

# High Speed Transfers Using the Aspera Node API

**Aspera Live Webinars**

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# Agenda

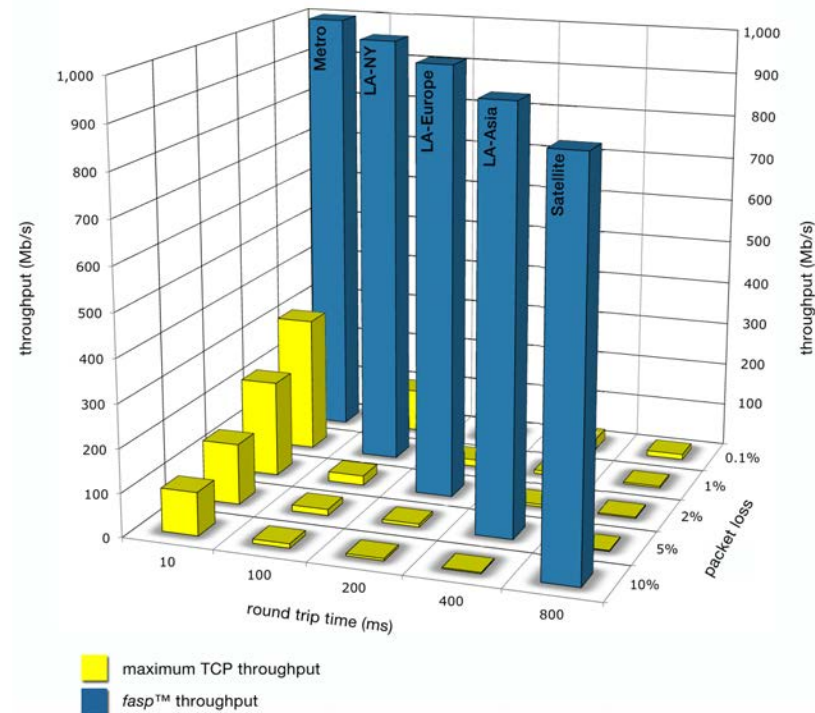
- Brief Aspera Technology Overview
- What's Coming Up
- Aspera Node Overview
- Aspera Node API – Deep Dive
- Aspera Node Installation and Configuration
- Code Snippets / Sample Application Walkthrough
- Demos
- Q&A

