



# WLCG Monitoring Consolidation

GDB 12 February 14

Pablo Saiz  
IT/SDC



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- WLCG Monitoring consolidation:
  - Definition of the project
  - Current status
  - Next steps
  - Summary

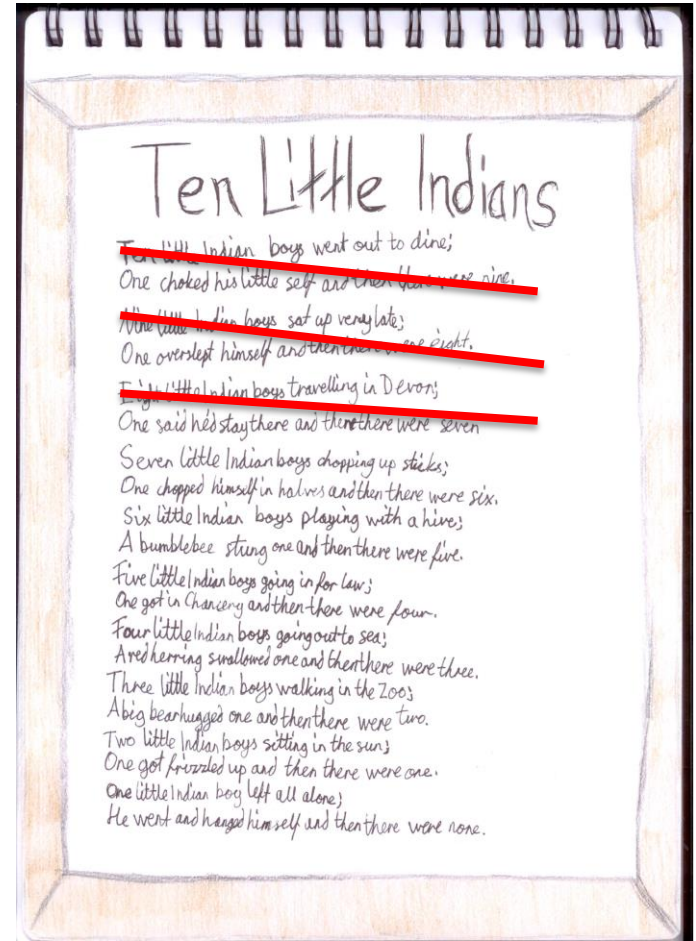
# WLCG monitoring consolidation group

- Main goals:
  - Reduce complexity, modular design
  - Simplify operations, support and service
  - Common development and deployment
  - Unify, where possible, components
- We know we can monitor with the current system:
  - How can we do it with **less resources**?
- <http://go.cern.ch/B6NS>

