



SRR and CRIC

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What is SRR, short reminder

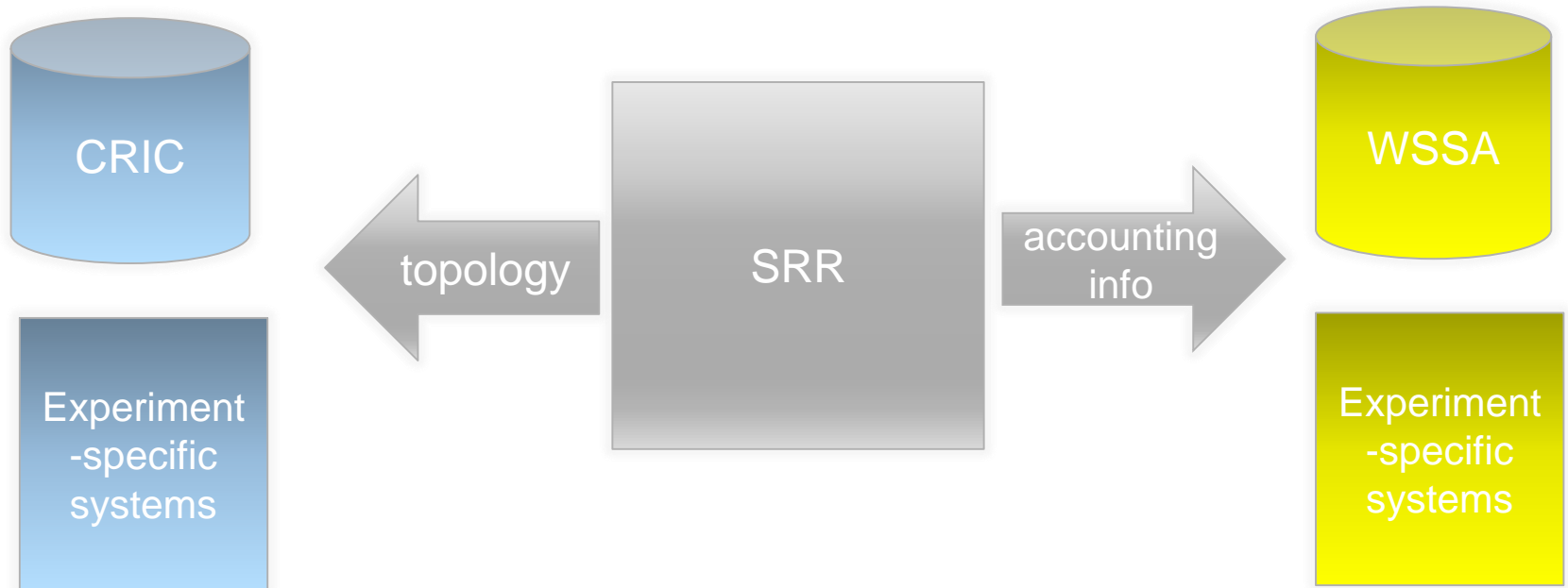
- SRR stands for Storage Resource Reporting proposal developed as a follow up of the WLCG accounting review at the (pre-)GDB in April 2016. [More info](#)
- Several rounds of ‘consensus building’ with experiments, storage providers and sites. Still evolving.
- Prototyping phase has been agreed at the GDB in October 2017. [More info](#)

Two important dimensions of SRR

(1)

- Storage topology description (SRR for topology)
 - Protocols
 - Storage shares equivalent/similar to SRM space quotas (path with quota defined, dedicated for a particular usage, accounted separately, not overlapping in terms of space)
- Non-SRM Storage Space Accounting enabled (SRR for accounting)
 - Non-SRM protocol to query used/free space
 - JSON file which includes both topology description and accounting data accessible through http

Two important dimensions of SRR (2)



SRR for topology (1)

- No source for complete and reliable storage topology description is currently available for the WLCG infrastructure
- Some pieces of info exist in GocDB and BDII. However, experiments rely on their own solutions.
- Required for any kind of data management operations (access/transfer/storage cleaning, testing, etc...)