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

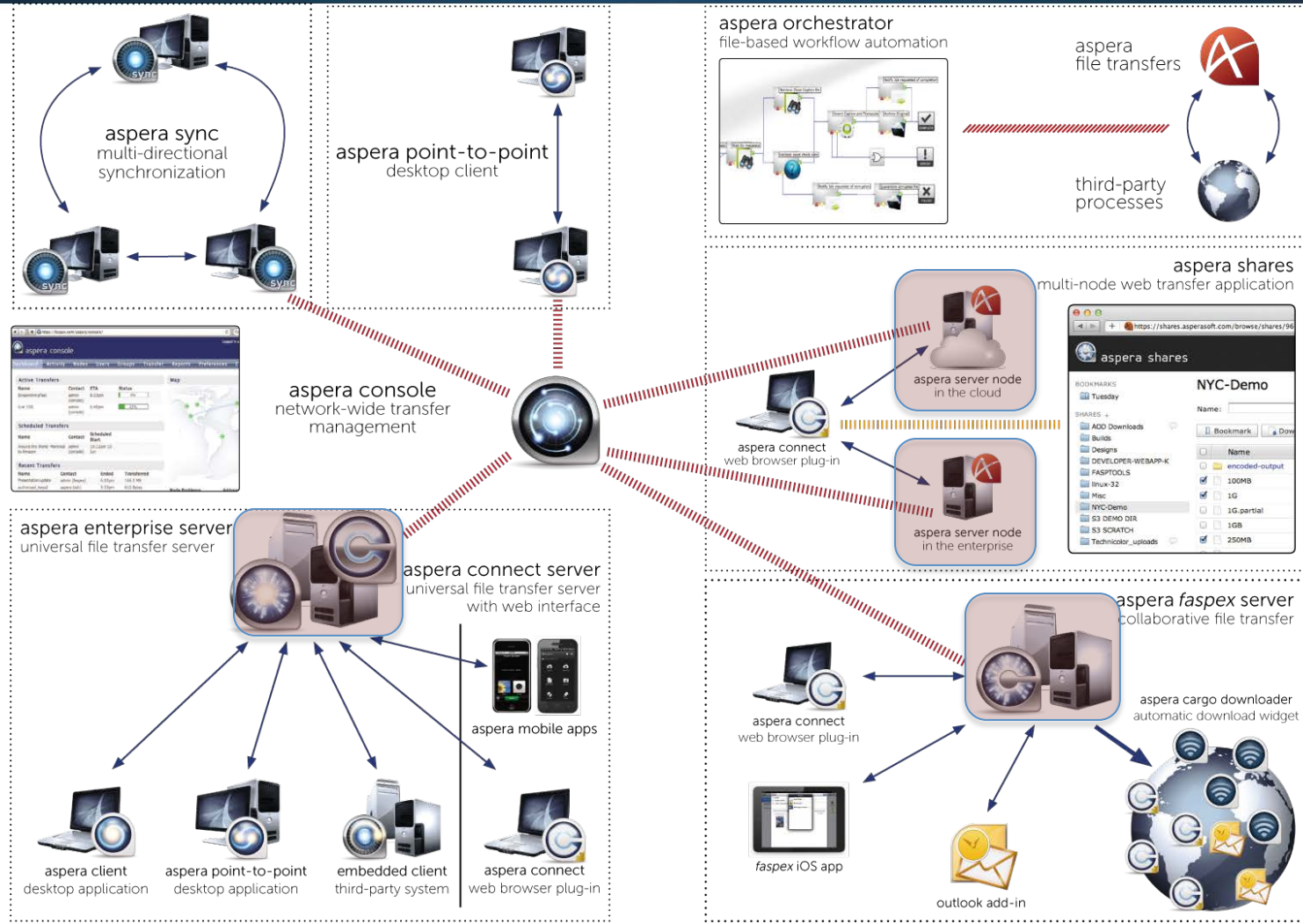
- **Big Data Explosion**
  - 90% of data today file-based or unstructured
  - Mix of file sizes—but larger and larger files the norm
- **Diversity of IP Networks—Media, Bandwidth Rates, and Conditions**
  - Variable bandwidth rates (slow to super-fast)
  - Bandwidth rates increasing—costs decreasing
  - Network media remains diverse (terrestrial, satellite, wireless)
  - Conditions vary—all networks prone to degradation over distance
- **Data Freighting Challenges—moving Big Data over WANs**
  - Project teams are geographically dispersed
  - Over distance, conditions degrade
  - Contemporary TCP acceleration solutions not designed for big data replication

# Aspera's Solution: high-performance data transport (*fasp*<sup>TM</sup>)

- Maximum transfer speed
  - Optimal end-to-end throughput efficiency
  - Transfer performance scales with bandwidth independent of transfer distance and resilient to packet loss
- Congestion Avoidance and Policy Control
  - Automatic, full utilization of available bandwidth
  - On-the-fly prioritization and bandwidth allocation
- Uncompromising security and reliability
  - Secure, user/endpoint authentication
  - AES-128 cryptography in transit and at-rest
- Scalable management, monitoring and control
  - Real-time progress, performance and bandwidth utilization
  - Detailed transfer history, logging, and manifest
- Low Overhead
  - Less than 0.1% overhead on 30% packet loss
  - High performance with large files or large sets of small files
- Resulting in
  - Transfers up to thousands of times faster than FTP
  - Precise and predictable transfer times with extreme scalability (concurrency and throughput)



# asp™ Software Environment



# Aspera software product & technology portfolio

## Distribute



Complete portfolio of servers and clients for high-speed data delivery and distribution.

