

以客户为中心 引领商务新思维

IBM 2014银行业数据传输安全研讨会





大数据传输整体解决方案介绍

(Extreme File Transfer & Enterprise File Sync and Share)





IBM Managed File Transfer Suite



Governance

Actionable visibility for business, operations and compliance

System-centric



Automated, reliable, secure transfers for system integration

Community-centric



Multi-protocol edge gateway for universal connectivity to the business community

Person-centric



File sync and share

Emerging use cases



Extreme Sync
Direct to Cloud
...



eXtreme

Large file/data set, long distance, speed is critical



Security

Common perimeter services, proxy and authentication





Aspera 介绍

An innovator in moving the world's biggest data at maximum speed

能力:

极速文件传输, 企业文件同步和共享, 邮件/终端/云集成

历史:

2004成立于Emeryville, California

2014被IBM收购

市场:

超过2000 个客户, 行业包括 媒体 & 娱乐, 政府, 电信, 生命科学, 云计算, 金融, 工程制造和设计, 等.

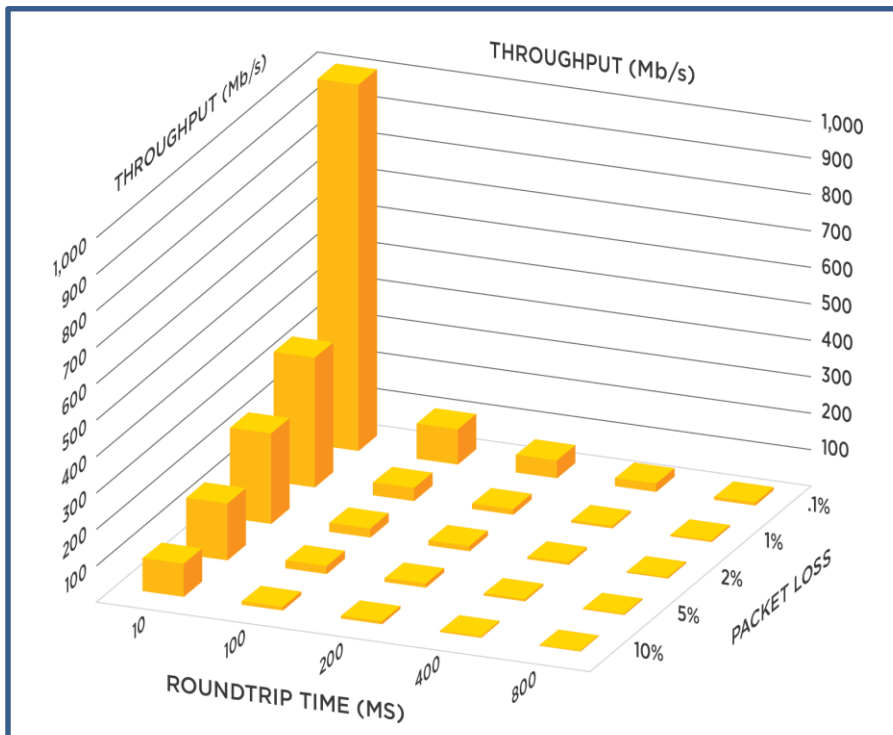
Aspera 的独特优势:

