



Qumulo: Data Innovation & the Future of Storage

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Missions



Hewlett Packard
Enterprise

To be the leading global edge-to-cloud company built to transform businesses.

+



Qumulo

Empowering customers to store, manage, and curate unstructured data anywhere and forever.

Key Partnership Metrics

500+

HPE-Qumulo
Customers

7 Years

Partnered
with HPE

75+

HPE-Qumulo
Net Promoter
Score

1.8PB

Average
Installation Size

36PB

Largest
Installation



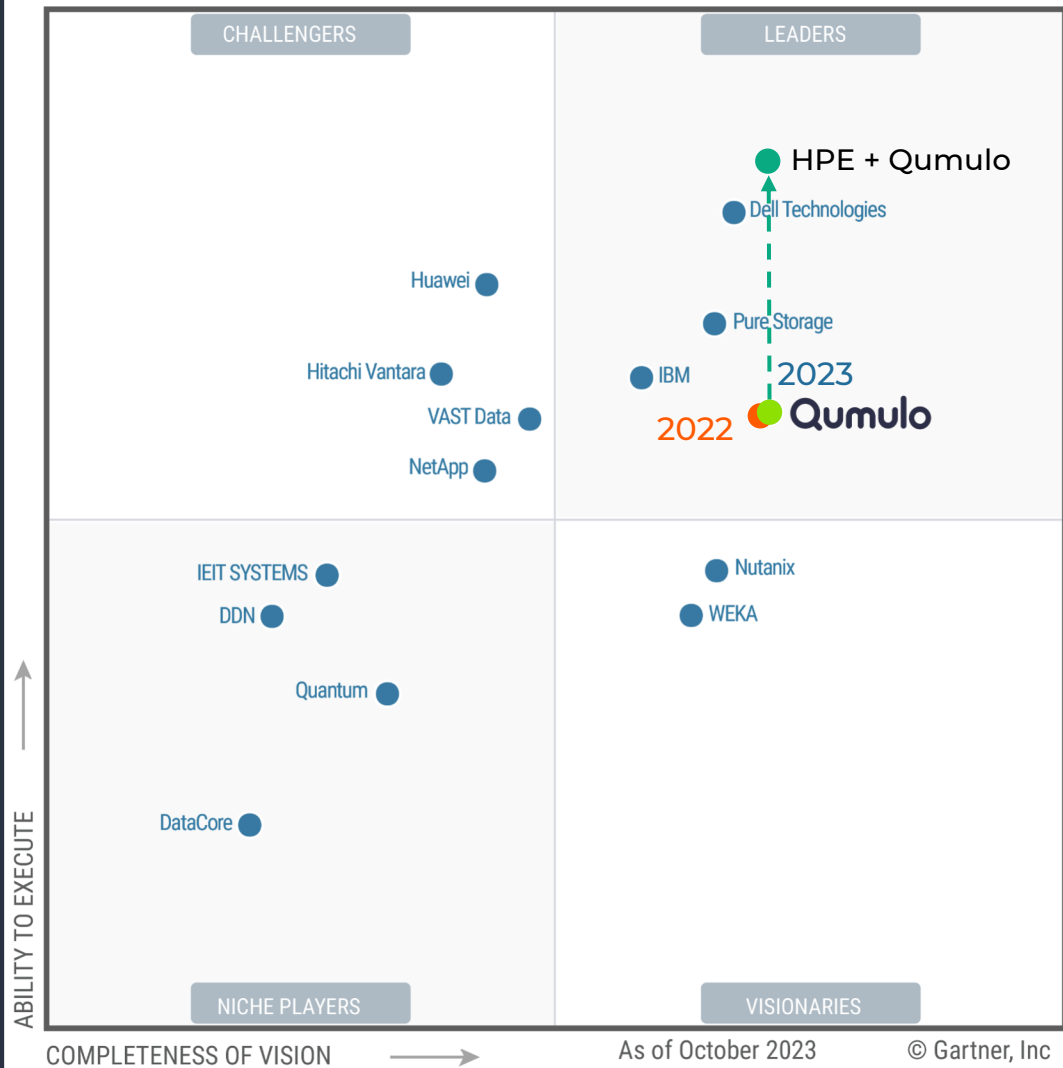
Up and to the right!

