

How to Move Big Data Into and Out of IBM Cloud Private

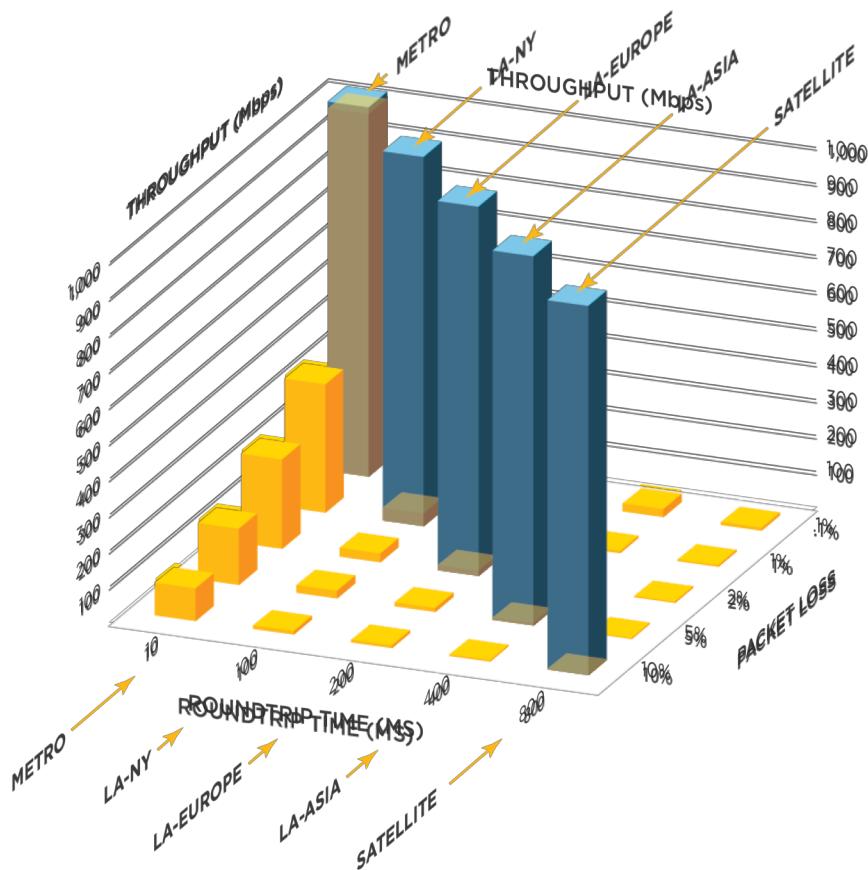
James Wilson
IBM Aspera

IBM Aspera's mission

Creating next-generation transport technologies
that move the world's digital assets at maximum speed,
regardless of file size, transfer distance and network conditions

FASP® high-performance data transport

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



Note: The relative bandwidth utilization for FASP transfers over a 1 Gbps network are immune to latency (distance) with very little effect from packet loss.

Aspera is the de facto standard in high-speed data transfer

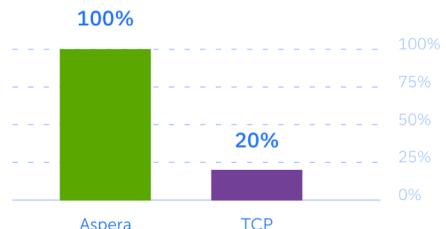
- High speed across any distance for any size data
- Adaptive transfer rate control
- Predictable & reliable
- Enterprise-grade security

Comprehensive and secure hybrid multicloud data transfer platform with the best performance in the industry



MOVING A 10GB FILE

	Network Bandwidth	Across US	US - Europe	US - Asia
FTP	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

[Basic Mode](#) [Advanced Mode](#)**File Size**100 TB**Network Bandwidth**10 Gbps**Calculate →****File Transfer Speed****File Transfer Time****Bandwidth Utilization****The IBM Aspera Advantage**

5x	more throughput
407%	faster
80%	less total time

This calculation is based on round trip time (RTT) and packet loss percentage using the Mathis et al. equation. Throughput in your specific environment may vary.