获得专利的 *fasp*TM 传输技术

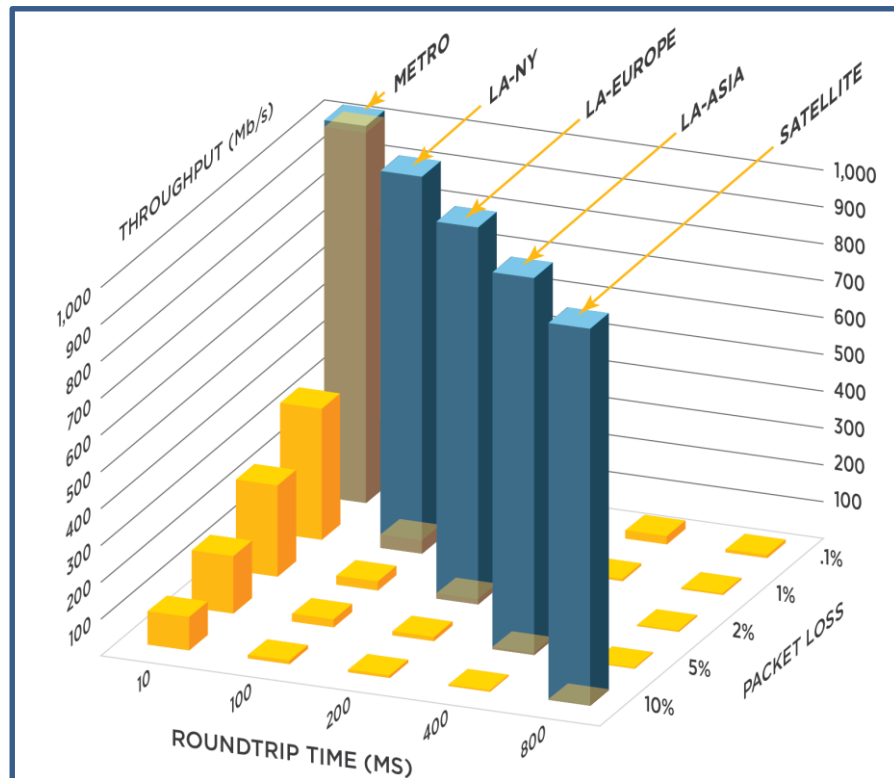




TCP 的挑战 v.s. FASP 快速传输技术



- 距离会降低各类网络条件(RTT, Packet loss)
- TCP的性能随着距离的增加而降低
- TCP无法随着带宽的增加而增速
- 其他技术也无法在极端网络环境下加速传输



- 最大化传输速度
- 拥塞管理和速度控制
- 安全, 可靠
- 可管理, 可监控
- Low Overhead





FASP™ – 技术突破

		美国境内		美国 – 欧洲		美国 – 亚洲	
		10 GB	100 GB	10 GB	100 GB	10 GB	100 GB
FTP	45 Mbps						
	100 Mbps	10-20 Hrs	不现实	15-20 Hrs	不现实	不现实	不现实
	1 Gbps						
Aspera FASP™	45 Mbps	32 Min	5.3 Hrs	32 Min	5.3 Hrs	32 Min	5.3 Hrs
	100 Mbps	14 Min	2.3 Hrs	14 Min	2.3 Hrs	14 Min	2.3 Hrs
	1 Gbps	1.4 Min	14 Min	1.4 Min	14 Min	1.4 Min	14 Min

TCP transfer times limited by packet loss, delay (network distance) NOT BANDWIDTH

Aspera transfer times shorten linearly with bandwidth

Independent of packet loss, delay (network distance)

Cross US - Add 1% to 5% Intercontinental - Add 1% to 10% Satellite - Add 1% to 10%





客户性能数据

From	To	OS	Link type	Capacity	Target	FTP/HTTP	fasp	Increase
New Zealand	Los Angeles, CA	Linux to Win	DS-3 to Internet	45 Mbps	42 Mbps	1.5 Mbps** (150ms/0.5%)	41 Mbps	27x
Washington, DC	New Zealand	Win to Win	Public Internet	100 Mbps	100 Mbps	500 Kbps** (160ms/2%)	92 Mbps	184x
Burbank, CA	Sydney, Australia	Win to Linux	Public Internet	10 Mbps	10 Mbps	1.5 Mbps** (150ms/0.5%)	9.9 Mbps	7x
Tokyo, Japan	Santa Rosa, CA	Win to Linux	Public Internet	20 Mbps	15 Mbps	0.46 Mbps	13.8 Mbps	30x
Pasadena, CA	Tokyo, Japan	Win to Solaris	Public Internet	100 Mbps	10 Mbps	1.1 Mbps	8.4 Mbps	8x
Philippines	New Jersey	Win to Win	Public Internet	100 Mbps	80 Mbps	650 Kbps** (170ms/2%)	78 Mbps	122x
Juarez, Mexico	Philippines	Win to Win	Bonded E1	4 Mbps	4 Mbps	0.25 Mbps	3.8 Mbps	15x
Glendale, CA	Hong Kong, China	Linux to Linux	DS-3 to Internet	45 Mbps	45 Mbps	0.52 Mbps** (300ms/1%)	39 Mbps	75x
Los Angeles, CA	Shanghai, China	Win to Linux	Public Internet	2.5 Mbps	2.5 Mbps	0.10 Mbps	2.4 Mbps	24x
New York, NY	Bangalore, India	Win to Win	T1 to Internet	1.5 Mbps	1.5 Mbps	0.05 Mbps	1.4 Mbps	28x
Mumbai, India	Seattle, WA	Win to Win	Public Internet	500 Kbps	500 Kbps	42 Kbps	495 Kbps	12x
Dual Satellite Phone Connection		Win to Win	Sat. Phone	128 Kbps	120 Kbps	Not functional	115 Kbps	-



