Status of GUMS (Grid User Management System)

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OSG Users Meeting 2008

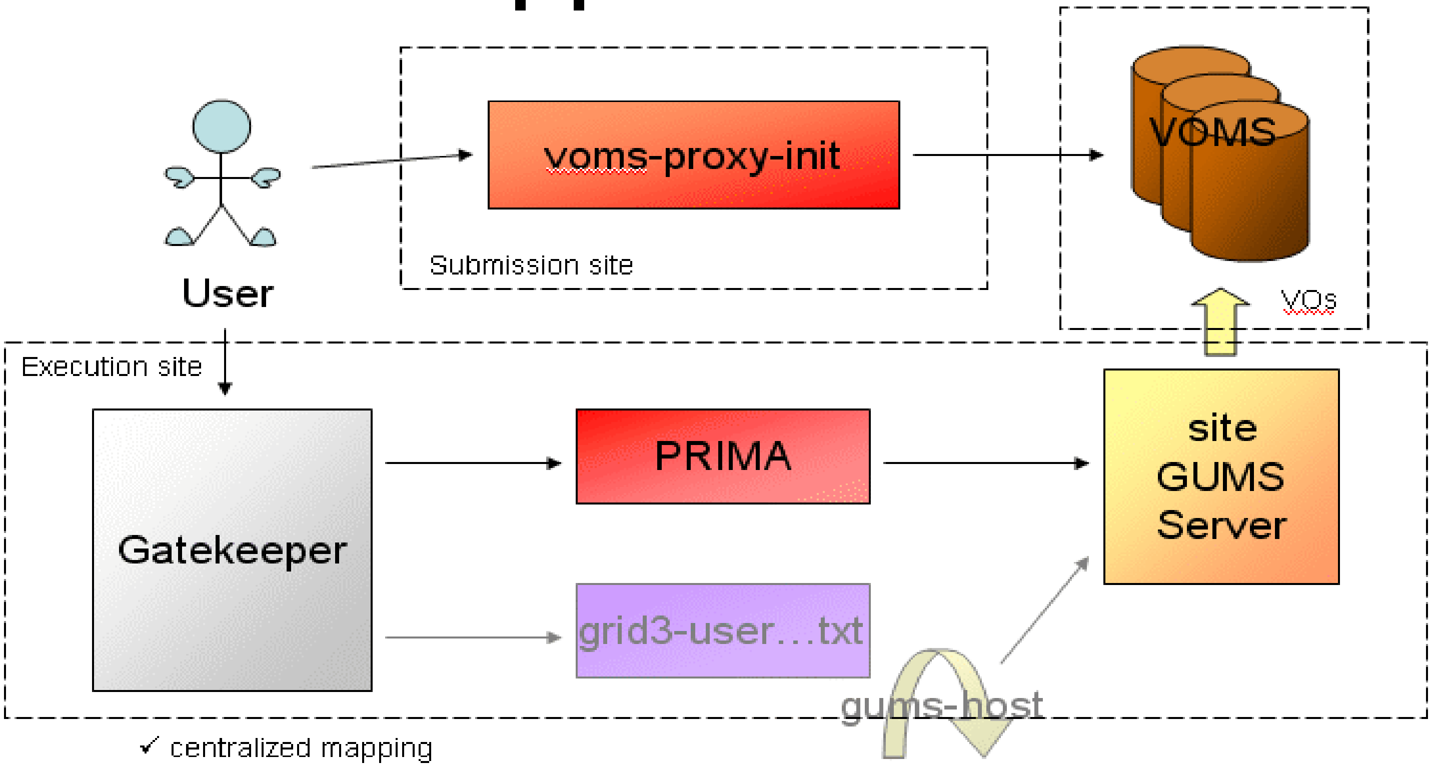
Brief History and Context

- Apache/Tomcat Web Service. In VDT/OSG.
- Periodically caches VOMS contents.
- Provides mapping from X.509 proxy DN (Distinguished Name) to a UNIX user account. e.g. '/DC=org/DC=doegrids/OU=People/CN=John R. Hover 47116' -> agrd1234
- Mappings can be flexibly specified by host, VO, group, and Role.
- Clients: Globus gatekeeper, glExec, dCache gPlazma

GUMS in Action.

