



# WLCG CRIC Status and REBUS retirement

Julia Andreeva on behalf of the CRIC team

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# WLCG CRIC Functionality

- Combines information which is currently hosted by various systems (GocDB, OIM, BDII, REBUS, experiment-specific ones like, for example, SiteDB)
- Allows to cross-check and validate data coming from different sources
- Authentication/authorization for data modification and retrieval
- Logging of any performed modification
- Represents a central entry point for WLCG generic topology and configuration information required for central WLCG operations, testing, accounting and monitoring systems

# Consolidating WLCG topology

- Scope of REBUS: Composition of federations in terms of WLCG sites, pledges and capacities
- Scope of GocDB: WLCG sites and services they are hosting
- Mapping between WLCG and experiment site and set of services used by a particular VO at the site is defined in the experiments-specific topology systems
- Complete view of all those relationships was missing. Now in CRIC

# Main WLCG CRIC data models and relationships

- Federation, Resource Center (WLCG site), Pledge, Service, Experiment Site
- Relationships
  - Service -> WLCG Site -> Federation
  - Federation -> Pledge (per type, per VO). Quarterly pledges are implemented on the CMS request
  - WLCG Site -> Experiment Site (per VO) -> Experiment Service
  - Computing Service -> CEs
    - > Queues
  - Storage Service -> Protocols
    - > Storage Shares

# Practical example

- How to find out which experiments sites correspond to GRIF?

## CORE Federation FR-GRIF

**General Information**

Federation name	FR-GRIF
Accounting name	GRIF, Paris
Tier	2
Country	France
Last modification date	2019-05-27 16:37:46.597189
Sites	<a href="#">GRIF</a>

[Edit](#)

## Experiment Sites

Show  entries Search:

Experiment Site	RCSite	VO
<a href="#">GRIF-IRFU</a>	<a href="#">GRIF</a>	ATLAS
<a href="#">GRIF-LAL</a>	<a href="#">GRIF</a>	ATLAS
<a href="#">GRIF-LPNHE</a>	<a href="#">GRIF</a>	ATLAS
<a href="#">GRIF_IPNO</a>	<a href="#">GRIF</a>	ALICE
<a href="#">GRIF_IRFU</a>	<a href="#">GRIF</a>	ALICE
<a href="#">LCG.LAL.fr</a>	<a href="#">GRIF</a>	LHCb
<a href="#">LCG.LPNHE.fr</a>	<a href="#">GRIF</a>	LHCb
<a href="#">T2_FR_GRIF_IRFU</a>	<a href="#">GRIF</a>	CMS
<a href="#">T2_FR_GRIF_LL</a>	<a href="#">GRIF</a>	CMS

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# WLCG CRIC Clients

- SAM which includes ETF, availability calculation and UI. (Plan on migration to CRIC is agreed with the MONIT team)
- WLCG central monitoring systems (jobs and transfer monitoring). (Plan on migration to CRIC is agreed with the MONIT team)
- WLCG accounting. (Integration ongoing)
- WLCG dissemination (Explorer of Grid Links EGL). Already uses CRIC.
- Interactive clients
  - for data injection, for example, for pledge information
  - for data navigation

# New functionality. Accounting validation

- In order to improve data quality of the WLCG accounting data a new workflow has been implemented.
- Since November 2019 all WLCG sites are requested to validate monthly accounting metrics for CPU , disk and tape usage
- Validation UI is provided in CRIC
- New monthly accounting reports use validated data

# Accounting validation in CRIC

Table for viewing validated data

) FZK-LCG2	CMS	1	Disk	Total	0 TB	6.8 PB	100 %	-6.8 PB	2020-01-01
) FZK-LCG2	CMS	1	Disk	Used	0 TB	5.98 PB	100 %	-5.98 PB	2020-01-01
) FZK-LCG2	CMS	1	Tape	Total	22 PB	22 PB	100 %	0 TB	2020-01-01
) FZK-LCG2	CMS	1	Tape	Used	19.8 PB	19.8 PB	100 %	0 TB	2020-01-01
) FZK-LCG2	LHCb	1	CPU	Wallclock Time	2612k hours	2612k hours	99.96 %	927 hours	2020-01-01
) FZK-LCG2	LHCb	1	CPU	Wallclock Work	33267k HS06 hours	33267k HS06 hours	100 %	793 HS06 hours	2020-01-01
) FZK-LCG2	LHCb	1	Disk	Total	9.01 PB	4.66 PB	51.72 %	4.35 PB	2020-01-01
) FZK-LCG2	LHCb	1	Disk	Used	7.22 PB	3.61 PB	50.03 %	3.61 PB	2020-01-01
) FZK-LCG2	LHCb	1	Tape	Total	8.5 PB	8.5 PB	100 %	0 TB	2020-01-01
) FZK-LCG2	LHCb	1	Tape	Used	5.41 PB	5.41 PB	100 %	0 TB	2020-01-01



