



SAM3 Improvements

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New operand: AND IF DATA

- Use cases:
 - If a site does not have a service type, it should not affect site availability
 - E.g. : Site Avl = CE AND IF DATA SRM
 - If a metric does not arrive, the status of the service should be unknown
 - E.g. : Serv Avl = M1 AND M2 AND M3

Metric operations

OPERATION	PRIORITY	SYMBOL
OR	     	+
AND	     	%
AND IF	     	*
<m> overwrite <n>	IF <N> !=  THEN <N> ELSE <M>	^

 OK
  WARNING
  CRITICAL
 DOWNTIME
  UNKNOWN
  NO DATA

* Will be converted to  there is at least one more metric

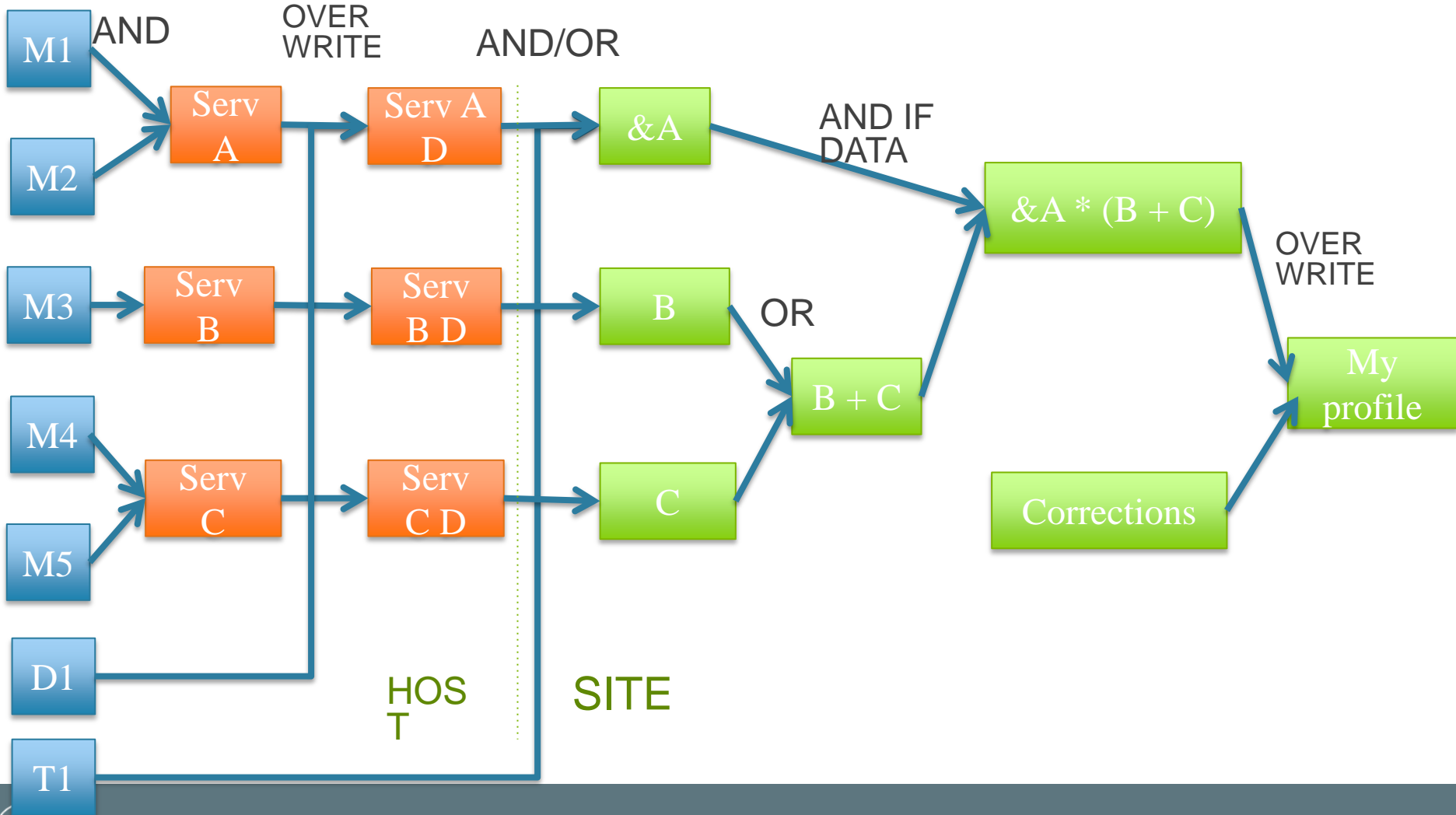
Profile calculation

- When a profile is created, several virtual metrics are created automatically
 - Service instance availability
 - Including downtime
 - Service availability
 - Service combinations
 - Site corrections

Example of new profile

- Name: My profile
- Algorithm: $\&A * (B + C)$
- Metrics: $A \rightarrow M1, M2$, $B \rightarrow M3$, $C \rightarrow M4, M5$
- Topology: T1
- Service Downtime: D1