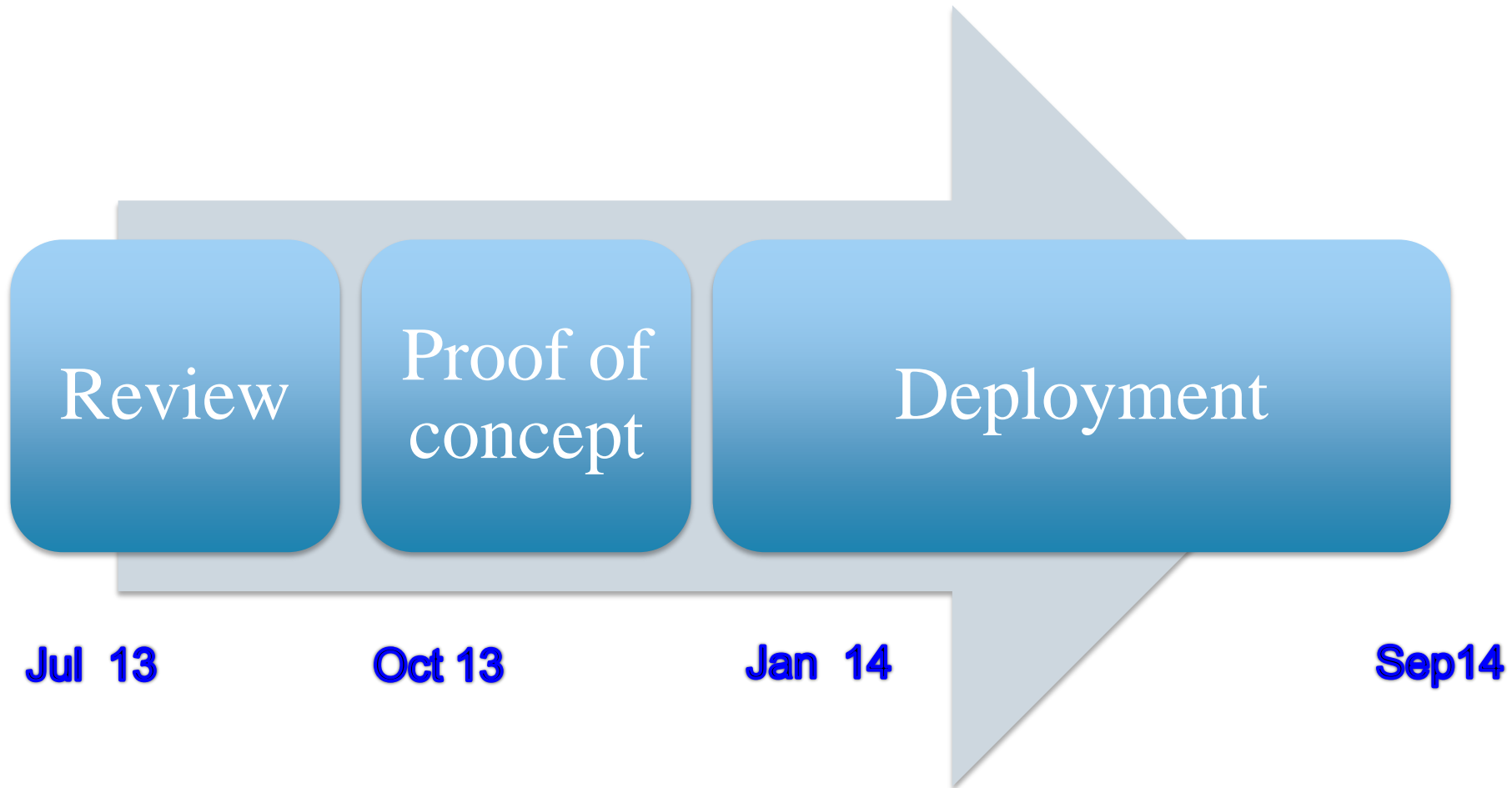


# ‘... and then there were none’

- Number of **people keeps decreasing**
- **And scope increases**
  - Monitoring Pledges, capacities, cloud infrastructure
- Input from sites very welcomed
  - **Special thanks to David Crooks (Glasgow)**
- **wlcg-mon-consolidation@cern.ch**



# Timeline



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# Project plan

Report with the evaluation created.

Tasks identified and inserted in JIRA

WLCGMONCON plan

Save as

Details

Share

Export

Monitoring Consolidation

Type: All

Status: All

Assignee: All

Contains text

More

Advanced

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Key	Summary	Assignee	P	Status	Updated	Original Estimate	Remaining Estimate	Due
WLCGMONCON-21	Ensure that the experiments can inject their own values in the transport layer	Marian Babik	↓	Done	17/Jan/14	5 weeks	0 minutes	31/Jan/14
WLCGMONCON-5	Ensure that GoogleEarth and Siteview are moved to the common framework	Edward Karavakis	↓	Done	17/Jan/14	1 week	0 minutes	31/Jan/14
WLCGMONCON-18	Stop ALICE FTD efficiency and CMS datasets	Pablo Saiz	↓	Done	20/Jan/14	2 days	0 minutes	31/Jan/14
WLCGMONCON-38	Incorporate simplevisor	Alexandre Beche	↓	Done	17/Jan/14	1 week	0 minutes	31/Jan/14
WLCGMONCON-39	Integrate Bamboo as a continuous integration system	Pablo Saiz	↓	Done	17/Jan/14	2 days	2 days	31/Jan/14
WLCGMONCON-24	Use memcache in JobMonitoring and Job accounting	Edward Karavakis	↓	Done	17/Jan/14	2 weeks	0 minutes	31/Jan/14
WLCGMONCON-49	Profile definitions should allow filtering and grouping per service and treating FQANs independently	Pablo Saiz	↓	Done	30/Jan/14	4 weeks	1 day	31/Jan/14
WLCGMONCON-26	Vofeed becomes the only source of topology description	Ivan Antoniev Dzhunov	↓	Done	17/Jan/14	2 days	2 days	28/Feb/14
WLCGMONCON-45	Ensure that WLCG Transfers applications are moved to the common framework	Alexandre Beche	↓	To Do	17/Jan/14	1 week	1 day	28/Feb/14
WLCGMONCON-14	Evaluate The Common Metric Store for REBUS	Pablo Saiz	↓	To Do	17/Jan/14	1 week	1 week	28/Feb/14
WLCGMONCON-28	Evaluate Drupal and twiki for documentation	Julia Andreeva	↓	To Do	17/Jan/14	2 days	2 days	28/Feb/14
WLCGMONCON-16	Investigate HammerCloud Schema, and check differences with JobMonitoring	Edward Karavakis	↓	To Do	17/Jan/14	1 week	1 week	28/Feb/14
WLCGMONCON-52	Integrate the downtime information to calculate the reliability	Ivan Antoniev Dzhunov	↓	To Do	30/Jan/14	2 weeks	1 week	28/Feb/14
WLCGMONCON-44	Create a prototype for fast feedback cycle	Pablo Saiz	↓	To Do	30/Jan/14	2 days	2 days	28/Feb/14
WLCGMONCON-10	Integrate the probe framework	Luca Magnoni	↓	To Do	04/Feb/14	8 weeks	8 weeks	31/Mar/14
WLCGMONCON-25	Complete the common framework							31/Mar/14
WLCGMONCON-15	Ensure that the common framework							31/Mar/14