6x Leader

The Gartner® 2023 Magic Quadrant™ for Distributed File Systems and Object Storage



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As of October 2023

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The old way is complex and creates platform lock-in



Complex manual processes

Time-consuming, people heavy, error-prone



Data blindness

No visibility into data stored or how to monetize it



Poor customer support

Months of issue chasing after YOU open the ticket



No path to cloud

Locked in to an on-prem future



Only one platform to choose

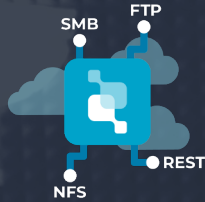
Platform lock-in, sourcing risks, slow innovation



Data Silos

Lack of data access between locations

There is a more innovative way



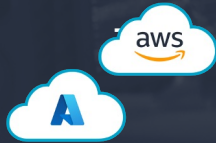
API-first approach, software-defined storage



Instantly know what's happening with your data, no treewalks



Zero-latency support with real-time, proactive monitoring



Supported on major clouds, a unified experience anywhere



Choose from many platforms, on-prem or cloud



Full visibility and data access between locations

“Knowledge is power”

아는 것이 힘이다

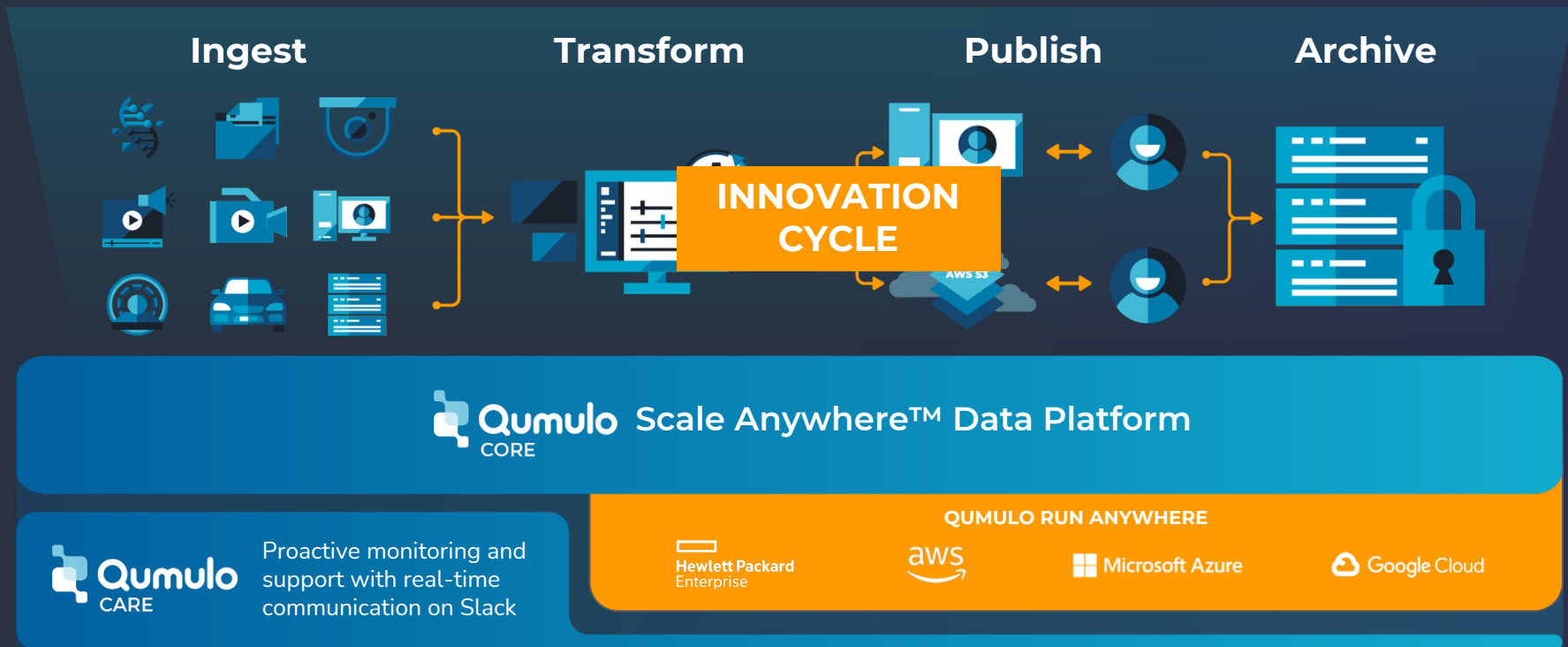
“Knowledge ~~is~~ power”