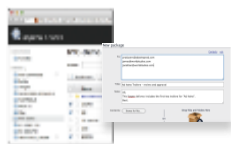
Aspera 产品家族

TRANSFER CLIENTS



Web, Desktop, Email, Mobile, Embedded

WEB APPLICATIONS



Distribution, sharing, collaboration and exchange

MANAGEMENT & AUTOMATION



Transfer management, monitoring and automation

SYNCHRONIZATION



Scalable, high-performance synchronization and replication

TRANSFER SERVERS



Private On Premise

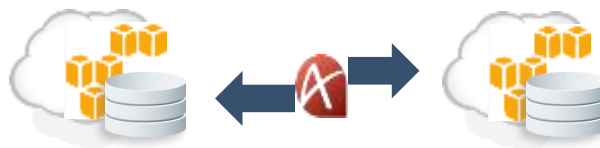


Public and Private Cloud



Hybrid

FASP™ PATENTED HIGH-SPEED TRANSPORT



Any Data Size, Any Distance, Any Network Conditions

Any Infrastructure: Block, Object, On Premise, Cloud



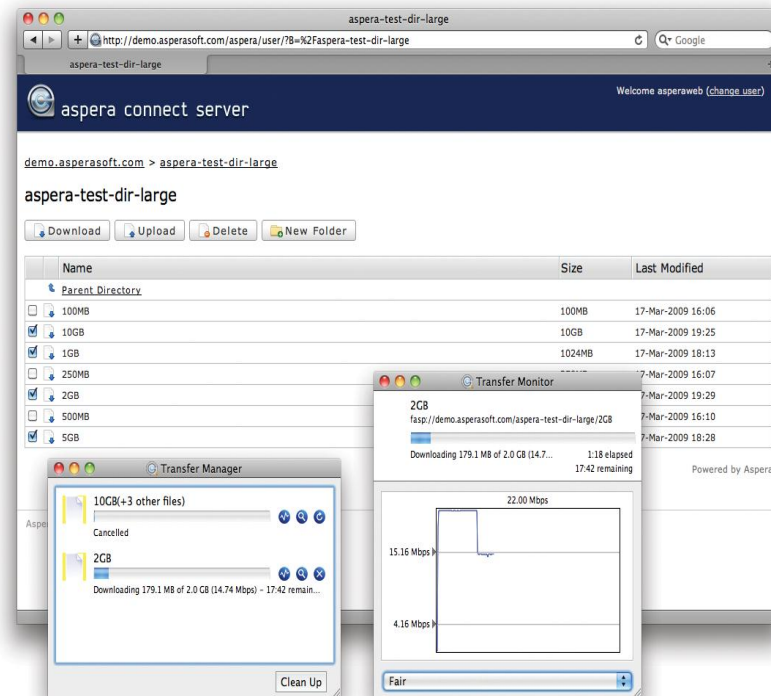
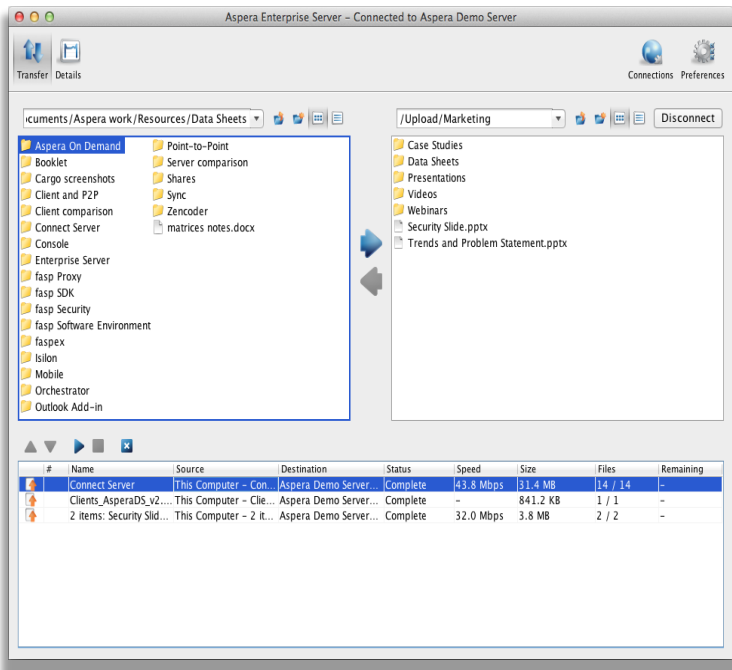
Aspera 传输服务器

