IBM Aspera on Demand for Google

High-speed transfers to, from, and across the cloud

Highlights

- Offers the most tightly integrated high-speed big data transport solutions in Google Cloud Platform

- Enables virtually unlimited scale-out capacity to move large files and data sets globally at the speed organizations demand

- Delivers predictability and reliability to business-critical processes that depend on the transfer of large files and data sets

- Offers flexible deployment options to improve big data transfer use cases involving transport and ingest, sharing and collaboration, person-to-person and delivery

Cloud computing has become a viable, mainstream solution for data processing, storage and distribution, but moving large amounts of data in and out of the cloud has presented an insurmountable challenge for companies with terabytes of digital files.

As a pioneer in the enablement of high-speed data-intensive workflows throughout the enterprise, Aspera invested early and significantly in unlocking the cloud to handle big data by developing an innovative technology solution that is tightly integrated inside many of the biggest cloud service providers. This technology allows companies to reliably and securely move large files and datasets to, from and across the cloud at maximum speed.

The IBM Aspera solution

To offer a viable option for big data management, processing and distribution, Google's Cloud Platform service needed a high-speed transport solution to address the two main bottlenecks:

- The degradation in wide area network (WAN) transfer speeds that occurs over distance using traditional transfer protocols.
- The "last foot" bottleneck inside the cloud datacenter caused by the HTTP interfaces to the underlying object-based cloud storage.

With Aspera's patented FASP® transport technology at its core, the suite of IBM Aspera On Demand (AoD) transfer products solves both the technical problems of the WAN as well as the cloud I/O bottleneck. With AoD, Aspera delivers industry-leading scale-out transfer capacity to enable efficient, large-scale workflows with enterprise-grade encrypted security, a variety of client options (web, mobile, embedded), and applications for transport/ingest, sharing, collaboration and exchange of big data, all available on demand under a subscription license model.

AoD is the clear answer to one of big data's most significant challenges. Our early push to the cloud has been acknowledged by many of our customers who have been using AoD.

What is Aspera on Demand?

AoD is a full set of Aspera's software available for deployment and use on Google Cloud Platform with a pay-per-use license model. Built on top of Aspera's FASP protocol, AoD allows customers to quickly move data of any size to any cloud environment over any network at line speed. The solution provides high-speed, robust, secure and resumable file transfers directly to cloud storage environments.

Our bundled on demand solutions

Aspera has developed five distinct AoD bundles with various add-on options to provide customers with simple, robust solutions to their complex problems. These bundles address the needs of the most common deployments and use patterns for our software. They include:

- **IBM® Aspera® Server on Demand:** IBM® Aspera® Enterprise Server, IBM® Aspera® Console and a dedicated transfer client
- **IBM® Aspera® *faspex*™ on Demand:** Aspera Enterprise Server and IBM® Aspera® *faspex*™

- **IBM® Aspera® Shares on Demand:** Aspera Enterprise Server, IBM®Aspera Shares and Aspera Console
- **IBM® Aspera® Application Platform on Demand:** Aspera Enterprise Server, Aspera Console, IBM® Aspera® Connect Browser Plug-in (IBM® Aspera® SDK sold separately)
- **IBM® Aspera® Console on Demand:** Aspera Console

***Add-on options – IBM® Aspera® Drive, IBM® Aspera® mobile apps, IBM® Aspera® for Microsoft® Outlook, and IBM® Aspera® Embedded Client