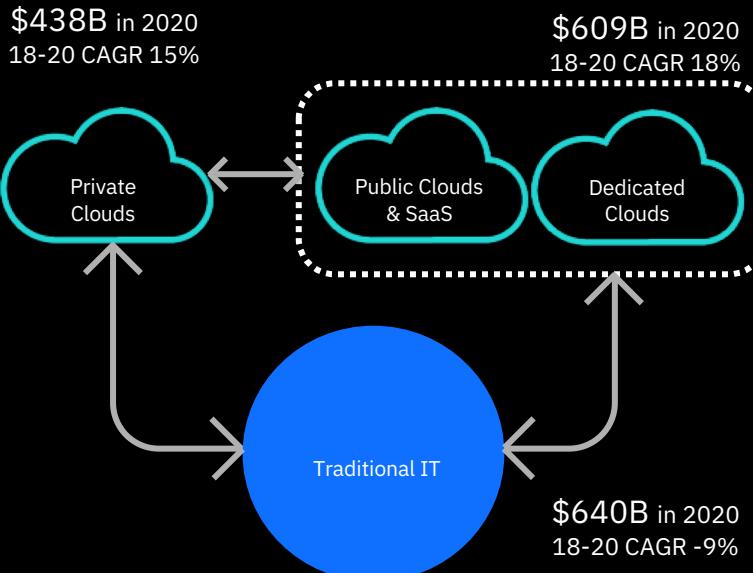
Aspera can move 100 TB of data across the US in 24 hours

Ready to try Aspera?**Start a trial today →**

Too good to be true? [Download our white paper](#) and learn how FASP can achieve this incredible performance.

See how fast you can go at ibm.com/aspera/performance-calculator

Today's hybrid, multicloud reality presents new opportunities, as well as new challenges...



A real world look at multicloud



IBM cloud strategy



Choice with consistency



Hybrid integration



DevOps productivity



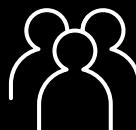
Powerful, accessible data and analytics



Cognitive solutions

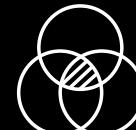
Seamless Experience

Regardless of which combination you choose, you get a single, seamless experience.



PUBLIC

Maximize on cloud agility and economics



DEDICATED

Public cloud benefits, with dedicated infrastructure



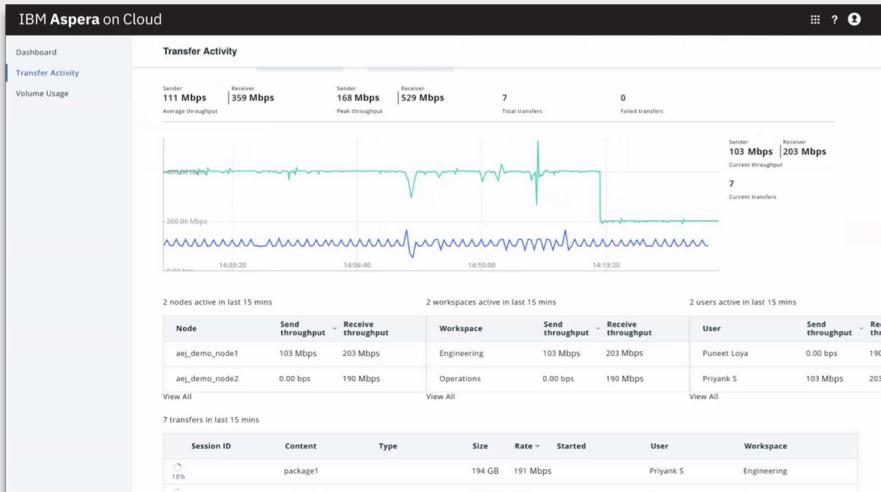
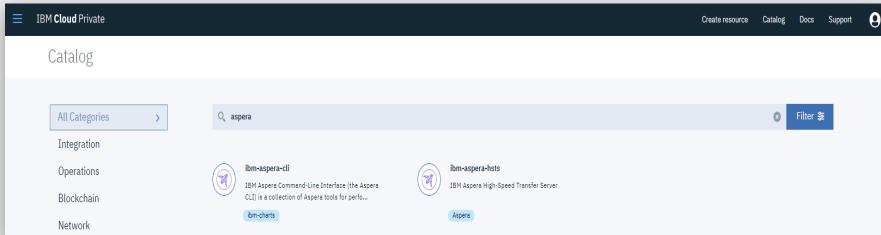
PRIVATE

Behind the firewall for the most demanding workloads

Aspera for IBM Cloud Private

A highly-available software add-on to IBM Cloud Private that moves large amounts of data to and from the Kubernetes environment using Aspera high-speed data transfer technology

