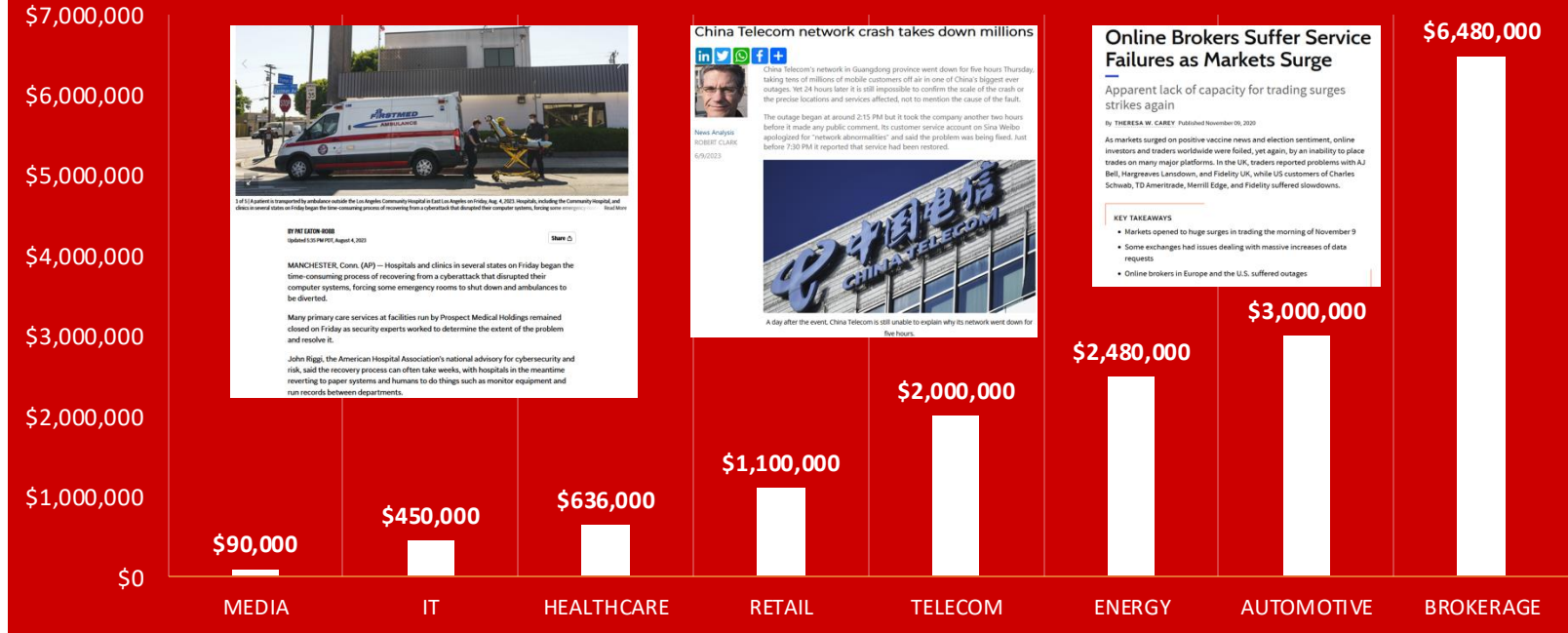
Faster recovery, more reliable backups, and enhanced cyber protection while reducing costs
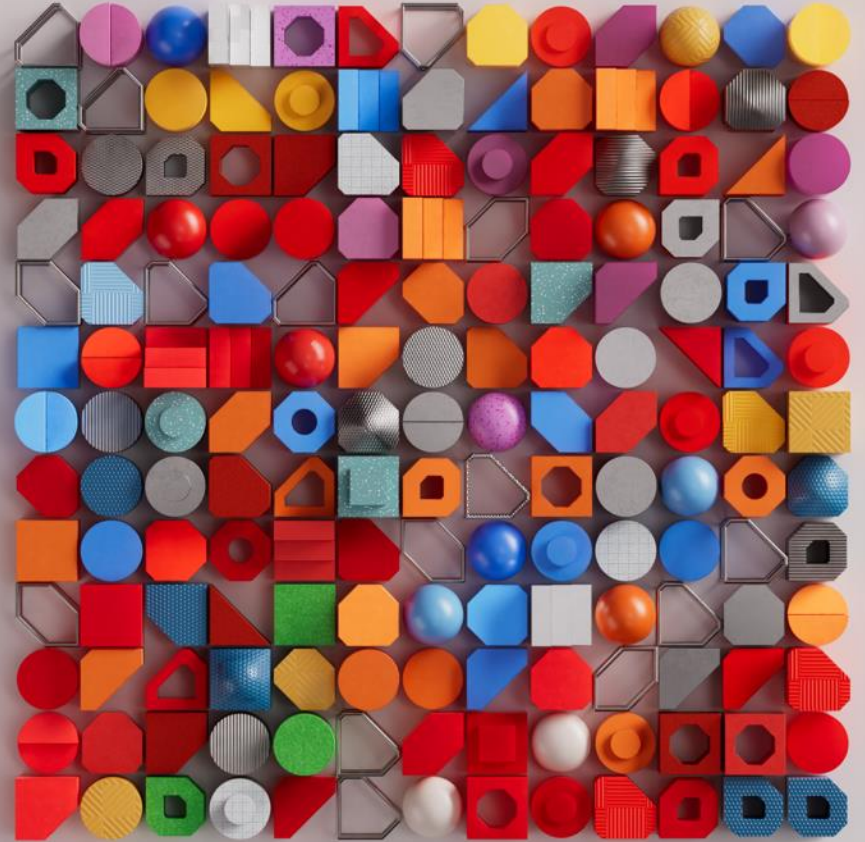
Downtime is Detrimental