Open Science Grid

Full support scenario



- ✓ centralized mapping
- ✓ account pool
- ✓/✗ dynamic mappings (broken by accounting)
- ✓ role/group based mappings

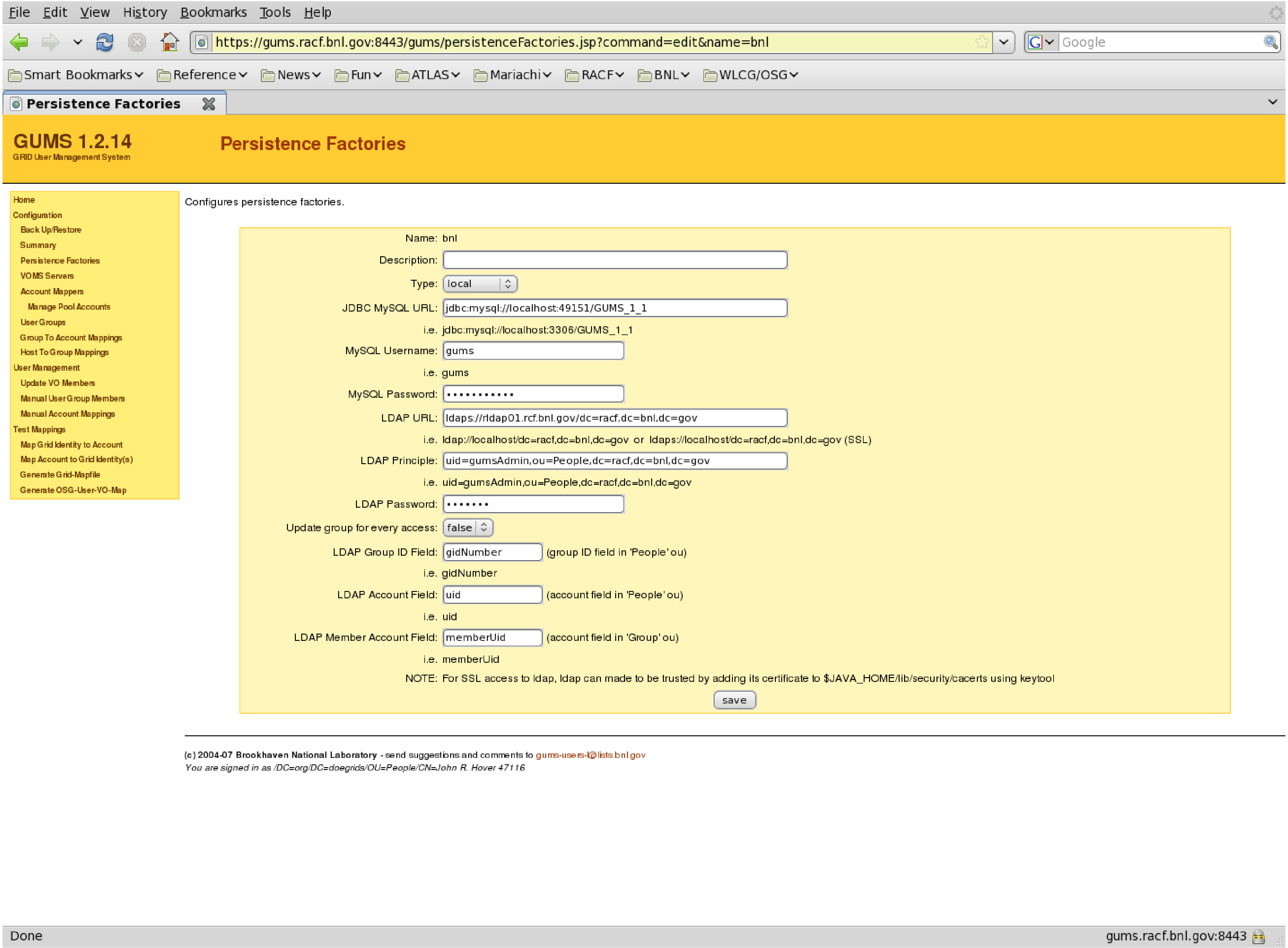
Notable Features

Current version is 1.2.14

- Fully flexible mapping definitions.
- Flexible User list sources (VOMS, LDAP, Manual).
- Support for *pool accounts*—UNIX accounts mapped on demand, with group(s) set in LDAP.
- Enterprise-grade: full unit and functional test coverage, Maven project management, nightly integration builds, automated deployment.

Most Recent Feature Additions

- Complete configuration via web-based graphic user interface—no more editing XML! (Which also required restructuring of internal configuration representation.)
- Detailed configuration summary in GUI.
- Configuration backup and restore via GUI.
- dCache-specific gridmap file type.
- More fine-grained read-access based on request host and user DN.
- Addition of LDAP as back-end 'database'.



