



Globus Toolkit

Globus GridFTP: What's new in 2011?

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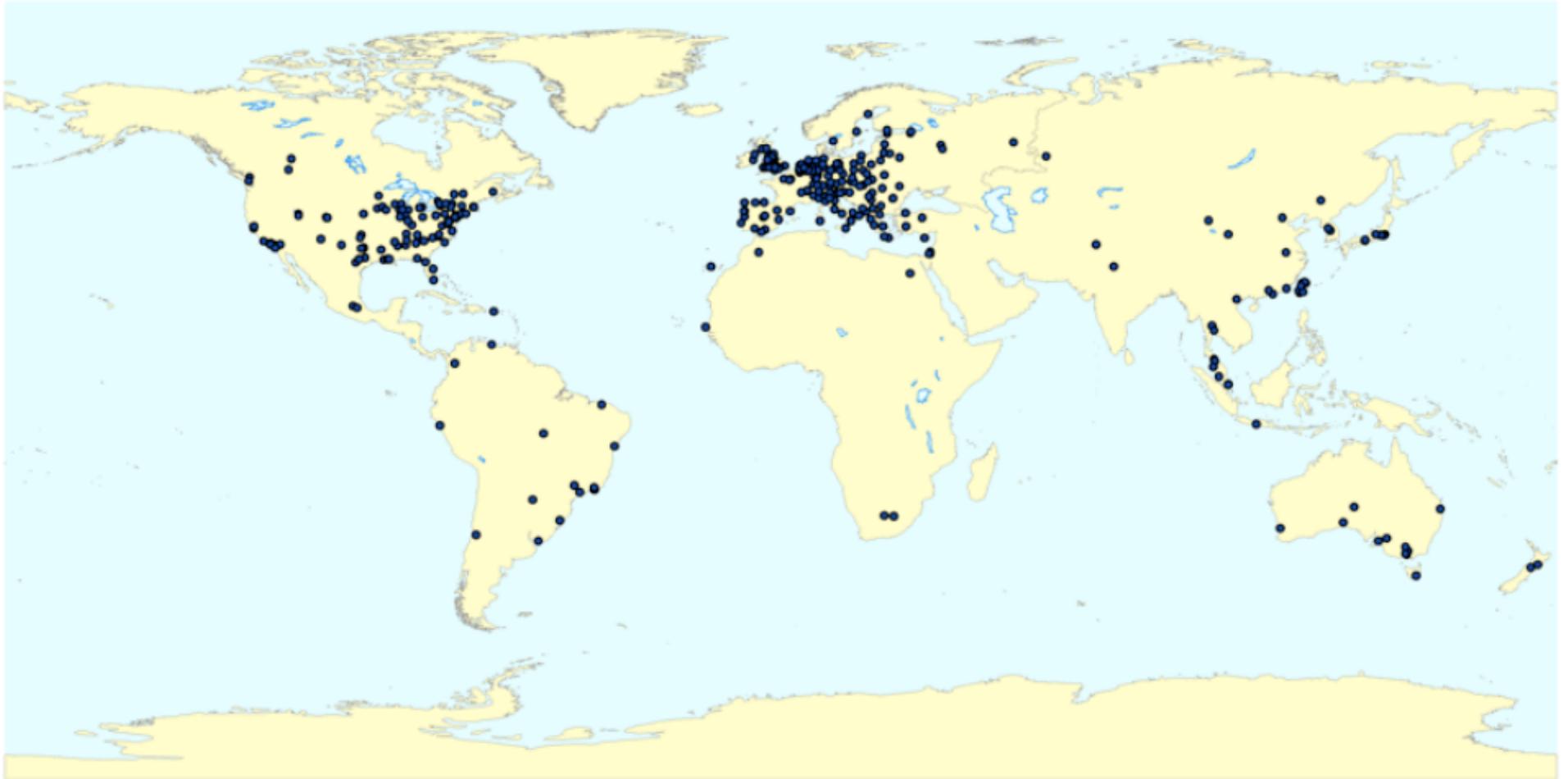
Argonne National Laboratory and The University of Chicago



- **High-performance, secure data transfer protocol optimized for high-bandwidth wide-area networks**
- **Globus GridFTP**
 - Parallel TCP streams, optimal TCP buffer
 - Non TCP protocol such as UDT
 - Grid Security Infrastructure (GSI), SSH
 - Transfer checkpointing
 - Cluster-to-cluster data movement



GridFTP Servers Around the World



Created by Tim Pinkawa (Northern Illinois University) using MaxMind's GeoIP technology (<http://www.maxmind.com/app/ip-locate>).