아는 것이 ~~힘~~이다

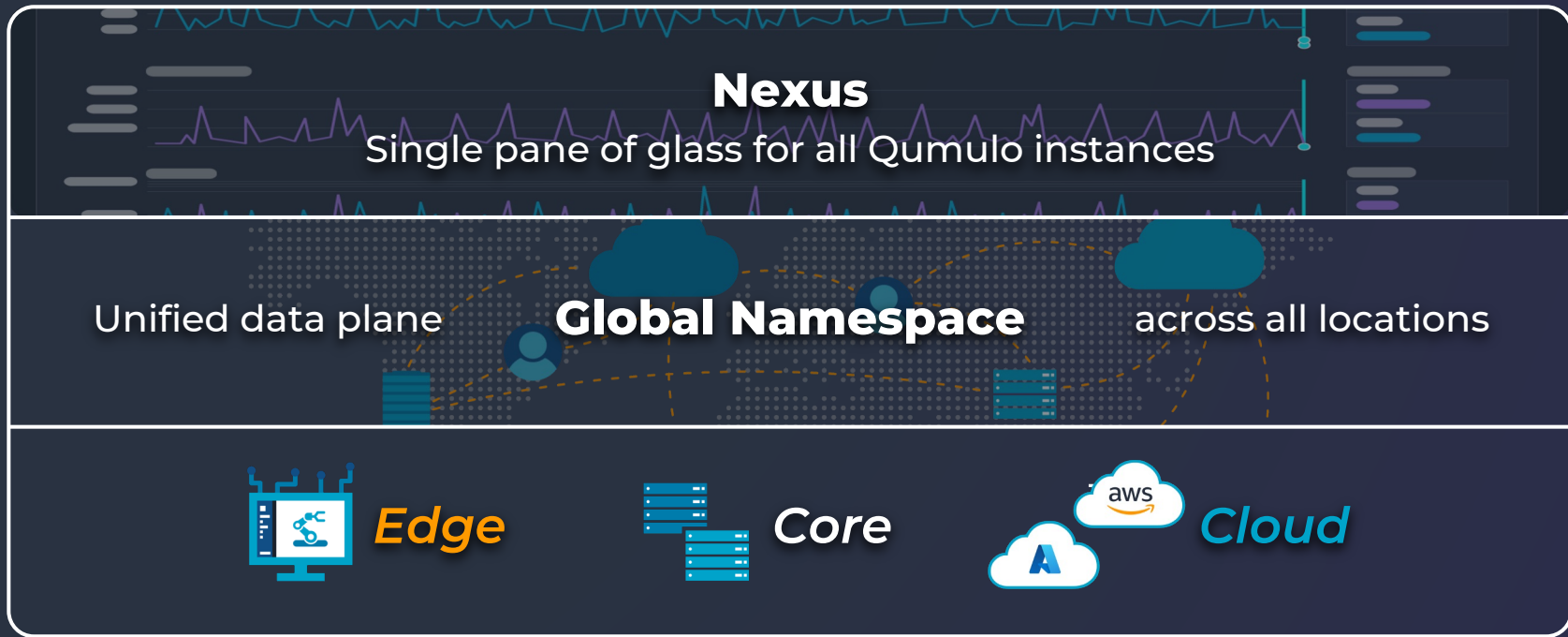
“Knowledge isn’t power
until it is **applied**”

- *Dale Carnegie*

Manage the full data lifecycle with Qumulo



Scale Anywhere™ Data Platform



Scale Anywhere™



Qumulo Global Namespace (Q-GNS)



