* SAM Ops Meeting

** 2007.01.16 Meeting

*** Releases and Project News

v8.0.5 of SAM DB server package. Fixes the exception problem – when
connection fails the user gets an exception back. The
DB server will also reconnect on the next try when the connection
initially fails. In production at D0 and mostly in production at CDF
(still running some old DB servers).

Note that when the DB servers went down on Friday, both old and new DB
servers survived fine. This could be ok since the hang depends on what
the DB server is doing, and also CDF has a very large sized connection
pool and the DB server will hang only when all of the connections are
used up. D0 uses a much smaller connection pool.

Also new in v8.0.5, we discovered that cx_oracle by default runs in
single threaded mode. This has been changed to multi-threaded mode,
and exposed a bug in either cx_oracle or oracle_client where things
hang when python garbage collects an oracle cursor (stuck on a mutex
inside Oracle client – so can't be our bug). We now explicitly close
the cursor which works around the problem.

*** D0

See mail.

See DB section below and other minutes (and here) for DB problems.

IT–2523 – Marco got bit by the unintuitive precedence of the minus
operator (it really has a very high precedence [higher than and], most
people believe that it has a low precedence, like in **SQL**). When used
parentheses, his query worked. Randolph: When minus was added to the
dimensions code (late) it was added at a high priority since that
apparently easier.

D0 is low on tapes. Tapes are on order. May have to borrow tapes from CDF.

*** MINOS

See mail.

Running DB severs v7.6.1 – (not ancient, but not the newest stuff
either). Moving to concatenation of data on the farm. Found perhaps a
few files that came out with the wrong length – investigating
(probably condor reprocessing files).

*** CDF

No mailed report. See here for more info on connection problems and DB report

CAF station db server hung on the 9**th**, restarted by Doug. Between
10-12**th**, upgraded DB servers that serve **SAAG** and **sam** upload and the
SAM station (to 8.0.5). No problems seen yet. Had different exceptions on Friday
night from different DB servers – not sure why. Will make exceptions
configurable, so if we find a new one can add.

CDF is down to 550 tapes on the old robot. Discussing using D0's robot
which has more slots.

MC is going to the new robot.

*** DB

No mailed report

**** D0
 Last Tuesday afternoon – settled corruption from day
before. Oracle said the disk areas that were being used at the time of
the corruption – the same mount point was all involved. Even though
dbs15 was not showing errors, moved all of the files (all indexes) to
a new mount point.

Wednesday morning – corruption of calorimeter calibration index, also
on **dbs**15. Fixed cal **calib** and starting moving.

Thursday morning – Move completed and checked. We've had no corruption for the past 120 hours (last record with no corruption was 72 hours). At end of this week will remove the 5 disks in **dbs**015 and replace with new disks. Old disks will not be tested.

The Clarion array was purchased on 1998. Vicky said we can buy the SAN to replace the array (whether we're in continuing resolution or not). The size of the SAN will NOT INCLUDE THE EVENT TABLE. All of the EVENT tables will be lost in the move (Steve prefers to keep the tables there and empty so the DB servers don't change). Timescale is unknown – **Req** to Vicky should go in this week. Will buy a bare-bones SAN, so it won't have snapshot capability, and will be enough disk space for integration. If later we can buy snapshot, then perhaps can reclaim integration. Set a date for losing EVENTS. As for pick events, then this will at worst bring a 4x inefficiency to pick events, due to the n=4 round robin streaming.

**** CDF

Sequence caches are small (were set small when SAM was set up because people complained that sequence numbers were not consecutive). Hopefully people will no longer care about sequence numbers. These can be changed **online**. The default sequence cache size is 20.

Then will change the listener as per discussed before. We think that the listener can be changed quickly.

Will change development and integration first, just to make sure nothing is broken be the changes.

Important not to break things now, as the farm is finishing production and **ntuples** are being made for winter conferences. **Krzysztof** will replace all of the DB servers with the new kind that survives the hang BEFORE the DB is changed.

Perhaps plan – do the sequence changes in development/integration today and do production later, once **Krzysztof** upgrades in a day or two.