Solutions for common use cases
Ingest / Mass transport

Aspera Server on Demand or Shares on Demand are ideal solutions for high-speed, large volume, secure data ingest to the cloud. Using an IBM® Aspera® Desktop Client, or the Aspera Connect Plug-in, users can transfer files at maximum speed directly to cloud storage where the data is accessible by other applications running in the cloud. Both of these solutions provide an easy web-based configuration for both storage access and user management. Aspera Console, which comes with each of the on demand bundles, provides the ability to configure access to individual storage buckets and directories.
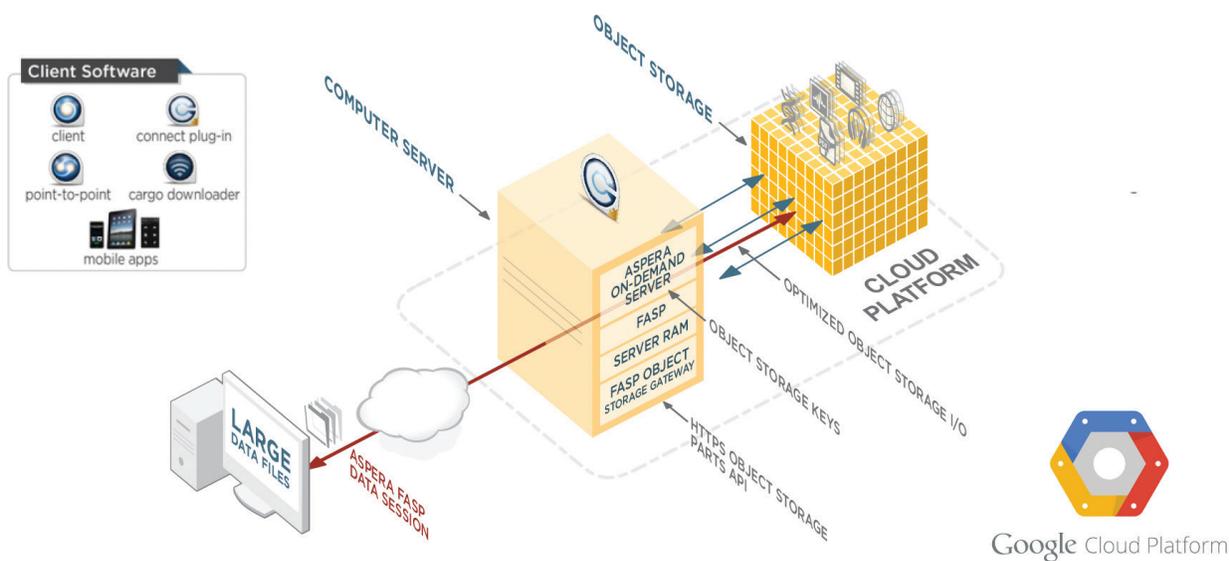

Figure 1: Aspera direct-to-cloud transport, a fundamental solution for large file and dataset transfers with cloud object storage, provides native FASP transport capability that is deeply integrated with Google Cloud Platform's object storage

Sharing and collaboration

Aspera Shares on Demand with easy file sharing enables a natural solution for big data collaboration in the cloud. Whether you are collaborating with individuals or in groups, occasionally or frequently, Shares on Demand provides the transfer and notification features that help meet your needs. Shares on Demand comes with web-based user management, access control, notification options and storage configuration.

Person-to-person delivery

Aspera *faspex* on Demand is an ideal solution for organizations that are in need of a high-speed file delivery solution for their employees, customers or partners. *faspex* is an email-style file and package delivery system, which includes user management, storage access control, transfer monitoring and notification in one simple easy-to-use web interface. Aspera Cargo, an automatic downloader, is available as an add-on for those interested in automating transfers from the *faspex* platform.

Figure 2: Diagram of the sharing and collaboration use case

Figure 3: Diagram of the person-to-person delivery use case

Integration

Aspera Application Platform on Demand is the solution for any third-party SaaS providers who would like to integrate the FASP high-speed transfer technology into their SaaS platform. This solution, when combined with the SDK, provides the required software and licensing to support integrations. The SDK developer subscription is licensed separately and is required to access the documentation, libraries, sample code and developer support.