<https://its.cern.ch/jira/browse/WLCGMON>

# Different set of tasks

1. Application support
  - Job, Transfer, Infrastructure, GoogleEarth
2. Running the services
  - Moving to AI, EGI transition, Koji, SLC6, ...
3. Merging applications
  - SSB and SAM, SSB and REBUS, HammerCloud and Nagios (still under discussion)
4. Technology evaluation
  - ElasticSearch, Testing framework (see Luca's presentation), PostgreSQL, Django, Drupal...



# 1. Application support

- Support the current system
- Multiple applications identified by users/developers as **under control**
  - Already modular design
  - Hit the spot
- Introduce some new functionality
  - **Not covered by the consolidation project**
  - Example: Alexandre's talk 'The new WLCG Transfer dashboard'

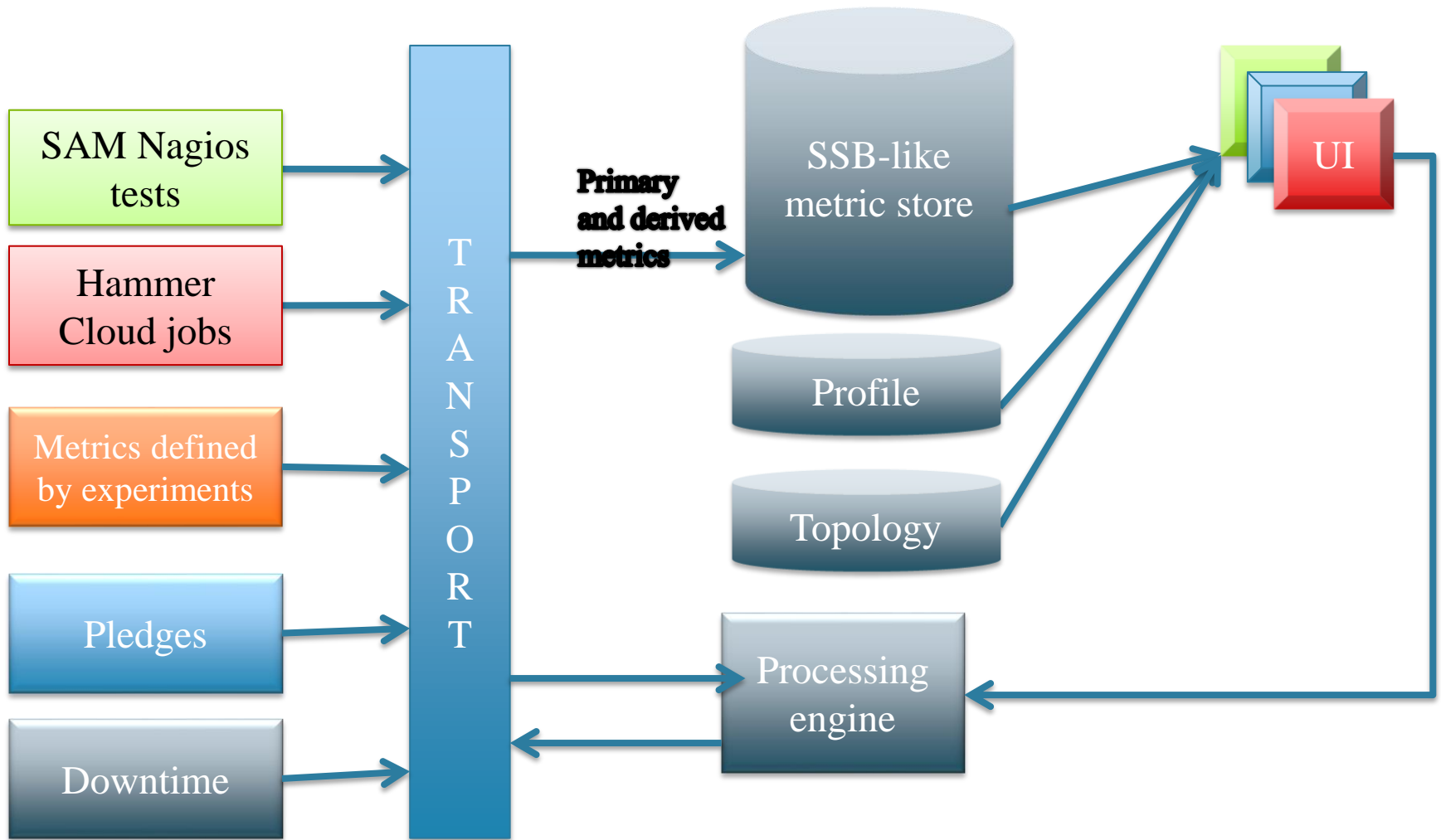
## 2. Running the services

- Most of the machines moved already to openstack, puppet, SLC6
  - More will be done before end of March
  - Thanks to the Agile Infrastructure Team
- Transition of SAM EGI to consortium GRNET, SRCE and CNRS
  - Coordinated by Marian
  - <https://indico.cern.ch/event/295761/material/slides/0?contribId=6>

### 3. Merging applications

- Goal: reduce number of applications to maintain.
- Infrastructure monitoring:
  - Testing framework
    - Can the Nagios tests and HC Functional tests be combined
  - SAM & SSB:
    - storage and visualization already done
  - REBUS & SSB
    - Prototype ready. Still to investigate how to populate

# Infrastructure monitoring



# Using same storage and visualization

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view: ATLAS tests

SAM