COST OF DOWNTIME IN DOLLARS/HOUR

Industry	Cost
MEDIA	$90,000
IT	$450,000
HEALTHCARE	$636,000
RETAIL	$1,100,000
TELECOM	$2,000,000
ENERGY	$2,480,000
AUTOMOTIVE	$3,000,000
BROKERAGE	$6,480,000

https://www.pingdom.com/outages/average-cost-of-downtime-per-industry/

Ensuring Operational Resilience

Always Available

100% data availability 15 nines of data durability for always-on operations

Always Secure

Cyber resilience with immutable storage, encryption, and AI monitoring

Always Protected

Efficient protection with automated, rapid recovery at scale for minimal data loss
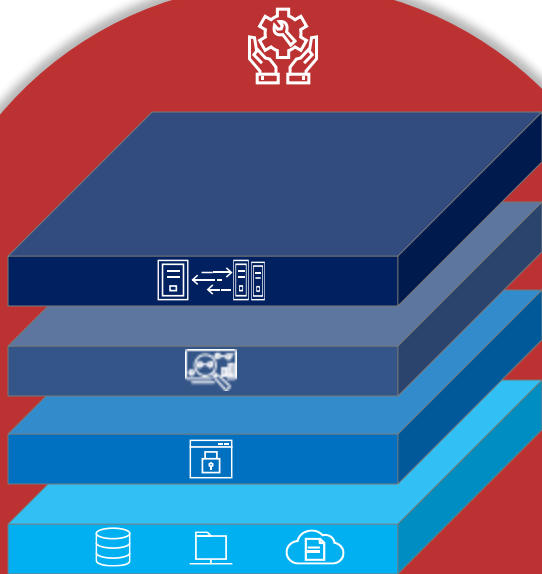
Always Compliant

Automatic classification and management of data to ensure compliance

Robust Infrastructure, Software and Services

- **Robust Operational Resilience as a Service**
  EverFlex, Hitachi Systems Security

- **Nearly instant, disposable, copies of production environment**
  Thin Digital Twins with CyberVR

- **Simplified administration of data protection processes**
  Ops Center Protector

- **Efficient, Dependable Backup and Recovery**
  HDPS, Commvault, Veeam, Veritas, IBM, Model9, etc.

