

# Aspera and IBM MQ Advanced

*Expand your File transfer capabilities with Aspera*

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# Cloud and Cognitive systems are requiring Systems of Record applications to be more real time and collaborative on a cloud ecosystem.

## Design for Cognitive Business

Act at the speed of thought

Gives meaning to unstructured data and can perform when the window of action is milliseconds.

Real Time

## Build with Collaborative Innovation

Accelerate technology breakthroughs

Takes advantage of perpetual motion for what is still unknown yet possible with future innovations.

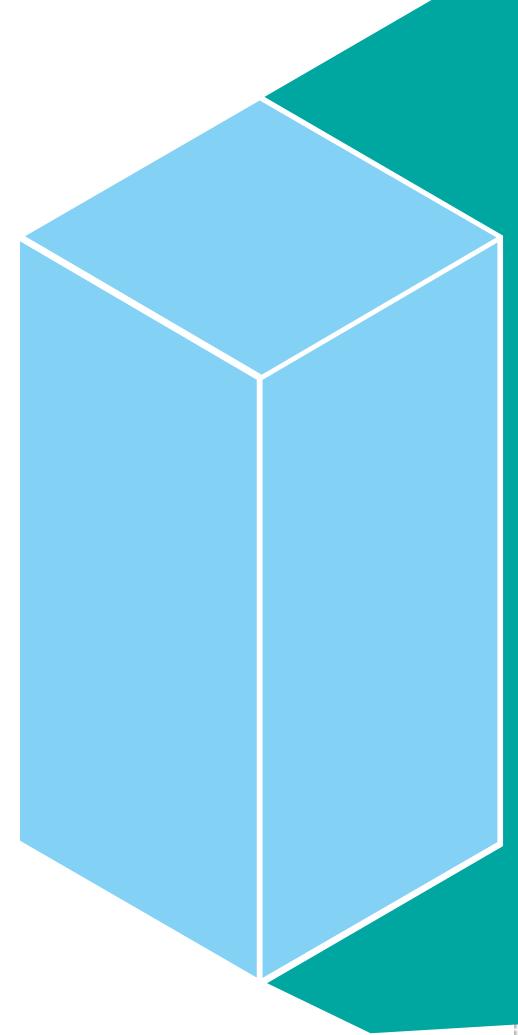
Collaborative

## Deliver through Cloud Platform

Extend the value of systems and data

Extends existing business investments to integrate with the ecosystem and accelerate innovation.

Ecosystem



# Trends



- **Big data explosion**
  - 90% of digital data today file-based or unstructured
  - Mix of file sizes—but larger and larger files the norm



- **Growth and diversity in IP networks** – Media, bandwidth rates, and conditions
  - Variable bandwidth rates (slow to super-fast)
  - Bandwidth rates increasing—costs decreasing
  - Network media remains diverse (terrestrial, satellite, wireless)
  - Conditions vary—all networks prone to degradation over distance



- **Global workflows** – Real time experiences over WANs are expected
  - Teams are geographically dispersed
  - Over distance, network conditions degrade to majorly impact large transfers & streams
  - Contemporary TCP acceleration solutions not designed for big data transfer and replication



- **Cloud computing grows up**
  - More choices: SoftLayer, AWS, Microsoft Azure, OpenStack, Cleversafe, Google, etc.
  - No longer a niche



# IBM Cloud Integration

Integrate to be hybrid cloud and cognitive

Connect Seamlessly

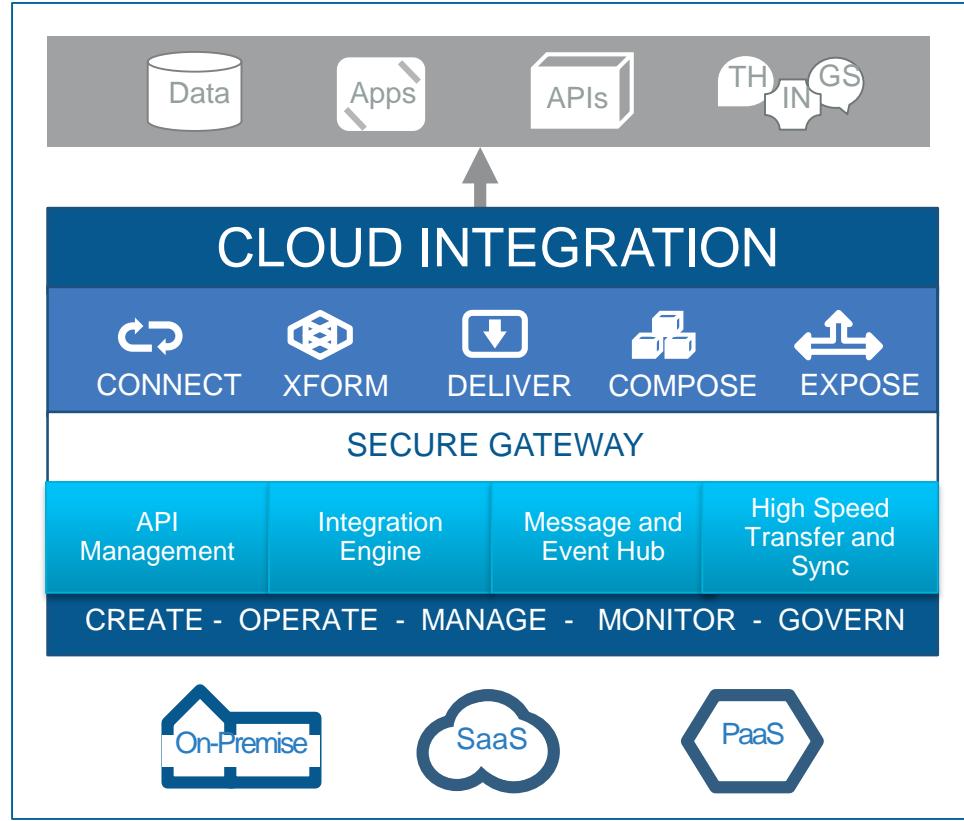
Hundreds of end points to apps and data in the cloud and on premise

Develop Rapidly

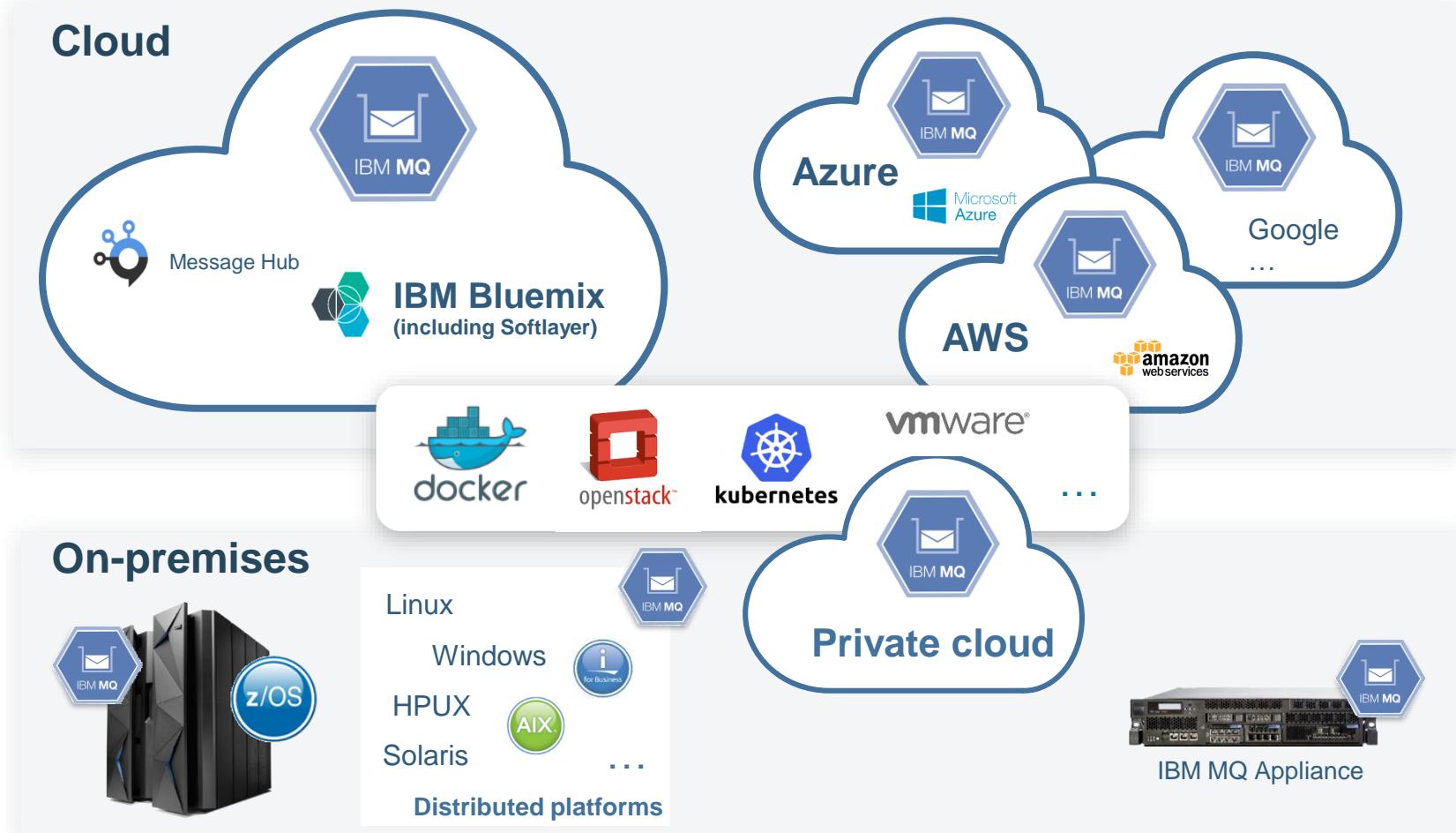
Intuitive & robust tooling to transform data to meet business needs