基本文件传输

TRANSFER SERVERS



Point2Point*, Enterprise server and Connect server



Aspera Web 应用

Web applications



Faspex server and Shares server

**基於Web文件共享
 協同和分發**

The screenshot shows the Aspera faspex server web interface. The main area is titled 'New package' and contains a 'To:' field with email addresses, a 'Title:' field with 'Ad Astra Trailers - review and approval', and a 'Note:' field. Below this is a 'Drop Files and Folders Here' area. A 'Transfer Monitor' window is overlaid, showing a progress bar for 'Ad Astra Trailer 2 DPX sequence(+5 other files)' with a speed of 8.00 Mbps and 0:03 remaining. A 'Send Package' button is visible at the bottom.

The screenshot shows the Aspera shares web interface. The main area is titled 'Marketing Assets' and contains a table with columns for 'Name', 'Size', and 'Last Modified'. The table lists various folders like 'Boilerplate', 'Case Studies', 'Designs', etc. A 'Bookmark' button and a 'Download' button are visible. The interface also shows 'SHARES +' and 'NODES +' sections.

Name	Size	Last Modified
Boilerplate		2012-08-22 22:33:23
Case Studies		2013-02-25 21:54:32
Datasheets		2013-02-25 21:53:57
Diagrams		2013-02-25 21:54:22
Logos		2012-08-22 22:11:15
Presentations		2013-02-25 21:53:45
Videos		2012-09-20 19:56:01
White papers		2013-02-25 21:54:26

The screenshot shows a Windows file explorer window with a folder structure including 'Windows7_OS (C:)', 'Lenovo_Recovery (Q:)', 'Aspera Drive', and 'Marketing'. The 'Marketing' folder is expanded, showing subfolders like 'Campaigns', 'Case Studies', 'Competitors', etc. An Aspera Drive icon is overlaid on the bottom right of the window.





Aspera Sync

文件實時同步



Aspera Sync

數據災難恢復



- 重要數據的異地或本地同步

內容分發



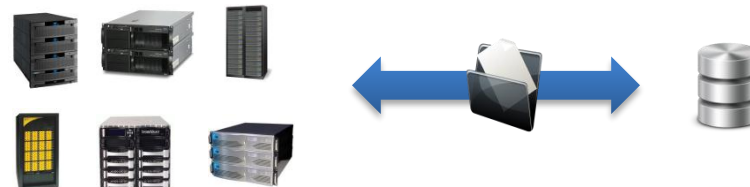
- 自動將數字化內容同步到其他系統
- 透過HA實現內容無間斷訪問

HUB內容匯總和分發



- 從各地把內容匯總到中心節點或從中心分發到各地
- 數據的持續更新

從不同存儲環境進行數據合併



- 對存儲上的文件進行同步
- 保留文件原始屬性，如時間，所有人等信息。





监控和管理

Aspera Console

aspera console
Logged in as admin. [Logout](#)