**Reduce cost &
complexity**



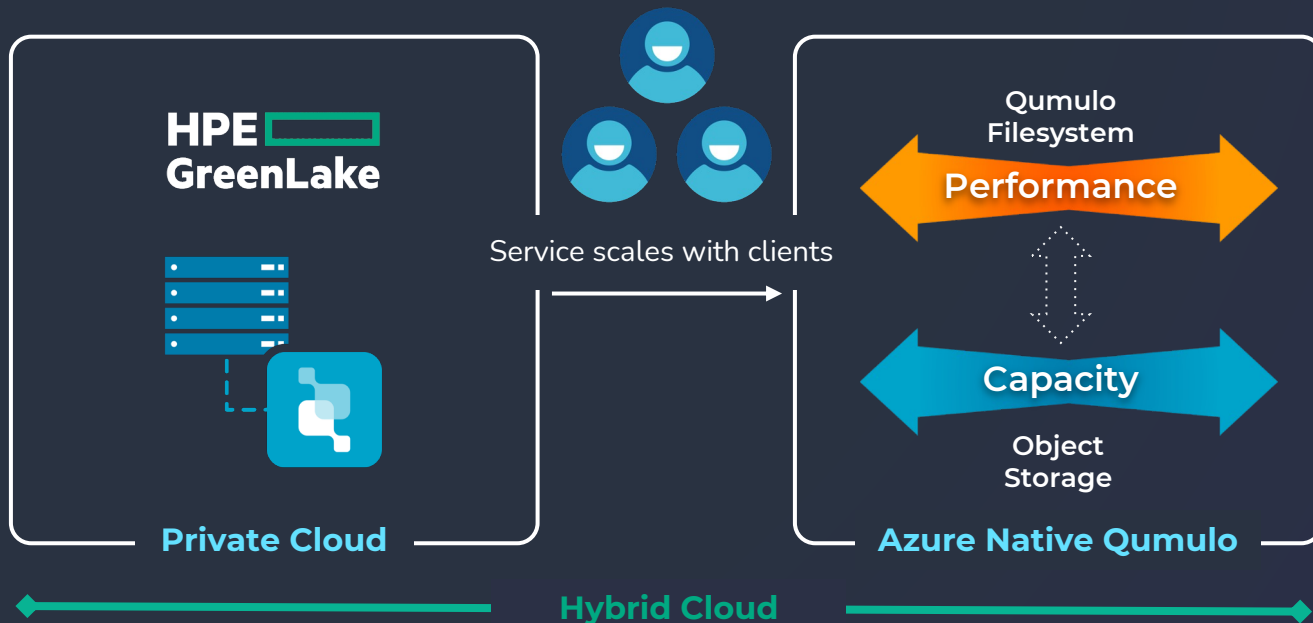
Increase agility



**Hybridize
workloads**

HPE / Qumulo Hybrid Cloud

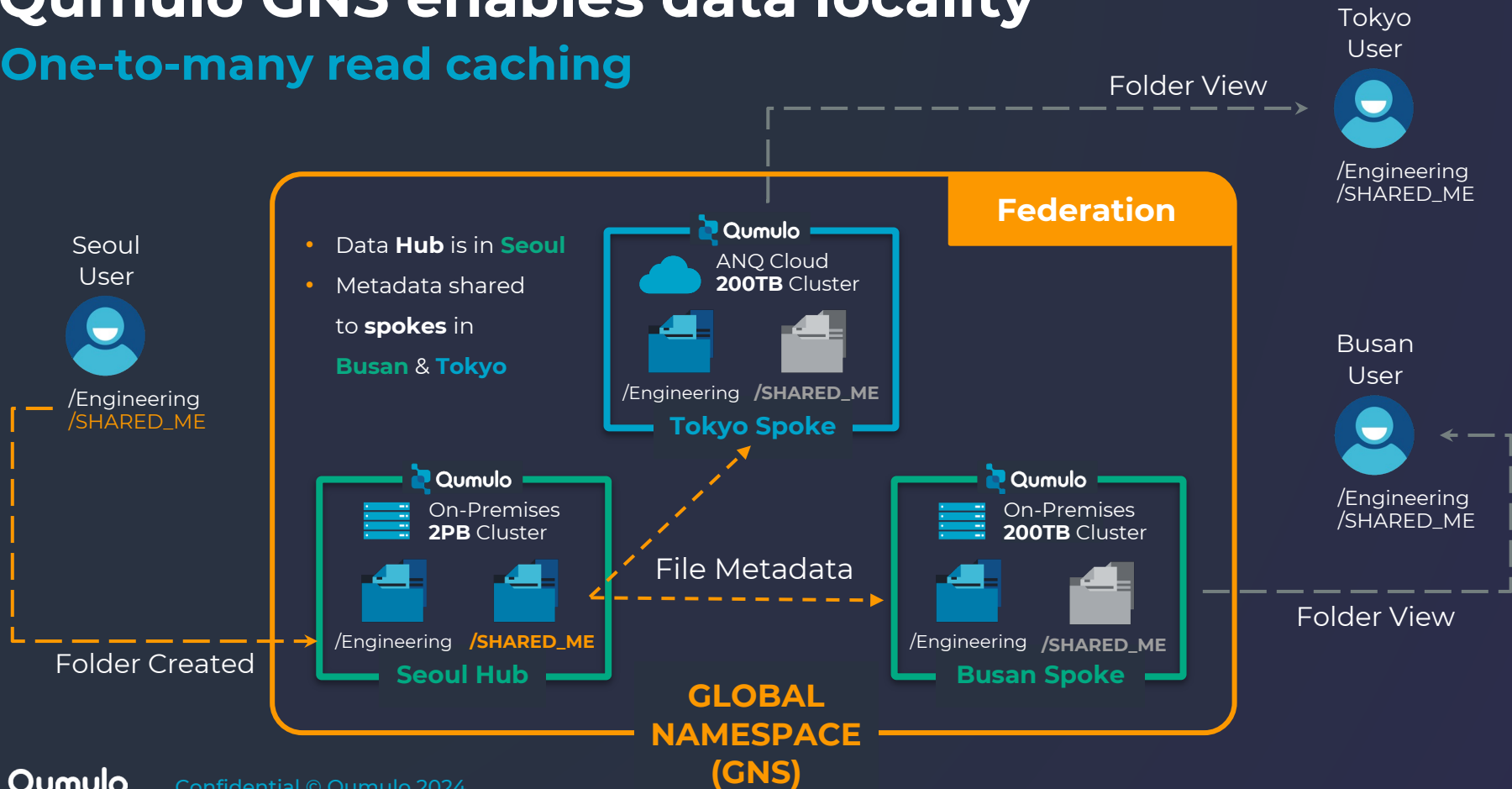
Cloud-Native & ready today



- Elastic PERFORMANCE and CAPACITY, scale independently
- Disaggregated compute & storage to lower cost