- **Reliable, Secure, Immutable Infrastructure**
  Block, File, Object

BLOCK Storage: Virtual Storage Platform

Fastest
- World's fastest enterprise array
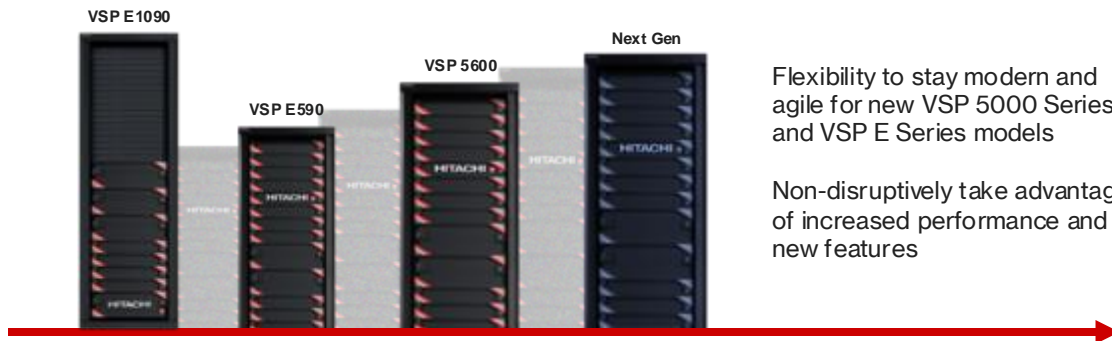- 33M IOPS
- As low as 39us latency

Scalable
- Start small 2 controllers
- Scale massive 12 controllers
- Scale to 69PB

Flexible
- NVMe lowest latency
- SSD best price/performance
- HDD best $/GB

Resilient
- Eight 9s availability
- 100X more reliable than competitors
- 100% data availability

VSP E1090

VSP E590

VSP 5600

Next Gen

Flexibility to stay modern and agile for new VSP 5000 Series and VSP E Series models

Non-disruptively take advantage of increased performance and new features

- Leader in Gartner MQ – primary storage

- 9/10 Top Banks and manufacturers and 10/10 top insurers and telcos trust Hitachi Vantara

- Leader in sustainability by core design in storage infrastructure

- Modern Storage Assurance extends infra life without disruption

The Fastest and Most Resilient Storage Platform that 76% of the Fortune 500 Trust

NEW: VSP One Platform

VSP One Block 20

Flexibility without Complexity

- Next-gen 2U All-Flash NVMe midrange storage
- Simplicity and Performance
- Eco-Friendly Efficiency & Sustainability
- Dynamic Drive Protection (DDP)

Flexible

VSP One File

Scale-up/Scale-Out Central Clustered File System

- Traditional Data Center Centric Workloads
- Batch Systems
- Decision Support
- Local File Consolidation
- Database on File Deployments
- Central Home Directories
- Virtual Machines
- Backup & Recovery

Consolidated

HCP Anywhere Enterprise

Scale-up/Scale-out Distributed File System

- Collaborative Workloads
- End-User Productivity Systems
- Enterprise Content Management
- Desktop & Mobile File Sharing
- Departmental File Sharing & Distribution
- IOT Edge to Core Capture
- Extended Data Operations

Distributed

Legendary Hitachi Resilience

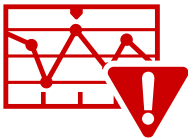## 30 Years Of Industry Leading Reliability

AVAILABILITY

GLOBAL-ACTIVE DEVICE

CLOUD SUPPORT

3 DATA CENTER

100% Data Availability Guaranteed

"I have been a Hitachi storage solutions customer for 15 years – their platform has been a game changer for me and my organization"

Scott Crowder, Senior VP and CIO, BMC Software

"These two G1500s are the two most reliable pieces of our infrastructure."