Dashboard
Activity
Nodes
Users
Groups
Transfer
Reports
Preferences
Configuration

Active Transfers

Name	Contact	ETA	Status
Olympics:HLF Antipiracy Upload	svcaspera (ssh)		running
Hot folder:MD To TVN	olympics2012 (ssh)	2:05am	15.7 GB

Scheduled Transfers

Recent Transfers

Name	Contact	Ended	Transferred
Olympics:NBC-YouTube HLF	nbcu_olympic s2012 (ssh)	1:37am	37.4 GB
Olympics:Stamford Video Upload	nbcu_olympic s2012 (ssh)	1:33am	1.5 GB
Olympics:Stamford Video Upload	nbcu_olympic s2012 (ssh)	1:28am	430.4 MB
Olympics:Stamford Video Upload	nbcu_olympic s2012 (ssh)	1:28am	1.5 GB
status-45_PB_ATT_SWIMMING_120729_VIDEO.xml --> /mnt/NOC/iComm/DMD_Out/YouTube/45_PB_ATT_SWIMMING_120729_VIDEO	ads_olympics 2012 (ssh)	12:53am	1019 Bytes
status-60_PB_POWERADE_120729_VIDEO.xml --> /mnt/NOC/iComm/DMD_Out/YouTube/60_PB_POWERADE_120729_VIDEO	ads_olympics 2012 (ssh)	12:47am	1007 Bytes
Olympics:Stamford Video Upload	nbcu_olympic s2012 (ssh)	12:43am	666.3 MB
status-60_PB_BMW_DIVING_120729_VIDEO.xml --> /mnt/NOC/iComm/DMD_Out/YouTube/60_PB_BMW_DIVING_120729_VIDEO	ads_olympics 2012 (ssh)	12:43am	1013 Bytes
Olympics:Stamford Video Upload	nbcu_olympic s2012 (ssh)	12:42am	425 MB
Olympics:Stamford Video Upload	nbcu_olympic s2012 (ssh)	12:42am	568.9 MB

Problem Transfers

Transfer	Contact	Time	Status
status-45_PB_ATT_SWIMMING_120729_VIDEO.xml --> /mnt/NOC/iComm/	ads_olympics 2012 (ssh)	12:43am	Server aborted session: No such file or directory

Map

Node Problems

Node Problems	Address	Node Status
usecpll104	64.210.199.136	SOAP Connection Problem