GridFTP Transfers

Monthly Totals* of TBs Transferred Via GridFTP



*for those "reporting"



Globus GridFTP

- **Advantages**

- Fast
- Secure
- Extensible
- Standard
- Robust

- **Globus Online + Globus Connect**

- Easy-to-use
- Reliable



What's new?

- **New features**
 - Globus Online
 - Native packaging
 - Globus Connect
 - Globus Connect Multi-User
 - DCSC
 - Sync
 - Chroot
 - Stream directory listing
 - Rate limiting
- **Future plans**





globus online

Reliable File Transfer. No IT Required.

Reliable, high-performance, secure file transfer

Move files fast. No IT required.

+ HOW IT WORKS

Learn more about the service

> GET STARTED

Setup profile in 3 easy steps

Globus Online makes robust file transfer capabilities, traditionally available only on expensive, special-purpose software systems, accessible to everyone.

[Learn more](#)



Why Use Globus Online?

See how easy file transfer can



For HPC Resource Owners

Enable Globus Online



For Developers

Integrate with Globus Online



Native Packaging

- GT5.2 to have native packages for RedHat, RHEL, Fedora, CentOS, Scientific Linux, Debian, Ubuntu
- Released two alphas
- Release testing third alpha (GT5.1.1)
 - GridFTP, MyProxy, GSI-OpenSSH
 - CentOS 5, Fedora 13 and 14, RedHat 5, Scientific Linux 5.5 and Debian
- GT5.2 – end of summer



Globus Connect

Globus Connect Installation

Globus Connect allows you to use Globus Online to transfer files to and from your computer. [Need Help? Click Here](#)

Step One: Choose Your Download

Globus Connect For Mac OS X Globus Connect For Linux Globus Connect For Windows

Step Two: Get Your Globus Connect Setup Key

Endpoint Name:

Description:

[Generate Setup Key](#)

Step Three: Finish Globus Connect Setup

Copy the setup key displayed above. Run Globus Connect and paste the key into the Initial Setup window when prompted. This setup key can only be used once.

[Close](#)

globus online

Reliable File Transfer. No IT Required.

Globus Connect → **Applications**

Setup

Initial Setup

Please type or paste your Globus Connect setup key into the field below and click 'OK' when finished.