- Easy Helm-based deployment of Aspera high-speed transfer server
- Simple provisioning of load-balanced, highly-available Aspera transfer clusters
- Instant enablement of transfers into or out of any major public cloud, private cloud or on-premises data center
- Full access to a suite of Aspera APIs for integrating high-speed data movement into your workflows



Typical use cases

Data transfers to or between on-premises platforms

Data transfers to or from a public cloud

Global data distribution and delivery

Global desktop and release engineering deployments

Big data analytics

File synchronization

Warm site or cold site DR / BC

File archiving

Solution architecture



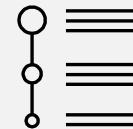
High Speed Data Transfer

Across on-premises and Hybrid Cloud environments regardless of size, distance, and network conditions



Core Operational Services

Log Management, Monitoring, Security, Alerting



kubernetes

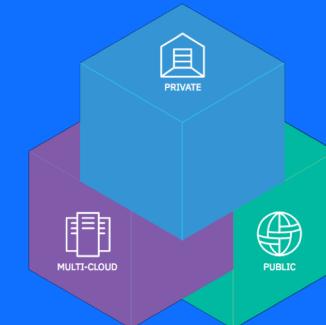
Kubernetes Container Orchestration Platform



Choose your infrastructure:



vmware®



IBM Cloud Private:

Reduced infrastructure, license, and maintenance costs

Self-service catalog

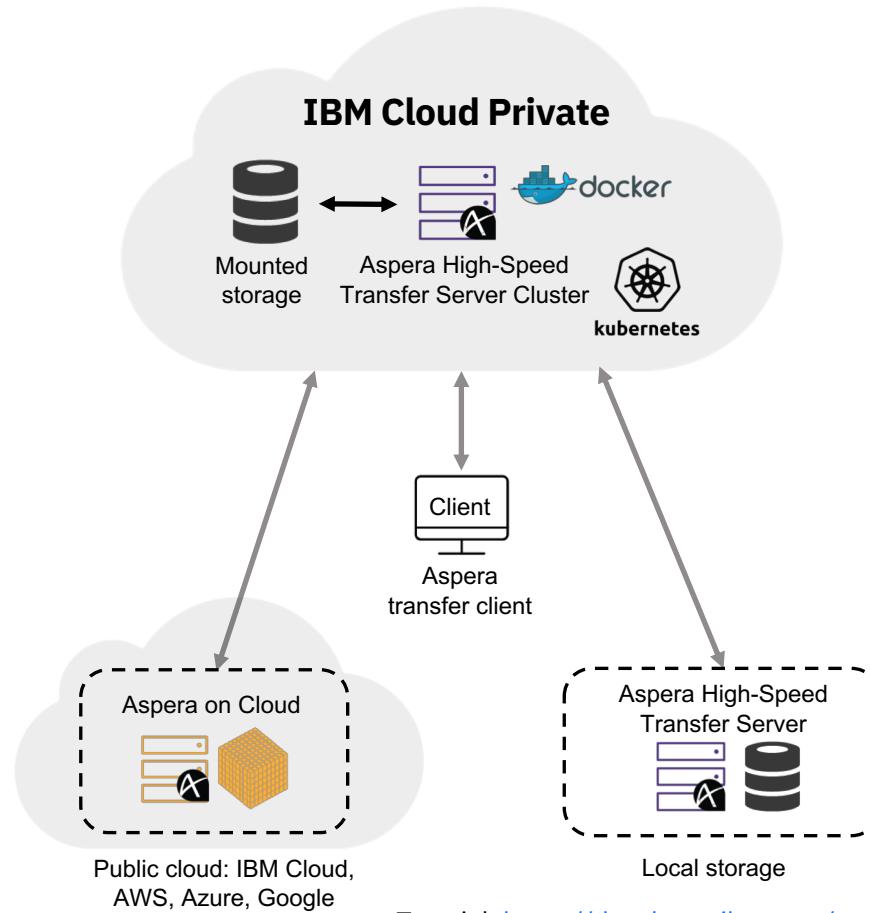
Agility, scalability, and elasticity

Self-healing

Enterprise security

No vendor lock-in

How it works

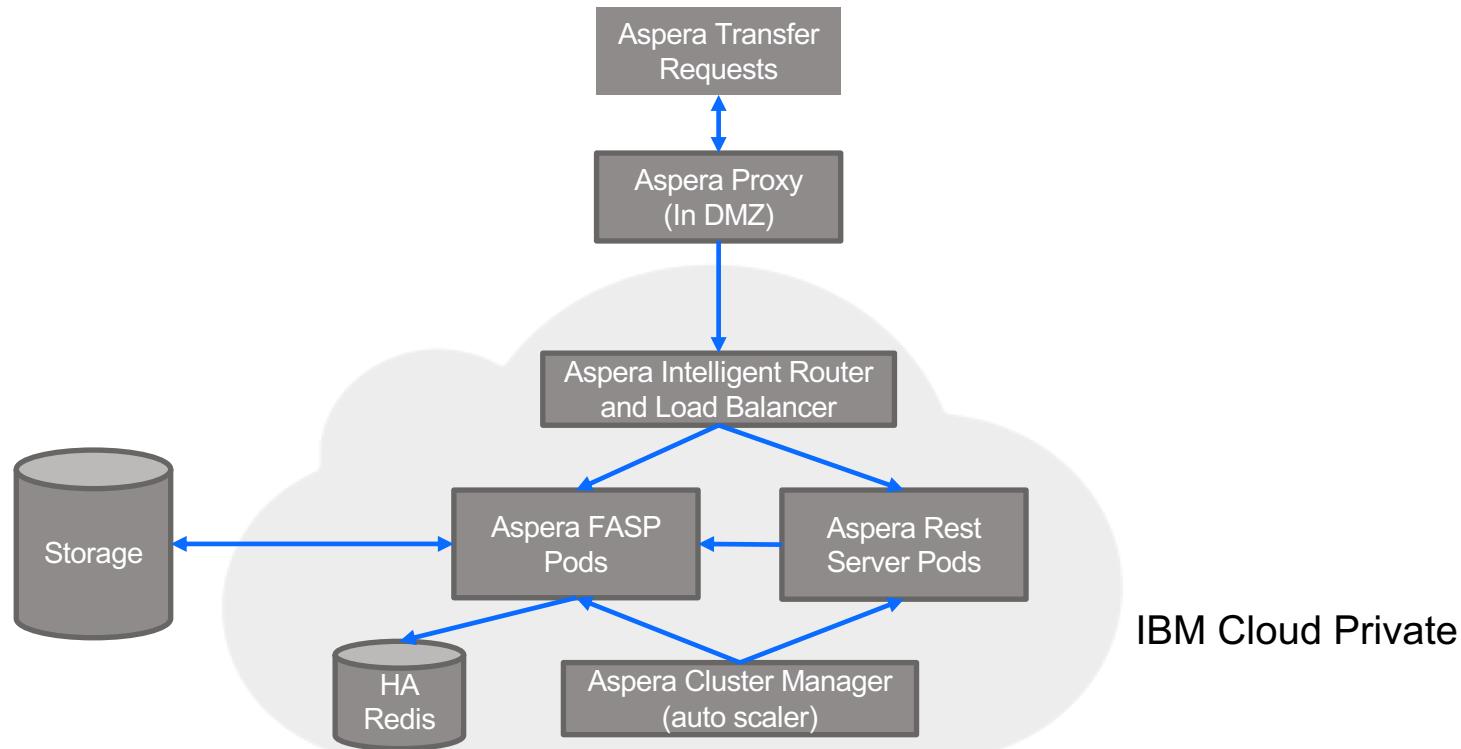


Push-button availability of a self-healing cluster of Aspera transfer servers provisioned within IBM Cloud Private

- Provides high-speed data transport for large amounts of data to and from IBM Cloud Private
- Modernized Aspera's Transfer Server into Docker microservices that leverage Helm provisioning.
- Optionally tether to the Aspera on Cloud SaaS to provide rich web application for data delivery and distribution
- Enterprise grade security protects data throughout the process

