CCRC - How Did It Go?

Jamie Shiers

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LCG GDB, 5th March 2008

Summary

- **"It went better than we expected but not as well as we hoped."**

- Sounds a little like Bilbo Baggins "A Long Expected Party":

- *"I don't know half of you half as well as I should like; and I like less than half of you half as well as you deserve."*

- **But we agreed to measure our process against quantitative metrics:**
  - **S**pecific, **M**easurable, **A**chievable, **R**ealistic, **T**imely

CCRC - How Did It Go?
Against Up-front Metrics?

Jamie Shiers

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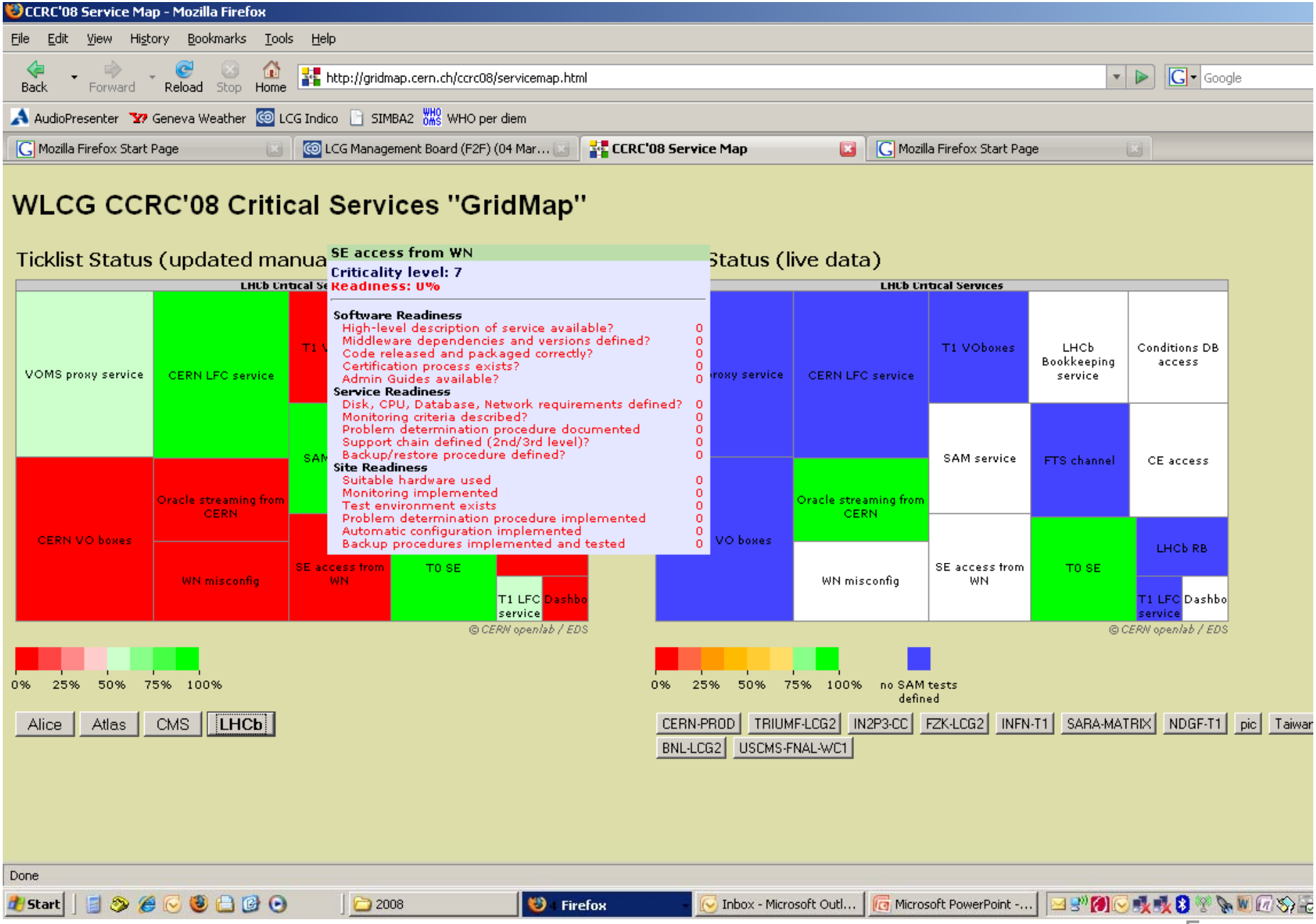
Summary