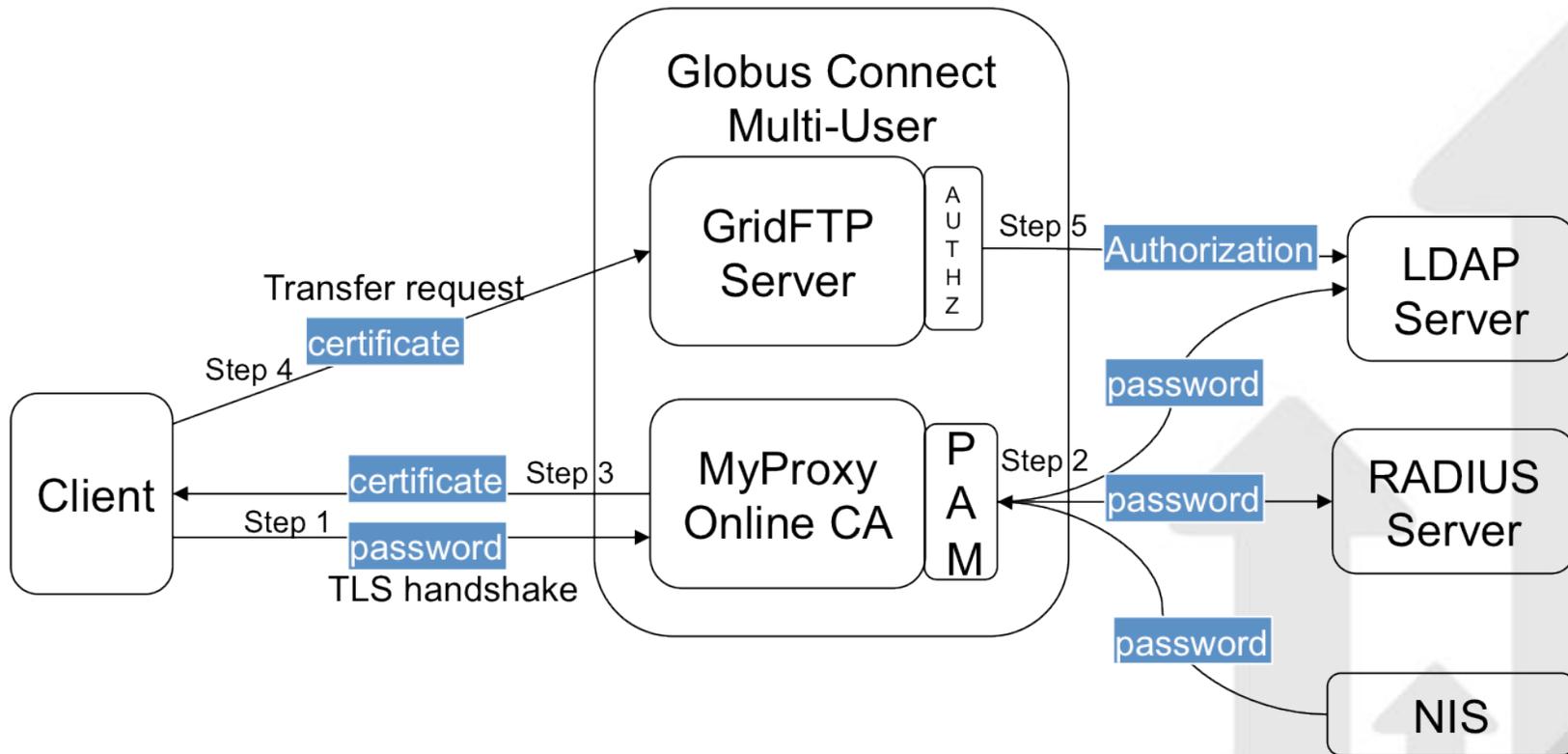
Setup Key:

▶ Advanced

[Ok](#)