### Enterprise and Connect Server

- Universal file transfer server and web-based interface and directory system

### Client and Peer-to-Peer

- Uni- and bi-directional transfer client

### Connect

- Web browser plug-in

### Mobile

- High-speed transfer for mobile devices

### Sync

- Highly scalable, multidirectional file replication and synchronization

## Collaborate



Global person-to-person and project-based exchange and collaboration of files and directories.

### aspex™ Server

- Secure digital delivery and collaborative file transfers with remote users and partners
- Web, email, mobile, and chat interfaces
- Comprehensive administration, user management & access control

### aspex™ Multi-Server / HA

- Automated bi-directional relays between sites
- 3-tier architecture with support for clustering, HA

### Cargo

- Automated package downloads

## Automate



Web-based application and SDK for creating and managing automated file-based workflows.

### Orchestrator

- Intuitive graphical workflow designer
- File processing decision tree and flow
- Rich and flexible plug-in architecture for third-party process integration
- Comprehensive library of plug-ins for transcoding, A/V, QC, archive, notifications
- High volume processing
- Detailed dashboard, workflow, and step-level progress reporting.
- Open development framework for designing and integrating automation pipelines

## Transport

Our unique, patented transport technologies provide unparalleled speed, efficiency, concurrency and bandwidth control over any size, distance, and network

### asp™

Patented, file-based bulk data transport

### asp-AIR™

Uploads and downloads over 3G, LTE and Wi-Fi networks

### asp3™

Next-gen protocol for any bulk data

### asp-UC™

High-speed delivery over multicast

### Aspera On-Demand S3IDirect

High-speed transfer direct to cloud storage (S3)

### Console transport management

Centralized web-based management, monitoring, and reporting



# What's Coming Up?

- Product Webinar – Leveraging Emerging Media and File Workflow Standards With Aspera
  - December 11<sup>th</sup>, 2012
- Developer Webinar – Leverage the FASP 3.0 Extensibility Framework
  - December 13<sup>th</sup>, 2012
- Just Introduced - New Versions of...
  - Faspex
  - Connect Client
    - Including Linux Client Support
  - Updated ADN Content
- Coming Very Soon...
  - FaspManager - 3.1 SDK



- New next-generation APIs for RESTful interaction with hosts running Aspera transfer software. Includes restful HTTP API's that Support:
  - File system browsing
  - File Management
  - Transfer initiation
- Provides a single interface for browsing and transfer independent of underlying storage, including object (cloud) storage, traditional block storage, and proprietary file systems, ala CDNs and MAMs.
- Designed for large, distributed deployments that need to decouple the application interface from the underlying content storage and transfer capabilities
- Nodes can be deployed in private data centers and public or private Clouds

# Aspera Developer Network

← → ↻ <https://developer.asperasoft.com/Home> ☆ ☰

**aspera**  
DEVELOPER NETWORK

MIKE FLATHERS LOGOUT Search... 🔍

**TRANSFER APIs** MOBILE APIs APPLICATION APIs TOOLS AND LIBRARIES GENERAL REFERENCE TROUBLESHOOTING

- SOAP Web Services
- Connect Client
- fasp™ Manager
- Node**
- Multicast

An overview of the Aspera everything in the system cor

Which API do I need? - find an API.

Ready to send data at high-speeds? Then start playing with the sample code.

**Overview** **Find an API** **Sample Code**

Choose your development language/platform from the list below and get started integrating Aspera technology into your applications.