atlas topology		org.atlas.CE-Pilot-submission (atlas)	org.atlas.SRM-GetATLASInfo (_atlas_Role_production)	org.atlas.SRM-VODEl (_atlas_Role_production)	org.atlas.SRM-VODElATLASDATADISK (_atlas_Role_production)	org.atlas.SRM-VODElATLASGROUPDISK (_atlas_Role_production)
atlas topology (flavour)	atlas topology (site)					
OSG-SRMv2	BU_ATLAS_Tier2		OK	OK	OK	OK
OSG-SRMv2	WISC-ATLAS		OK	CRITICAL	OK	OK
OSG-SRMv2	ANLASC		OK	OK	OK	OK
OSG-SRMv2	BNL-ATLAS		OK	OK	OK	OK
OSG-SRMv2	SWT2_CPB		OK	OK	OK	OK
OSG-SRMv2	UTA_SWT2		OK	OK	OK	OK
OSG-SRMv2	AGLT2		OK	OK	OK	OK

200 entries

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view: Capacities

Capacities & Pledges

Site Name	Country	MoU Topology				HEPSPEC06	Capacities		
		Federation	FederationAccountingName	Tier	Infrastructure		Logical CPUs	Total Nearline Size	Total Online Size
AGLT2	USA	Great Lakes ATLAS T2	US-AGLT2	Tier 2	OSG	42950			
Australia-ATLAS	Australia	University of Melbourne	AU-ATLAS	Tier 2	EGEE	10437			
BEIJING-LCG2	China	IHEP, Beijing	CN-IHEP	Tier 2	EGEE	11890			
BEgrid-ULB-VUB	Belgium	Belgian Tier-2 Federation	BE-TIER2	Tier 2	EGEE	13622			
BNL-ATLAS	USA	US-T1-BNL	BNL_ATLAS_1	Tier 1	OSG	74000			
BUDAPEST	Hungary	HGCC Federation	HU-HGCC-T2	Tier 2	EGEE	11994			
BU_ATLAS_Tier2	USA	Northeast ATLAS T2	US-NET2	Tier 2	OSG	15436			
BeGrid-UCL	Belgium	Belgian Tier-2 Federation	BE-TIER2	Tier 2	EGEE	8832			
CA-ALBERTA-WESTGRID-T2						3240			
CA-MCGILL-CLUMEQ-T2	Canada	Canada-East Federation	CA-EAST-T2	Tier 2	EGI	20880			
CA-SCINET-T2	Canada	Canada-East Federation	CA-EAST-T2	Tier 2	EGEE	8900			
CA-VICTORIA-WESTGRID-T2	Canada	Canada-West Federation	CA-WEST-T2	Tier 2	OSG	30244			
CBPF	Latin America	Latin America Federation	T2-LATINAMERICA	Tier 2	EGI	1870			
CERN-PROD	Switzerland	CH-CERN	CERN-PROD	Tier 0	EGEE	442632			
CIEMAT-LCG2	Spain	CMS Federation	ES-CMS-T2	Tier 2	EGEE	16908			