- Hybrid Cloud TCO *comparable* or BETTER THAN native cloud solutions

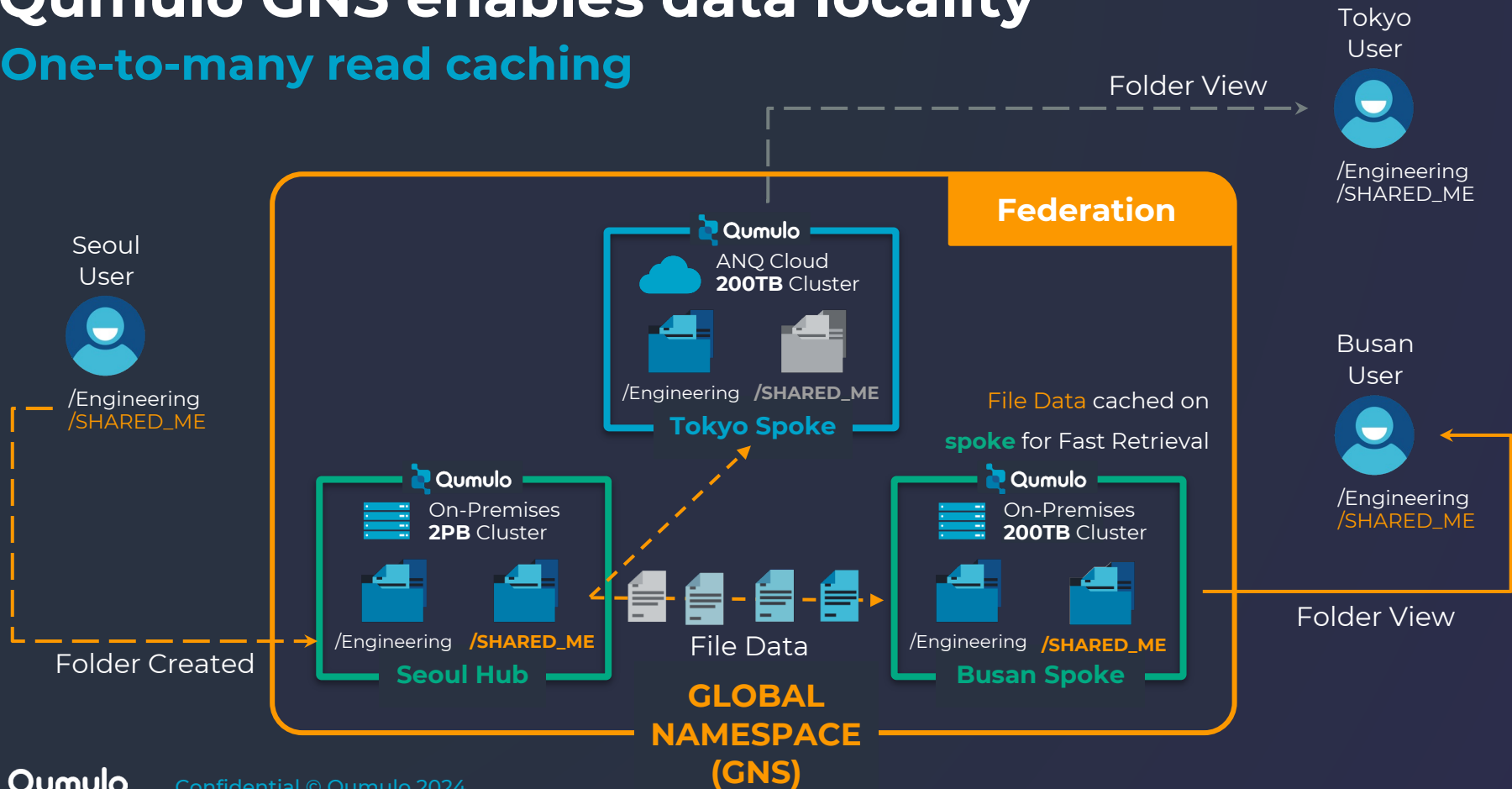
Qumulo GNS enables data locality

One-to-many read caching



Qumulo GNS enables data locality

One-to-many read caching



What Qumulo delivers

Unlimited scale: Hundreds of nodes, billions of files, exabytes of capacity, wherever it's needed