SRR for topology (2)

- CRIC aims to provide topology description for WLCG storage services addressing all known complexity. Prototyped in AGIS.
- Still every storage service has to describe itself. This description should be available through http protocol.
- Since information is static, as a first approximation storage topology description can be manually created/modified by site/storage administrators, unless solution is available for every storage implementation
- SRR proposal suggests common format which might still evolve while we work on implementation and get experience of using it
- SRR proposal foresees that storage topology description generation is provided for all storage implementations widely used on the WLCG infrastructure

SRR topology example

goliass100.farm.particle.cz
(DPM at Prague)

“implementation”:"DPM",
“status”:"production”

root

srm

https

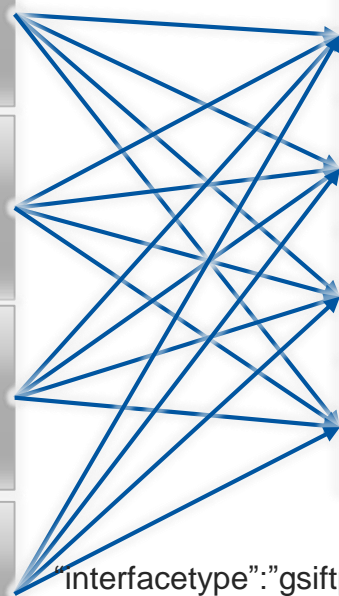
gsiftp

ATLASDATADISK

DUNEDATADISK

DTEAM

ATLASLOCALGR
OUPDISK



“interfacetype”:"gsiftp",
“status”:"production”,
“endpoint”:"
gsiftp://goliass100.farm.particle.cz/
”

“servingstate”:"open”,
“vos”:"atlas”,
“path”:"/dpm/farm.particle
.cz/home/atlas”,
“totalsize”:"208907209277
4400”,
“usedsize”:"182119395051
4079”

**More details
can be found
following the
link:**

<https://docs.google.com/document/d/1yzCvKpxsbcQC5K9MyvXc-vBF1HGpBk4vhjw3MEXoXf8/>

What is CRIC?

- Computing Resources Information Catalogue (CRIC) is a high level information system aiming to describe the topology of the WLCG infrastructure and other resources used by the LHC experiments (HPC, clouds, etc...) and experiment-specific configuration required to exploit these resources according to the experiments Computing models.
- Inspired by ATLAS Grid Information System (AGIS). Evolving AGIS towards common global solution.
- CRIC should become a central entry point for all kinds of WLCG topology and configuration information

CRIC functionality

- Collecting data from variety of sources (GocDB, OIM, REBUS, CMS Glideins config XML, BDII, CRR/SRR...)
- Providing UI and APIs for all kinds of topology and configuration info
- Authentication & Authorization for data viewing and update
 - Several Authentication methods are enabled
 - Flexible utilization of Permissions, Roles and Groups at various levels
 - Fine grain A&A on the level of a single CRIC object
- Advanced logging functionality. Logging is performed on the CRIC object level. One can check **who, when and how** interacted with a given object
- Notification. One can subscribe to be notified in case of modification of a particular object

CRIC Storage Service Examples

CORE Federation CZ-Prague-T2

General Information

Federation name CZ-Prague-T2
Accounting name FZU AS, Prague
tier level 2
Country Czechia
Last modification date 2018-09-18 14:14:45.317749

Edit

Experiment Sites

Show 10 entries

Search:

Site	RCSite	VO
Prague	praguelcg2	ALICE
praguelcg2 	praguelcg2	ATLAS

Showing 1 to 2 of 2 entries

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CRIC Storage Service Examples

Experiment Site prague1cg2

General Information

VO name atlas
RC site (GOCDB/OIM) [prague1cg2](#)
Federation [CZ-Prague-T2](#)
Country Czechia
Tier level 2
Administrator
Security
Corepower 0.0
Last modification date 2018-09-18 14:37:08.714097

