Research Cloud Proposal & Globus

Scott Baily, ACNS

Research Cloud Proposal

- ACNS, CVMBS, and WCNR proposal for

- Core and Specialized Facilities Solicitation from VPR

- Proposal was to provide affordable central storage for CSU's Research Community

Proposal Justification

- Storing Big Data is a Big Problem on campus
- CVMBS Research IT Council sites "managing data" as top IT challenge
  - Common problem for CSU's researchers
- No central, affordable solution available
- Result is hodgepodge of storage solutions: including thumb drives; external drives; and individuals choosing random cloud services.

Cloud Storage Concerns

- EULA – everyone clicks "OK".

- NIH and NSF Data Mgmt. Plan Compliance

- Privacy and Security Concerns

- Until very recently, still expensive compared to local solutions

- Very low data transfer speeds (10-40 Mbps)

The Proposal

- Build a centrally operated, affordable solution
- Safe, Fast, Easy to Use
- Data are Protected
  - RAID and Physical Replication
- ACNS will match VPR funding
- Suggested 80 TB of geo-replicated storage
- Request was for $58,850 from the VPR

Proposal Details

- Governance via ISTeC Management and Allocations Committee (MAC) – same as Cray

- ACNS will operate the system

- Offer up to 3 TB per researcher free in year 1

- Sustainable cost model proposed: $550/TB/yr
  - Investigating how we can lower costs to remain competitive with Google, etc.

Design Goals

- First and foremost, needs to be *simple to use*
- "If only it were as simple as DropBox..."
- Attended the Front Range HPC Symposium at UWyo and found a solution...

Globus

- Started in late 90's as Grid Computing effort
- Now U. of Chicago and Argonne Partnership
- 15,000 registered users
- 85 U.S. Campuses
- 8,000 active endpoints
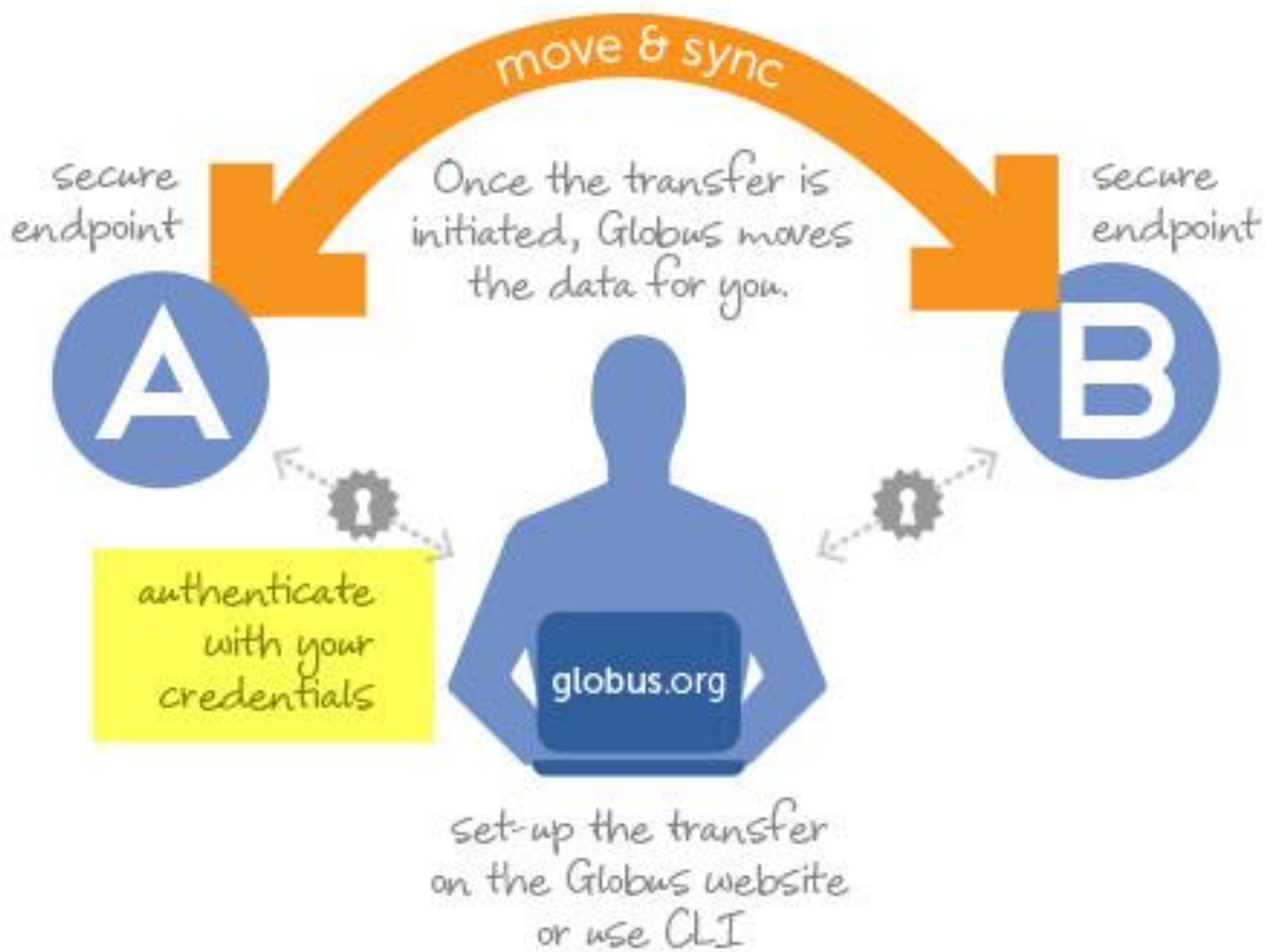- 3 billion files transferred