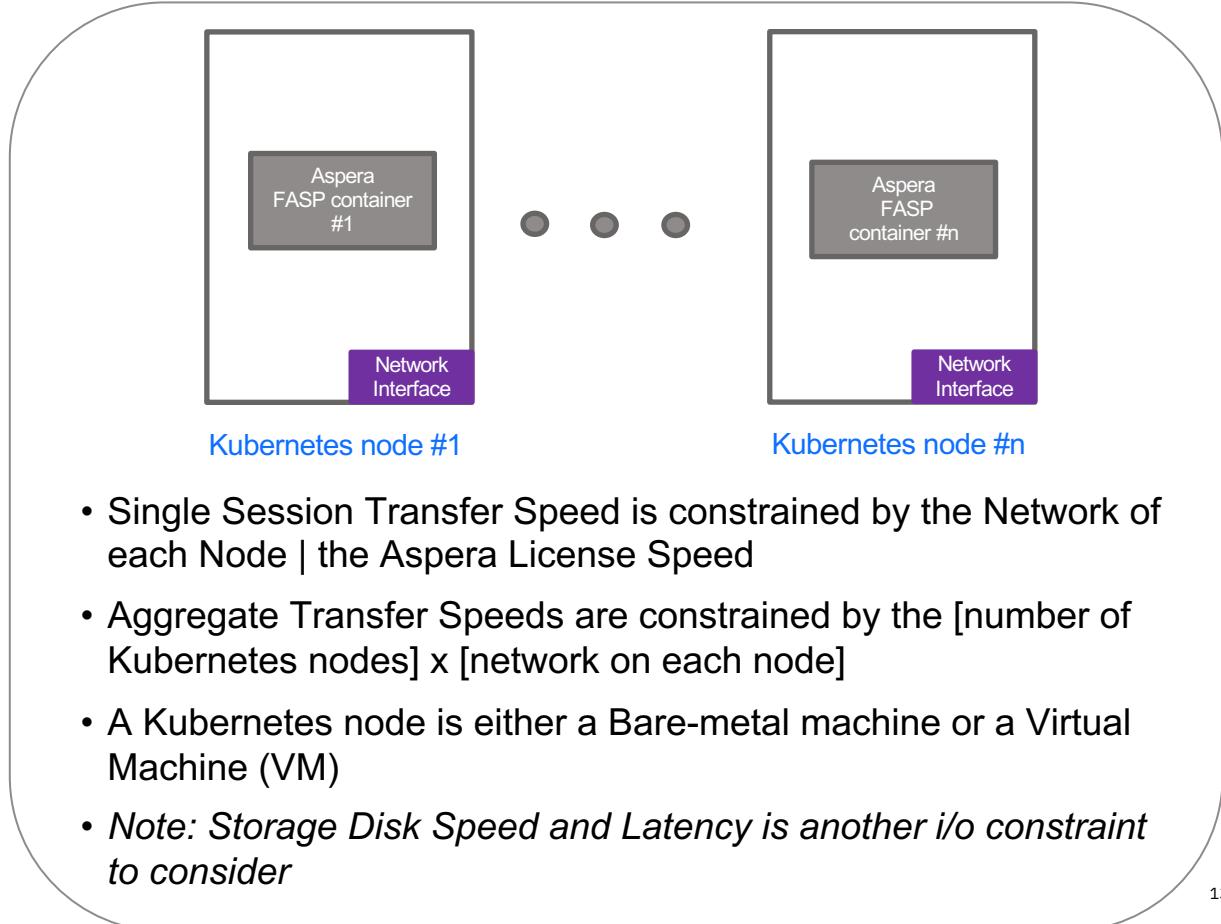
Cluster architecture

Highly-available, self-healing cluster



How it works: clustered servers

1. Aspera Manager routes traffic to least-loaded Kubernetes Node
2. Aspera FASP Containers fulfill the transfer request



Aspera deployment to IBM Cloud Private

The screenshot shows the IBM Cloud Private Catalog interface. At the top, there's a navigation bar with 'IBM Cloud Private' on the left, followed by 'Create resource', 'Catalog', 'Docs', 'Support', and a user icon. Below the navigation bar, the title 'Catalog' is displayed. On the left, a sidebar lists categories: Operations, Integration, Blockchain, Network, DevOps, Storage, Security, Data, Data Science & Analytics, IoT, Runtimes & Frameworks, Business Automation, and Tools. The 'All Categories' dropdown is currently selected. In the center, there's a search bar with a magnifying glass icon and the placeholder 'Search items'. To the right of the search bar is a 'Filter' button with a gear icon. The main area displays a grid of service cards. Each card includes a circular icon, the service name, a brief description, and a 'local-charts' or 'ibm-charts' button.