Status Information

Object state ACTIVE
State comment

Edit

Services

Show 10 entries

Search:

Name	Type	Endpoint	State	Monitored	Virtual	Last Modified
prague1cg2-CE-ARC-CE-arc-it4i.farm.particle.cz	CE	arc-it4i.farm.particle.cz:2811	ACTIVE	False	False	June 7, 2019, 12:16 a.m.
prague1cg2-CE-ARC-CE-arc1-it4i.farm.particle.cz	CE	arc1-it4i.farm.particle.cz	ACTIVE	True	False	May 15, 2019, 2:20 p.m.
prague1cg2-CE-ARC-CE-arc1.farm.particle.cz	CE	arc1.farm.particle.cz:2811	ACTIVE	True	False	May 16, 2019, 12:01 a.m.
prague1cg2-CE-ARC-CE-arc2-it4i.farm.particle.cz	CE	arc2-it4i.farm.particle.cz:2811	ACTIVE	True	False	May 15, 2019, 2:17 p.m.
prague1cg2-CE-ARC-CE-arc2.farm.particle.cz	CE	arc2.farm.particle.cz:2811	ACTIVE	True	False	May 16, 2019, 12:01 a.m.
prague1cg2_SE_0_ATLAS	SE	None	ACTIVE	False	True	June 12, 2019, 4:32 p.m.
prague1cg2_SE_1_ATLAS	SE	None	ACTIVE	False	True	June 13, 2019, 11:02 a.m.

Showing 1 to 7 of 7 entries

Previous 1 Next

Add Service

CRIC Storage Service Examples

Core Service prague1cg2_SE_0_ATLAS

General Information

Description	
Architecture	
Implementation	DPM
Virtual Instance	True
Monitored	False
Deployed	prague1cg2
Last Modified	2019-06-12 16:32:07.131019

Status Information

State	ACTIVE
State Comment	
State Updated	None
Status	None

Edit

Experiment Sites

ATLAS: [prague1cg2](#)

Access Protocols

Name	Flavour	Endpoint	Status	Last Modified	Delete
prague1cg2-SE-WEBDAV-gollas100.farm.particle.cz	WEBDAV	davs://gollas100.farm.particle.cz:443		May 15, 2019, 2:20 p.m.	✘
prague1cg2-SE-GRIDFTP-gollas100.farm.particle.cz	GRIDFTP	gsiftp://gollas100.farm.particle.cz:2811		May 15, 2019, 2:20 p.m.	✘
prague1cg2-SE-XROOTD-gollas100.farm.particle.cz	XROOTD	root://gollas100.farm.particle.cz:1094		May 15, 2019, 2:20 p.m.	✘
prague1cg2-SE-SRM-gollas100.farm.particle.cz	SRM	srm://gollas100.farm.particle.cz:8446/srm/managerv2?SFN=		May 15, 2019, 2:20 p.m.	✘

Add Protocol

Resources

Name	Basepath	Endpoint	Last Modified
ATLASDATADISK		/dpm/farm.particle.cz/home/atlas/	May 15, 2019, 2:20 p.m.
ATLASLOCALGROUPDISK		/dpm/farm.particle.cz/home/atlas/atlaslocalgroupdisk/rucio/	May 15, 2019, 2:20 p.m.
ATLASSCRATCHDISK		/dpm/farm.particle.cz/home/atlas/atlasscratchdisk/rucio/	May 15, 2019, 2:20 p.m.
ATLASVOLATILEDISK		/dpm/farm.particle.cz/home/atlas/atlasvolatiledisk	May 15, 2019, 2:20 p.m.