Scale Efficiently

Performance and scalability to meet the SLAs of your business apps



# MQ Runs runs across a hybrid cloud environment



# Fundamental Data Transport Challenges



## Size & Volume

Can't reliably send, share, & sync large files & data sets over global WANs



## Speed

Unable to move big data at high-speed with existing network bandwidth



## Distance

Subject to slower times and more congestion for global file transfers across public internet, MPLS corporate networks, and wireless networks

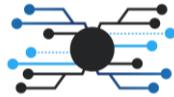


## Control

Need greater security & more control in moving files & data sets to employees, customers, vendors, & external data centers, without impacting other traffic



# Other Solutions Fall Short



## Traditional File Sharing (e.g. FTP, Email, Cloud File Sharing Apps)

- Slow and unreliable
- Impose file size limits
- Require compression or file splitting
- Inadequate security
- Over-consumption of bandwidth

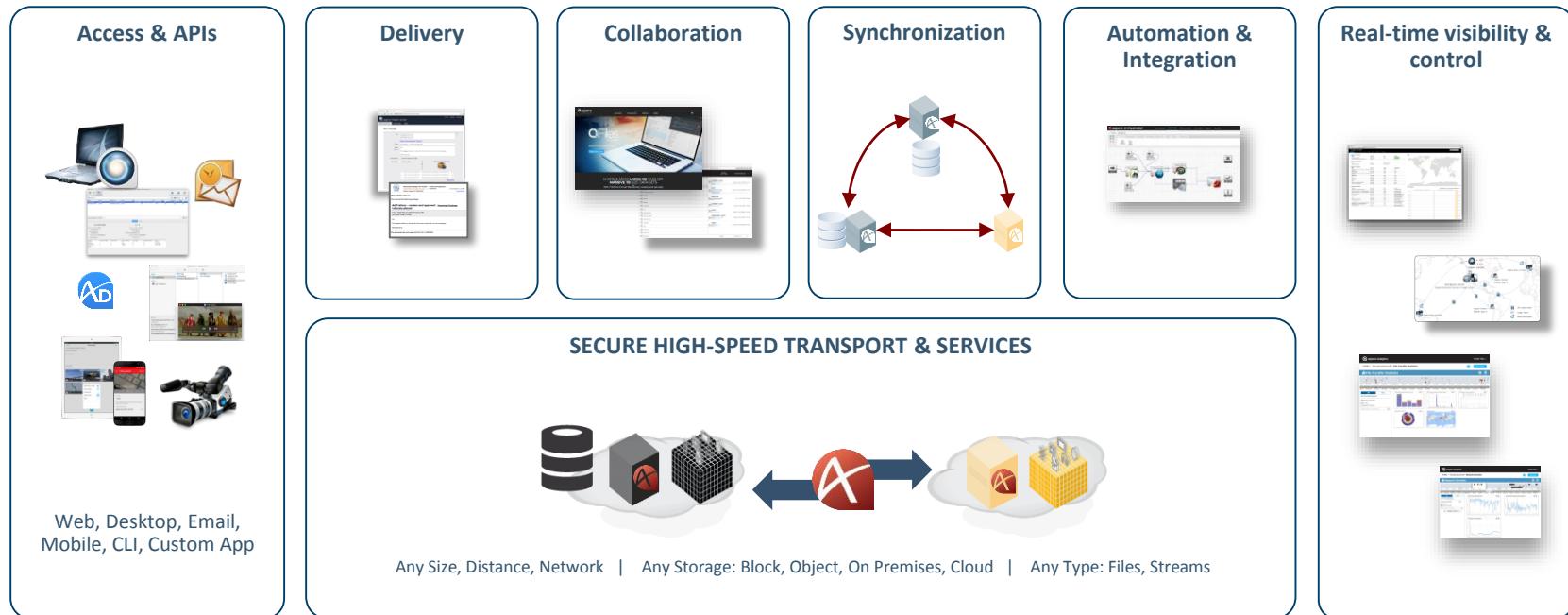


## Physical Disk Shipment

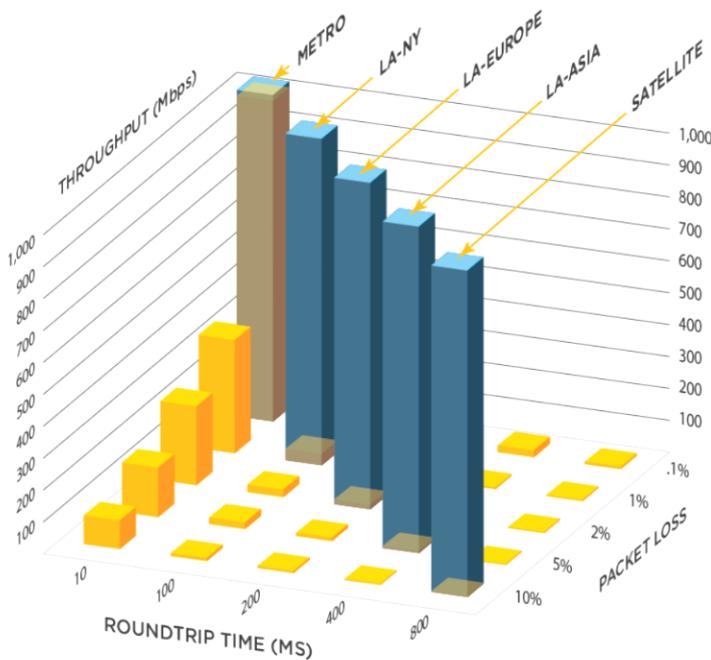
- 3-step data transfer bottlenecked by a truck
- Costly and time consuming to prepare and manage shipments
- Lost devices leave sensitive IP and data exposed
- Potential for delays due to auto accident, natural disaster, etc
- Hardware failure causes a full restart



# Aspera Product Portfolio



# Aspera FASP® Overcomes TCP's Inherent Bottlenecks



- ✓ Maximum transfer speed
- ✓ Congestion avoidance & policy control
- ✓ Uncompromising security and reliability
- ✓ Scalable management, monitoring, control

**FASP – “Fast, Adaptive Secure Protocol”**

# Aspera High-Speed Data Transfer

A faster, more secure, and reliable way to move, share, sync and stream data around the world

