Hewlett Packard Enterprise

Qumulo

Solution brief

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HPE SOLUTIONS FOR QUMULO

High-performance, scale-out solutions for unstructured file data

Data is growing at an unprecedented pace in the enterprise. IDC expects that we will see nearly 79 zettabytes of data by 2025 coming from machines, sensors, and cameras.[1] This growth is offering businesses everywhere new opportunities to innovate. It is helping to unlock tremendous value for enterprises. Many technological advancements in IoT, computing, and machine learning have made this far easier than before. With much of the new data being unstructured and collected at a scale and speed never seen before, the existing infrastructure just cannot cope up with it.
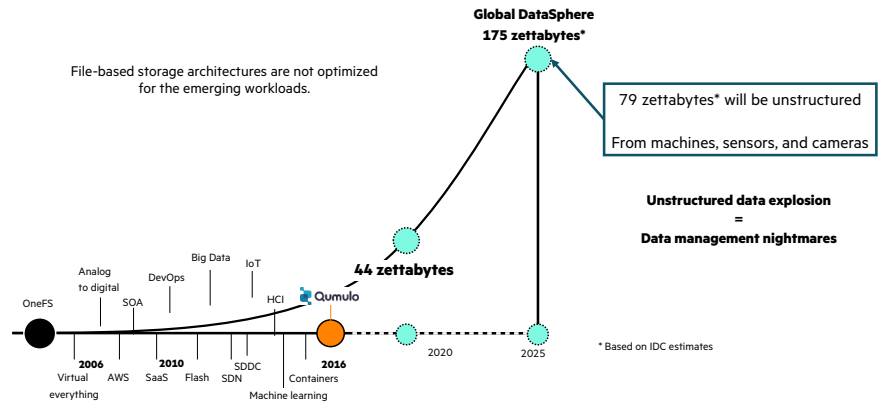
File-based storage architectures are not optimized for the emerging workloads.

Global DataSphere 175 zettabytes*

79 zettabytes* will be unstructured

From machines, sensors, and cameras

Unstructured data explosion = Data management nightmares

Big Data

IoT

Analog to digital

DevOps

SOA

HCI

Qumulo

OneFS

44 zettabytes

2020

2025

* Based on IDC estimates

2006 Virtual everything

AWS

2010 SaaS

Flash

SDDC SDN

2016 Containers

Machine learning

FIGURE 1. Explosion of unstructured file data

Common data challenges across industries

Enterprises with data-intensive workloads (such as media and entertainment, life sciences, earth sciences, telecommunications, manufacturing, higher education, automotive, and oil and gas) are being challenged by the explosion of unstructured, file-based data. The cost of storing and effectively accessing that data at petabyte scale have risen significantly. Enterprises want to have freedom to store and access their data anywhere. Moreover, IT is increasingly looking to consolidate these workloads and avoid infrastructure silos.

Enterprises need to be able to search and unlock the value of their unstructured data—often instantaneously—no matter the scale of your data, no matter where it lives, and at the right economics. For data-intensive workloads, unstructured data needs to be stored and accessed with speed to enable real-time analytics and critical insights. This isn't trivial when scale is needed and when the data exists everywhere from the edge to the cloud, on- and off-premises.
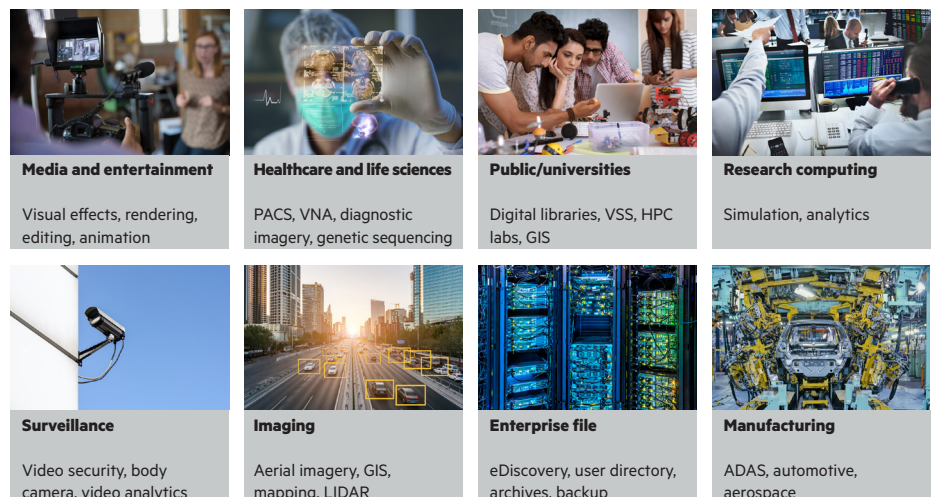
Media and entertainment

