



WLCG Monitoring Consolidation

WLCG Operations Planning

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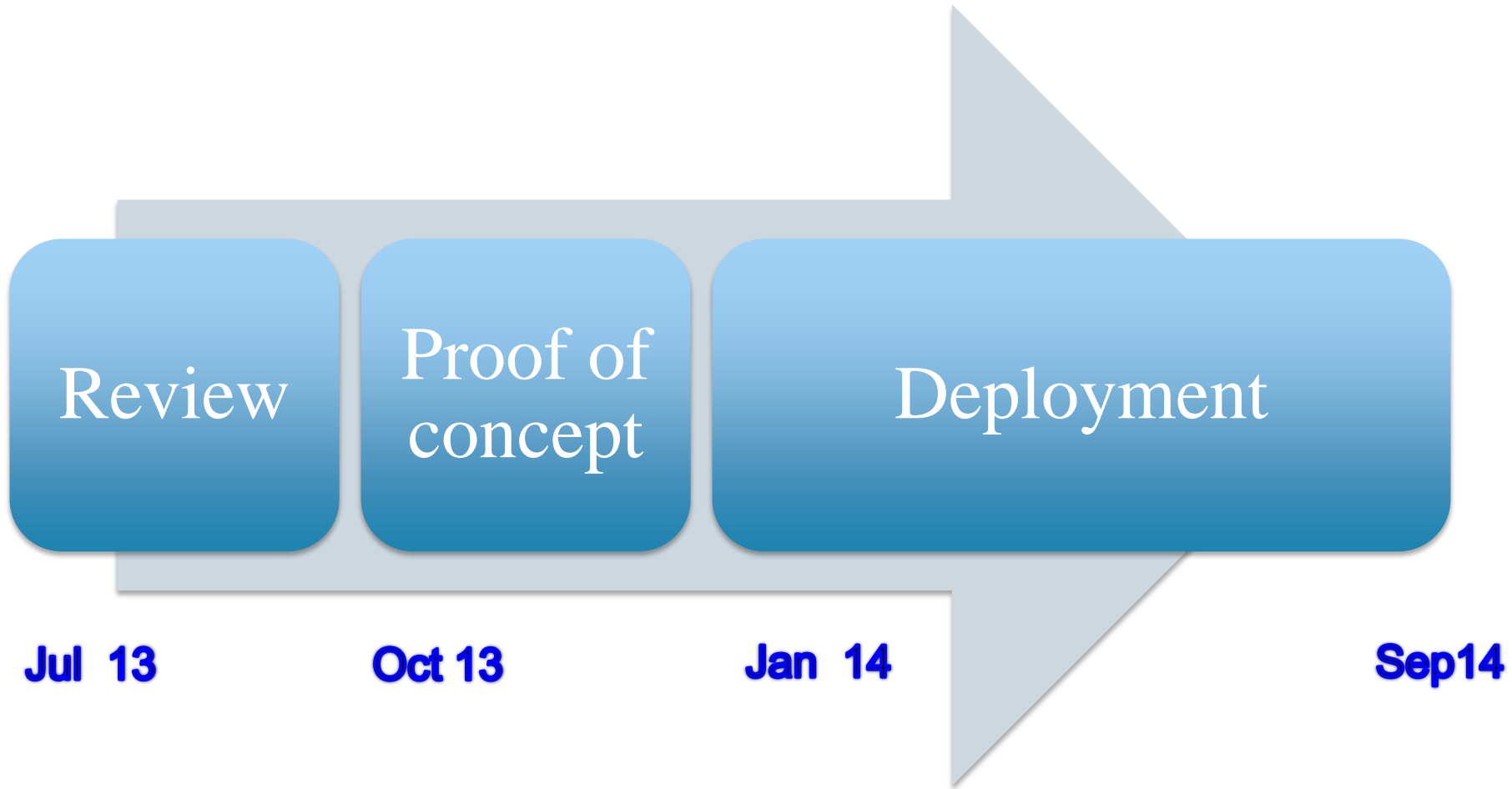
IT/SDC



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>

Timeline



Following up tasks

- Fortnightly meetings: <https://indico.cern.ch/category/4981/>
- JIRA: <https://its.cern.ch/jira/browse/WLCGMONCON>



Recent Updates

- Moving from quattor to AI
 - Openstack, puppet, foreman, koji
 - SLC6
 - Only a couple of machines left on quattor...
- Combine SAM and SSB DB
- Validation of SAM3 interface (Elena Tikhonenko)
- Site nagios plugin (Jordi Casals)
- Test submission framework
- Plugins for CREAM-CE and Condorg
- Migration of EGI SAM
- Savannah → JIRA
- ...