CRIC Storage Service Examples

Core Service prague1cg2_SE_0_ATLAS

General Information

Description	
Architecture	
Implementation	DPM
Virtual Instance	True
Monitored	False
Deployed	prague1cg2
Last Modified	2019-06-12 16:32:07.131019

Status Information

State	ACTIVE
State Comment	
State Updated	None
Status	None

Edit

Experiment Sites

ATLAS: [prague1cg2](#)

Access Protocols

Name	Flavour	Endpoint	Status	Last Modified	Delete
prague1cg2-SE-WEBDAV-gollas100.farm.particle.cz	WEBDAV	davs://gollas100.farm.particle.cz:443		May 15, 2019, 2:20 p.m.	✘
prague1cg2-SE-GRIDFTP-gollas100.farm.particle.cz	GRIDFTP	gsiftp://gollas100.farm.particle.cz:2811		May 15, 2019, 2:20 p.m.	✘
prague1cg2-SE-XROOTD-gollas100.farm.particle.cz	XROOTD	root://gollas100.farm.particle.cz:1094		May 15, 2019, 2:20 p.m.	✘
prague1cg2-SE-SRM-gollas100.farm.particle.cz	SRM	srm://gollas100.farm.particle.cz:8446/srm/managerv2?SFN=		May 15, 2019, 2:20 p.m.	✘

Add Protocol

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Name	Basepath	Endpoint	Last Modified
ATLASDATADISK		/dpm/farm.particle.cz/home/atlas/	May 15, 2019, 2:20 p.m.
ATLASLOCALGROUPDISK		/dpm/farm.particle.cz/home/atlas/atlaslocalgroupdisk/ruclio/	May 15, 2019, 2:20 p.m.
ATLASSCRATCHDISK		/dpm/farm.particle.cz/home/atlas/atlasscratchdisk/ruclio/	May 15, 2019, 2:20 p.m.
ATLASVOLATILEDISK		/dpm/farm.particle.cz/home/atlas/atlasvolatiledisk	May 15, 2019, 2:20 p.m.

Currently this info is coming from AGIS. The goal is that SRR becomes the primary source for this info

