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Summary of GDB meeting, June 8, 2016 (CERN)

Agenda

<https://indico.cern.ch/event/394783/>

Introduction

- D4RI - Digital Infrastructures for Research conference will have a lot of colocated events

GDB steering group

- no comments

Traceability WG

*

Accounting

- Oxana: walltime is underaccounted in volunteer computing, how is it normalized?
- Michel: Are we moving to wallclock accounting? Yes, the pledges already are in wallclock.
- Jeff: we should stop using the term "normalized time", and this would be a good time to end it.

Journal ideas

- currently now most publications are in the CHEP proceedings which have very few cites.
- scoping is going to be hard and will require a lot of discussion
- editorial line should be hard, should include some form of research
- Perhaps we should not isolate ourself to just physics?
- Lifescience have a lot of interesting things, mostly data intensive issues and wide collaboration.
- It should be open for data intensive work, not just physics.

CVMFS release testing

- sounds sensible

CVMFS and data federations

- WAN load? yes and no. it might.
- Will require a lot of disk space on the WN? Yes. it's io-intensive on the WM.
- How is performance compared to xrootd? Unknown.

WLCG and IPv6-only CPUs

Introduction - D. Kelsey

Google IPv6 stats: 12% of connections in average but 43% in Belgium, 27% in USA

- Also Apple mandates [all](#) apps in the AppleStore to be IPv6 compliant (be capable of IPv6-only) since June 1st

Motivation background

- Oct. 2015 : Canada requested if pure IPv6 was possible for some new deployments planned
- Some IPv6-only resources may become available as opportunistic resources
 - ◆ 1 cloud provider offers discount if resources accessed through IPv6

Testbed work started a while ago: this year engaged with LHC experiments

- 2015-16: moved from testbed to dual-stack in production
- CERN: several significant spike in IPv6 outbound traffic at the level of 4 Gbits/s

Yesterday pre-GDB

- Present experience with dual-stack production services
- Look at other developments: monitoring, security...
- Experiment status and requests
- 20 people in the room + 20 remote

LHCb - R. Nandakumar

Plan is to be ready for IPv6-only in in (April) 2017: no major issue identified, on track

- DIRAC has been made IPv6 compliant end of 2014: GridPP instance at Imperial dual-stacked with no issue
 - ◆ Main issue has been Python libs compiled without "--use-ipv6"
 - ◆ Still no test with real IPv6-only WNs
- New CERN VO boxes are dual-stacked
- An open issue with submission from DIRAC to dual-stacked CREAM CEs (CERN, QMUL): being worked on
- Work still needed for authorization of IPv6 WNs

Most sites still running IPv4-only services

ALICE - C. Grigoras

Central services configured with IPv6 3 years ago, including DNS aliases

- No problem but most services never contacted through IPv6
- Exception: alimonitor.cern.ch, 11% through IPv6

AliEN not yet IPv6 ready: in particular still shipping xrootd v3 but upgrade in progress

Support for IPv6-only WN requires all the storage to be dual-stacked: sites are ***requested*** to dual-stack their storage asap

CMS - A. Sciaba

11 sites have dual-stacked services and are not causing problems

- T2 except PIC
 - ◆ Small fraction of the storage
- Several xrootd redirectors dual-stacked

Core services:

- cmsweb, glideinWMS/pilot factories and HTCondor validated
 - ◆ Not all pilot factories already dual-stacked
- CRAB is not yet IPv6 compliant
- Frontier has issue but fixes underway

CMS happy with dual-stacked WNs but CMS requests sites to keep IPv4 connectivity on WNs until the end of Run2 (even if degraded)

- Sites encouraged to dual-stack their xrootd storage asap
- CMS service maintainers encouraged to dual-stack the services they have in charge asap, after discussing with CMS
 - ◆ Most important services not yet dual-stacked: FTS, CVMFS, VOMS, PheDeX Oracle

Not yet ready to handle properly that some part of the storage is not reachable through IPv6: SW development needed

ATLAS - A. Dewhurst

A small number of sites with dual stack services, including storage: no problems observed

Offline SW ready

- Last issue with Frontier client fixed in May, workaround possible for older versions
 - ◆ Squid 3 ok for Atlas, even though a few flaws can reduce the effectiveness

Core services: all compliant but Panda and Rucio servers still need to be dual stacked at CERN

ATLAS new computing model: nucleus/satelling

- Nucleus in charge of data consolidation: any large site can be a nucleus for a particular task
 - ◆ Satellite only requires a decent connectivity with nucleus site
- ATLAS would like to have several dual-stack nucleus asap

ATLAS encourages sites to upgrade their storage to dual stack asap

Ipv6 WG Proposal - A. Dewhurst

As a whole WLCG is significantly behind the commercial world in term of IPv6 readiness

- IPv6 becoming mainstream

- Mostly small sites with a limited number of IPv4 addresses allocated are really pushing: big sites tend to have big chunks of addresses
 - ◆ Hopefully some large sites like CERN has made huge effort to drive the move

Eventual goal is to replace IPv4 by IPv6: running 2 protocols is more complex than one...

- Would be good to dual stack a small number of services...
- WN is the easiest resource to make IPv6 only
- Idea is to require leading facilities to support dual stack services (e.g. T1s) and allow other sites to upgrade directly from IPv4 to IPv6
 - ◆ Still discussed with VOs what is the minimum amount of dual stack storage before a VO is comfortable with IPv6-only WN
 - ◆ Would be good if a site wanted to become IPv6-only for WN this year: would greatly help
- A lot of testing done by the HEPiX IPv6 WG and no blocking issue have been identified
 - ◆ Key SW/protocols work: if a SW has no developer able to do the work, experiment should consider moving away from it

Agreements with VOs so far

- All VOs encourage sites to dual stack their storage
- All VOs working towards making their central services dual-stacked by April 2017
- Shared services like CVMFS should be reachable through IPv6 by April 2017
- T1s should provide dual stockage with 90% availability by April 2017
 - ◆ At least 1 GB/s by April 2017 and 10 GB/s by April 2018

-- MichelJouvin - 2016-06-08

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