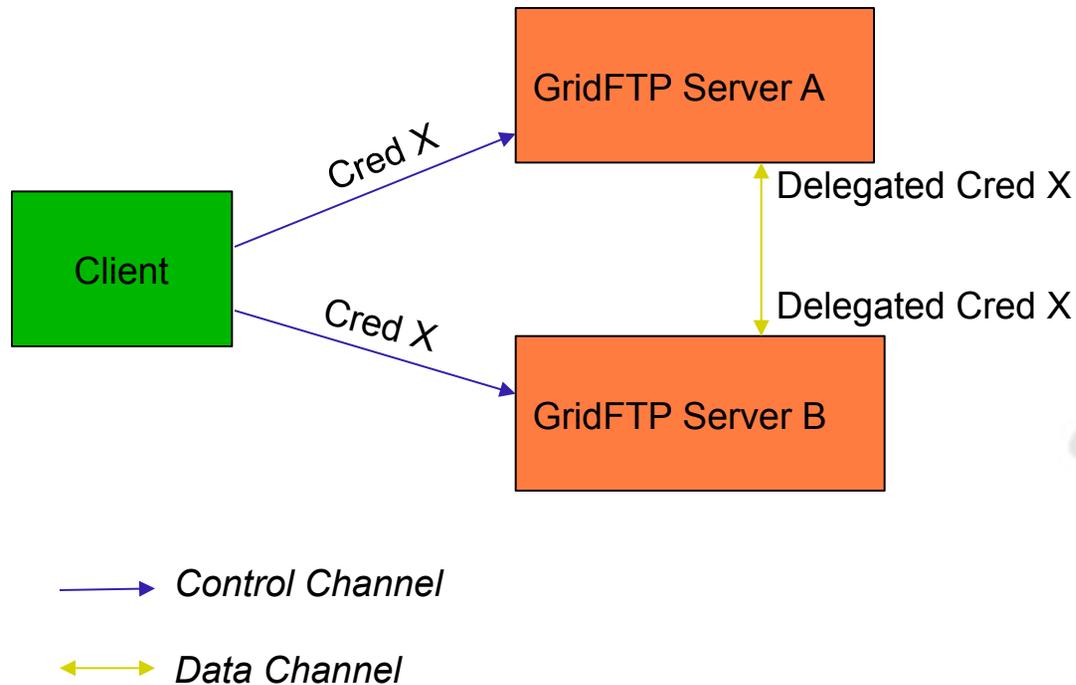


Globus Connect Multi-User



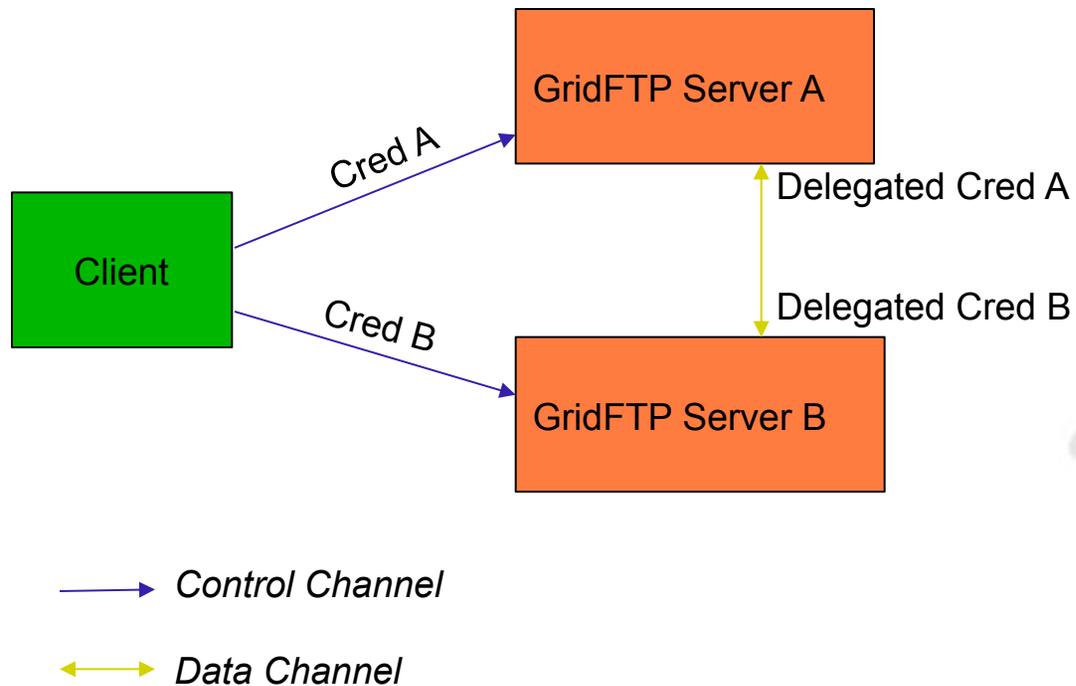


Data Channel Security Context (DCSC)