SRR for accounting

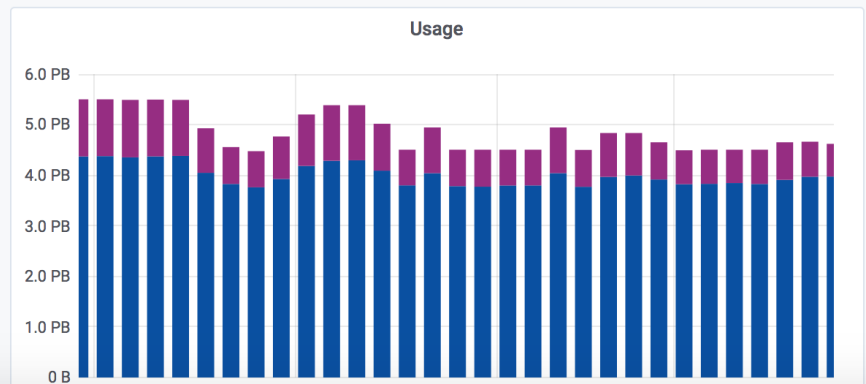
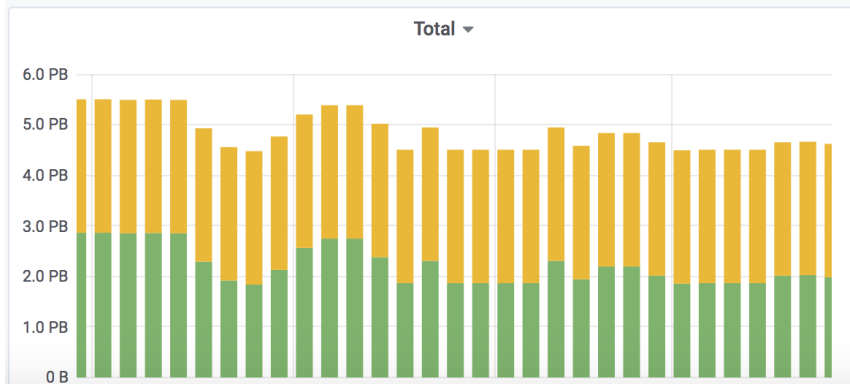
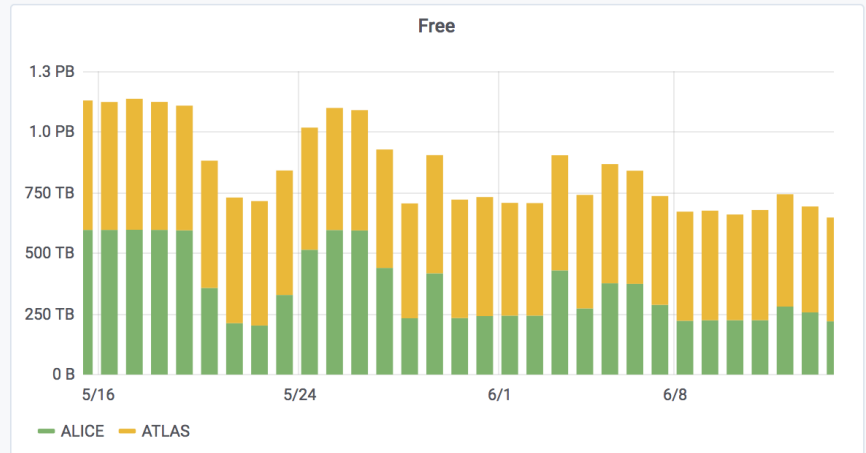
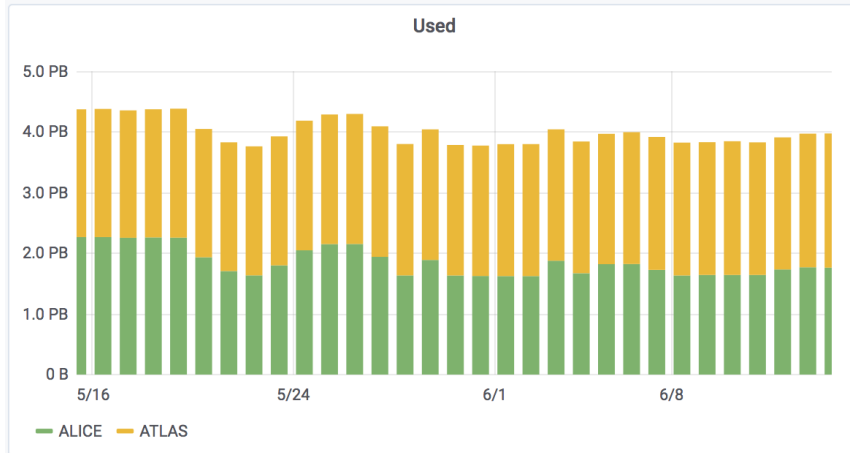
- Two possible solutions are foreseen:
 - Enable at least one non-srm protocol (http, xrootd) to query used/free space for every storage share/quota included in the storage topology description file
 - Extend storage topology description file with accounting data (used/free space and time stamp of the measurement)
- Can be used both for operations (request on demand) and storage space accounting system (will collect data hourly). Foreseen frequency of update order of 30 minutes.

SRR is already used for storage space accounting in production

- For sites which do publish accounting info via SRR, accounting info is already consumed by WLCG Storage Space Accounting System (WSSA). The list of sites for which SRR is used for the accounting: INFN-NAPOLI-ATLAS, CERN-PROD, GRIF (3 sites), prague1cg2 and UKI-NORTHGRID-LANCS-HEP
- For WSSA collector, the storage service will be flagged in CRIC as a service which publishes accounting data through SRR.

WSSA example (Prague)

Historical Views



Summary

- SRR is a source for topology and accounting data.
- All WLCG sites will be requested to generate and publish SRR
- DPM with Dome configuration already enables SRR. So WLCG Operations encourage all DPM sites to upgrade and reconfigure (Dome)