$&A * (B + C)$





UI Improvements: Displaying the algorithm

SAM VISUALIZATION | CMS

View Generate Report **Feedback** Help

Profiles

CMS_CRITICAL_FULL  **Algorithm:**
(OSG-CE+CREAM-CE+ARC-CE)*(&SRMv2+&OSG-SRMv2)

Service Flavours **Metrics** 

All Service Flavours	All Metrics
ARC-CE	org.cms.SRM-VOPut (/cms/Role_production)
CREAM-CE	org.cms.SRM-VOGet (/cms/Role_production)
OSG-CE	org.cms.SRM-GetPFNFromTFC (/cms/Role_production)
OSG-SRMv2	org.cms.WN-xrootd-fallback (/cms/Role_lcgadmin)
SRMv2	org.cms.WN-basic (/cms/Role_lcgadmin)
	emi.cream.CREAMCE-JobSubmit (/cms/Role_lcgadmin)

Site Metrics

- Include in the algorithm other metrics collected at site level: @<NAME>

Profiles

LHCb_CRITICAL_2

Algorithm:
CREAM-CE % (&SRMv2 + @SiteWithoutStorage)

Service Flavours

All Service Flavours

- CREAM-CE
- SRMv2
- SiteWithoutStorage

Show Disabled Flavours ?

Show site metrics

Metrics

All Metrics

- lhc toplogy (T2)
- org.lhcb.SRM-VOPut (/lhcb/Role_production)
- org.lhcb.SRM-VOLs (/lhcb/Role_production)
- org.lhcb.SRM-GetLHCbInfo (/lhcb/Role_production)
- org.lhcb.SRM-VODel (/lhcb/Role_production)
- org.lhcb.SRM-VOLsDir (/lhcb/Role_production)

Show Disabled Metrics ?

UI improvements: visualizing site metrics

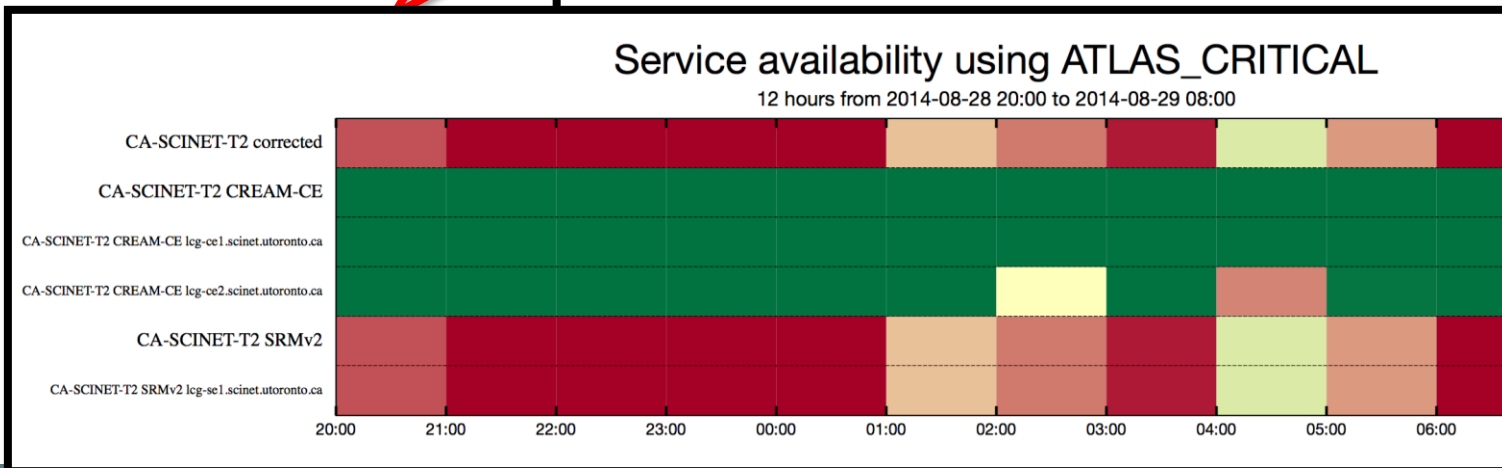
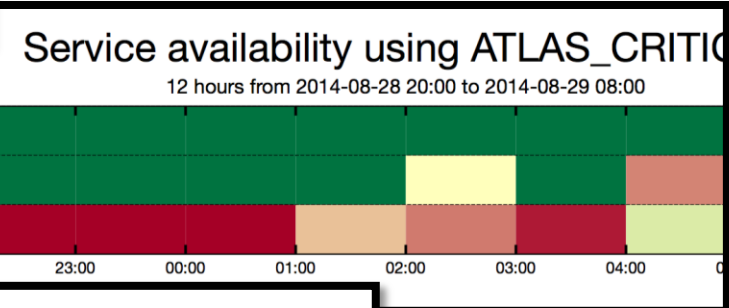
Service Availability: Last 12 Hours Tier2s ATLAS_CRITICAL