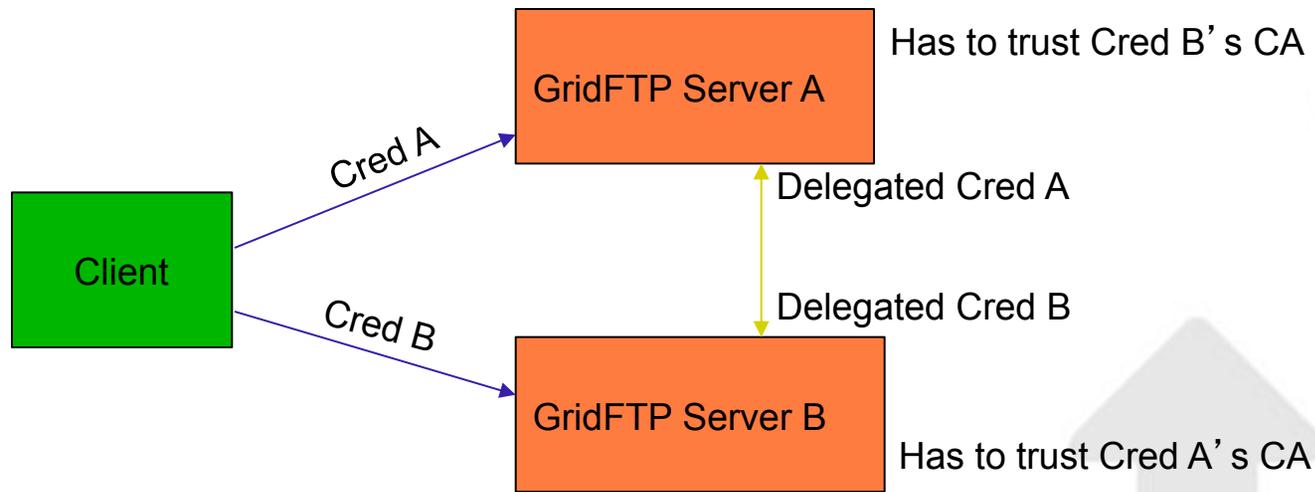


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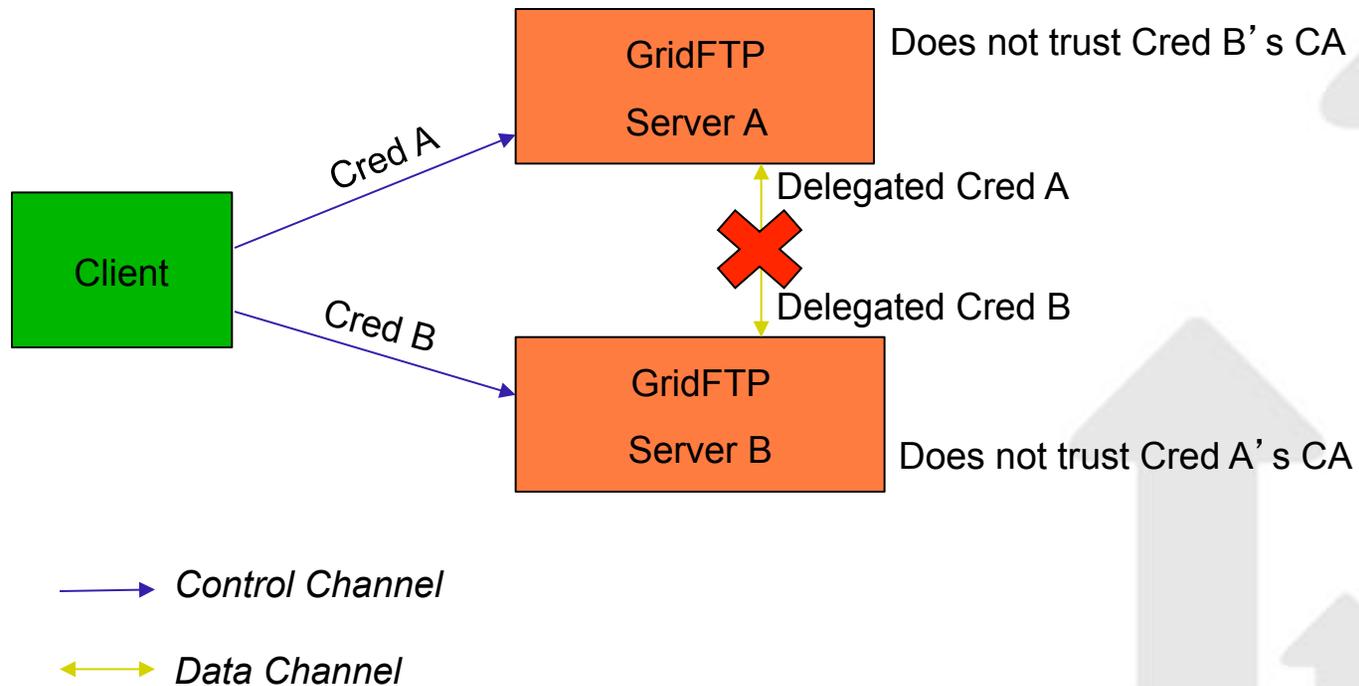