GUMS 1.2.14
GRID User Management System

Persistence Factories

Configures persistence factories.

Name:	bnl
Description:	
Type:	local
JDBC MySQL URL:	jdbc:mysql://localhost:49151/GUMS_1_1
i.e.	jdbc:mysql://localhost:3306/GUMS_1_1
MySQL Username:	gums
i.e.	gums
MySQL Password:	•••••••••••
LDAP URL:	ldaps://rldap01.rcf.bnl.gov/dc=racf,dc=bnl,dc=gov
i.e.	ldap://localhost/dc=racf,dc=bnl,dc=gov or ldaps://localhost/dc=racf,dc=bnl,dc=gov (SSL)
LDAP Principle:	uid=gumsAdmin,ou=People,dc=racf,dc=bnl,dc=gov
i.e.	uid=gumsAdmin,ou=People,dc=racf,dc=bnl,dc=gov
LDAP Password:	•••••••
Update group for every access:	false
LDAP Group ID Field:	gidNumber (group ID field in 'People' ou)
i.e.	gidNumber
LDAP Account Field:	uid (account field in 'People' ou)
i.e.	uid
LDAP Member Account Field:	memberUid (account field in 'Group' ou)
i.e.	memberUid
NOTE:	For SSL access to ldap, ldap can made to be trusted by adding its certificate to $JAVA_HOME/lib/security/cacerts using keytool

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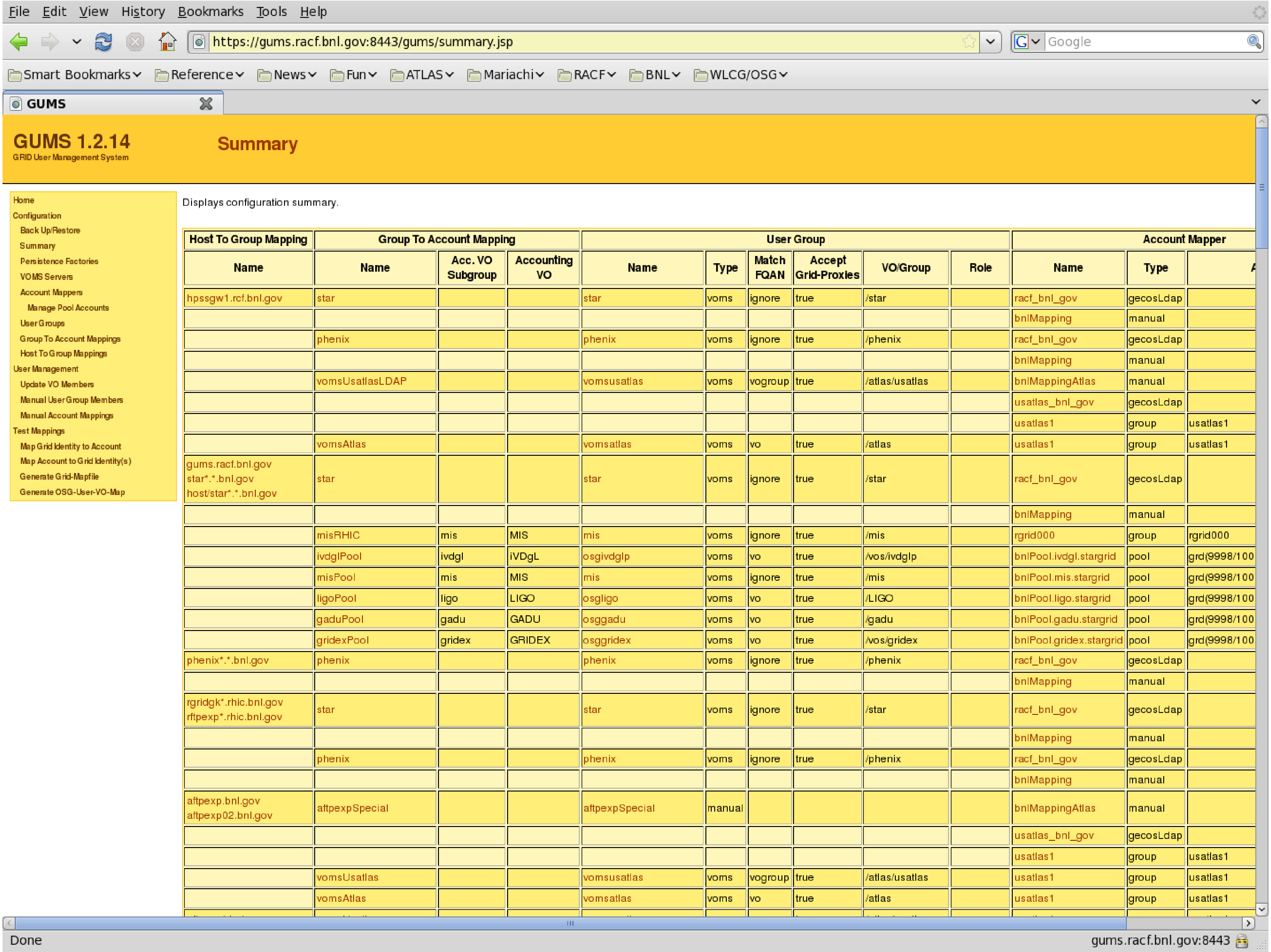