100TB in 24 hours



On-premises to On-premises



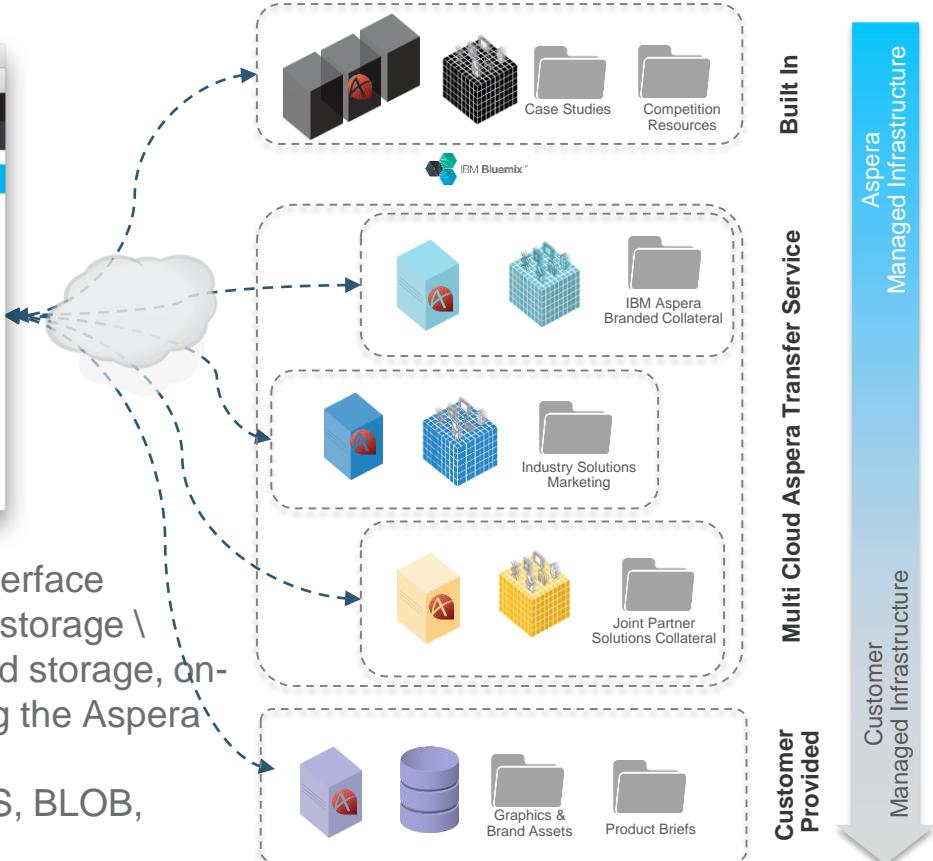
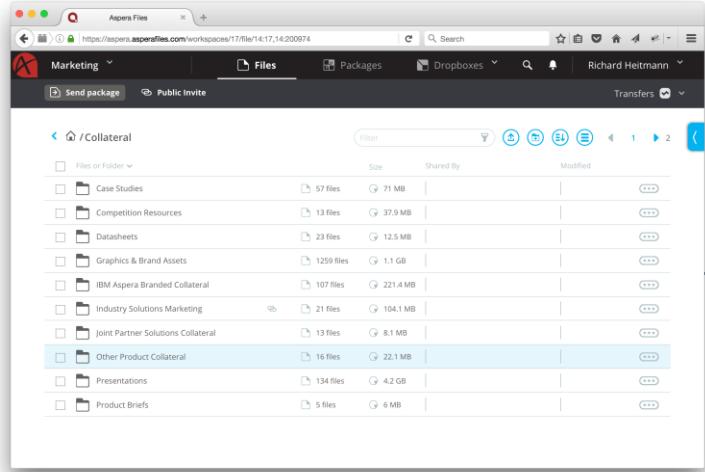
On-premises to Cloud



Cloud to Cloud



# Aspera Files Cloud Architecture



- Consolidated browsing through the Files user interface
- Secure authentication to the transfer server and storage
- Configure folders to share files from built in Cloud storage, on-premises storage, or from third party Cloud using the Aspera Transfer Service
- Direct integration with cloud object storage (AWS, BLOB, COS, Swift)

# Customer success stories

## NETFLIX

With over 23 million streaming members globally, Netflix delivers streaming movies and TV shows to over 700 different devices – PCs, internet-connected TVs, gaming consoles, tablets and smart phones.

**Solution:** With over 50 terabytes of new content a month from over 200 global partners, Netflix uses Aspera On Demand Direct-to-S3 technology to move, process and store content in Amazon Web Services S3 storage.

**Benefit:** High-speed FASP™ transfers direct to S3 storage allow Netflix to leverage the extreme scalability of AWS, eliminating the need to build its own data centers and enabling on demand compute capacity control.

## JABIL

As one of the world's largest manufacturing services providers, with over 30 million square feet of manufacturing space, Jabil manages customers' supply chains from product development to design engineering to final manufacturing.

**Solution:** Aspera maximizes bandwidth and enables geographically dispersed Jabil team members, customers and partners to exchange large design and engineering files via the cloud at the fastest speeds possible, regardless of file size, transfer distance, or network conditions. Jabil shaves significant time off their project turnaround and enables efficient collaboration between team members, customers and partners.

**Benefit:** As a company dedicated to providing better, faster and cheaper services to our customers, we knew we needed a new solution more aligned with our service objectives,” said Dan Eng, Director of IT at Jabil. “We found the answer in Aspera. The solution’s speed, security and ease of use enable us to provide quality service to our valued customers.”



## Global Bank

Enable over 10,000 banking professionals to share large collections of confidential and time sensitive files across global corporate banking teams within tight timelines.

**Solution:** The bank integrated Aspera into their legacy asset management software enabling remote teams to securely upload, download, view, edit and share individual files and whole directories at high-speed.

**Benefit:** Global download speeds improved over 500% enabling remote teams to collaborate in real time, boosting productivity and accelerating deal cycles.

## The Royal Navy

[News](#)

The Royal Navy (RN) is the United Kingdom's naval warfare force. Royal Navy is modernizing with the latest commercially available technologies

**Solution:** Royal navy needed a solution to perform acceleration of data transfer at SATCOM terminals and Aspera was used for the solution.

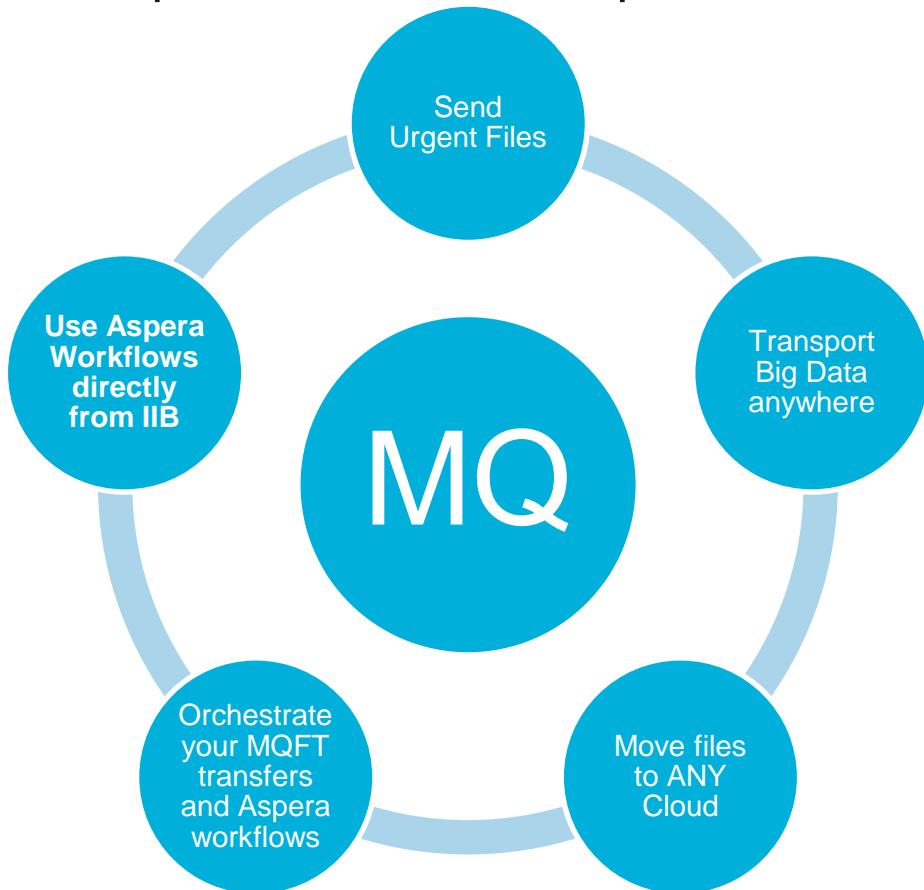
**Benefit:** *First Sea Lord Adm. Sir Philip Jones on Sept. 12, 2017 singled out IBM's Aspera bandwidth acceleration technology, which slashed the time for chest x-rays to pass through a handheld SATCOM terminal from half an hour to under five minutes.*

He said “The benefits this could bring to medical teams deployed at sea with a carrier strike group or 3 Commando Brigade ashore, or indeed with any force deployed at range, are obvious. Time and again we saw examples like this of commercially available technologies that could have wide application across the armed forces.”

<http://asperasoft.com/customers/case-studies/>



Aspera enables MQ/IIB environments **thrive** in the multi-cloud era with common file transfer platform that is independent of location or size.