Give me your data, your terabytes,

Your huddled files yearning to breathe free …

Building campus research data services

GlobusWorld 2014

move & sync

secure endpoint

Once the transfer is initiated, Globus moves the data for you.

secure endpoint

A

B

authenticate with your credentials

globus.org

set-up the transfer on the Globus website or use CLI

globus

 Log In   Sign Up

Sign In

Sign Up with Globus

Using your InCommon / CILogon login.   alternate login

Click PROCEED to authenticate with InCommon / CILogon.

Proceed

![globus logo](g globus)

"Globus Online" requests that you select an Identity Provider and click "Log On". If you do not approve this request, do not proceed.

Site Name:	Globus Online
Site URL:	https://www.globusonline.org
Service URL:	https://www.globus.org/service/graph/authenticate_oauth_callback

Select An Identity Provider:

```
Case Western Reserve University        ▲
Clemson University
Colorado State University
Cornell University                     ▼
```

Search: [   ]

Remember this selection: ☐

Log On

By selecting "Log On", you agree to CILogon's privacy policy.

Colorado State University

eID Login

Log in to CILogon

eName: scott

ePassword: ●●●●●●●●●●●●●●●●

Login

CILogon

CILogon facilitates secure access to CyberInfrastructure (CI).

Important!

Logging Out of Your Session

- This is a **single sign-on** authentication.
- Your CSU **session remains active after log out** from a service **until you close your browser**.
- **Completely exit your web browser when finished.**

Need Password Help?

Students, Faculty, Staff

- eID Forgotten Password Help

File Transfer

Move files securely and reliably; Share data with your collaborators (requires Globus Plus).

Groups

Manage your group memberships; create and administer groups to simplify data sharing.

My Profile

View and change your account settings, including contact information and security credentials.

Globus Connect Personal

Use Globus Connect Personal to transfer files between your computer and any Globus endpoint.

In the Spotlight

GlobusWorld 2014: Keynote and some big ideas

GlobusWorld 2014 took place in Chicago last week and it was a great success, drawing more than 120 HPC computing experts and...

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Heartbleed: T + 14 days

Two weeks after the discovery of the Heartbleed bug we're still actively monitoring the situation and fixing systems that might...