Visual effects, rendering, editing, animation

Healthcare and life sciences

PACS, VNA, diagnostic imagery, genetic sequencing

Public/universities

Digital libraries, VSS, HPC labs, GIS

Research computing

Simulation, analytics

Surveillance

Video security, body camera, video analytics

Imaging

Aerial imagery, GIS, mapping, LIDAR

Enterprise file

eDiscovery, user directory, archives, backup

Manufacturing

ADAS, automotive, aerospace

FIGURE 2. Key use cases across industries

[1] "The Growth in Connected IoT Devices Is Expected to Generate 79.4ZB of Data in 2025, According to a New IDC Forecast," IDC, 2019

HEWLETT PACKARD ENTERPRISE AND QUMULO FILE DATA PLATFORM

Together with Qumulo, HPE offers industry-leading solutions to address your file data needs in distributed scale-out environments. These solutions are enterprise-proven and highly scalable. They can be deployed in minutes, and they scale as your data grows. New nodes added to the cluster are automatically factored in making the scale-out experience seamless.

TABLE 1. Product options for differing needs

	Built on HPE ProLiant DL325 Gen10 Plus server	Built on HPE Apollo 4200 Gen10 server
	(New) All-NVMe flash	**Hybrid SATA/SAS**
Raw capacity per node (TB)	Two capacity options: 34 TB, 145 TB	Four capacity options: 36 TB, 90 TB, 192 TB, 336 TB
Key features	• Simplicity that drives results and delivers cost-effective performance • Real-time visibility, scale, and control of your data • Built to utilize 100% usable capacity of storage • Cloud-native software to address hybrid cloud needs • Powered by HPE InfoSight for Servers and HPE iLO 5 • Software encryption (AES 256-bit) for data at rest • Machine learning-based predictive caching	
Form factor	1U	2U

With these options, enterprises implementing data-driven use cases including cutting-edge medical research, real-time analytics, 3D image analysis and large-scale video rendering have the right scale-out options for their unstructured file data. And as organizations continue to leverage unstructured data, building AI for the business becomes that much easier with this acceleration.

KEY SOLUTION VALUE

Enterprises are looking to simplify data-driven operations. Whether for data-intensive applications or for today's unstructured data explosion, enterprises must be able to meet the scale needed to ensure continuous business operations—amidst the complexity of data spanning multiple clouds—without giving up control. HPE and Qumulo enable enterprises to unlock the value of data at every scale in any cloud, with real-time visibility, predictability, and control. No more trade-offs.

TABLE 2. Value propositions

Scale without boundaries Start small and scale to billions	Predictability, visibility, and control of your data Start and stay optimized effortlessly	Accelerate innovation Get value from your data quickly
• Start at any size and easily scale to billions of files • Continue to get predictable efficiency and performance at any scale for all your file types • Deploy on-premises or natively in the cloud, and maintain the flexibility with bidirectional data mobility and unified manageability	• Real-time visibility of your data usage, performance, and infrastructure • 100% utilization of usable capacity for all your file data • Predictability in performance, utilization, and capacity while scaling your infrastructure • Facilitate contextual AI-driven infrastructure monitoring	• With the right mix of speed and capacity, customers get a unique time-to-market advantage • Enterprises can move data faster within their data pipeline • This provides much needed acceleration in implementing data-driven use cases

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AS A SERVICE WITH HPE GREENLAKE

All joint solutions with Qumulo are offered as a service with HPE GreenLake providing the flexibility to adjust your capacity to the changing needs. You pay only for the capacity you use and scale as you need more. HPE GreenLake brings the cloud experience to you, simplifying operations and giving you financial flexibility, so you can free up capital for innovation.

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