SAM3 Validation

- Elena Tikhonenko (DUBNA) & Ivan Dzhunov (CERN)

SUM:

<http://dashb-cms-sum.cern.ch/>
<http://dashb-atlas-sum.cern.ch/>
<http://dashb-lhcb-sum.cern.ch/>
<http://dashb-alice-sum.cern.ch/>



SAM3:

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

- SUM and SAM3 offer same API
- Comparison of service availability/reliability
 - Site avl/rel in progress
- Main reasons for discrepancy:
 - Downtimes and metric validity (24h → 2h)

Overview of comparison for one week (26.03-02.04)

			Availability			Reliability
Name of service	Number of services	Number of records for comparison	Total number of differences	Due to downtime	Due to different validity	Total number of differences
CMS SRMv2	111	777	35 (4.5%)	24	11	17 (2.2%)
ATLAS SRMv2	109	763	26 (3.4%)	18	8	13 (1.7%)
ATLAS OSG-SRMv2	14	98	8 (8%)	2	6	3 (3%)
LHCb SRMv2	7	49	-	-	-	-
CMS CREAM-CE	154	1078	217 (20%)	34	173	200 (19%)

Profile Management

Existing profiles					
Profile Id	Profile Name	Algorithm	Flavour Metrics		
3	ALICE_CRITICAL	CREAM-CE	CREAM-CE : ['emi.cream.CREAMCE-DirectJobSubmit (alice)']	modify	remove
5	LHCb_CRITICAL	CREAM-CE * &SRMv2	SRMv2 : ['org.lhcb.SRM-VOLs (/lhcb/Role_production)', 'org.lhcb.SRM-VODEl (/lhcb/Role_production)', 'org.lhcb.SRM-VOLsDir (/lhcb/Role_production)', 'org.lhcb.SRM-GetLHCbInfo (/lhcb/Role_production)', 'org.lhcb.SRM-VOGet (/lhcb/Role_production)', 'org.lhcb.SRM-VOPut (/lhcb/Role_production)'], CREAM-CE : ['org.lhcb.WN-sft-vo-swdir (/lhcb/Role_production)', 'org.lhcb.WN-sft-voms (/lhcb/Role_production)', 'org.lhcb.WN-sft-lcg-rm-gfal (/lhcb/Role_production)', 'org.lhcb.WN-sft-csh (/lhcb/Role_production)', 'org.lhcb.WN-sft-brokerinfo (/lhcb/Role_production)', 'emi.cream.CREAMCE-DirectJobSubmit (/lhcb/Role_production)', 'emi.cream.CREAMCE-JobSubmit (/lhcb/Role_production)']	modify	remove
6	ATLAS_CRITICAL	(OSG-CE + CREAM-CE) * (&SRMv2 + &OSG-SRMv2)	CREAM-CE : ['org.atlas.WN-swspace (/atlas/Role_lcgadmin)', 'emi.cream.CREAMCE-JobSubmit (/atlas/Role_lcgadmin)', 'org.atlas.WN-swspace (/atlas/Role_pilot)'], SRMv2 : ['org.atlas.SRM-VOGet (/atlas/Role_production)', 'org.atlas.SRM-VOPut (/atlas/Role_production)', 'org.atlas.SRM-VODEl (/atlas/Role_production)'], OSG-SRMv2 : ['org.atlas.SRM-VOPut (/atlas/Role_production)', 'org.atlas.SRM-VOGet (/atlas/Role_production)', 'org.atlas.SRM-VODEl (/atlas/Role_production)'], OSG-CE : ['org.atlas.WN-swspace (/atlas/Role_lcgadmin)', 'org.atlas.WN-swspace (/atlas/Role_pilot)', 'emi.ce.CREAMCE-JobSubmit (/atlas/Role_lcgadmin)']	modify	remove
7	CMS_CRITICAL	(OSG-CE + CREAM-CE + ARC-CE) * (&SRMv2 + &OSG-SRMv2)	SRMv2 : ['org.cms.SRM-GetPFNFromTFC (/cms/Role_production)', 'org.cms.SRM-VOGet (/cms/Role_production)', 'org.cms.SRM-VOPut (/cms/Role_production)'], CREAM-CE : ['emi.cream.CREAMCE-JobSubmit (/cms/Role_lcgadmin)', 'org.cms.glxexec.WN-gLExec (/cms/Role_pilot)', 'org.cms.WN-env (/cms/Role_lcgadmin)', 'emi.cream.CREAMCE-JobSubmit (/cms/Role_production)'], OSG-CE : ['emi.ce.CREAMCE-JobSubmit (/cms/Role_lcgadmin)', 'emi.ce.CREAMCE-JobSubmit (/cms/Role_production)', 'org.cms.WN-env (/cms/Role_lcgadmin)', 'org.cms.glxexec.WN-gLExec (/cms/Role_pilot)'], OSG-SRMv2 : ['org.cms.SRM-GetPFNFromTFC (/cms/Role_production)', 'org.cms.SRM-VOGet (/cms/Role_production)', 'org.cms.SRM-VOPut (/cms/Role_production)'], ARC-CE : ['org.cms.WN-env (/cms/Role_lcgadmin)', 'org.cms.glxexec.WN-gLExec (/cms/Role_pilot)', 'emi.ce.CREAMCE-JobSubmit (/cms/Role_production)', 'emi.ce.CREAMCE-JobSubmit (/cms/Role_lcgadmin)']	modify	remove