Performance: Accelerate workloads with intelligent caching with ML-enabled prefetch

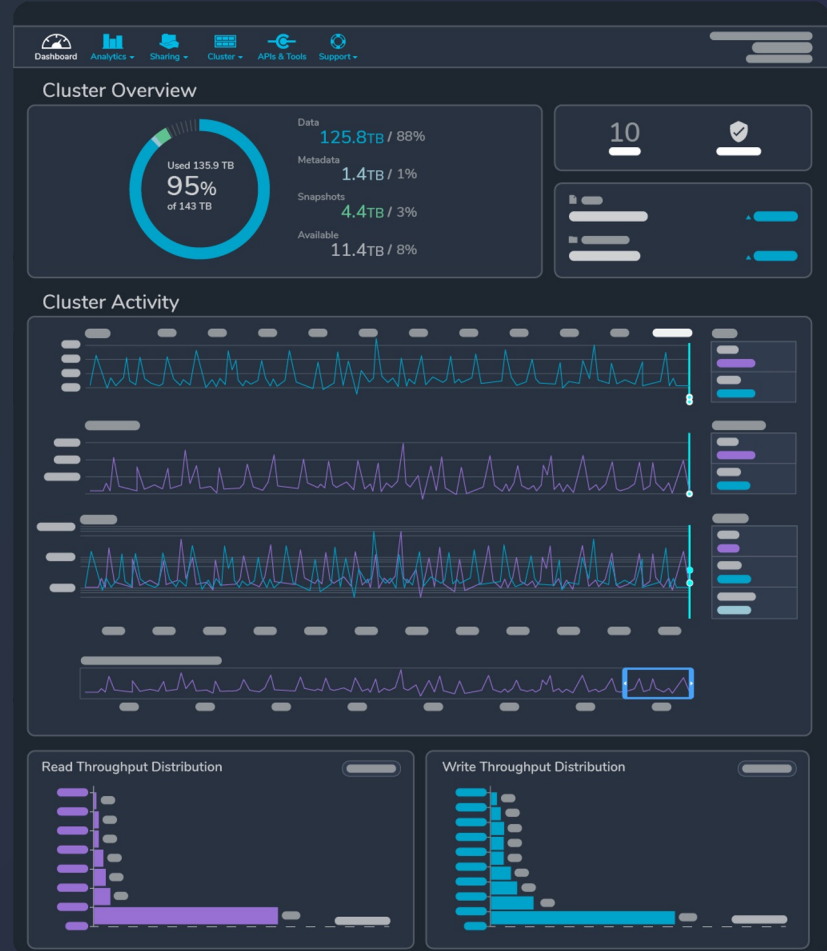
Visibility: View real-time analytics from a single pane of glass for improved hybrid capacity planning

Security: Built-in security and encryption for all common access protocols: SMB/NFS/S3/HTTPS


Integration: Automate workflows and integrate with any system using feature-rich REST APIs

Protection: Minimize downtime with DR services, replication, and snapshots with near-zero RPO

Mobility: Leverage software-defined storage on-prem and cloud without app refactoring



Qumulo's Big Data Scalability

	 Qumulo	Traditional FS 1	Traditional FS 2
Max Files in Dir	4.3 Billion	1 Million	30 Million
Max File System Size	9 Exabytes	66PB – <i>(Only 47.52PB will be usable)</i>	256TB
Max Individual File Size	9 Exabytes	16TB	100GB
# of Files	18 Quintillion	Billions* <i>but restricted by directory size</i>	100 Billion <i>(With largest clusters only)</i>

Incredible Efficiencies at All File Sizes



Properties

General Customize

29,515,928 Files, 119,018 Folders

Type: All of type File folder
Location: All in
Size: 9.33 TB
Size on disk: **9.49 TB**

Attributes: Read-only, Hidden, Archive

OK Cancel

Vs

The Other Guys

Properties

General Customize

29,515,928 Files, 119,018 Folders

Type: All of type File folder
Location: All in
Size: 9.33 TB
Size on disk: **33.2 TB**