Bandwidth

INBOUND

OUTBOUND

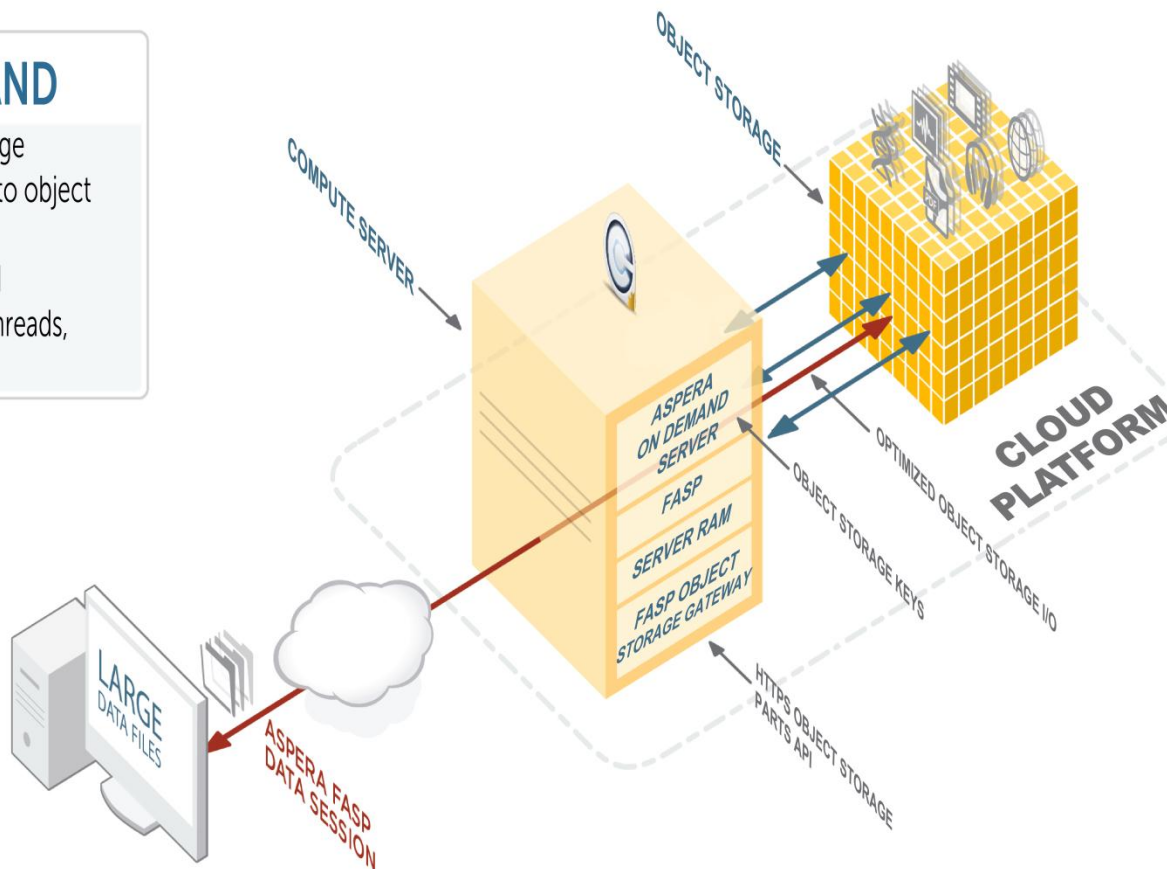
Aspera On Demand with Direct to Cloud

THE SOLUTION

ASPERA ON DEMAND

- Full client-side r/w of object storage
- Synchronous transfer from client to object storage (via Aspera On Demand)
- *asp*TM transfer speeds end-to-end
- Real-time optimization of HTTP threads, chunk size, interfaced to *asp*

Client Software



Performance

EFFECTIVE THROUGHPUT

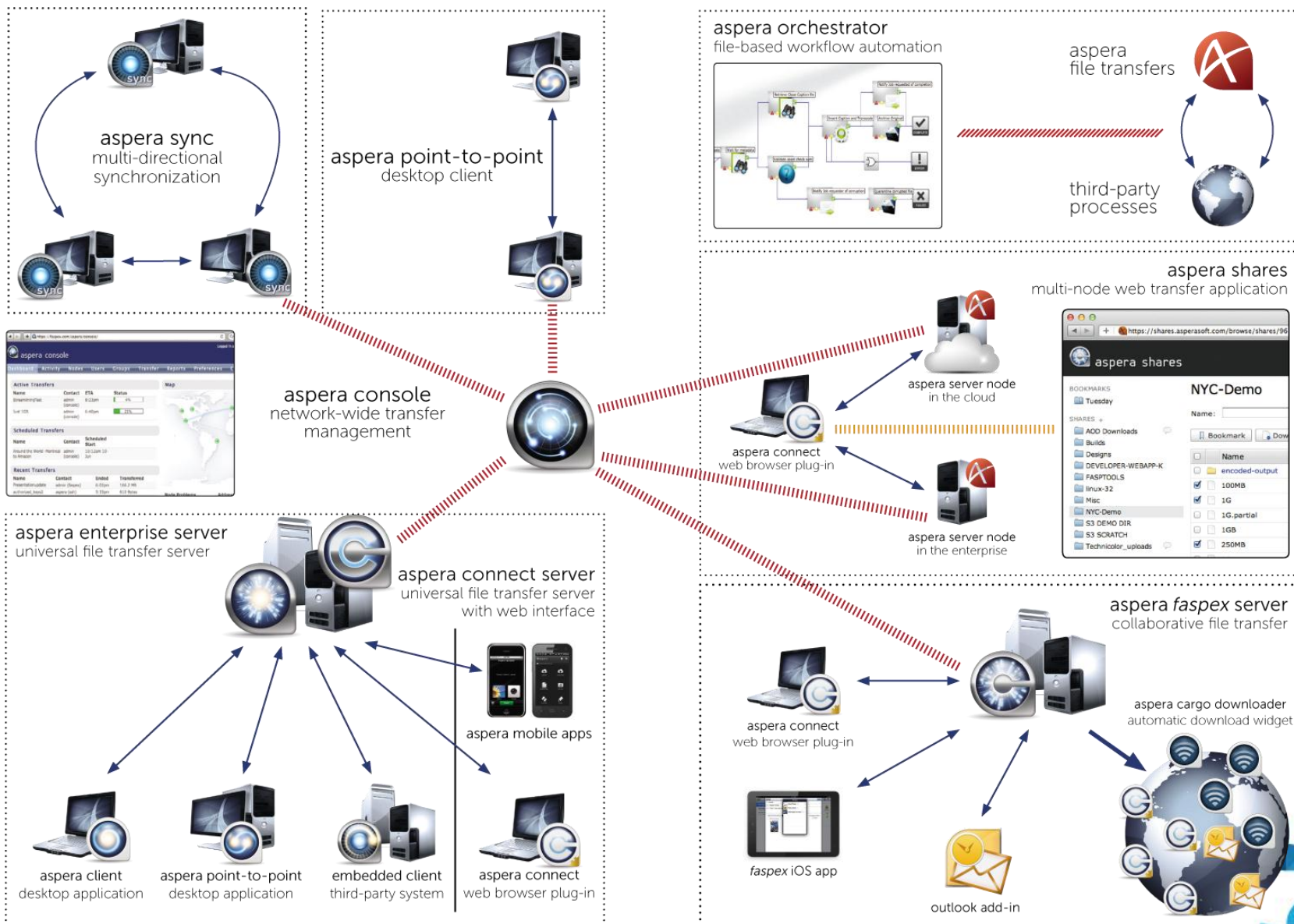
up to 1Gbps
(per server Extra Large Instance)
10TB per 24 hours