# Why MQ customers should care about Aspera?

Scenario	Description	Example Use Cases	Value Proposition
Send Urgent files via Aspera	Send your urgent files via Aspera and non urgent ones via MQ MFT	<ol style="list-style-type: none"><li>1. Send urgent Market analytics out worldwide before and during of trading day.</li><li>2. Accelerate and Guarantee delivery of critical transactions for bank batch processing</li></ol>	<b>Leverage Aspera for Urgent file transfers</b>
Transport Big Data anywhere	Send large data sets anywhere in the world across on-prem and Cloud	<ol style="list-style-type: none"><li>1. Send large data files for cognitive analytics</li><li>2. Deploy HD digital assets to be leveraged by digital branches</li><li>3. Perform backup/resiliency functions for daily transaction data</li></ol>	<b>Get the data there fast without the waiting</b>
Move data to any Cloud	Send and receive data from all public Clouds and locations without need for MQ in Cloud or any agent	<ol style="list-style-type: none"><li>1. Cloud backup of your transaction logs</li><li>2. File exchange between new age applications in the Cloud and Systems of record applications on prem.</li></ol>	<b>Send and receive data to/from cloud fast with just your Cloud Object Storage credentials</b>
Orchestrate your MQFT and Aspera transfers	Orchestrate your transfers and leverage Aspera expanding ecosystem of file handling Plugins (180+)	<ol style="list-style-type: none"><li>1. Virus scan your files before sending</li><li>2. Send notifications on transfer, or download.</li><li>3. Invoke approval workflows before sending</li></ol>	<b>One easy place to manage all your complex file workflows</b>
Use Aspera workflows directly from IIB	Keep all file transfer workflows in one place and call them directly from IIB enterprise integration workflows	<ol style="list-style-type: none"><li>1. Send/Receive files using Aspera Orchestrations directly IIB</li><li>2. Leverage high speed file transport of Aspera to send files globally in a hybrid cloud environment</li></ol>	<b>Centralized management of your file transfer workflows with full visibility of Aspera transfers</b>

# MQ & Aspera Runs runs across a hybrid cloud environment

Cloud



Azure



Google

AWS



On-premises



Private cloud

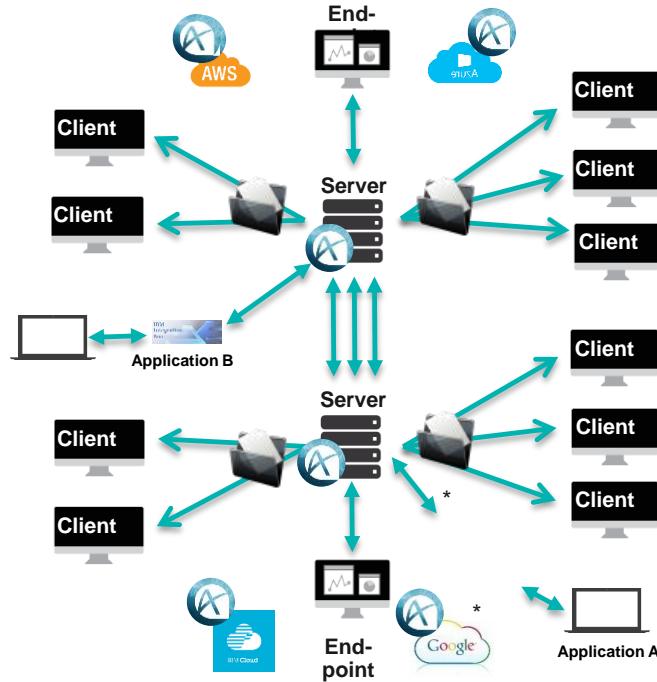
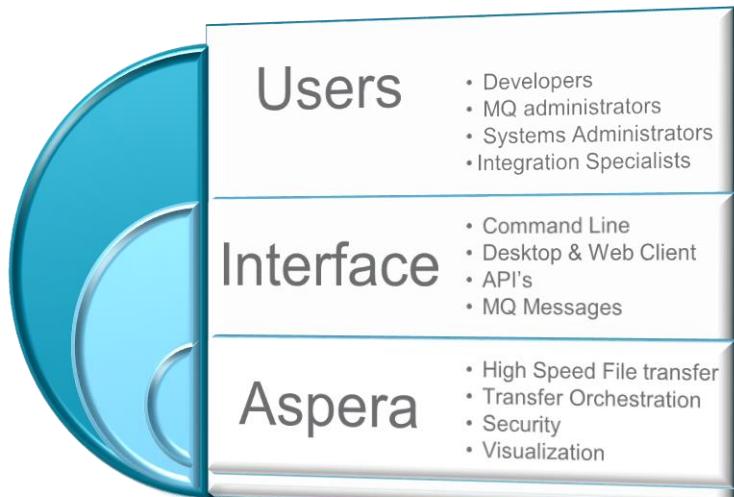


# IBM Aspera High-Speed Transfer for MQ

*Expand your File transfer capabilities with Aspera*

## Deployment Models

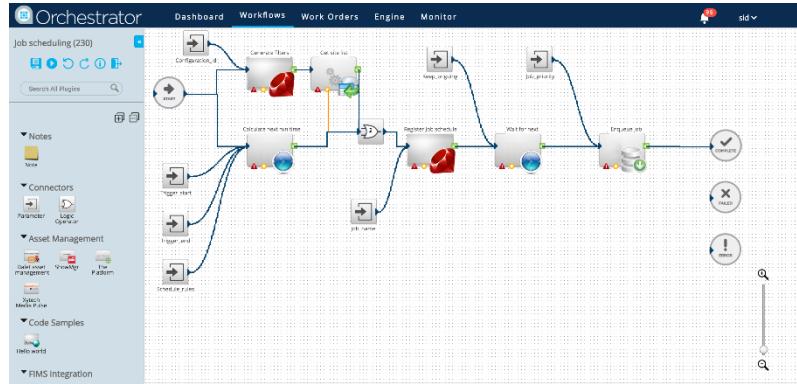
### Users and Modes



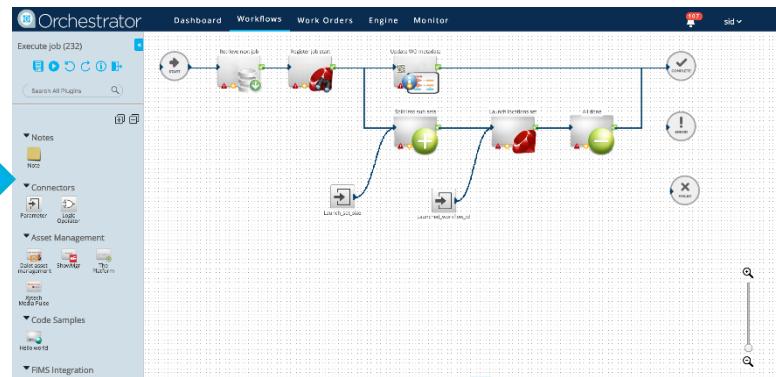
# Case Study : File transfer Management at large fast food chain