Figure 4: Diagram of the Integration use case

On demand highlights

Key Aspera differentiators
- AoD offers the most tightly integrated high-speed big data transport solutions in Google Cloud Platform.
- Rock solid reliability, pause/resume capability, and in-flight and at-rest encryption in the cloud
- Automatic retry and checkpoint resume of any transfer (single files and directories) from point of interruption
- Support for files and directory sizes in a single transfer session up to the largest object size supported by the Google Cloud platform
- Support for directories containing any number of individual files with high-speed, even for very large numbers of very small files

Flexible Google Cloud platform deployment

- AoD products support any storage type or location (block, object, on-premises, cloud, or hybrid)
- Adaptable to many use scenarios: one-to-one, hub and spoke, cloud to datacenter, and cloud-to-cloud
- Fully interoperable transfer support with all core Aspera products acting as transfer peers with the cloud storage and for all modes of transfer (e.g., command line, interactive GUI point-and-click, browser, hot folder automation, and SDK automation)
- Available as pay-as-you go licensing and custom and hybrid deployments across any infrastructure type/combination

Built on FASP

- Maximum transfer speed over WAN independent of latency and packet loss
- Extreme file sizes and data sets over global distances
- Concurrent transfer support scaling up to ~50 concurrent transfers per VM instance
- Direct high-speed transfer to object storage up to the I/O limits of the platform

Adaptive bandwidth control

- Full use of the bandwidth capacity
- Fair to other TCP traffic
- Priority can be preset or changed on the fly

Enterprise grade security

- Secure end-to-end authentication
- User management based on application, directory service or identity provider accounts
- Data encryption in transit and at rest on cloud storage
- Data integrity verification
- Transfers to/from cloud environments support Aspera proxy on the client side in forward or reverse mode
- Account management, transfer logging, activity monitoring and reporting

Subscription overview

AoD has a subscription license model where pricing for each bundled solution is based on these variables:

1) The term of the contract (monthly, yearly, multi-year)
2) The data transfer volumes over the contract term
3) Optional client add-ons

Purchases are made by pre-paying for a required data transfer volume over the desired term. Pricing discounts are offered by increasing the AoD term commitment and/or the data usage tier for the chosen term.

How to purchase and deploy

To deploy AoD software on Google's Cloud Platform, customers have a "Bring Your Own Entitlement" (BYOE) option that involves purchasing a software entitlement directly from IBM Aspera.

A high-level overview of the deployment process is illustrated below.

Self installed software

1) Purchase entitlement from IBM Aspera
2) Boot a Google Compute Engine virtual machine (VM)
3) Load IBM Aspera software on the Compute Engine VM
4) Run IBM Aspera installer
5) Configure IBM Aspera software
6) Enable server with entitlement

Each AoD software package is available for installation on a standard Linux 64 host from IBM software download site. Access to the software, documentation and license keys will be made available upon purchase of the solution entitlement.

Questions?

Please contact Aspera Sales at sales@asperasoft.com for detailed pricing, availability and evaluation of our Aspera On Demand product bundles. Additional information on the deployment and advanced configurations can be found on the Aspera Support portal under the "On Demand" forum located at https://support.asperasoft.com/forums/20790238

About Google platform

Cloud Platform's Compute Engine is Google's Infrastructure-as-a-Service (IaaS). Run large-scale workloads on virtual machines hosted on Google's infrastructure. Choose a VM that fits your needs and gain the performance and consistency of Google's worldwide fiber network. Learn more at cloud.google.com

About Aspera, an IBM Company

Aspera, an IBM company, is the creator of next-generation transport technologies that move the world's data at maximum speed regardless of file size, transfer distance and network conditions. Based on its patented, Emmy® award-winning FASP® protocol, Aspera software fully utilizes existing infrastructures to deliver the fastest, most predictable file-transfer experience. Aspera's core technology delivers unprecedented control over bandwidth, complete security and uncompromising reliability. Organizations across a variety of industries on six continents rely on Aspera software for the business-critical transport of their digital assets.

For more information

For more information on IBM Aspera solutions, please visit ibm.com/software/aspera and follow us on Twitter @asperasoft.