200 entries

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view: Glue Validator WLCG

Glue Validator

Site Name	EGI profile for GLUE2 validation	Obsolete Entries	GGUS ticket for obsolete entries
Australia-ATLAS	INFO	0	51172
BEIJING-LCG2	INFO	0	50796
BEgrid-ULB-VUB	OK	0	50797
BUDAPEST	WARNING	0	50798
BeGrid-UCL	INFO	0	50799
CA-MCGILL-CLUMEQ-T2	INFO	0	50800
CA-SCINET-T2	ERROR	0	None
CA-VICTORIA-WESTGRID-T2	INFO	0	51173
CBPF	INFO	0	51096
CERN-PROD	WARNING	0	50934
CIEMAT-LCG2	INFO	0	50803
CSCS-LCG2	ERROR	19	50800
CYFRONET-LCG2	WARNING	0	50805
DESY-HH	WARNING	0	50806
DESY-ZN	WARNING	0	50807
EELA-UNLP	INFO	0	50808
EELA-UTFSM	WARNING	0	50811
EPDA-JET	INFO	0	50810
FI HIP T2	WARNING	0	50964

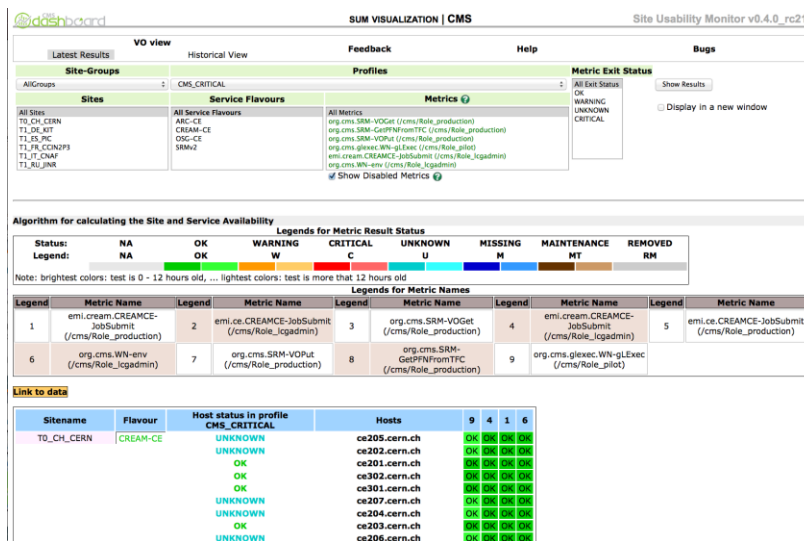
## Other important decisions

- Offer two UI (SSB and SAM/SUM)
  - On top of the same metric store
- Nagios plugin for the sites
  - PIC volunteered to create it
- Keep the same name SAM/SUM → SAM (or SAM3)

# SAM3 interfaces

- Interface **already available**
  - Using the tests results from production
- Availabilities** calculated
  - Downtime to be introduced**
  - To be validated**
- Very similar interface
  - With **FQAN** and any service
- Using same DB as SSB
- Profiles could be based on any metric

<http://wlcg-sam-alice.cern.ch>  
<http://wlcg-sam-atlas.cern.ch>  
<http://wlcg-sam-cms.cern.ch>  
<http://wlcg-sam-lhcb.cern.ch>



## 4. Technology evaluation

- Most of the **work done** during the review & prototype phase
  - Effort still necessary to keep up to date
- Close **collaboration** with AI Monitoring



# Summary

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# Next steps

- Evolve the new system into production
- With overlap with the current system
  - To facilitate validation
  - At the cost of maintaining two systems!
- Project plan followed with
  - <https://its.cern.ch/jira/browse/WLCGMON>
- In particular:
  - Testing framework
  - CREAMCE and Condorg plugin
  - Injecting metrics from experiments
  - Include downtime into availability/reliability
  - Report generation

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# WLCG Monitoring Consolidation Group

- **Simplify** scope/tools/maintenance to support it with half of the resources *less than half*
- **Prototype** already deployed
  - Now, 'just' evolve it production
- Very good progress on moving to common infrastructure, and merging applications
- And plenty of work still ahead of us...