IBM Aspera

Aerospace & Defense

Delivering Business and Mission Critical Data with High-Speed Data Transfer

Economic globalization and an increased reliance on virtual teams is allowing aerospace manufacturers and military organizations to run more efficiently across greater distances. At the same time, technological breakthroughs in surveillance and IoT devices are leading to increased size and frequency of data generated in these industries. The reliable and secure transmission of large data sets is critical to both business and military operations. As the leader in bulk data movement, IBM Aspera helps aerospace and defense organizations quickly transfer data across global distances, with end to end security and reliability.

Industry Trends and Innovations

Global Networks of People and Devices

Aerospace and defense depend on constant communication and data transfer between teams at multiple locations, and IoT data gathered from connected devices to increase operational efficiency.

Heightened Data Security Requirements

Reliance on digital systems leads to increased cyber-attacks on data silos and infrastructure, creating strong demand for secure systems, network visibility, and data traceability.

High Value Streaming Data

Surveillance and supply chain monitoring data creates opportunities for real-time analysis of high definition streaming feeds from static and mobile devices, including drones.

Investing in AI and the Cloud

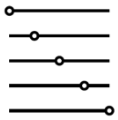
Robotics process automation, cognitive manufacturing, and predictive maintenance holds great promise to improve processes. Moving data to cost efficient object storage takes advantage of cloud's benefits, including AI, provides scale and opens the door to new applications.

Key Industry Challenges

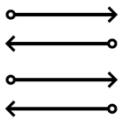
- Long distance data transfer over variable network conditions
- Increased cyber threats, breaches, and high-profile outages
- Actionability of big data depends on centralization and availability
- Migration of big data – both new and archival – to the cloud

Aspera Solution Suite

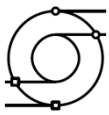
Aspera offers a portfolio of software and cloud-based solutions built with its patented FASP® transfer technology that enables aerospace and defense companies to move, share, synchronize and stream large sets of data and images at maximum speed with robust security to protect against data breaches and cyberattacks – regardless of file size, transfer distance, or network conditions. Aspera's solutions address all big data movement challenges including:



Mass Transport



Share & Exchange



Replication & Synchronization

Streaming Images

IBM Aspera High-Speed Transfer Server meets external standards including the following: FIPS 140-2 compliant; in use on SIPRNET and JWICS; available via NASA SEWP; undergoing DoD STIG and RMF Assess Only processes.

The Aspera FASP Advantage

Fast

Transfer data up to 100s of times faster than TCP, regardless of file size, distance or infrastructure (cloud, on-premises and hybrid)

Secure

Help organizations prevent cyber-attacks and breaches with robust authentication, encryption in transit and at rest, and data integrity verification

Controlled

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

Reliable

Dependable transfers with auto-resume from the point of interruption 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 AEROSPACE ENGINEERING

Challenge

Significant production delays due to slow or failed transfers of large test data sets and design documents between globally dispersed engineering teams, test facilities and manufacturing sites.

Aspera Solution

Shorten development cycles and improve collaboration with Aspera's suite of high-speed transfer and synchronization solutions for distributing and replicating large engineering files and critical test data anywhere in the world.

USE CASE 2: SATELLITE DATA TRANSFER

Challenge

Modern cameras, drones and other surveillance equipment generate large volumes of high-definition imagery. Traditionally, hard drive shipments or FTP are used to send these huge image sets to centralized facilities. However, slow delivery of surveillance images rapidly reduces their value as conditions on the ground change, minimizing the benefit of intelligence that was gathered.

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. Overcome high latency network conditions that typically worsen with distance. Near real-time image sharing expedites analysis and greatly improves the quality of intelligence data for time sensitive missions and monitoring.

USE CASE 3: SHIP TO SHORE EXCHANGE

Challenge

Defense organizations rely on global deployment of software to keep their fleets updated and return of information gathered in the field to bolster intelligence. Intermittent, high latency connections impede bidirectional exchange of data, leaving ships at risk and missions delayed.

Aspera Solution

Ensure reliable, complete delivery of bidirectional data transfers over challenging network conditions with IBM Aspera High Speed Transfer Server and Endpoint. Integrated AES encryption at rest, and in transit, protects the integrity of data with enterprise-grade security.

USE CASE 4: TACTICAL RADIO NETWORK

Challenge

Field-based tactical teams need to transmit images or video, without satellite or cellular signal. High latency, intermittent signal radio networks are the only connection option.

Aspera Solution

Even over extremely low bandwidth networks, such as radio, Aspera's High Speed Transfer Endpoint maximizes transfer rates and ensures complete, secure transfer of files.

USE CASE 5: LIVE STREAMING

Challenge

Remote monitoring of manufacturing lines, or areas of interest provide an opportunity for immediate response to a change in conditions. Real-time access to high-definition video and monitoring date requires high fidelity connections to have an immediate impact.

Aspera Solution

IBM Aspera Streaming technology provides live and near-live video and data streaming to enable immediate data collection and response when required.

Customer Success Stories

Defense Department Transfers Images 26x Faster than FTP

An intelligence surveillance reconnaissance customer uses Aspera High Speed Transfer Server to move TBs of images over satellite connection each week. FTP performance was subpar due to high latency & packet loss. Aspera has been used for over 5 years.

US Navy Transmits 10GB Files from the Middle of the Ocean

A US navy ship could transmit 10GB files that included software patches as well as video that leveraged the expertise of those on shore. Aspera's auto-resume functionality was key to ensuring complete transfer of these large files over spotty connections.

Aerospace Manufacturer Saves $5M With Improved Collaboration

Rather than pay external consultants, a global aerospace manufacturer deployed Aspera SaaS solutions to share large design documents. The collaboration space was configured to meet highly restrictive security requirements, while facilitating 25 times faster file exchange.