Use Case : Transfer content to/from 2500 global locations securely every day

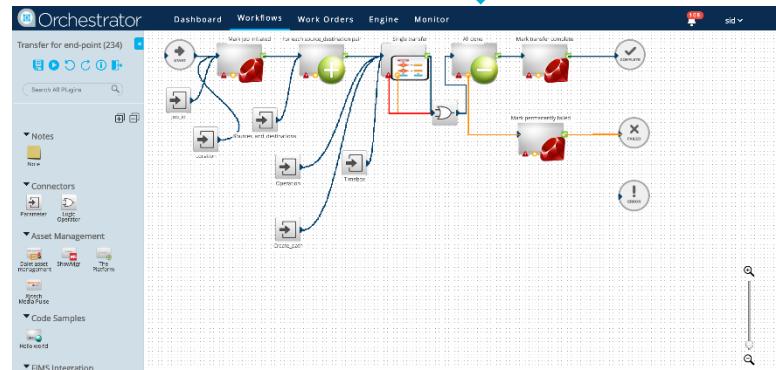
## Schedule a transfer Workflow



## Initiate a transfer workflow



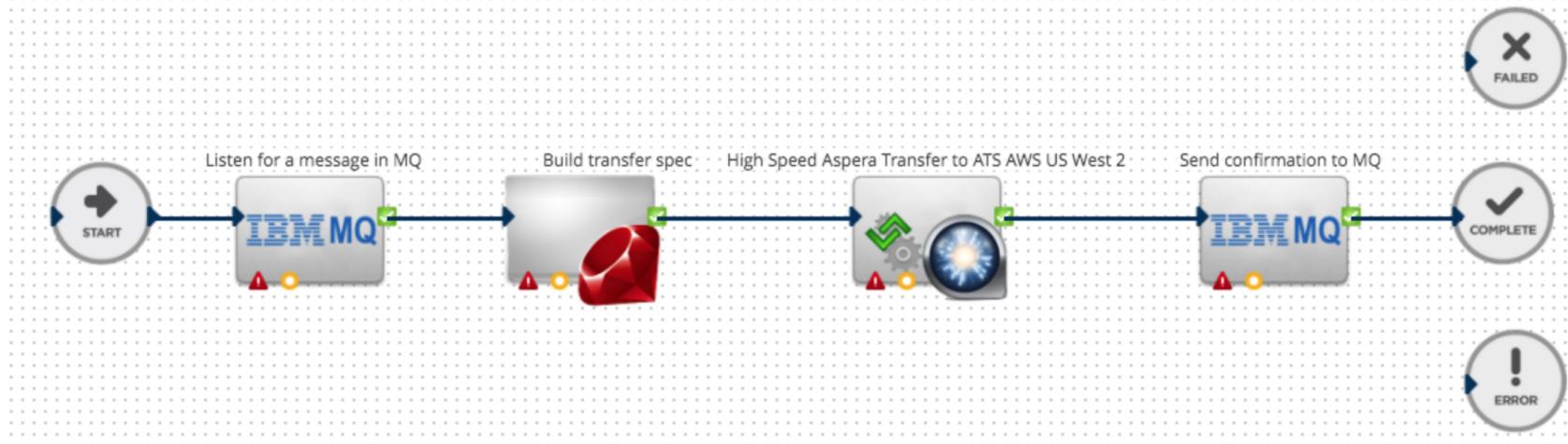
## Run File Transfers



- Complex file workflows simplified, reducing TCO
- Highly scalable and secure workflow execution
- Complete delivery flexibility (Aspera, MQFT, FTP...)
- Fully hybrid Cloud Capable across all Cloud
- Get files across the globe at the industry's best performance



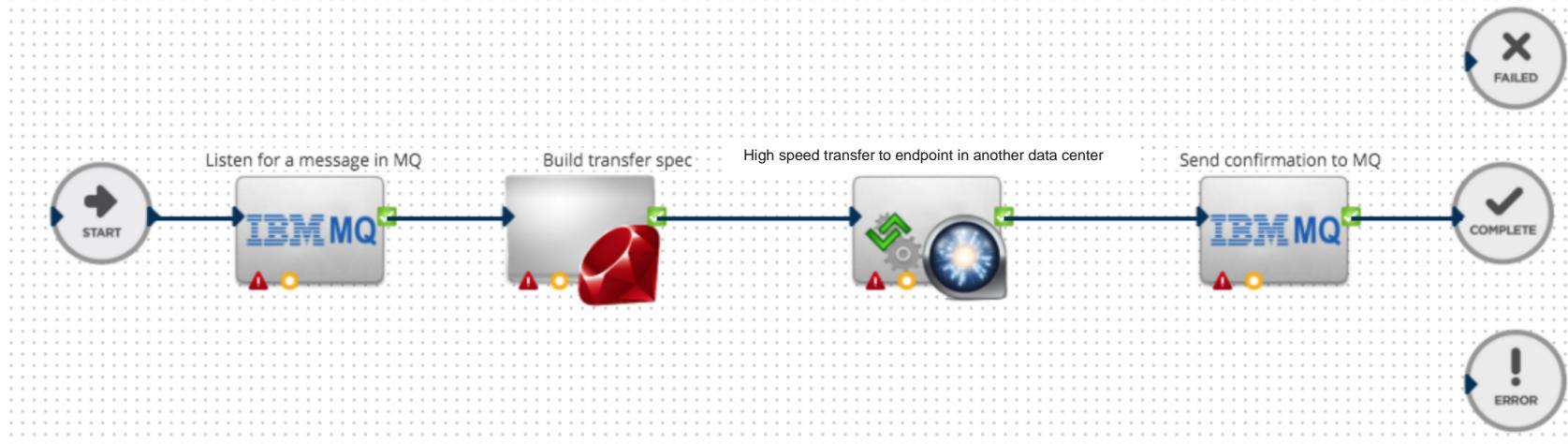
# Demo 1: Send files to any public cloud without agents in cloud



Send an MQ Message to Aspera requesting a Cloud transfer and transfer at the industry's best rate



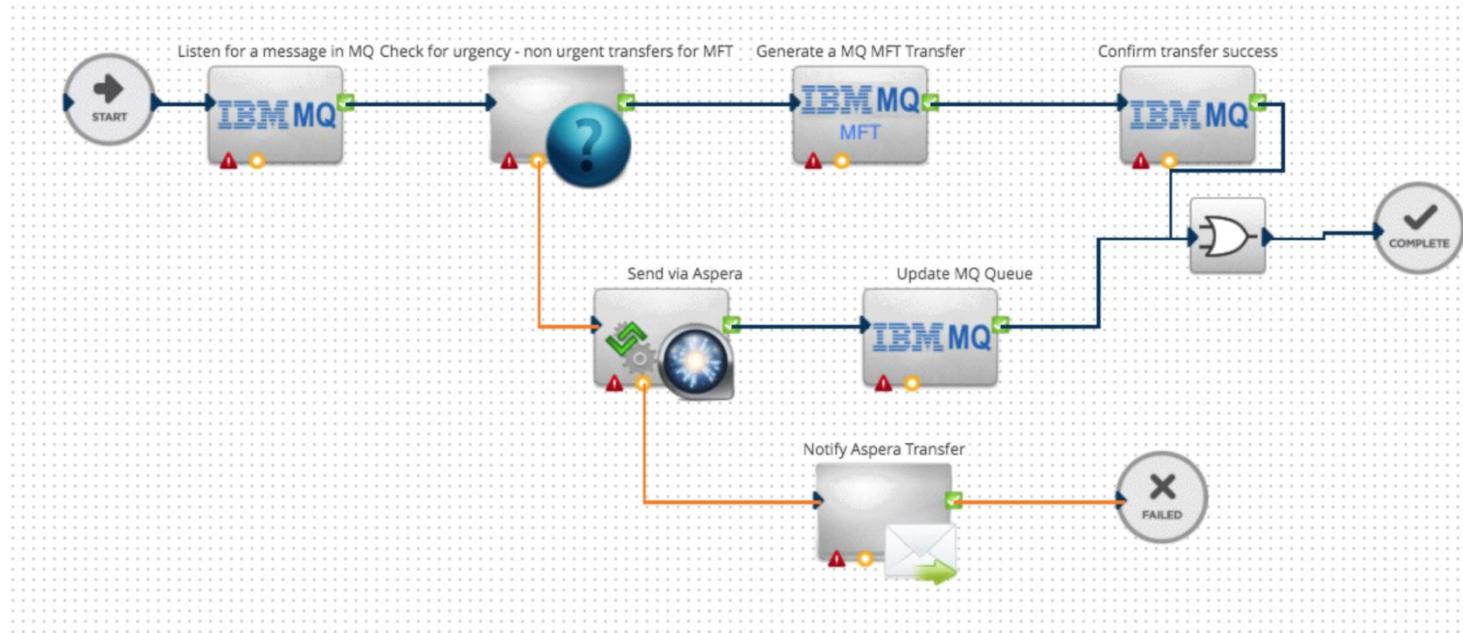
# Demo 2: Send files to any on-prem/private Cloud anywhere in the world



Send an MQ Message to Aspera requesting a global transfer, and transfer at the industry's best rate



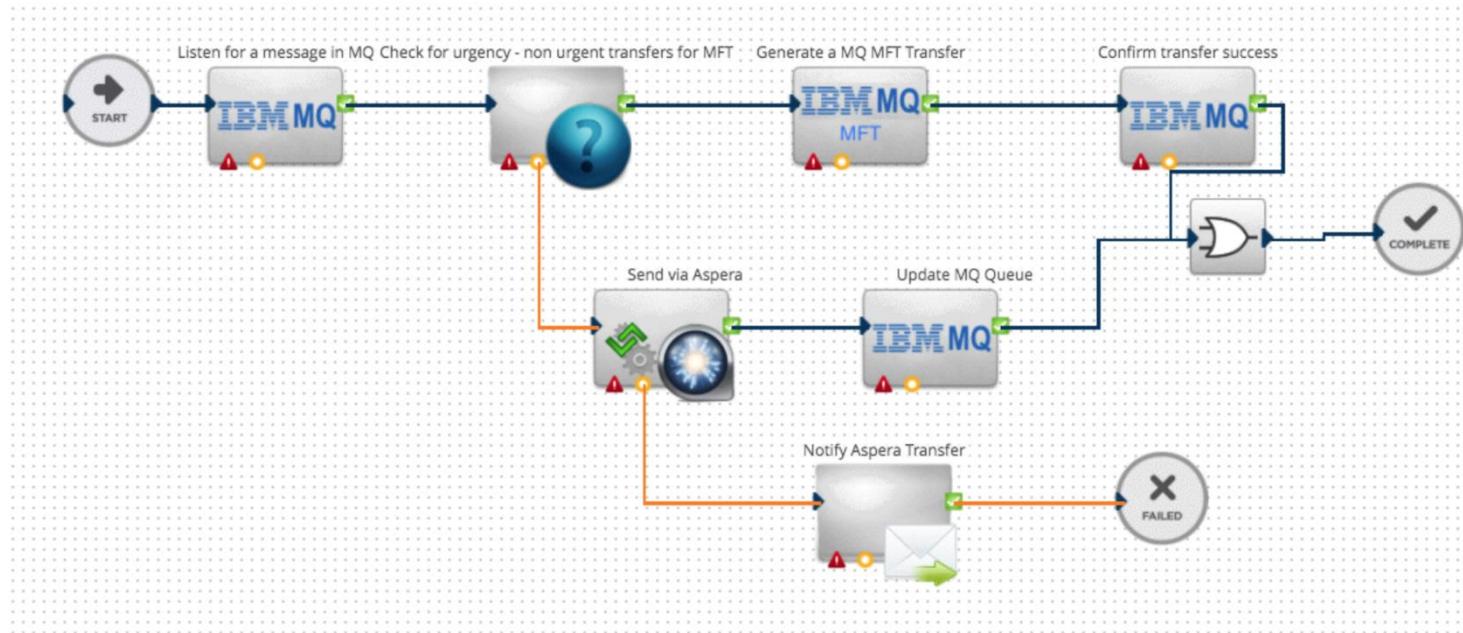
# Demo 3: Send non-urgent/smaller files via MQ MFT transfer