Attributes: Read-only, Hidden, Archive

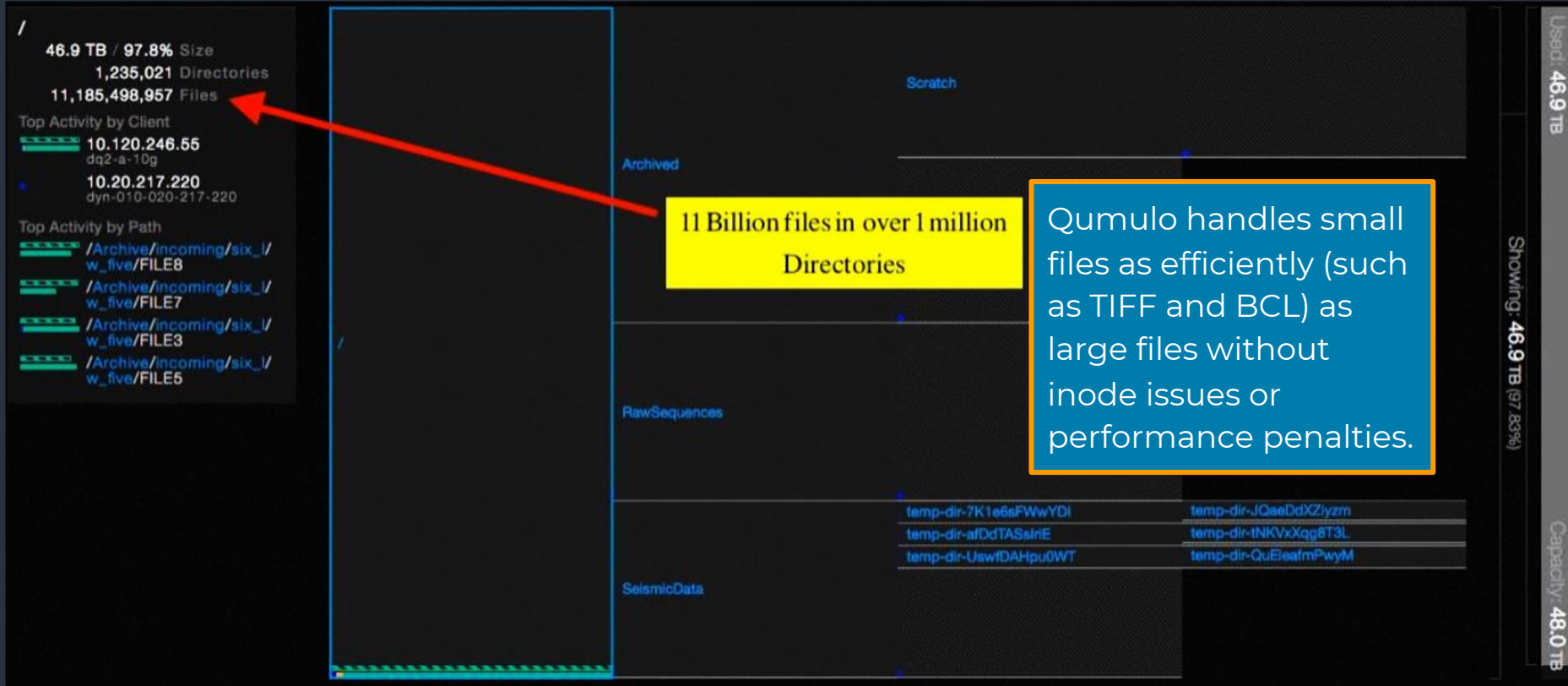
OK Cancel

3.5x
MORE
EFFICIENT

33.2 TB

Side by side comparison of identical 9.33TB real world genomics customer with almost 30 million files running on legacy scale-out storage compared with copying the data over to Qumulo storage.

Analytics: Real-World File Count Scale



Qumulo does things faster for you

Let's try an experiment together. Read these examples to yourself in your head.

Legacy Example - 80 Words

You are currently reading this the traditional way. For years, this is how you've been consuming literature. It is like an old friend, the kind that has been with you through good and bad, and whose company you have grown to cherish. However, like legacy NAS or file storage, the traditional way of reading has its limitations. While it may be familiar, it can be slow, and at times, tedious and you may need to re-read sentences a few times.

Which method of reading was faster for you?