→ *Control Channel*

↔ *Data Channel*

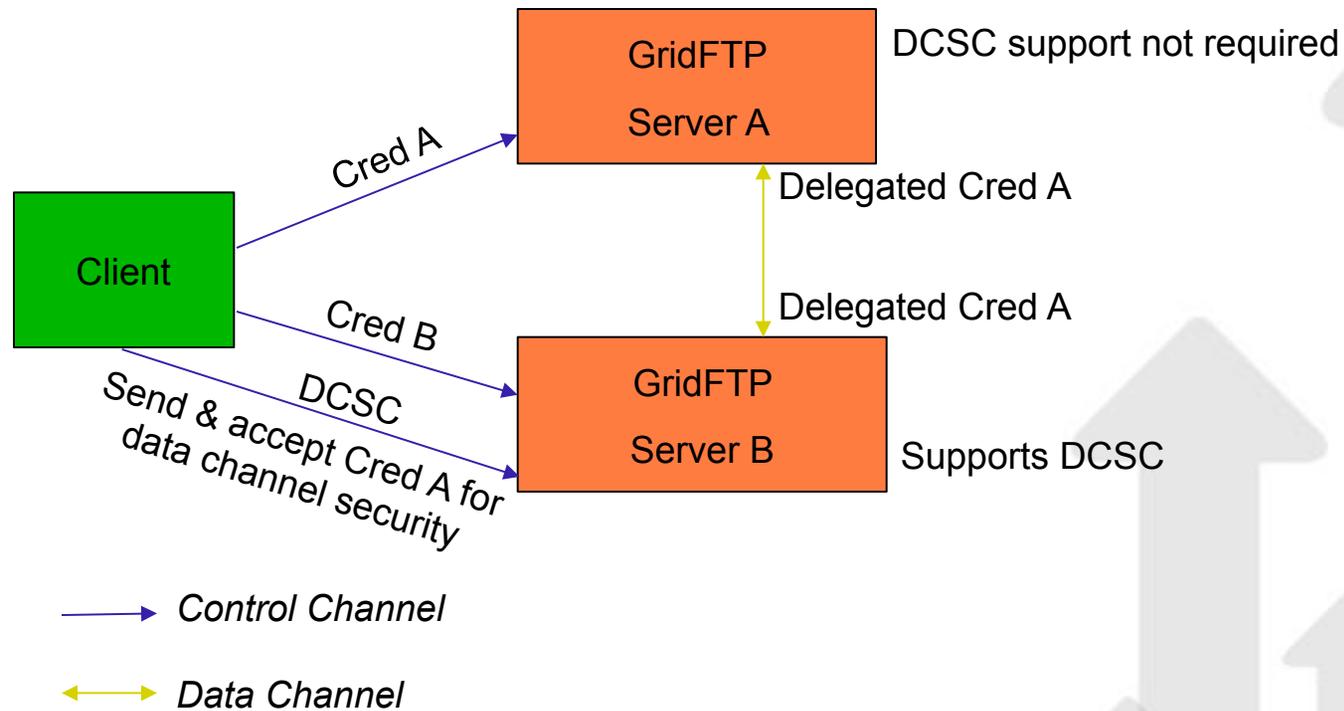


Data Channel Security Context (DCSC)





Data Channel Security Context (DCSC)





Sync feature

- **New feature to synchronize datasets**
- **Only transfer files where the destination does not exist or differs (size, timestamp, checksum) from the source**
- **'-sync-level'**
 - 0 - transfer if the destination does not exist
 - 1 - transfer if the size does not match
 - 2 - transfer if timestamp of dst is older
 - 3 - transfer if the checksums do not match.
 - The default sync level is 2.