Form for data validation

January 2020 Accounting Data for 'IN2P3-SUBATECH' Resource Centre Site

(dont forget to save to confirm validation)

### Validate CPU data for ALICE

Generated Wallclock Time from APEL Accounting:  Please provide your input (in k hours) if you disagree with the autogenerated value. If you agree do nothing:

Generated Wallclock Work from APEL Accounting:  Please provide your input (in k HS06 hours) if you disagree with the autogenerated value. If you agree do nothing:

### Validate Disk data for ALICE

Generated Total from WAU:  Please provide your input (in PB) if you disagree with the autogenerated value. If you agree do nothing:

Generated Used from WAU:  Please provide your input (in PB) if you disagree with the autogenerated value. If you agree do nothing:

Save



# Accounting report generation.

- CRIC takes over accounting report generation from the EGI portal.
- In difference with the current reports:
  - Instead of T1 storage accounting data (disk and tape) manually injected in REBUS, WSSA data is used
  - Disk storage accounting is available also for T2 sites
  - All accounting data generated by APEL or WSSA is being validated by sites. Validated data is used fro the reports
- New reports for T1 sites will be sent in parallel with the current ones starting this month, for T2 sites starting from March.
- May/June new reports will become official

# REBUS functionality in CRIC

- All REBUS functionality has been implemented in CRIC:
  - Federation topology (viewing, APIs, UI for modifications)
  - Pledge handling (viewing, APIs, UI for pledge injection/modification)
  - VO requirements handling
  - Site capacity (disk, tape, CPU) handling

# VO requirements table

🔗 📄 Export 🖨️ 🔍 Filter ▼ Columns 10/10 ↔️ Pledge View Show All entries Search:

🔄 Reload ✎

filter by Tie		filter by Pled		2019	filter by ALIC		filter by ATLAS		filter by CM:		filter by LHC		filter by Sur		filter by Stati		filter by Comm	
Tier	Pledge Type	Year	ALICE	ATLAS	CMS	LHCb	Sum	Status	Comment									
0	CPU	2019	430000	411000	423000	86000	1350000	P										
0	Disk	2019	34300	26000	26100	14100	100500	P										
0	Tape	2019	44200	<input type="text" value="94000"/>	99000	35000	272200	P										
1	Disk	2019	37900	88000	68000	27900	221800	P										
1	CPU	2019	365000	1057000	650000	271000	2343000	P										
1	Tape	2019	37700	221000	220000	50900	529600	P										
2	CPU	2019	376000	1292000	1000000	152000	2820000	P										
2	Disk	2019	33900	108000	78000	6800	226700	P										
Tier	Pledge Type	Year	ALICE	ATLAS	CMS	LHCb	Sum	Status	Comment									

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# Authentication Authorization

- E-groups for people having federation privileges in REBUS have been imported to CRIC
- In addition, CRIC provides a possibility to request privileges for updating info related to a particular object ( for example, site accounting info).

# REBUS retirement plan

- REBUS functionality in CRIC is currently being validated by WLCG project office (Cath). We will also ask some people who are using REBUS UI for pledges to check CRIC UI and provide their feedback
- For the time being REBUS is a primary data source. Data between REBUS and CRIC is synchronized.
- By the end of March, REBUS functionality in CRIC will be validated
- From the 1<sup>st</sup> of April, REBUS will go in readonly mode. CRIC becomes a primary data source. CRIC UI will be used for pledge and topology update. CRIC accounting validation UI will replace manual injection of disk and tape accounting metrics in REBUS. REBUS UI pages redirected to CRIC ones.
- Data synchronization between REBUS and CRIC will continue unless new accounting reports generated by CRIC become official (plan is June 2020).
- In July REBUS can retire