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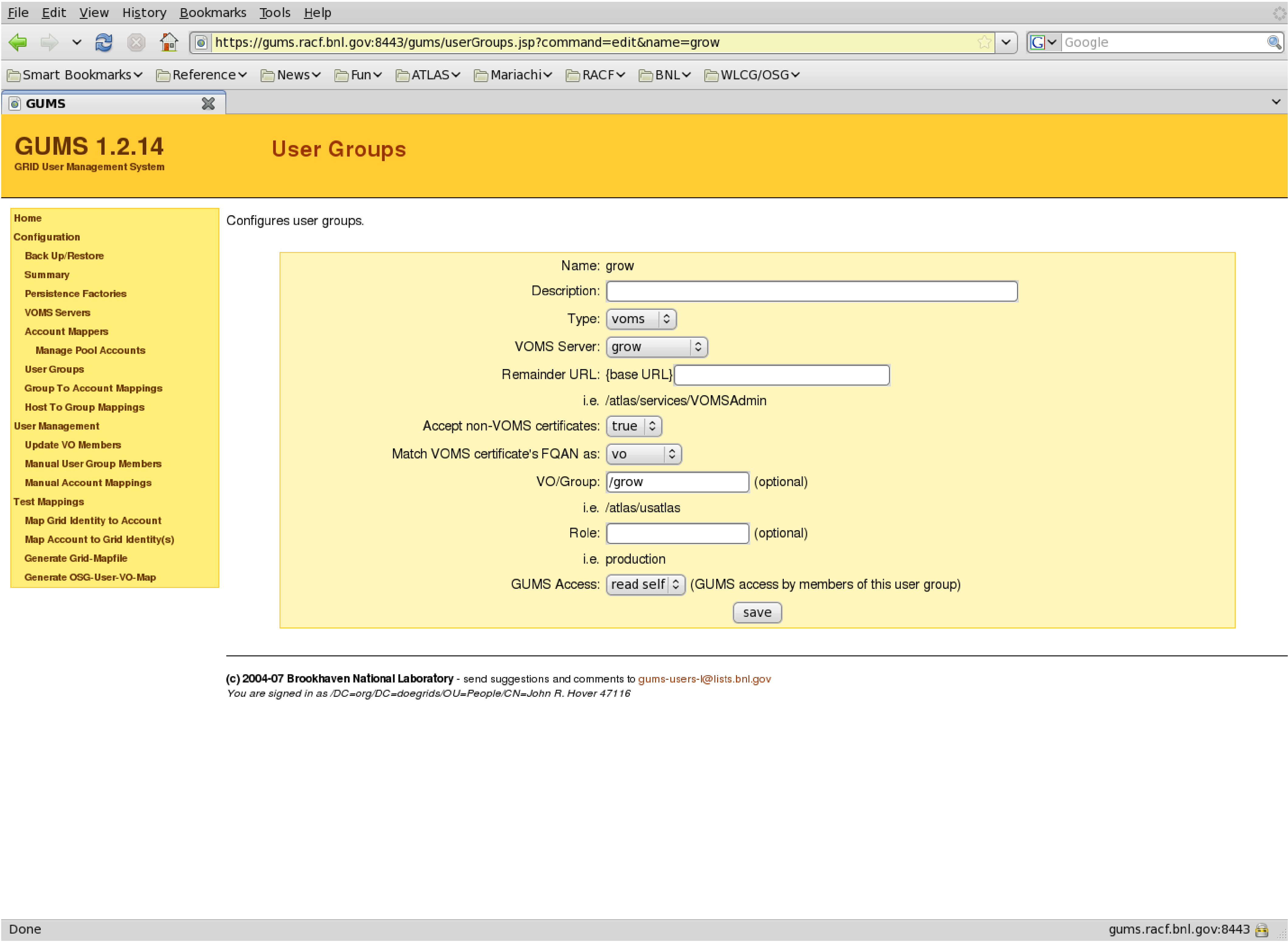
Summary

Displays configuration summary.