Category	Service Name	Description	Type
Operations	ibm-aspera-hsts-prod	IBM Aspera High-Speed Transfer Server	local-charts
Integration	ibm-eventstreams-foundation-prod	IBM Event Streams for support of IBM products only.	local-charts
Blockchain	ibm-ace-dashboard-dev	App Connect Enterprise Dashboard	ibm-charts
Network	ibm-ace-server-dev	This helm chart is used by the IBM App Connect Dashboard to deploy servers	ibm-charts
DevOps	ibm-aspera-cli	IBM Aspera Command-Line Interface (the Aspera CLI) is a collection of Aspera tools	ibm-charts
Storage	ibm-blockchain-platform-dev	IBM Blockchain Platform Community Edition	ibm-charts
Security	ibm-blockchain-platform-remote-peer	IBM Blockchain Platform Remote Peer - Deprecated	ibm-charts
Data	ibm-calico-bgp-peer	A Helm chart for configuring a bgp peer to your ICP Calico cluster	ibm-charts
Data Science & Analytics	ibm-cam	IBM Cloud Automation Manager	ibm-charts
IoT	ibm-cem	A cloud based event management solution	ibm-charts
Runtimes & Frameworks	ibm-csi-nfs	Helm chart for all csi nfs components	ibm-charts
Business Automation	ibm-datapower-dev	IBM DataPower Gateway	ibm-charts
Tools			

Introducing IBM Aspera on Cloud

A hosted service that enables organizations to securely and reliably move large files and data sets across on-premises and multi-cloud environments at unrivaled speed



Integrate multicloud environments using cloud-to-cloud transfers

The screenshot shows the ACME cloud storage interface. The left sidebar has a dark theme with the ACME logo at the top. Under "Files", there are dropdown menus for "Region" (set to "America") and "Cloud provider". Below these are links for "All files" and "Shared with me". The main area is titled "All files" and contains a table with the following data:

	Name	Shared by	Size	Last updated
<input type="checkbox"/>	AWS - Frankfurt Germany	—	34 GB 11 files	—
<input type="checkbox"/>	AWS - OREGON	—	18 GB 9 files	—
<input type="checkbox"/>	AZURE - IOWA	—	24 GB 10 files	—
<input type="checkbox"/>	Google - IOWA	—	16 GB 8 files	—
<input type="checkbox"/>	IBM CLOUD - DALLAS	—	2 GB 2 files	—
<input type="checkbox"/>	ICP - Emeryville California	Admin	—	Jan 26, 2019 2:15 PM

Integrate hybrid environments using Aspera on Cloud tethering

The screenshot shows a web-based file management interface for 'ACME'. The left sidebar includes navigation links for 'Files', 'All files' (selected), and 'Shared with me'. A dropdown menu for 'America' is open. The main area displays a table titled 'All files' with the following data:

Name	Shared by	Size	Last updated
AWS - Frankfurt Germany	-	34 GB 11 files	-
AWS - OREGON	-	18 GB 9 files	-
AZURE - IOWA	-	24 GB 10 files	-
Google - IOWA	-	16 GB 8 files	-
IBM CLOUD - DALLAS	-	100 MB 1 file	-
ICP - Emeryville California	Admin	-	Jan 26, 2019 8:08 PM

Buttons for 'Upload' and 'Create folder' are located at the top of the main area. A 'Filter' search bar is also present. A 'Need Help?' button is at the bottom right.

Aspera also available for cloud integration

IBM Cloud Integration Platform



API
Lifecycle



Secure
Access



Application
Integration

Messaging
& Events

High Speed
Transfer



IBM Cloud Private foundation

Most powerful integration platform on the market

NEW offering incorporating traditional and modern integration including APIs, App Integration, Message queuing, Event streams and Fast file transfer

Deploy wherever needed

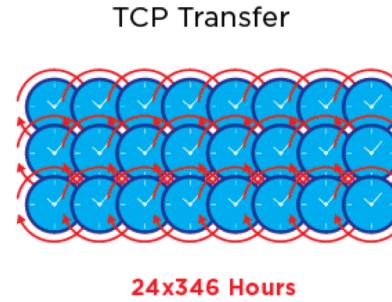
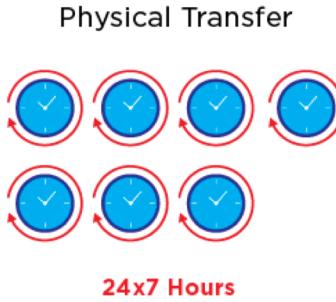
Supports deployment on premises or in any cloud

Enterprise grade

Secure, scalable modern architecture

Why Aspera for IBM Cloud Private?

Aspera offers an 86% improvement over physical transfers and 99.9% improvement over TCP transfers



100 TB transferred from the US to Europe over a 10 Gbps network with 1% packet loss

- High availability and fast access to data located anywhere
- Efficient delivery of big data to analytical engines
- Monitoring and reporting of data movement and access
- Ability to bridge data across private and public clouds

Try it today @ ibm.com/marketplace/aspera-high-speed-transfer-server

Questions?

ibm.com/cloud/aspera