Theodoros Zarros, CTO, Athens Exchange Group

Unbreakable Core

Extend trusted guarantees across the entire data plane

Modern Storage Assurance

Future-proof VSP One solution technology without data migrations.

100% Data Availability Guarantee

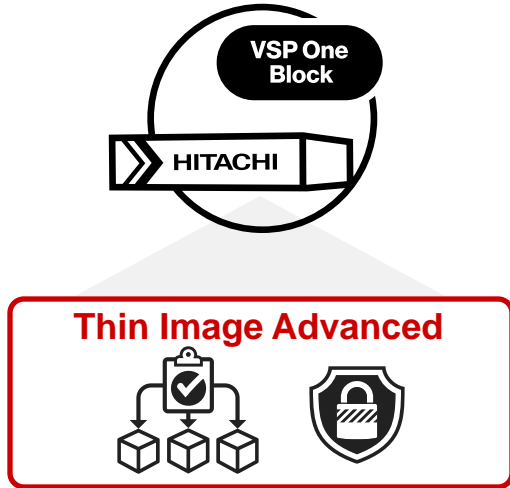Meet service level agreements with continuous access to VSP One data. Guaranteed.

Effective Capacity Guarantee

Lower storage costs by increasing capacity while protecting performance.

Coming Soon : Cyber Resiliency Guarantee

Built-in Ransomware Protection & Fast Recovery

VSP One Block

HITACHI

Thin Image Advanced

Safe Snap (New in VSP One Block!)

- Snapshot protection feature for floating device and SVOL mapped floating device
- **Immutable and cannot be deleted until retention period has expired**
- Use case – ransomware protection

01

Improve Backup Operations

Copy data without affecting production applications and create point-in-time data snapshots for backup

02

Ensure Business Continuity

Reduce recovery time with immediate restores from point-in-time data snapshot copies

03

Data Protection Efficiency

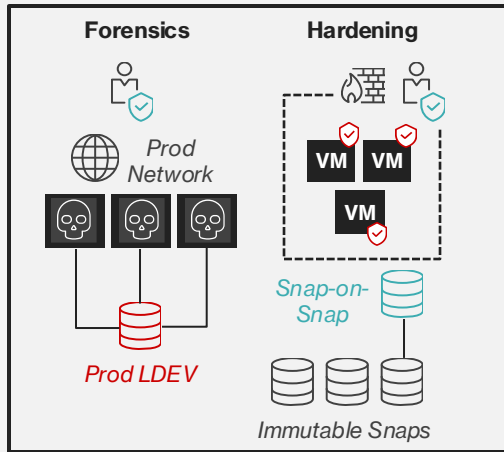*Enhance data protection operations with always-available copies of production data*

04

Reduce OPEX Costs

Maximize disk utilization by storing only reduced, changed data blocks (up to 90% reduction!)
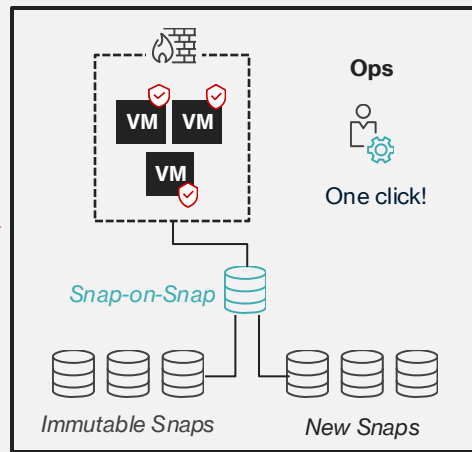
# World's Fastest Automated Recovery

Isolated Recovery and Triage

Forensics · Hardening

Prod Network

Prod LDEV

Snap-on-Snap

Immutable Snaps

Recovery from immutable snaps to
virtual-air-gap on production-equivalent storage

Re-Protection

Ops

One click!