Send an MQ Message to Aspera requesting a global transfer, and transfer with MQ MFT



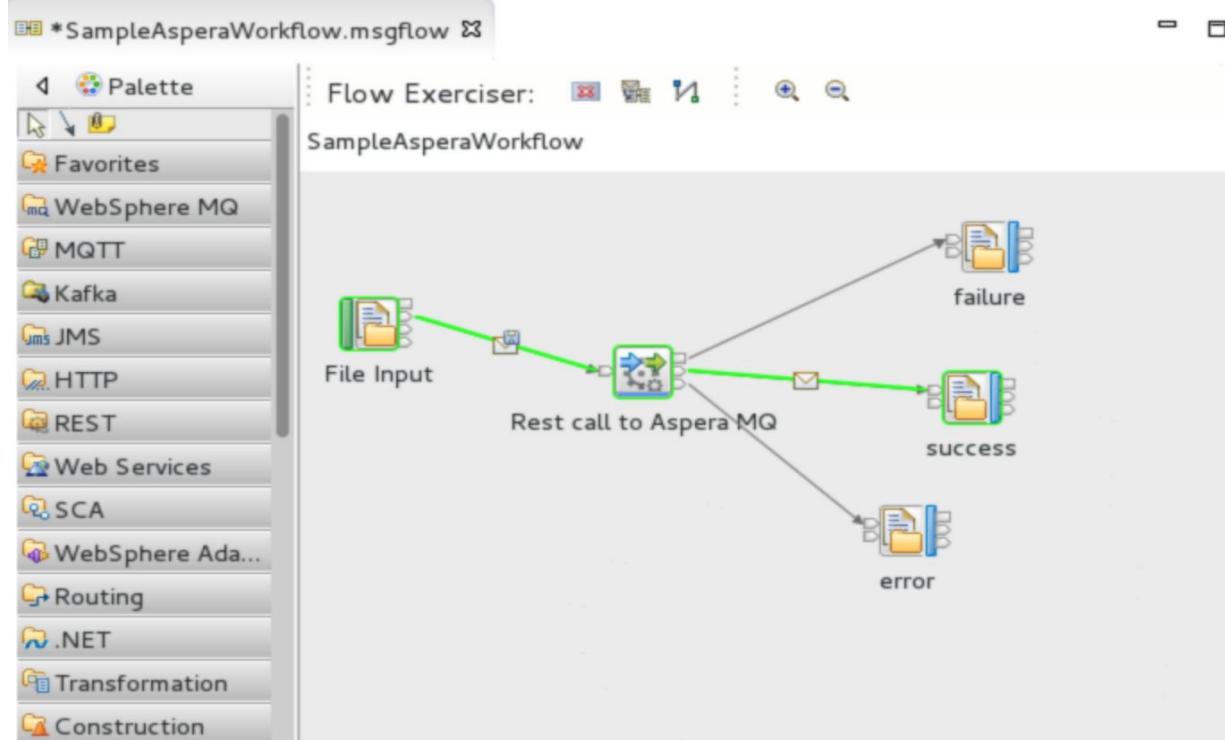
## Demo 4: Send urgent or larger files via Aspera high speed transfer



Send an MQ Message to Aspera requesting a global transfer, and transfer at the industry's best rate because this is an urgent file/s



# Demo 5: Call Aspera workflows from IIB



Invoke all File transfer workflows directly from IIB

# Summary

- Aspera provides a **Best of Breed** File Delivery platform and ecosystem (180+ plugins), with industry best transfer performance
- Aspera provides easy **Cloud transport** using our ATS services in 18+ Public Cloud locations
- Leverage directly from your **existing MQ/IIB environments without dependency** on releases
- **In short, Aspera is a seamless add-on to your existing MQ Advanced and IIB environments helping you build high performance file transfer systems in hybrid and multi-cloud environments**



# Backup



# IBM Aspera High-Speed Transfer for MQ

Automate your file transfer flow across MQ FT and Aspera

Server  
Endpoint

## Applications and Use Cases

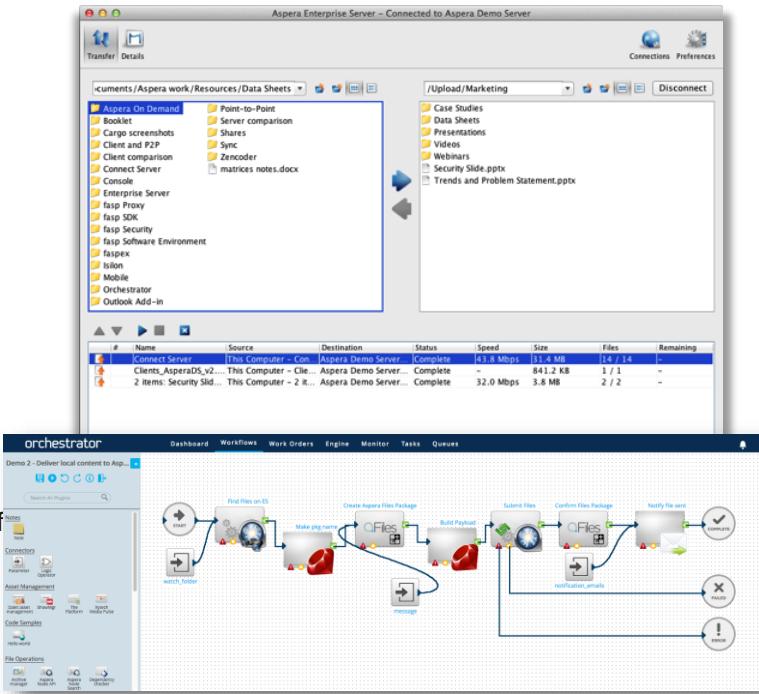
- Transfer urgent files using Aspera while continuing to use MQFT for regular files
- Transfer Files to and from major public Clouds without agents in cloud
- Transfer Files of any Size significantly faster
- Seamlessly integrate complex file transfer workflows with IIB Integrations
- Leverage 180+ plugins and growing to build complex file handling and automation

