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CMS Requirements for CVMFS, Frontier and Xrootd

Here is a list of CMS requirements/recommendations for the services to be deployed by the end of this year (2012).

This is not an official CMS document. I'm trying to summarize for my own purposes all the information that I could find so far.

CVMFS

CMS recommendations for the CVMFS deployment

<https://twiki.cern.ch/twiki/bin/view/CMSPublic/CernVMFS4cms>

Worker node

"Present recommendation is to put the cache on a separate partition and make the cache at least 6GB large."

<https://hypernews.cern.ch/HyperNews/CMS/get/t2/834/2/1/1.html>

Squid cache server

"CVMFS tends to put a very light load on a squid, much lighter than Frontier."

<https://hypernews.cern.ch/HyperNews/CMS/get/t2/834/2.html>

CMSSW disk usage

Disk space used by the 64-bit CMSSW releases:

37G for 12 slc5_amd64_gcc462 releases => 3GB/release

64G for 31 slc5_amd64_gcc434 releases => 2GB/release

Frontier

Installing Frontier Local Squid Cache Server

<https://twiki.cern.ch/twiki/bin/view/CMS/SquidForCMS>

"For most purposes 2GHZ, 2GB, 100 GB should be adequate."

"Squid on one core of a modern CPU can pretty much keep up with 2 gigabits."

"Sites with over 500 job slots should have at least 2 squids for reliability."

Xrootd

CMS Xrootd Architecture

<https://twiki.cern.ch/twiki/bin/view/Main/CmsXrootdArchitecture>

CMS Xrootd service hardware recommendations:

<https://twiki.cern.ch/twiki/bin/view/Main/XrootdHardware>

There are two options for enabling fallback:

- **Reading files via NAT or public internet:** This is done by almost all sites, and can be done with a traditional NAT. If you see 1Gbps of traffic from Xrootd for fallback use, you almost certainly have an issue with your storage system.
- **Xrootd Proxy:** This will be done for the CMS HLT farm. Stephen Gowdy is preparing a recipe in the upcoming weeks. Hardware requirements will be similar to the ones for Xrootd covered above. Performance for jobs will be severely degraded compared to the NAT, pending a few required performance patches in a future Xrootd version.

-- PavelDemin - 14-Sep-2012

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