Host To Group Mapping	Group To Account Mapping			User Group						Account Mapper		
Name	Name	Acc. VO Subgroup	Accounting VO	Name	Type	Match FQAN	Accept Grid-Proxies	VO/Group	Role	Name	Type	A
hpssgw1.rcf.bnl.gov	star			star	voms	ignore	true	/star		racf_bnl_gov	gecosLdap	
										bnlMapping	manual	
	phenix			phenix	voms	ignore	true	/phenix		racf_bnl_gov	gecosLdap	
										bnlMapping	manual	
	vomsUsatlasLDAP			vomsusatlas	voms	vogroup	true	/atlas/usatlas		bnlMappingAtlas	manual	
										usatlas_bnl_gov	gecosLdap	
										usatlas1	group	usatlas1
	vomsAtlas			vomsatlas	voms	vo	true	/atlas		usatlas1	group	usatlas1
gums.racf.bnl.gov star*.*.bnl.gov host/star*.*.bnl.gov	star			star	voms	ignore	true	/star		racf_bnl_gov	gecosLdap	
										bnlMapping	manual	
	misRHIC	mis	MIS	mis	voms	ignore	true	/mis		rgrid000	group	rgrid000
	ivdglPool	ivdgl	iVDgL	osgivdglp	voms	vo	true	/vos/ivdglp		bnlPool.ivdgl.stargrid	pool	grd(9998/100
	misPool	mis	MIS	mis	voms	ignore	true	/mis		bnlPool.mis.stargrid	pool	grd(9998/100
	ligoPool	ligo	LIGO	osgligo	voms	vo	true	/LIGO		bnlPool.ligo.stargrid	pool	grd(9998/100
	gaduPool	gadu	GADU	osggadu	voms	vo	true	/gadu		bnlPool.gadu.stargrid	pool	grd(9998/100
	gridexPool	gridex	GRIDEX	osggridex	voms	vo	true	/vos/gridex		bnlPool.gridex.stargrid	pool	grd(9998/100
phenix*.*.bnl.gov	phenix			phenix	voms	ignore	true	/phenix		racf_bnl_gov	gecosLdap	
										bnlMapping	manual	
rgridgk*.rhic.bnl.gov rftpexp*.rhic.bnl.gov	star			star	voms	ignore	true	/star		racf_bnl_gov	gecosLdap	
										bnlMapping	manual	
	phenix			phenix	voms	ignore	true	/phenix		racf_bnl_gov	gecosLdap	
										bnlMapping	manual	
aftpexp.bnl.gov aftpexp02.bnl.gov	aftpexpSpecial			aftpexpSpecial	manual					bnlMappingAtlas	manual	
										usatlas_bnl_gov	gecosLdap	
										usatlas1	group	usatlas1
	vomsUsatlas			vomsusatlas	voms	vogroup	true	/atlas/usatlas		usatlas1	group	usatlas1
	vomsAtlas			vomsatlas	voms	vo	true	/atlas		usatlas1	group	usatlas1



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User Groups

Configures user groups.

Name:	grow
Description:	
Type:	voms
VOMS Server:	grow
Remainder URL:	{base URL}
i.e.	/atlas/services/VOMSAdmin
Accept non-VOMS certificates:	true
Match VOMS certificate's FQAN as:	vo
VO/Group:	/grow (optional)
i.e.	/atlas/usatlas
Role:	(optional)
i.e.	production
GUMS Access:	read self (GUMS access by members of this user group)

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Current Work/Future Directions

- Convert LDAP (and other) interactions to a plugin architecture, allowing more flexibility and user-written plugins. Use LDAP as a UserGroup source (rather than VOMS). (LIGO request)
- Recycleable pool accounts (if user community desires).
- Clustered GUMS (2 GUMS servers sharing back-end database), behind DNS round-robin or virtual IP.

People and Sites

- Original design and development: Gabrielle Carcassi
- Current lead developer: Jay Packard <jpackard@bnl.gov>
- Current lead designer: John Hover <jhover@bnl.gov>
- Maven-generated web site: https://www.racf.bnl.gov/Facility/GUMS/1.2/