Snap-on-Snap

Immutable Snaps · *New Snaps*

Recovered VMs are re-protected before
re-connecting users

Re-Connection

Prod Network

Snaps
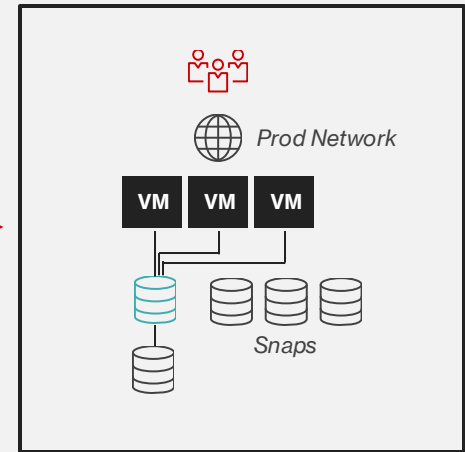
Recovered VMs switched from virtual
air-gap to production networks

Measured in Minutes for Thousands of VMs
(1500 VMs in 70 min)

OBJECT Storage

Performance at Scale

- Linear and independent scale of capacity; 50% faster response times and 15x less latency
- Exabyte scale, unlimited object count and high density; 13 PB in a single rack
- All-flash options for tier 1 high-performance workloads

Flexible and Modern

- Full S3 cloud-native application compatibility; multicloud portability of data and applications
- Use cases span traditional archive and backup to newer cloud-native, AI/ML and analytics workloads
- Appliance, software-defined, cloud-based and as a cloud service options

Secure, Resilient and Compliant

- Compliance capabilities support some of the most stringent regulations (*U.S. DoD 5520-M specifications*)
- Cyber security capabilities object lock, encryption, proactive integrity checks and air gapping
- Twelve 9s durability, nine 9s availability and fifteen 9s data durability

Cost Optimized

- Intelligently manage data based on value, sensitivity, accessibility and cost
- Balance resources across choice of on-premises enterprise-grade, dense, commodity storage or public clouds
- Reduce licensing and operational costs with backup-less design, faster restore times and robust search and query

GIGAOM RADAR REPORT — UNSTRUCTURED DATA MANAGEMENT: INFRASTRUCTURE — LEADER

GIGAOM RADAR REPORT — UNSTRUCTURED DATA MANAGEMENT: BUSINESS — LEADER

ON-PREMISES 2022-23 DCIG TOP 5 SDS OBJECT STORAGE

Gartner Peer Insights

- ✓ 2,500+ Customers Globally
- ✓ 4/5 Largest Banks and Insurance Organizations Trust HCP
- ✓ Leader in Unstructured Data Management by GigaOm
- ✓ Top 5 SDS Object Storage by DCIG
- ✓ 52 Five-Star Reviews on Gartner Peer Insights

Secure, Performant, Resilient, S3-Compatible Object Storage Software
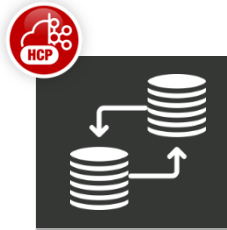
Data Resiliency/Compliance
Hitachi Content Platform for Objects by design

Protecting data against cyber threats and meeting compliancy - by **simply enhancing** our **HCP capabilities**:

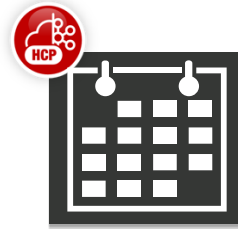**Data Protection and Compliance**

Immutability & Retention

Protection & Replication

Policy Based Automation

Versioning

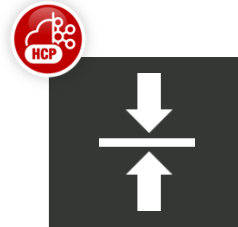**Access, Security, Efficiency**

Authentication

Encryption

Standard APIs

Dedupe

Compression

Unrivaled Data Resilience

HCP is much better suited for replacement of tape libraries than any other disk-based backup solutions