<b>Android</b>	<b>Java</b>	<b>JavaScript</b>
<b>iOS</b>	<b>.NET</b>	<b>C++</b>

**The Latest**

**Webinar: November 6th - High-Speed transfer...** **Webinar: December 12th - Leverage FASP 3.0...** **UEFA uses Aspera Technology for High-spee...**

*Published: Oct 23, 2012* Aspera transfer servers *Published: Oct 23, 2012* The new fasp 3.0 extensible transfer framework provides developers the ability *Published: Jul 31, 2012* A combination of Aspera products worked together seamlessly to allow

<https://developer.asperasoft.com/Home/Transfer-APIs/Node>

aspera

# Aspera Node API – Filesystem Operations Rest Endpoints

- *\*\*Note that access to some Aspera Node API's require user authenticated access*
- *\*\*Errors are placed in an error field in the response body. Developers are responsible for checking for application level errors after each API call*
- **Ping – Service Health Check**
  - /ping
- **Space – Check Available Space on Filesystem**
  - /space
- **Browse Files**
  - /files/browse
- **Create Directory**
  - /files/create
- **Delete a File or Directory**
  - /files/delete

# Aspera Node API – Filesystem Operations Rest Endpoints (cont)

- *\*\*Note that access to some Aspera Node API's require user authenticated access*
- Search the Filesystem
  - /files/search
- Rename Files and Directories
  - /files/rename
- Lets Have a Closer Look

# Aspera Node API – Transfer Operations Rest Endpoints

- Upload Setup – Request Authorization for an Upload
  - /files/upload\_setup
- Download Setup = Request Authorization for a Download
  - /files/download\_setup
- Lets Have a Closer Look



## Putting it All Together

- Installation, Configuration, and Validation
- Scenario – Create a Web Application That:
  - Uses the Node API to Browse a remote Filesystem
  - Request Transfer Authorization (Token Based)
  - Integrates With Aspera Connect for Uploads/Downloads
  - In 3 Languages/Platforms
    - Ruby
    - Java
    - .NET

# Aspera Node Installation and Configuration

- **\*\*note - Aspera Node is Supported in Aspera Server Versions 3.0+**
- **Install Aspera Server Software 3.0+**
  - Perform normal configuration as usual and setup a transfer user
- **Configure Support for the Node Service (aspera.conf):**

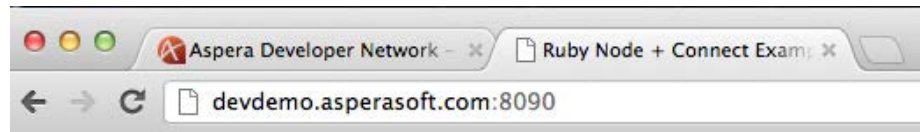
```
<server>
  <server_name>
    IP Address or Hostname of the Node Server
  </server_name>
  <http_port>
    9091
  </http_port>
  <enable_http>
    true
  </enable_http>
</server>
```



# Aspera Node Installation and Configuration (cont)









- Make Sure That Required Services are Running:
  - Aspera Central (asperacentral)
  - Aspera Node Daemon (asperanoded)
- Make Sure We Can Access The Aspera Node Service:
  - `curl -i -X GET http://10.20.102.199:9091/ping`
    - A success HTTP response (**HTTP/1.1 200 OK**) indicates that the NodeAPI is available
- Create a Node User with `asnodeadmin(.exe)`:
  - `asnodeadmin -au testnodeuser -x aspera -p testpasswd`
- Verify That That the User is Functional With Access to the Node API
  - `curl -k -i -H "Content-Type: application/json" -X POST http://testnodeuser:nodepassword@yourservername:9091/files/browse -d '{"path": "/"}'`

## Let's Look at some Code and see a Demo



Directory: /

 [UPLOAD HERE](#)

type	basename	size	mtime	action
 file2	file2	0	2012-10-30T00:21:00Z	
 cable-map-2012-wp1600.jpg	cable-map-2012-wp1600.jpg	931791	2012-11-01T23:30:06Z	
 <a href="#">test2</a>	<a href="#">test2</a>	0	2012-11-02T04:16:43Z	
 <a href="#">notherone</a>	<a href="#">notherone</a>	0	2012-11-06T11:29:35Z	
 file1	file1	0	2012-10-30T00:20:57Z	

# Thank you for Joining!

*For more information on any Aspera product, please contact*  
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