



## **KIOXIA Releases Latest KumoScale Software Suite, Enables Next Gen Cloud Deployments**

Version 3.14 Delivers Enhanced Utilization, Capacity Management and Reliability to Networked NVMe Flash at Data Center Scale



**Düsseldorf, Germany, 25. June 2020** – KIOXIA Europe GmbH (formerly Toshiba Memory Europe GmbH) announces a new version of its KumoScale™ storage software based on NVM Express™ over Fabrics (NVMe-oF™). With the addition of new features designed to support Cloud and managed service providers, KIOXIA's KumoScale™ software suite opens the door to next generation cloud deployments.

The technology behind KumoScale™ was first introduced to the market in 2017 and subsequently obtained industry first NVMe-oF certification by the University of New Hampshire InterOperability Laboratory, the leading testing and certification lab for NVMe technology and software. The general availability of KumoScale™ was finally announced by KIOXIA (formerly Toshiba Memory Europe GmbH) in March 2018.

KumoScale™ software is a cloud-focused solution that delivers high-performance NVMe flash storage volumes via a virtual storage layer between clients and flash devices. It provides a central application programming interface (API) through which applications can request the resources needed, then dynamically provisions and connects just the right amount of shared flash storage for each application instance. KumoScale™ software is



NVMe-oF compliant and leverages the specification to deliver performance as if the NVMe SSDs were locally attached, and is the only storage fabric solution that supports bare-metal, virtualized and Kubernetes® deployments on a wide range of industry-standard servers.

**Enhancements to Version 3.14 include:**

- Thin Provisioning: Thin provisioning allows storage resources to be easily allocated to servers, on a just-enough and just-in-time basis. KumoScale™ thin-provisioned volumes allocate blocks of data on-demand versus the traditional method of allocating all possible blocks to a client in advance. This eliminates almost all whitespace and increases storage utilization rates, often as low as 10% in the traditional approach (in the traditional method large pools of storage capacity are allocated to individual servers but remain unused (not written to)).
- Autonomous Self-Healing: Volume self-healing mechanism automatically identifies and repairs data inconsistencies that may result from replica failures; e.g., reconnection to the target, an incomplete replica deletion etc., without the need for monitoring and intervention of a system administrator.
- Network Resilience: End-to-end multipath routing for TCP/IP network protocols enables full network resilience. KumoScale™ clients use Linux's Link Aggregation Communications Protocol (LACP) and enhanced connections management to ensure consistent delivery of packets across all available network paths. KumoScale™ targets use port bonding to ensure availability while also maximizing total storage node throughput.
- Lights-out Storage Node Deployment: PXE (Preboot eXecution Environment) protocol support allows automated installation over a Network in data center environments. PXE boot capability replaces the need for either a bootable device for the Operating System or the need use an ISO file on a DVD or usb device.
- NVMe-native Snapshots: NVMe-native and highly efficient snapshot for Kubernetes deployments via Kubernetes CSI API, and directly via the REST API or CLI.
- Support for CM6 high perf devices: Full support of KIOXIA's CM6 Series of PCIe 4.0 (1×4, 2×2) and NVMe 1.4 enterprise SSDs delivers best-in-class sequential and random performance of up to 6.9 GB/s and up to 1.4M IOPS benefiting applications, such as database, data analytics and artificial intelligence.



“The rapid adoption of NVMe as SSD protocol standard, continues to leverage it’s benefits to storage deployments”, said Frederik Haak, senior manager SSD Marketing, KIOXIA Europe GmbH, “Disaggregation is essential for efficient operation of storage infrastructure. KumoScale™ as enabling software ensures a seamless integration into state-of-the-art cloud and edge frameworks and helps its operators to profit from the advantages of NVMe over Fabrics.”

### **About KumoScale**

KumoScale™ software is a leading high-performance block storage software suite for on-premise clouds. Combining the speed and responsiveness of born-in-the-cloud software with the staying power of one of the world's largest flash memory makers, KumoScale™ software uses NVMe™ technology to enable flash as a service.

For more information please visit our [KumoScale™ website](#)

### **About KIOXIA Europe GmbH**

KIOXIA Europe GmbH (formerly Toshiba Memory Europe GmbH) is the European based subsidiary of KIOXIA Corporation, a leading worldwide supplier of flash memory and solid state drives (SSDs). From the invention of flash memory to today’s breakthrough BiCS FLASH 3D technology, KIOXIA continues to pioneer cutting-edge memory solutions and services that enrich people's lives and expand society's horizons. The company's innovative 3D flash memory technology, BiCS FLASH, is shaping the future of storage in high density applications, including advanced smartphones, PCs, SSDs, automotive and data centers.

Visit our [KIOXIA Website](#)

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