Innovative Example - 80 Words

Welcome to the fast lane. By selectively drawing your attention to certain parts of the sentence, you can create a gap that our brain is programmed to fill in. So, we need less information and can read much faster. It's almost like if reading had a 2x speed button. Our brains do a great job of prefetching the words faster than our eyes can process them. Qumulo's Intelligent Predictive Cache functions in a similar way to help accelerate performance.

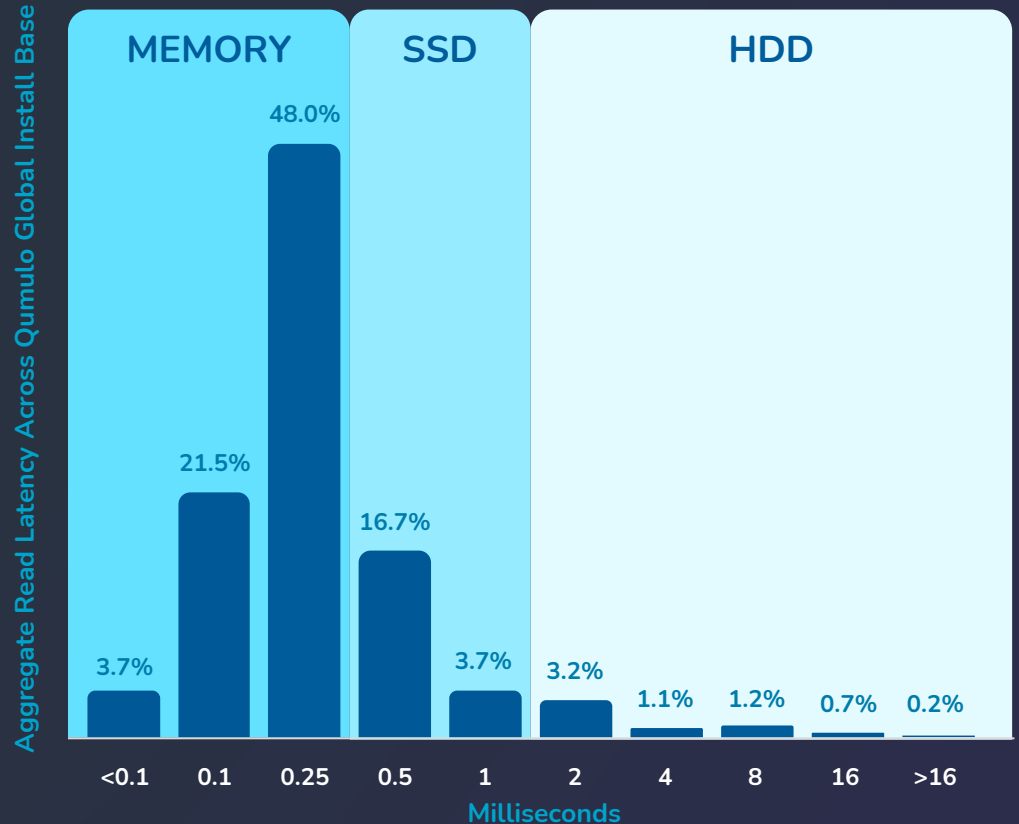
Optimised for both fast Reads & Writes

Hybrid Intelligent Predictive Cache

- Enables fast reads
- Identifies read I/O patterns and pre-fetches subsequent related data from disk into SSDs.

Proactive prefetch

- Enables very fast reads
- By anticipating that the the files will likely be read in large, parallel batches, Qumulo proactively moves data to the very fastest media (RAM).



Broad purpose unstructured data storage for medium to large organizations



Healthcare
Research Imaging, PACS



Media & Communications
VFX, Video Archiving, VSS



Financial Services
Fraud Prevention, Legal Auditing



Higher Education
Simulation, Analytics



Enterprise
General Purpose File,
Large Data Consolidation



Hybrid Cloud
GreenLake, GCP,
AWS, Azure, On-prem



Energy & Resources
Aerial Imaging, GIS



Manufacturing
ADAS, Digital Twins, IOT



Life Sciences
Genetics

Qumulo is proven in all industries

 Media & Communications	 Healthcare	 Financial Services	 Public Sector	 Higher Education	 Technology	 Energy & Resources	 Life Sciences	 Manufacturing
	  	      	     	      	     	      	       	      

The Future of Data Storage is



**Hewlett Packard
Enterprise**

To be the leading global edge-to-cloud company built to transform businesses.

+



Empowering customers to store, manage, and curate unstructured data anywhere and forever.

감사합니다 Thank You South Korea!

100+

HPE-Qumulo Korean Customers since 2020

80 TB – 22,000 TB

Installation Sizes throughout South Korea

Over 130 PB

Licensed in South Korea