Algorithm:
 (OSG-CE + CREAM-CE + ARC-CE)
 * (&SRMv2 + &OSG-SRMv2)

Granularity	Sites	Service Flavours
Default	AGLT2 Australia-ATLAS BEIJING-LCG2 BU_ATLAS_Tier2 CA-MCGILL-CLUMEQ-T2 CA-SCINET-T2 CA-VICTORIA-WESTGRID-T2	All Service Flavours ARC-CE CREAM-CE OSG-CE OSG-SRMv2 SRMv2

Show Disabled Flavours ?
 Show site metrics

Show Results

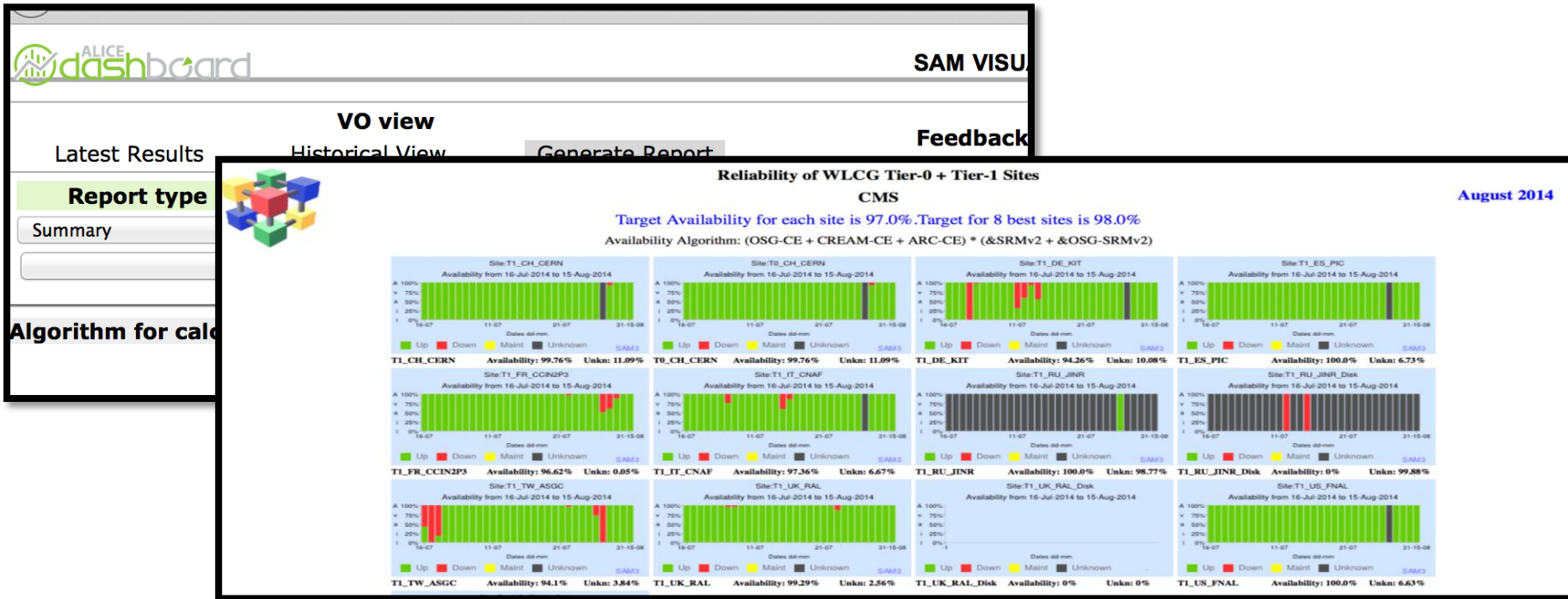


Site Metrics (cont.)

- We could create multi-vo profiles!
- Name: WLCG CRITICAL
- Algorithm: @ALICE * @ATLAS * @CMS * @LHCb
- Metrics: ALICE→ALICE_CRITICAL,
CMS→CMS_CRITICAL_FULL, ...
- Topology: Metric with exp. Name to GOCDDB
- RESULT:
 - Single metric with status of all experiments present at a site

Reports

- Started by Edward Karavakis:
 - Continued by Vagram Airiian



SAM3 validation

- Aim:
 - no differences or understood differences?
- Examples:
 - Multi FQANS: Understood
 - Unknown service → Site OK: Understood
 - Service missing in SAM2: Understood
 - Multiple SRMs: ?

 - Services not tested: ?
 - (28 CMS, 30 ATLAS, 6 LHCb)
- <https://twiki.cern.ch/twiki/bin/view/LCG/ValidationStatus>

Next steps

- Continue data validation
- Use SAM3 for operations
- Setup preproduction
 - Need to copy data?
- Compare August Availability reports
- Import historical site availability into corrections

Summary

- SAM3 ready for commissioning
- More flexibility in algorithms
 - More operands, more metrics
- Next steps:
 - Gain experience with the system