15 nines of data durability

Each data fragment can survive the simultaneous loss of six drives

One bit lost every 1 trillion years

+

10 nines of accessibility

Amazon only offers 4 nines; ~53 minutes of downtime per year

+

2 copies of all metadata

+

Customer-configurable redundant local object copies (2, 3, or 4)

+

Content validation via hashes and automatic object repair

+

Replication – offsite copies with automated repair from replica
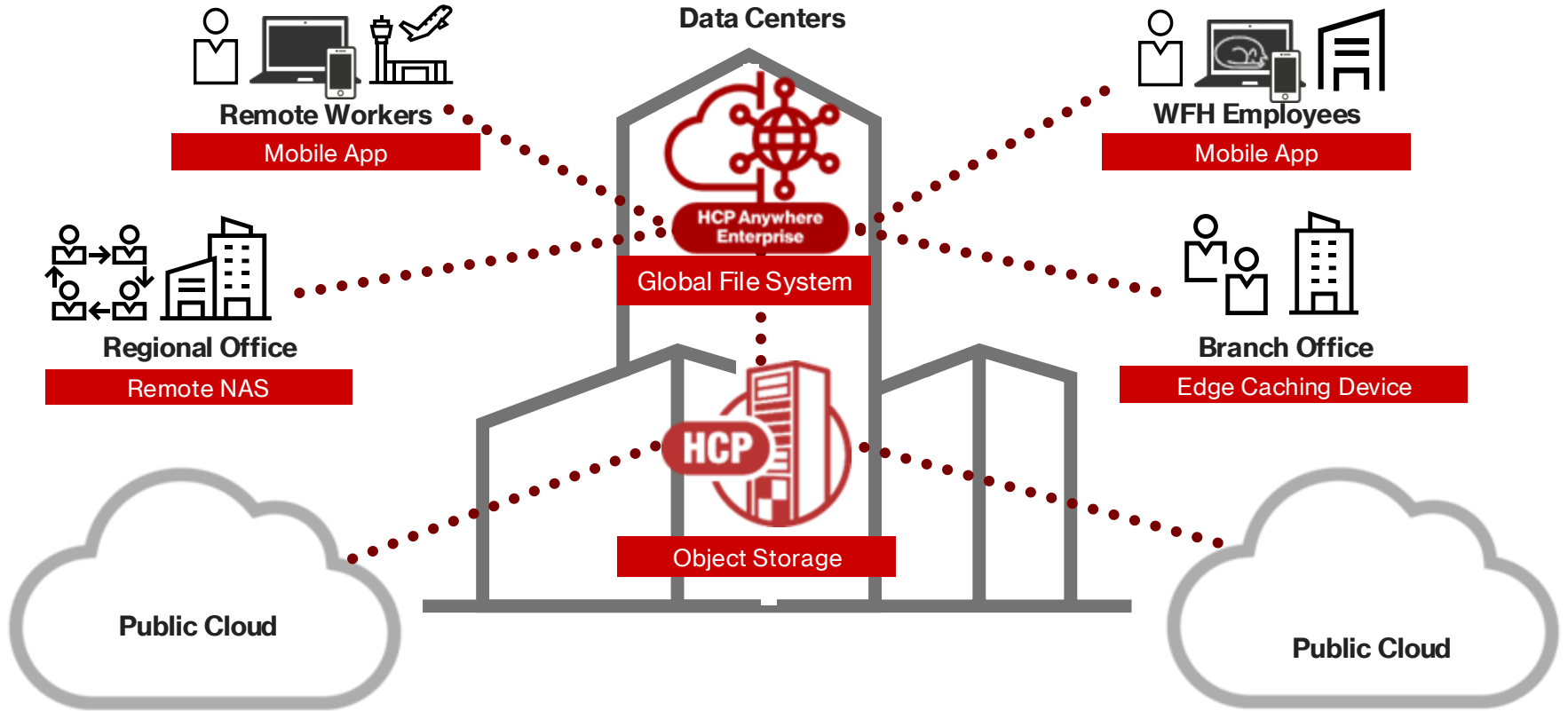
+