Chrooting GridFTP server

- **GridFTP server can be configured to restrict access to specific path**
- **Server option '-chroot-path <path>'**
- **This path must contain a valid certificate structure, /etc/passwd, and /etc/groups**
- **A helper script 'globus-gridftp-server-setup-chroot' available in \$GLOBUS_LOCATION/sbin, can help create a suitable directory structure**

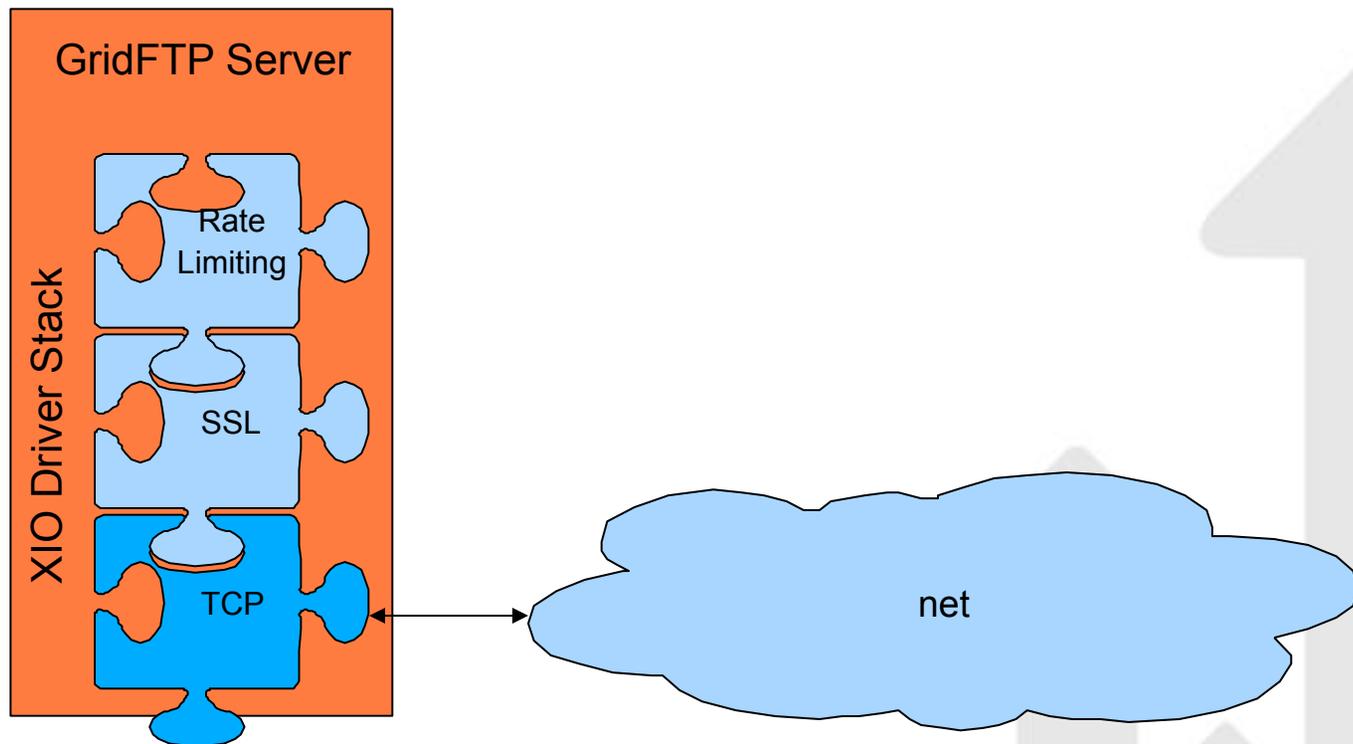


Stream directory listing

- **GridFTP server buffers directory listing and sends it to client only the whole listing is completed**
- **Introduces significant delay for directories with huge number of files**
 - Possible client timeout
- **Stream directory listing as soon as possible**
 - MLSD output has a new tag to report the count



Rate Limiting





- **Progress markers for stream mode**
 - Mode E directionality limitation
 - Stream mode must be used in certain scenarios.
- **'-disable-command-list <comma separated strings>' in the server has been enhanced**
 - Command strings can take arguments
 - -disable-command-list 'DCAU N' or -disable-command-list 'DCAU N', 'MODE E' can be done.



GridFTP – Future plans

- **Overcome the current data channel connection directionality limitation**
- **Efficient recursive directory transfers**
- **GridFTP server parallel command execution for efficient checksums**
- **Support network reservation**
- **Enable effective operation through firewalls**
 - Single port GridFTP
- **Native implementation for Windows**



Questions?