- Having the pre-agreed metrics was certainly a big help in understanding how well we did

- One result is that we (**still**) do not have metrics for all areas, nor have we clearly identified all relevant areas, nor are we (**yet**) in a good position to (**automatically**) measure and report on these metrics

- It is important than we make as much progress in this area prior to May – and one area that needs progress is related to the sites:
  - What do they need to know?
  - What are their objectives?
  - How can they see how they are doing?


CCRC'08 Service Map - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Back Forward Reload Stop Home
http://gridmap.cern.ch/ccrc08/servicemap.html
Google
AudioPresenter Geneva Weather LCG Indico SIMBA2 WHO per diem
Mozilla Firefox Start Page
LCG Management Board (F2F) (04 Mar...
CCRC'08 Service Map
Mozilla Firefox Start Page
WLCG CCRC'08 Critical Services "GridMap"
Ticklist Status (updated manua
Status (live data)
SE access from WN
Criticality level: 7
Readiness: 0%
Software Readiness
High-level description of service available? 0
Middleware dependencies and versions defined? 0
Code released and packaged correctly? 0
Certification process exists? 0
Admin Guides available? 0
Service Readiness
Disk, CPU, Database, Network requirements defined? 0
Monitoring criteria described? 0
Problem determination procedure documented 0
Support chain defined (2nd/3rd level)? 0
Backup/restore procedure defined? 0
Site Readiness
Suitable hardware used 0
Monitoring implemented 0
Test environment exists 0
Problem determination procedure implemented 0
Automatic configuration implemented 0
Backup procedures implemented and tested 0
LHCb Critical Services
VOMS proxy service
CERN LFC service
CERN VO boxes
Oracle streaming from CERN
WN misconfig
SE access from WN
T0 SE
T1 LFC service
Dashbo
T1 VOboxes
LHCb Bookkeeping service
Conditions DB access
SAM service
FTS channel
CE access
LHCb RB
© CERN openlab / EDS
0% 25% 50% 75% 100%
no SAM tests defined
Alice Atlas CMS LHCb
CERN-PROD TRIUMF-LCG2 IN2P3-CC FZK-LCG2 INFN-T1 SARA-MATRIX NDGF-T1 pic
BNL-LCG2 USCMS-FNAL-WC1
Done
Start
2008
Firefox
Inbox - Microsoft Outl...
Microsoft PowerPoint -...

Experiment View
In Order of Appearance

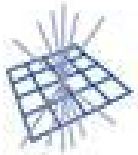
- CMS
  - Detailed presentation of up-front metrics per functional block
  - 100% success not reported, but well understood status
- ATLAS:
  - CCRC was a very useful exercise for ATLAS
  - Achieved most milestones in spite of external dependencies
  - It's difficult to serve the Detector, Physics and IT community!
- ALICE:
  - For ALICE, the CCRC exercise has fulfilled its purpose
    - Focus on data management
    - Brings all experiments together
    - Controlled tests, organization
- LHCb:
  - Initial phase of CCRC'08 was dedicated to development and testing of DIRAC3
  - CCRC'08 now running smoothly
    - Online->T0 and T0-T1 transfers on the whole a success
    - Some issues with reconstruction activity and data upload from the WNs
    - Investigating with Tier-1s recent problem of determining file sizes using gfal
    - Quick turnaround for reported problems

Summary

- Success
  - Problems were overcome
  - Experiments happy
    - CMS and LHCb achieved higher than expected rates
  - SRM v2 now deployed and used in production at T1s
- **Lots to do before May**