Road Map





Aspera Software Environment





Aspera 开发者网络

Complete set of SDKs with guides, reference information, and sample code for integrating Aspera technology into desktop, network-based, and web applications in place of FTP, HTTP, or custom TCP-based copy protocols using C++, Java, JavaScript, or .NET.

ASPERA MOBILE APIs



Android SDK

Aspera Android SDK provides a Java API to transfer files using FASP-AIR™.



iPhone SDK

Aspera iPhone SDK with Objective C API to transfer files using FASP-AIR.

ASPERA BROWSER APIs



Connect - JavaScript API

JavaScript API exposed by Aspera Connect for integration of FASP based file transfers into web applications for a complete in-browser experience

ASPERA APPLICATION APIs



Shares API

Full programmatic control over browsing Shares, transfer authorization, and upload / download.



faspex™ Web API

A set of services that enables users to create and receive digital deliveries via a Web interface, while taking advantage of FASP high-speed transfer technology.



Console API

Full programmatic management of transfer sessions including initiation, queuing, management and control through a RESTful API.

ASPERA TRANSFER APIs



Aspera Web Services

A SOAP based web service API that allows initiation, monitoring and controlling of FASP based file transfers.



FASP Manager

A class library that allows initiations, monitoring and controlling of FASP based file transfers.



Aspera Multicast SDK

A Java class library for initiation and management of IP multicast based data transmissions using Aspera FASP-MC™.

Aspera 案例



- 研發工作的無間斷服務
 - 高速源代碼和build image repositories的異地同步和複製



- 替代FTP
 - 和合作夥伴的文件交換



NetApp

- 幫助用戶提供世界級的支持能力
 - 特大系統內核文件的客戶異地直接上傳，配合自動流程管理實現支持案例的分析，支持人員分配和文件歸檔存儲



- 提高設計和製造效率
 - 工程設計文件的高速安全傳輸



- VMware的團隊協同
 - 使用Aspera來實現高速遷移vmware images來確保團隊協同



- 智能數據分析和管理的
 - 智能系統日誌收集和傳輸



- 远距离影像文件传输
 - 从原先的1小时速度提升至1.4分钟





THANK YOU