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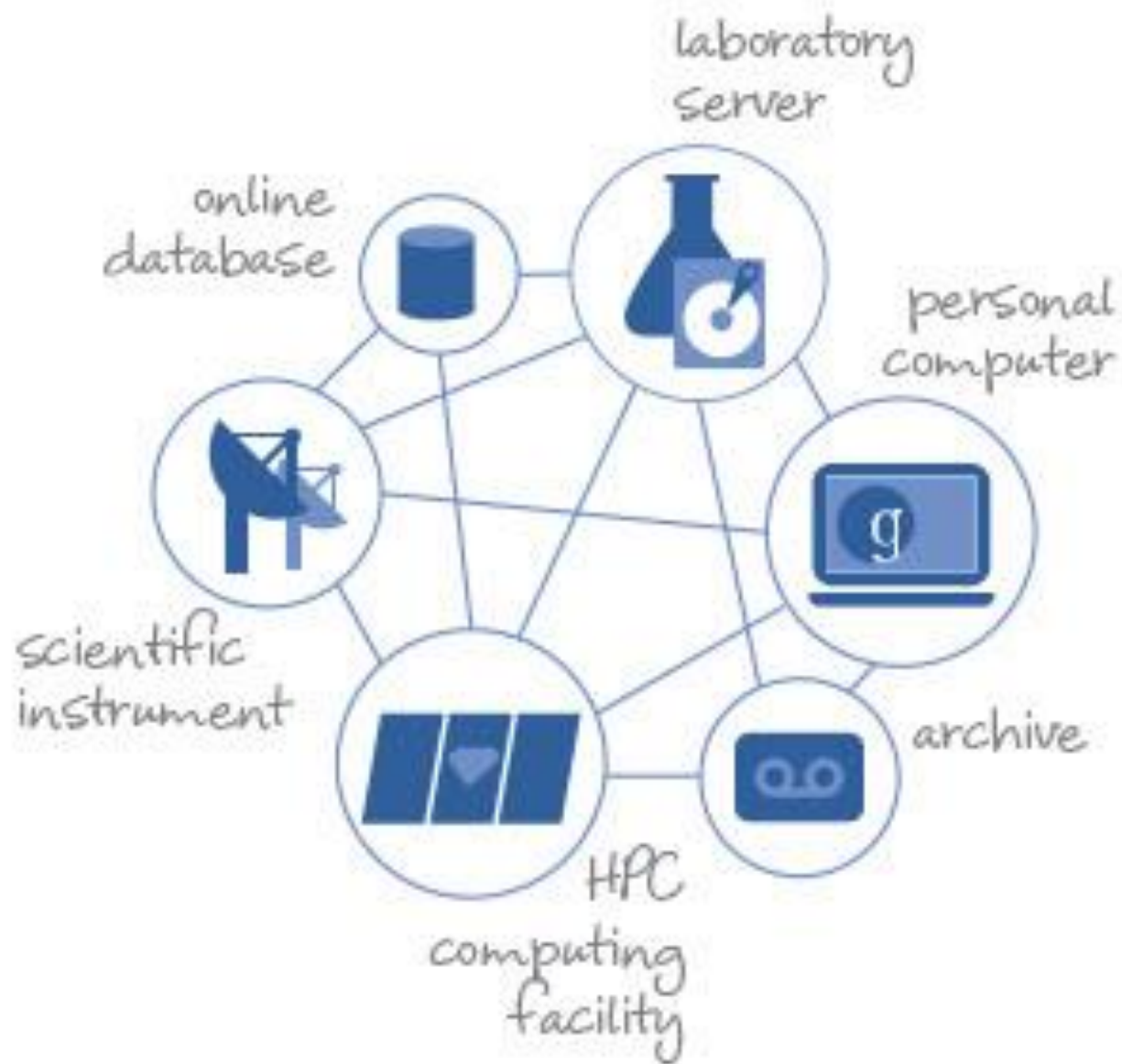### Dealing with the OpenSSL Vulnerability

By now, almost every system administrator on the planet is aware of the OpenSSL vulnerability (also known as the Heartbleed...

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"January Effect" is alive and well

In the stock markets, the so-called "January Effect" is the increase in stock prices during the month of January that ...

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online database

laboratory server

personal computer

scientific instrument

archive

HPC computing facility

Examples of Endpoints

Status

- New, redundant servers are on site
- Attended Globus World in April, 2014
- Talking with Researchers about their needs
- Ready to spin it up once input has been digested
- Proceeding with 80 TB of replicated storage
- Will be fully operational in June

Discussion and Questions

- Are most welcome

My Contact Info

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Also see: http://www.globus.org