## Key Features and Benefits

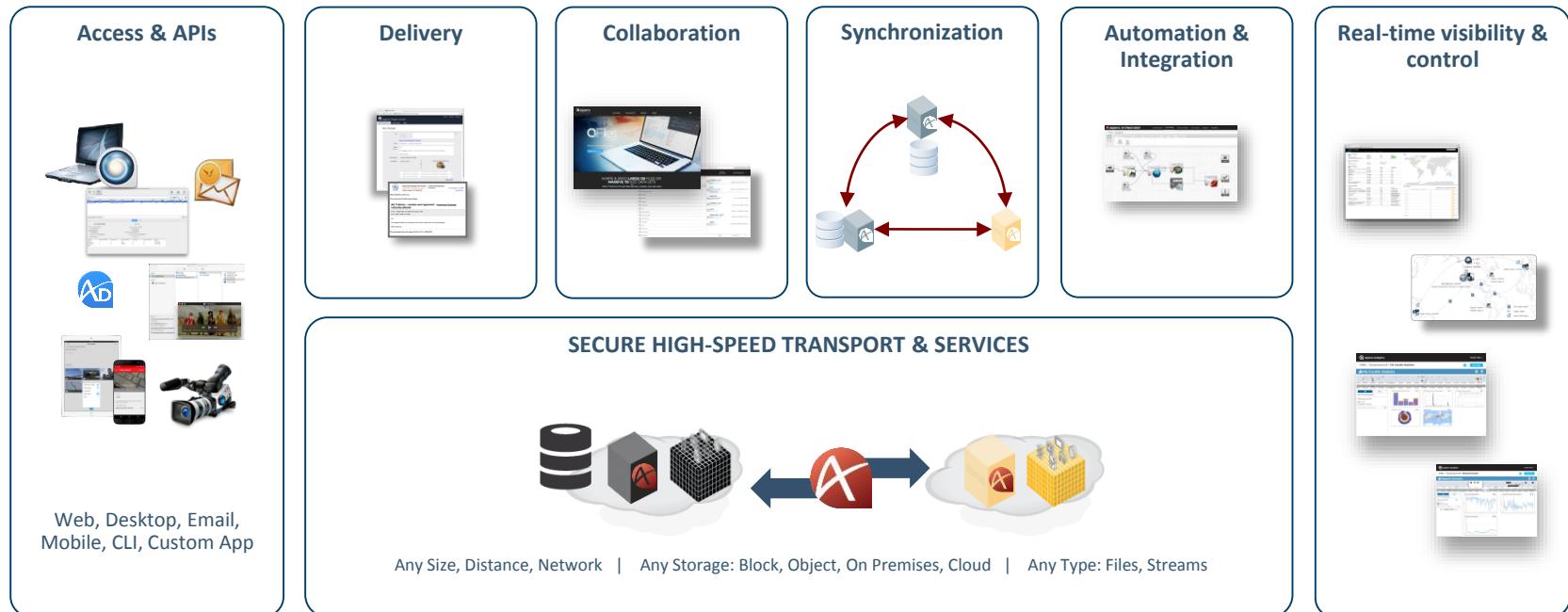
- Fully customizable orchestrations to pre and post process your files
- 180+ file handling/management plugins
- Bulletproof security with user authentication, encryption in transit and at rest
- Universal base transfer server for high-speed transfers of any size data sets
- File transfer Monitoring capabilities
- Proxy Server for enhanced security for financial and health care customers
- Embed notifications into your orchestrations
- Unlimited users for either Web or Desktop clients to do unlimited big data transfers from traditional Aspera use cases independent of MQ.

## Licensing and deployment

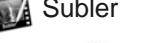
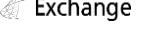
- Multi-tiered licensing based on bandwidth capacity
- Unlimited Users and file capacity
- Deployable on premises or in the cloud (public, private, hybrid)
- 4 bandwidths -300MBps, 1GBps, 5 GBps, 10 GBps**
- Available both on distributed and Linux on Z**



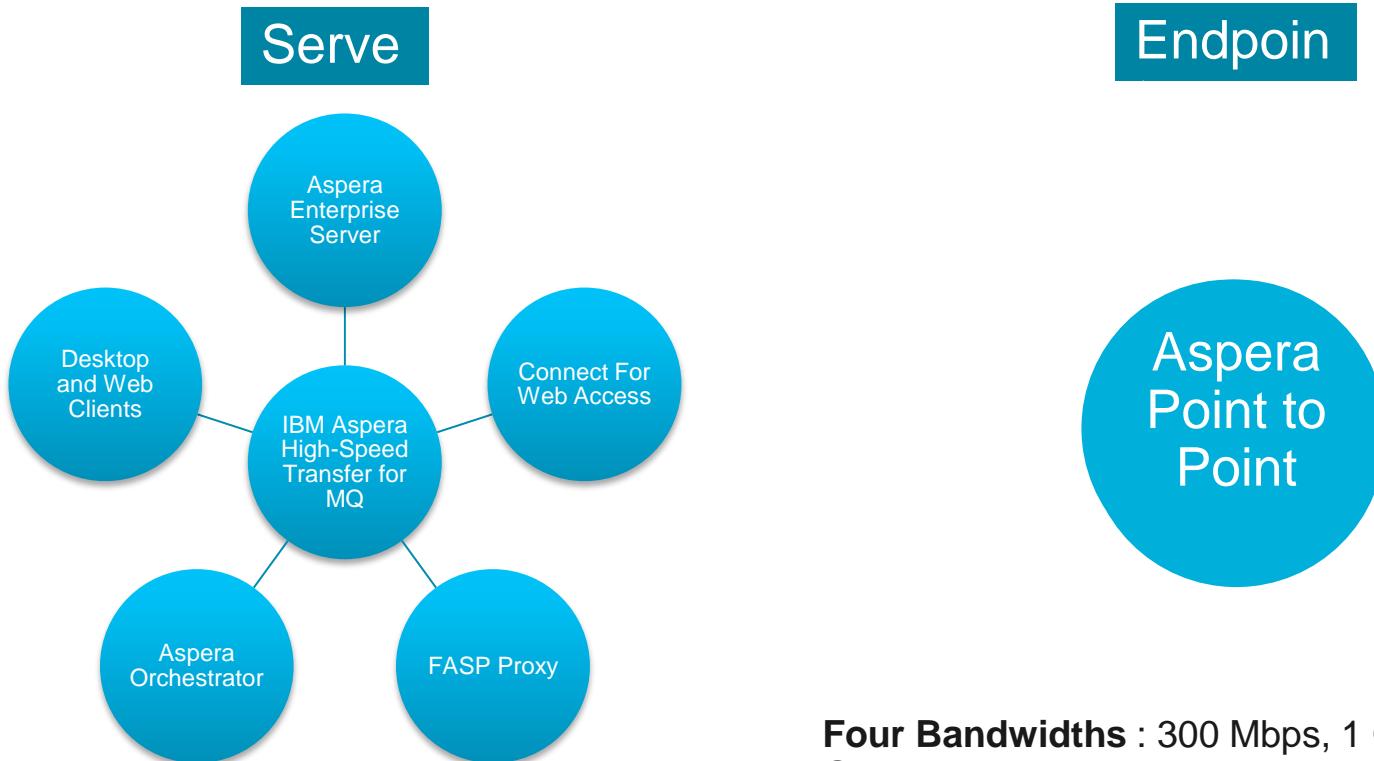
# ASPERA PRODUCT PORTFOLIO



# 3<sup>rd</sup> Party Library of Plugins to build complex File transfer workflows (180+)

Transcoding	Media Management	Antivirus/Encryption	Utilities	Cloud	
 Akamai	 nexidia  Envivio.  zencoder	 thePlatform  CatDV  MediaBin  oxytech  DALET Galaxy  ELEMENTAL  DALET AmberFin	 Symantec  McAfee  GIMP  PGP	 ImageMagik  Subler  curl://  ICAP Streams  AMQP  Framework for Interoperable Media Services	
 telestream	 encoding.com	 3PlayMedia	 MediaINFO	 Aspera Files™  Aspera Transfer Service  amazon webservices  mediasilo	
 MOG  HandBrake  Imagine COMMUNICATIONS.  EVS  harmonic  CAMBRIA	 Eolementhe Media workflow platform		 FFprobe		
Quality Control	Operations	File Transfer	Email & Database	Notifications	
 CableLabs  interraBATON systems  MediaInfo  Tektronix  meta glue  IRT MXF  Vidcheck  emotion editing	 Oracle DIVArchive	 AFASP®  iTunes  DAV  IBM MQ	 FTP/SFTP/FXP  HTTP  SCP  IBM Integration Bus	 Microsoft Exchange  Gmail  Microsoft SQL Server  MySQL  mongoDB.	 #slack  git  JIRA  kafka

# IBM Aspera High-Speed Transfer for MQ



# What constitutes a Big Data workload?

COMPUTER MODELING



SEISMIC EXPLORATION



MUSIC & AUDIO



PORTABLE DOCUMENTS



MEDICAL IMAGING



GENETIC SEQUENCING



VIDEO & GRAPHICS



SATELLITE IMAGING



# Industry Use Cases

<b>Banking</b> 	<ul style="list-style-type: none"><li>• <b>Bank Batch Processing</b> – accelerate &amp; guarantee delivery of critical daily transactional batches to downstream systems</li><li>• <b>Compliance Audits</b> – improve regulatory compliance reporting (e.g. Dodd-Frank, FINRA, Basel) with fast and secure recall and transfer of data across remote datacenters &amp; branches</li><li>• <b>Banking and Trading Big Data Analytics</b> – deploy findings out to traders, investors, risk and other remote teams faster by quickly aggregating TBs of silo'ed data (e.g. trades, transactions, social media, etc) in HPC clusters for big data analytics</li><li>• <b>Business Continuity</b> – reliably sync mission critical data across global WANs at max speed to keep core banking &amp; trading applications running through disaster or failure</li><li>• <b>Digital Branches</b> – easily deploy HD video, marketing assets, software updates and other large files to remote branches and smart ATMs to create rich digital experiences</li><li>• <b>Digital Banking Processes</b> – digitize lending and other document heavy processes with secure, large file sharing across virtual teams, customers and infrastructures (cloud, on-premises or hybrid)</li></ul>
<b>Education</b> 	<ul style="list-style-type: none"><li>• <b>Global Research Collaboration</b> – accelerate global research collaboration with high-speed file sharing across university teams, remote faculty and students, off-site labs, external research institutions, and joint venture partners</li><li>• <b>Remote Learning</b> – from flipped classrooms to online university courses, educational institutions need high-speed transfer to deploy rich media and large digital learning materials to remote students worldwide</li></ul>



