



## A Faster Path to Discovery

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### **Children's Mercy Kansas City**

leverages high-performance DDN storage to pioneer rapid pediatric genomic testing while providing a faster path home for patients and their families.

### **The Institute of Cancer Research**

deployed a single, centralized DDN storage infrastructure that supports a variety of workflows, along with massive amounts of data from scientific instruments and sequencers.

### **The Wellcome Trust Sanger Institute**

develops a new understanding of genomes and their role in biology by leveraging unprecedented levels of DDN throughput and scalability to support tens of thousands of data sequences.

**Public Health England** leverages DDN's massive parallel I/O capabilities to generate and analyze the near-complete genetic code of pathogenic bacteria and viruses, turning around results in hours instead of days.

# Life Sciences

Massive increases in instrument data are revolutionizing life sciences research. Every new dataset created by a sequencer or microscope, or the implementation of AI across life science environments, is now available to be mined for insight. However, with big data comes bigger demands on storage infrastructure. Data repositories don't just need to grow easily or ingest and deliver data faster, they also need to be optimized to accelerate machine learning and AI applications.

The application of AI in life sciences is impacting everything from genomics to medical imaging and pharmaceutical research. However, bringing this to life requires the ingestion, distribution, and analysis of petabytes of machine-generated data. Organizations that value data at the core of their research, such as sequencing centers, biomedical research organizations, and pharmaceutical companies, benefit most from DDN's optimized infrastructure. With DDN solutions, they can effectively capture and exploit large-scale data at-speed in traditional and AI workflows in both regulated and non-regulated environments.

## Accelerate Your Discovery

Our team is trusted by the world's leading research facilities, for good reason. At DDN, we specialize in supporting scientific progress with subject matter experts to help researchers and scientists accelerate their workflows. Our technical experts work alongside researchers and scientists who are racing to cure cancer, saving lives with personalized medicine, protecting populations from infectious diseases, and supporting sustainable food production.

## Featured Use Cases

**Microscopy:** Working in close collaboration with innovating instrument makers, DDN provides integrated data solutions to enable high-end microscopy workflows at any scale for life sciences, materials research and other industry applications. The DDN shared parallel architecture makes it easy to capture, process, analyze data, and visualize results using a single central-data platform. All phases of the microscopy workflow can happen concurrently, and continuously, without having to move data between different storage locations.

**Precision Medicine:** Modern medicine is now capable of combining the clinical review of actual patient results with the large-scale analysis of tens of thousands of research samples. This advancement in patient care revolutionizes the diagnosis and treatment of diseases. DDN solutions greatly enhance precision medicine results by utilizing flash storage, parallel data processing, GPU's and intelligent software. DDN-expedited workflows deliver breakthrough innovation with the fastest time to insight, high-volume analysis throughput, and enhanced treatments with better outcomes for patients.

# DDN Solutions for Life Sciences

## A<sup>3</sup>I



DDN A<sup>3</sup>I storage solutions are fully-optimized to accelerate machine learning and artificial intelligence (AI) applications, streamlining deep learning (DL) workflows for greater productivity. Working with industry leaders like NVIDIA and Hewlett Packard Enterprise (HPE), A<sup>3</sup>I artificial intelligence storage solutions harness the knowledge from customer-proven deployments to make AI-powered innovation easy. A<sup>3</sup>I is a turnkey, AI data storage infrastructure for rapid deployment, featuring faster performance, effortless scale, and simplified operations through deeper integration—all backed by the data-at-scale experts.

## IME



IME delivers up to 1000X application and file system speed-up with the world's most advanced application-aware I/O acceleration software, removing randomness out of workflows and reducing uncertainty and erratic performance in the. This break-through storage application eliminates POSIX contentions, enabling you to convert problem I/O-bound applications into easily resolvable compute-bound challenges. Developed to drive faster time to results, IME delivers game-changing latency reduction, more bandwidth and unmatched IOPS.

## Parallel Filesystem Solutions



DDN's file system solutions delivers best-in-class analytics, parallel file system and NAS for the most data-intensive and performance-demanding environments. Next-generation Appliances tightly integrate award-winning DDN HPC storage technology with the power of parallel file systems to provide flexible choices for data protection and availability, offering ease of access through traditional NFS or CIFS as well as the option for high performance client access.

## Block Storage



To perform cutting-edge workflows and analytics, our highly versatile SFA Platforms deliver award-winning technology with the necessary breakthrough performance and capacity with NVMe, SSD and intelligent disk tiering. Maximizing their innovative PCIe fabric plus the option to leverage the power of embedded processors, applications and file systems within the storage array to significantly reduce complexity, latency and data center footprint. From the performance focused SFA200NVX and 400NVX all-flash NVMe systems, to the versatile hybrid SFA7990X and the ultimate in performance and capacity with the SFA18KX, DDN has the form factor to fit the uniqueness of your use case.

## About DDN

DataDirect Networks (DDN) is the world's leading big data storage supplier to data-intensive, global organizations. DDN has designed, developed, deployed, and optimized systems, software, and solutions that enable enterprises, service providers, research facilities, and government agencies to generate more value and to accelerate time to insight from their data and information, on premise and in the cloud.

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