TeraGrid Security Roadmap

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TeraGrid Overview

- Support qualified US researchers (NSF criteria)
  - (Computation) Peer Review allocation process
- 9 RP partners, 20 Gateways,
  - 24+ resources
  - 4000 users, 1000 projects
- Burgeoning growth in connection with Campus infrastructures

TeraGrid Resources

	ANL/UC	IU	NCSA	ORNL	PSC	Purdue	SDSC	TACC
Computational Resources	Itanium 2 (0.5 TF) IA-32 (0.5 TF)	Itanium2 (0.2 TF) IA-32 (2.0 TF)	Itanium2 (10.7 TF) SGI SMP (7.0 TF) Dell Xeon (17.2TF) IBM p690 (2TF) Condor Flock (1.1TF)	IA-32 (0.3 TF)	XT3 (10 TF) TCS (6 TF) Marvel (0.3 TF)	Hetero (1.7 TF) IA-32 (11 TF) *Opportunistic*	Itanium2 (4.4 TF) Power4+ (15.6 TF) Blue Gene (5.7 TF)	IA-32 (6.3 TF)
Online Storage	20 TB	32 TB	1140 TB	1 TB	300 TB	26 TB	1400 TB	50 TB
Mass Storage		1.2 PB	5 PB		2.4 PB	1.3 PB	18 PB	2 PB
Net Gb/s, Hub	30 CHI	10 CHI	30 CHI	10 ATL	30 CHI	10 CHI	20 LA	10 CHI
Data Collections # collections Approx total size Access methods		5 Col. >3.7 TB URL/DB/ GridFTP	> 30 Col. URL/SRB/DB/ GridFTP			4 Col. 7 TB SRB/Portal/OP eNDAP	>84 Col. >1 PB GFS/SRB/ DB/GridFTP	4 Col. 2.35 TB SRB/Web Services/ URL
Instruments		Proteomics X-ray Cryst.		SNS and HFIR Facilities				
Visualization Resources RI: Remote Interact RB: Remote Batch RC: RI/Collab	RI, RC, RB IA-32, 96 GeForce 6600GT		RB SGI Prism, 32 graphics pipes; IA-32		RI, RB IA-32 + Quadro4 980 XGL	RB IA-32, 48 Nodes	RB	RI, RC, RB UltraSPARC IV, 512GB SMP, 16 gfx cards

TeraGrid Security

- Identity based -- with affiliation information about project (small VO).
- Centralized User Registry
- X509 + direct login + user portal/web
  - Consolidation a goal of next stage
- Incident response team meets weekly
  - Roughly 2 (local) responses per quarter

Security Roadmap

- Support the needs of current users
  - Most users still traditional use ssh login
  - Continue to work with International grid partners
    - Agreement on basic authZN through GIN
- Integrate with US (Campus) infrastructures
  - NSF CI vision document (http://www.nsf.gov/od/oci/ci-v7.pdf)
  - Investigate options for integration with Shibboleth efforts
    - http://gridshib.globus.org/tg-paper.html
  - InfoCard ?

Needed improvements

- Improve operational efficiency
  - Too many operations to add new users
  - Too much overhead for multiple identity sources
    - PMA process has been heavy
    - Will we replicate for Attribute Authorities ?
  - Reduce exposure to incidents (identity theft)

- Improve ease of use and ease user requirements.
  - MyProxy support of Portals