

CMS Critical Services

T1SCM

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CRITICAL SERVICES FOR CMS

- Divide into 3 areas
 - Services Monitored and Addressed by the experiment
 - Monitored automatically and by the Computing Shifters
 - Problems are responded to by the Computing Run Coordinator (CRC), Operations, and sometimes development
 - We have 24/7 monitoring by shifters and off-hours support by CRC
 - Services Operated by IT at CERN
 - Automatically and shifter monitored
 - Addressed with service tickets including alarms
 - Services Operated by Tier-1 Centers
 - A few are centrally monitored by shifters and operations. Problems are addressed with GGUS/Savannah tickets
 - Tier-2s have no critical services and identified problems are addressed with tickets
 - Tier-2s are not expected to respond outside of business hours

SERVICE CRITICALITY

From Service Database (SDB) project - user documentation

<https://twiki.cern.ch/twiki/bin/view/FIOgroup/SDBUserDoc#Criticality>

Services

Criticality

Here is the scale for the criticality field, and proposed meanings of various values:

Criticality	Max downtime per incident	Definition
10	0.5h	Service absolutely critical for Experiments, or for running the Computer Centre
9	0.5h	
8	0.5h	
7	1h	Service not available is a serious disruption
6	8h	
5	12h	Service not critical but used by many users, its inavailability is a major reduction in effectiveness
4	24h	
3	24h	Service not available means reduced effectiveness
2	72h	
1	72h	Service not critical
0	forever	Service not used or discouraged

Criticality level definition for CMS is mapped quasi one-to-one to those from SDB

CMS CORE SERVICES

Every vobox has an importance value associated to it:

<https://twiki.cern.ch/twiki/bin/view/FIOgroup/FsVOBoxVOCMachineImportance>

Importance goes from 0 to 100, if importance > 50 → sysadmin piquet coverage

In CMS, criticality of services running within voboxes determines this importance value

Service group	Criticality	Description / Services
Data Management	8	DBS, Frontier, Phedex
T0 Bookkeeping	9	T0 Submission Service
Workflow Management	7	WMAgent, GlideinWMS, CRAB
CMSWEB	8-6	Webtools Services: Frontend, SiteDB..
Site Monitoring	5	Nagios (SAM), Hammercloud (JobRobot)
Documentation	6	DocDB, iCMS, CMSDOC, Hypernews
Application Software	6	CMS Repository, Tag Collector, Building...
Integration	4	Test and integration of DMWM tools

CMS TIER-1 SERVICES

These are not as critical as the CMS Core Services

- Simply because there are 7 instances of many of these services
- Weekend and off-hour response is needed because the failure of a service below has big impacts on production, analysis and Tier-2 centers

