Healthcare & Life Sciences

Accelerating Breakthroughs in Research & Medicine with High-Speed Data Transfer

Advances in science and technology are enabling healthcare and life sciences organizations to improve treatments and patient outcomes. These same innovations are creating mountains of data that need to be collected, analyzed and securely shared by researchers and medical professionals around the world. With the opportunity to improve thousands of lives, bringing new treatments to market quickly, is crucial. As the leader in bulk data movement, Aspera helps healthcare and life sciences companies accelerate research and improve patient care with superfast, secure big data transfers, anywhere in the world.

Industry Trends and Innovations

Medical & Research Technology

The last decade has seen major advancements in medical & research technology. Breakthroughs in medical imaging, microscopy, DNA sequencing & other technologies generate rich sets of biological and patient data and high-resolution 3D images & video. As a result teams are sharing and analyzing massive data, sometimes petabytes in size.

Big Data Health & Bioinformatics

Ever-growing biological and healthcare data has made big data analysis the new norm. However, few organizations have the expertise, software, or infrastructure to fully meet their informatics needs. Many turn to vendors for cloud compute resources, analytics software & services. Moving big data between labs, clinics & the cloud can be challenging.

Global Medicine and R&D

Global markets provide opportunities to expand R&D, reach more patients and tap into a broader network of medical specialists. International teams collaborate around the clock to improve research & patient care and maximize use of specialized equipment. Doing this effectively requires the ability to securely & quickly share the latest data & insights.

Key Industry Challenges

- Adopting New Technology (e.g. Next Gen Sequencers)
- Accelerating Drug Discovery
- Adopting Cloud for Research, Patient Care & Informatics
- Protecting IP & Patient Data
- Sharing Medical & Research Data with Global Teams
- Complying with Regulations

Aspera Solution Suite

Aspera offers a portfolio of software and cloud-based solutions built with its patented FASP® transfer technology that enables healthcare and life sciences companies to move, share, sync and stream large sets of data and images at maximum speed with robust security to help meet HIPAA requirements – regardless of file size, transfer distance, or network conditions. Aspera's solutions address all big data movement challenges including:

Share & Exchange

Replication & Synchronization

Streaming Images & Growing Files

Mass Transport

The Aspera FASP Advantage

Fast

Transfer data 100x faster than TCP, regardless of file size, distance or infrastructure (cloud, on-prem. & hybrid)

Secure

Robust authentication, encryption in transit & at rest and data integrity verification help organizations meet strict HIPAA security requirements

Controlled

Real-time, centralized control over transfers, nodes and users, with comprehensive logging and reporting

Reliable

Dependable transfers with auto resume for partial or failed sends

Aspera Moves Data 100X+ Faster Than FTP

MOVING A 10GB FILE				
	Network Bandwidth	Across US	US - Europe	US - Asia
Legacy Transport	100 Mbps	10-20 Hours	15-20 Hours	Impractical
	1 Gbps			
	10 Gbps			
Aspera FASP®	100 Mbps	14 Min	14 Min	14 Min
	1 Gbps	1.4 Min	1.4 Min	1.4 Min
	10 Gbps	8.4 Sec	8.4 Sec	8.4 Sec

Use Cases

Use Case 1: Global Research Collaboration

Challenge

File sharing tools & services fail to provide the security & speed researchers need to share large sets of genomic, proteomic, and other data with global researchers and collaborative online databases, impeding research and time to market.

Aspera Solution

Accelerate research & new patents with fast, reliable global data sharing, regardless of file size. Aspera software is easy to use, supports cloud & on-premises storage, and provides secure and encrypted file sharing at maximum speed.

Use Case 2: International Telemedicine

Challenge

Modern microscopes, MRIs and other imaging equipment generate large volumes of high-def, 3D images. Sending these huge image sets to clinicians, pathologists and medical specialists around the world for consults is constrained by slow networks delaying life saving diagnoses and treatments.

Aspera Solution

Securely send or stream large HD images and growing files at maximum speed to global teams or off-site compute resources with Aspera software. Near real time image sharing expedites virtual analysis and diagnoses improving patient outcomes and expediting the discovery of new treatments.

Use Case 3: Big Data Healthcare and Bioninformatics

Challenge

Robust computing is needed to analyze large volumes of biological data, patient records, and medical & microscopy images. Uploading big data into cloud informatics platforms or sending to off-site HPC facilities is costly with physical shipments & impractical with FTP. As a result, drug discoveries are delayed and healthcare insights are limited.

Aspera Solution

Speed-up discovery of new treatments and improve patient insights by ingesting large amounts of data into remote HPC servers or cloud-based analytics platforms using Aspera high-speed transfer software. Robust SDK's make it possible to integrate Aspera's super-fast transfer capabilities in existing applications.

Use Case 4: High-throughput Data Collection

Challenge

High throughput technologies used in sequencing, mass spectrometry and microscopy create hundreds of gigabytes of raw genomic, proteomic and biological data. Collecting raw data from remote facilities and CRO's for further analysis and storage can take days, bringing R&D to a halt.

Aspera Solution

With Aspera, terabytes of omics data and image files can be synched across global labs in hours, not days, resulting in better utilization of specialized equipment. Bundle with Aspera Orchestrator to streamline high-volume transfer workflows with rules based automation.

Use Case 5: Medical Device Engineering & Production

Challenge

Medical device makers risk production delays due to slow or failed transfers of large CAD files, test cases, software code & engineering artifacts across global engineering teams, test facilities and manufacturing sites.

Aspera Solution

Aspera is optimized to transfer large files and large sets of small files at high-speed. Share and sync large volumes of engineering, test & software code files to teams around the world, keeping production moving around the clock.

Customer Success Stories

EMBL Sends GBs of Genomics Data Worldwide 100x Faster

EMBL processes biological samples for global researchers at its cutting edge labs in Europe. Replacing FTP with Aspera, EMBL sends processed genomics data, reaching 30GB per sample, to global teams 100x faster, accelerating the discovery of new therapies.

UPMC Reduces Global Turn-arounds on Cancer Diagnoses

With Aspera Point-to-Point software, the University of Pittsburgh Medical Center shares multi-GB whole slide images 40x faster with KingMed Diagnostics in China, reducing turnarounds on global pathology consults & improving patient outcomes.

BGI Builds Cloud Bioinformatics Platform for Genomics Big Data

BGI integrated Aspera high-speed transfer into their new cloud bioinformatics platform enabling researchers world-wide to upload multi-gigabyte sequencing data in less than an hour. Aspera's robust security removes the risk of previous methods of shipping drives.

Questions? Learn more at www.ibm.com/aspera or contact Aspera Sales at aspera-sales@ibm.com