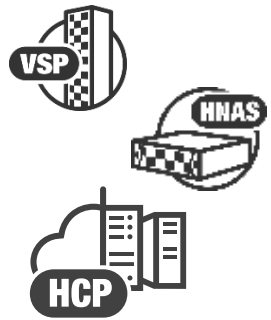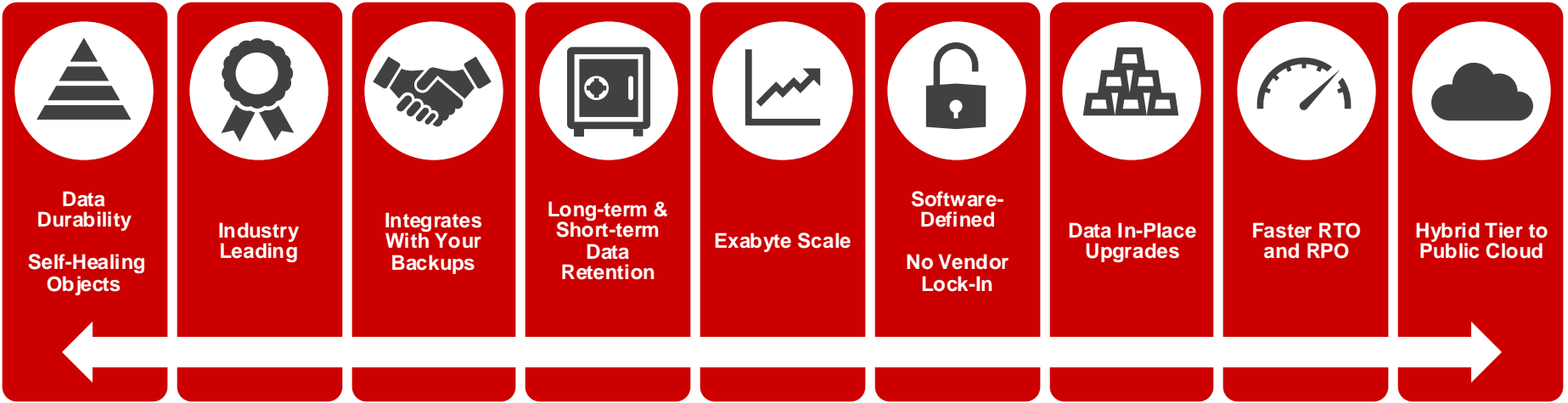Object versioning – protection from accidental deletes and changes

- **1 Million times more available than AWS S3**

- **Exceptional data protection**

Hitachi Vantara

From Edge-to-Core

With Backup Provider of Your Choice

| Data Durability Self-Healing Objects | Industry Leading | Integrates With Your Backups | Long-term & Short-term Data Retention | Exabyte Scale | Software-Defined No Vendor Lock-In | Data In-Place Upgrades | Faster RTO and RPO | Hybrid Tier to Public Cloud |

Immutable Backup with HCP S3 Object Lock

Delete

Not Allowed

x-amz-object-lock

x-amz-object-lock-mode

x-amz-object-lock-retain-until-date

01 **Prevents a Backup Object From Being Deleted**
(S3 Object Lock)

02 **Protection From Ransomware Attacks + OS365 Policy Driven Backup**

HCP Delivers Multi-Layer Authentication, Encryption & Locked Objects

03 **SEC 17-a, GDPR, HIPAA Compliant**

Improve Operational Resilience and ROI

Improve RPO/RTO

- Backup faster and more often
- Recover faster
- Reduce data loss
- Increase reliability of backups

Gain Cyber Resiliency

- Harden the OS, VMs, and storage
- Make snaps and data immutable
- Retain past versions
- Anomaly and malware scanning

Increase ROI

- Eliminate the hidden costs of tape
- Use backup datasets for analysis
- Improve data governance
- Gain efficiency and scalability

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Thank You

Hitachi Vantara