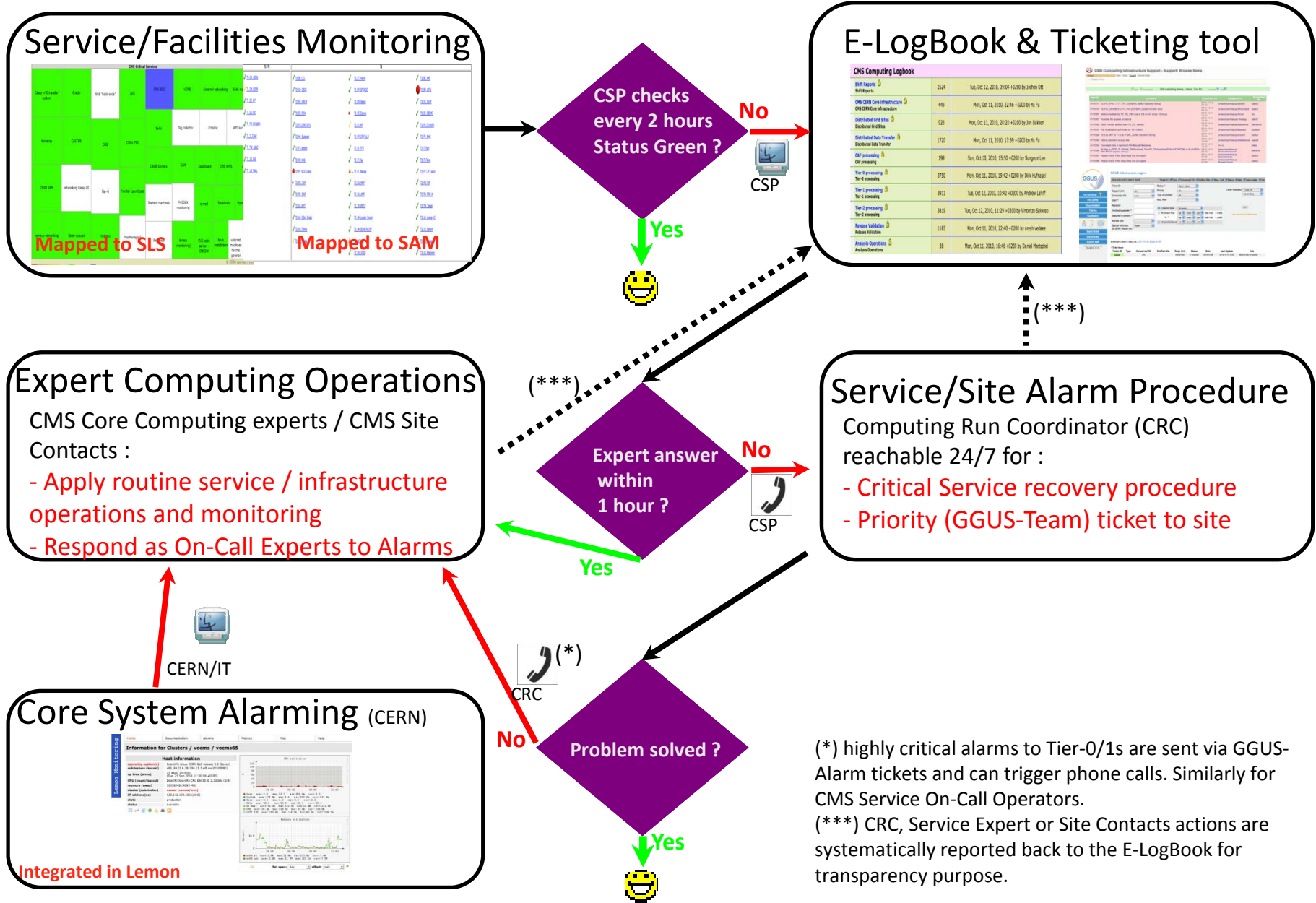
We have negotiated Tier-1 SLAs in the past, but they are somewhat out of date and should be revisited

Work was done on Tier-1 failure response depending in the expected time of unavailability

- Fortunately these have not needed to be exercised

Service	Criticality
FTS	6
Computing	5
Storage	5
Tape	7
Phedex	5
Frontier/Squid	3-4
Grid Interfaces and Information	5

CMS CORE SERVICES - RECOVERY PROCEDURES



IT SERVICES

SDB Criticality is being really considered by IT?

<https://remedy01.cern.ch/cgi-bin/consult.cgi?caseid=CT0000000726694&email=peter.kreuzer@cern.ch>

CMS wished ranks for IT Services differ from the existing ones in SDB:

Service	CMS wished criticality	SDB criticality
Networking	10	5
CMS Databases	10	10
Frontier Frontends	10	?
CASTOR Tape CMS	8	5
EOSCMS	7	5
TWIKI Documentation	5	
AFS Service for CMS	8-10	5
Grid Interfaces	5	
Web/Mail	5	

EXPECTATIONS

- CMS has tried to use the criticality definitions even when they disagree with the agreements in SDB
 - In terms of planning for reliability and redundancy it is valuable to have an assessment of the impact
- Some services may be a 10 in some areas and much lower in others
 - For example: Network connections to the Frontier launch pad is more critical than network to Twiki