# Industry Use Cases

<p><b>Electronics &amp; Software</b></p> 	<ul style="list-style-type: none"><li>• <b>Collaborative Engineering</b> – expedite development and accelerate time to market with high-speed sharing of engineering files across global component designers, manufacturing sites, test facilities and others involved in product development</li><li>• <b>Global Software Development</b> – share huge volumes of code, latest builds, artifacts and other large digital files with global teams to keep development moving forward around the clock</li><li>• <b>Product Launch</b> – deploy HD video and high-resolution product launch and marketing assets to field marketing teams, PR partners, wholesale partners and retail locations</li><li>• <b>Remote Technical Support</b> – aggregate large log files from software deployed at customer sites around the world and share across remote technical support and development teams for quick response and software patches</li></ul>
<p><b>Energy &amp; Utilities</b></p> 	<ul style="list-style-type: none"><li>• <b>Remote Sensing Data Acquisition</b> – quickly and efficiently collect large sets of remote sensing data (e.g. seismic, smart meters, sensors, well-logs, etc) from anywhere in the world</li><li>• <b>Aerial Surveying</b> – accelerate mobile &amp; terrestrial transmissions of HD video and images captured during drone inspections of pipelines, electrical towers, turbines and other hard to reach places</li><li>• <b>Maximizing HPC Utilization</b> – send large unprocessed pre-stack data from remote datacenters or overburdened HPC clusters to underutilized HPC clusters at max speed around the world</li></ul>



# Industry Use Cases

<p><b>Federal Government</b></p> 	<ul style="list-style-type: none"><li>• <b>Interagency Data Sharing</b> – improve analysis and collaboration with secure, high-speed data sharing across federal government agencies (e.g. defense, commerce, education, etc), local government agencies (e.g. law enforcement, DMV, etc) and external organizations</li><li>• <b>Intelligence Data Collection</b> – predictably and reliably move satellite imagery and surveillance video from operational locations to central command and other analysis centers</li><li>• <b>Intelligence Data Archival</b> – replace costly shipments of archived intelligence data from remote bases to storage facilities in the US with secure, reliable and high-speed transfers over the WAN</li></ul>
<p><b>Healthcare</b></p> 	<ul style="list-style-type: none"><li>• <b>Global Telepathology</b> – surgeons and physicians can gather diagnoses from pathologists around the world in real time with superfast transfers of whole slide images and large medical files</li><li>• <b>Big Data Analytics</b> – aggregate large volumes of structured &amp; unstructured medical data (e.g. medical images, patient notes, lab results, sensors, etc) into HPC clusters for improved patient analytics</li><li>• <b>HR Archival &amp; Recall</b> – move large electronic medical records from regional hospitals to central storage and recall at high speed for HIPAA audits, legal requests, and other short turn-around compliance needs</li></ul>



# Industry Use Cases

<p><b>Insurance</b></p> 	<ul style="list-style-type: none"><li>• <b>Insurance Batch Processing</b> – accelerate and guarantee delivery of daily policy, premium &amp; claims batch deliveries to downstream systems</li><li>• <b>Insurance Big Data Analytics</b> – Deploy findings to actuaries, claims, and other remote teams faster by quickly aggregating TBs of silo'ed data (e.g. claims history, credit score, sensor data, etc) in HPC clusters for big data analytics</li><li>• <b>Mobile Claims &amp; Underwriting</b> – speed up mobile claims, appraisal &amp; underwriting with HD video &amp; image upload 3x faster over mobile networks and 100X faster over the WAN</li></ul>
<p><b>Life Sciences</b></p> 	<ul style="list-style-type: none"><li>• <b>Global Research Collaboration</b> – accelerate global research collaboration with high-speed file sharing across remote labs, research universities, and joint venture partners.</li><li>• <b>Cloud-based Bioinformatics</b> – cloud-bases solutions powered by Aspera (such as BGI's EasyGenomics) provide scientists with high-speed data exchange, management, and point-to-click data analysis workflows, including whole genome resequencing, targeted resequencing, RNA-Seq, small RNA and De novo assembly</li><li>• <b>High-speed Archival</b> – easily and reliably back-up and archive large volumes of crucial life sciences data across remote labs, datacenters and research partners</li></ul>



# Industry Use Cases

<p><b>Legal &amp; E-Discovery</b></p> 	<ul style="list-style-type: none"><li>• <b>Collaborative Legal Review</b> – securely share large volumes of evidence and case data across legal teams, outside counsel, expert witness, clients and judiciary bodies.</li><li>• <b>Automated ESI Processing and Distribution</b> – accelerate the collection and distribution of electronically stored information with ultra high-speed transfers and complete workflow automation</li></ul>
<p><b>Manufacturing</b></p> 	<ul style="list-style-type: none"><li>• <b>Global Manufacturing</b> – rapidly share detailed design documents, CAD files, test cases and other large files with global design, engineering, testing and production teams to accelerate manufacturing &amp; speed to market</li><li>• <b>Manufacturing Big Data Analytics</b> – aggregate massive volumes of structured &amp; unstructured data (e.g. machine sensors, product performance reports, supply chain inputs, etc) into HPC clusters for improved production analytics</li></ul>
<p><b>Mobile Apps</b></p> 	<ul style="list-style-type: none"><li>• <b>High Speed Mobile Transfer</b> – Aspera Mobile Apps &amp; SDKs for iOS and Android enable secure, large file transfer over Wi-Fi and cellular networks at speeds that are up to 100X faster. Across many industries – insurance, journalism, intelligence agencies, aerial surveys, etc.</li></ul>



# Industry Use Cases

<p><b>Telco</b></p> 	<ul style="list-style-type: none"><li>• <b>Content On Demand</b> – high-speed synchronization and replication of digital audio and video across data centers to power on-demand content delivery to subscribers on mobile and terrestrial networks</li><li>• <b>High Speed Ad Delivery Automation</b> – workflow automation and high-speed delivery of ad content for broadcast and cable TV operators</li><li>• <b>Online Content Mirroring</b> — high speed delivery and replication of online content across data centers so newly acquired content can be made available across the entire distribution network</li></ul>
<p><b>Transportation</b></p> 	<ul style="list-style-type: none"><li>• <b>Global Auto Development</b> – shorten development cycles and improve collaboration with secure, superfast file sharing and sync across global engineering, R&amp;D, testing &amp; manufacturing teams</li><li>• <b>Automotive Big Data Analytics</b> – improve engineering by quickly and securely ingesting TBs of data (e.g. test simulations, plant capacity, telematics, maintenance records, etc) into HPC servers for big data analytics.</li><li>• <b>Marketing Asset Deployment</b> – share 4k video and large digital marketing assets at max speed across remote dealerships, vendors and marketing teams</li><li>• <b>Vehicle Data Collection</b> – Securely and reliably collect telematics, diagnostic data and other vehicle information at speeds 3x faster over cellular networks using Aspera's Mobile SDK.</li><li>• <b>Vehicle Content Distribution</b> – Reliably deliver content to connected vehicles even under the most difficult network conditions.</li></ul>



# Industry Use Cases

## Retail



- **Marketing Asset Deployment** – deploy HD video, high-resolution marketing assets and large promotional files from HQ to field marketing teams, PR partners, and remote retail locations
- **Improved Customer Targeting** – quickly aggregate TBs of silo'ed customer data (e.g. purchase history, online browsing behavior, chat logs, etc) into HPC clusters to better predict product trends, improve store assortments and personalize marketing
- **Planogram Compliance** – accelerate planogram compliance checks with high speed sharing of HD video and images over mobile and terrestrial networks no matter where retail outlets are located

## State & Local Government



- **Law Enforcement Field Reporting** – high speed transfer over mobile networks allow police departments to ingest video clips from laptops, tablets and smartphones mounted in patrol cars and carried by officers in remote locations
- **Courts & Case Management** – securely distribute large volumes of evidence and case data across legal entities, courthouses, datacenters and agencies within the judicial system