First Previous 1 Next Last

New Nagios Plugin

- Bash script downloads JSON files for each of the experiment's SAM (SUM) dashboard
- After parsing it, it get status of each individual check in a given profile
- It sends status to local Nagios system

Slide from
Jordi Casals
(PIC)
<http://cern.ch/go/N8r7>

Link to data

Dashboard JSON

```
{
  "data": {
    "siteName": [
      "T1_ES_PIC"
    ],
    "results": [
      {
        "sitename": "T1_ES_PIC",
        "flavours": [
          {
            "hosts": [
              {
                "metric": [
                  {
                    "status": "OK",
                    "timestamp": "2014-04-09T09:43:15Z",
                    "age": 0,
                    "Abbr": 2,
                    "metric_name": "emi.cream.CREAMCE-JobSubmit"
                  }
                ]
              }
            ]
          }
        ]
      }
    ]
  }
}
```

Nagios Plugins LCG SAM

```
...
...
# Get JSON content using input
args
json=$(wget -qO - "http://dashb-
$vo-
sum.cern.ch/dashboard/request.py/1
atestresultssmry-sumjson?
profile=$profile&flavour=$flavour&
site=$site")
...
...
```

PIC Nagios

```
WARNING (for 0d 23h 55m 53s)
CREAM-CE: WARNING

HOSTS
=====
CREAM-CE
ce07.pic.es: WARNING
ce08.pic.es: WARNING
ce09.pic.es: WARNING
ce10.pic.es: WARNING
ce11.pic.es: WARNING

PROBLEMS
=====
CREAM-CE - ce07.pic.es - org.cms.WN-xrootd-access: W
CREAM-CE - ce08.pic.es - org.cms.WN-xrootd-access: W
CREAM-CE - ce09.pic.es - org.cms.WN-xrootd-access: W
CREAM-CE - ce10.pic.es - org.cms.WN-xrootd-access: W
CREAM-CE - ce11.pic.es - org.cms.WN-xrootd-access: W
```

Strengths

Slide from
Jordi Casals (PIC)
<http://cern.ch/go/N8r7>

- Dynamic and easy to use
 - If there is a check removed from the list, it won't require any action to work correctly
- No need for authentication
- Made by PIC for all of the WLCG sites
 - Generic: It works for all experiments, for all sites
- The only requirement is jq package (JSON processor) in the machine where the plugin is installed
 - <http://stedolan.github.io/jq/>

<http://jcasals.github.io/nagios-plugins-lcgsam>

Next steps

- Feedback on new tools:
 - SAM3 and Site Nagios plugin
- Injecting experiment metrics
 - Including experiment services!
- REBUS integration
- Hammercloud review
- Report generation on SAM3 and REBUS
- Evaluation of ElasticSearch 1.0

WLCG Monitoring Consolidation Group

- Goal: keep same level of support with reduced effort, before end of summer!
- A **lot of progress** behind the scenes:
 - Moving to AI, service deployment
 - Combining database schemas
 - Technology evaluation
- Calling for feedback in several tools: SAM3, Site Nagios
- **Plenty of work** ahead of us