GridPP
UK Computing for Particle Physics

Science & Technology Facilities Council
e-Science



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Service Observations (1/2)

- We must standardise and clarify the operator/experiment communications lines at Tier 0 and Tier 1.
- The management board milestones of providing 24 by 7 support and implementing agreed experiment VO-box Service Level Agreements need to be completed as soon as possible.
- As expected there were many teething problems in the first two weeks as SRMv2 endpoints were setup (over 160) and early bugs found after which the SRMv2 deployment worked generally well.
- Missing functionalities in the data management layers have been exposed (the storage solutions working group was closely linked to the February activities) and follow-up planning is in place.
- The Tier 1 proved fairly reliable and we must follow-up with all of them the ATLAS initiative on asking them to report on how their tape operations were organised and performed.

WLCG Services – In a Nutshell…

Services	
ALL	WLCG / "Grid" standards
KEY PRODUCTION SERVICES	+ Expert call-out by operator
CASTOR/Physics DBs/Grid Data Management	+ 24 x 7 on-call

- **Summary slide on WLCG Service Reliability shown to OB/MB/GDB during December 2007**
- On-call service established beginning February 2008 for CASTOR/FTS/LFC (not yet backend DBs)
- Grid/operator alarm mailing lists exist – need to be reviewed & procedures documented / broadcast

Critical Service Follow-up

- Targets (not commitments) proposed for Tier0 services
  - Similar targets requested for Tier1s/Tier2s
  - Experience from first week of CCRC'08 suggests targets for **problem resolution** should not be too high (if ~achievable)
    - The MoU lists targets for responding to problems (12 hours for T1s)
  - ¿ **Tier1s: 95% of problems resolved <1 working day ?**
  - ¿ **Tier2s: 90% of problems resolved < 1 working day ?**

➢ **Post-mortem triggered when targets not met!**

Time Interval	Issue (Tier0 Services)	Target
End 2008	Consistent use of all WLCG Service Standards	100%
30'	Operator response to alarm / call to x5011 **/ mailing list**	99%
1 hour	Operator response to alarm / call to x5011 **/ mailing list**	100%
4 hours	Expert intervention in response to above	95%
8 hours	Problem resolved	90%
24 hours	Problem resolved	99%

Service Observations (2/2)

- Some particular experiment problems were seen at the WLCG level:
  - ALICE: Only one Tier 1 (FZK) was fully ready, NL-T1 after several days more then the last 3 only on the last day.
  - ATLAS: Creation of physics mix data sample took much longer than expected and a reduced sample had to be used.
  - CMS: Inter Tier 1 performance not as good as expected.
  - LHCb: New version of Dirac had teething problems – 1 week delay.
  - Only two inter-experiment interferences were logged: FTS congestion at GRIF caused by competing ATLAS and CMS SEs (solved by implementing sub-site channels) and degradation of CMS exports to PIC by ATLAS filling the FTS request queue with retries.
- We must collect and analyse the various metrics measurements.
- The electronic log and daily operations meetings proved very useful and will continue. Not many Tier 1 attend the daily phone conference and we need to find out how to make it more useful.
- Overall a good learning experience and positive result. Activities will continue from now on with the May run acting as a focus point.

Well, How Did We Do?

- Remember that prior to CCRC'08 we:

  a) Were not confident that we were / would be able to support all aspects of all experiments simultaneously
  b) Had discussed possible fall-backs if this were not demonstrated
     - **The only conceivable "fall-back" was de-scoping…**

- Now we are reasonably confident of the former
- Do we need to retain the latter as an option?
- Despite being rather late with a number of components (not desirable), things settled down reasonably well
- Given the much higher "bar" for May, need to be well prepared!

What's Next?

- F2F Tuesday April 1st
  - Morning in B32; afternoon in 160 1-009
- WLCG Collaboration Workshop April 21 – 25
  - Main auditorium; IT amphitheatre also booked Thu / Fri
- "Post-mortem" workshop IT amphi June 12 - 13

Discussion