*** Enstore/dCache

See mail.

Downtime in Feb for public **dCache** and **enstore**.

Also need **dowmtime** for **ADIC** robot (couple hours or longer). Need to address two problems: (1) one **DLT** drive (for **SDSS**) is out of position. (2) One of the emergency power off buttons is dislodged from its mount, not sure if it functions. Need to take robot offline. Perhaps down time 2/6 (2-3 hours).

D0 has looked into recycling 9940B's. 9940A's were recycled a year ago. Perhaps migrate to all B's. 3 A tapes become one B tape. There are ~2900 A tapes. Note that migration takes many months. Check quickly if things can be recycled.

CDF using D0's slots involves some preparation. **Krzysztof** will request moving one tape to get this moving.

From: Daria Zieminska <daria@indiana.edu>
Subject: Re: SAM Ops Meeting Tuesday *9:30* am Racetrack 88SAMDH
To: Adam Lyon <lyon@fnal.gov>
Cc: sam-design@fnal.gov, Angela Bellavance <bellavan@fnal.gov>
Date: Tue, 16 Jan 2007 08:39:18 -0500 (EST)

D0 Sam shift report Jan 8 -- Jan 15 2007

 2529. d0ofprd1 status (message from jtrumbo@fnal.gov on 1/11)
We have been experiencing corruption of individual data blocks since dec.
26. these have been occurring ~every other day and have been a huge
inconvenience to all...
The common thread of these errors is mount point dbs15...
assuming dbs15 was the issue, we moved all the database data that resided
on dbs15 the common thread of these errors is mount point dbs15 to dbs19
last night. dbs15 contained only indices. our corruptions have been
indices.the move started at 15:00 wed, was complete by 00:15 thurs.
we then ran md5 on the files tto make sure the files we copied to dbs19
matched the files on dbs15. we then altered the database to look at dbs19
instead of dbs15 and started up. we now hope for the best. this may have
not been our root cause, as there are no clear errors at any level.

 2523. Some queries taking forwever...Assigned: AAD0SAMexpert
User: I don't know what has happened to SAM in the past few days, but some
queries which worked nicely (although slowly, because they were going
through a lot of files) have stopped running... which means that they
take forever...

 2522. Location not added (resolved)
User: I have a problem when storing file from d0_fzu_prague2 to tape....
Robert's suggestion (acknowledged and accepted by the user):
There's no 'd0rsam01.fnal.gov:/sam/remote/d0_fzu_prague2/store' location
in the database. ...I recommend that rather than adding it you
just change your fss to point to
d0rsam01.fnal.gov:/sam/remote/d0_fzu_prague/store instead as there is no
need to subdivide the temporary staging locations too much.

 2510. locked files at d0karlsruhe
Assigned: AAD0SAMexpert, no followup in 10 days
Hi all, how can i get rid of the locks for the sam station d0karlsruhe.
These are only artefacts ... especially because there are more locked
files than cache space. Here is the station dump: d0.fzk.de $
sam dump ...

                        Daria

On Mon, 15 Jan 2007, Adam Lyon wrote:

> Hi
>
> We'll have the usual SAM Ops meeting at *9:30*am in the Racetrack on
> Tuesday 1/16 (88SAMDH). The usual agenda is
>
> D0
> CDF
> MINOS
> DB
> dCache/Enstore
>
> If you haven't already, please send me the reports. Thanks!
>
> --- Adam
>

From: Arthur Kreymer <kreymer@fnal.gov>
Subject: Minos status 2007 Jan 16
To: *sam-design@fnal.gov*
Cc: *minos_sam_admin@fnal.gov*
Date: *Tue, 16 Jan 2007 09:21:27 -0600 (CST)*

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Minos     - Concatenation of farm data should start today.
                Doing final purge of older files.

            MC import continues to run smoothly, 932 GBytes so far.

Enstore  -

DCache   -

SAM       -
            IT 1894 Need 'sam locate' in C++ API -    progress ?

Oracle   -

OPEN ISSUES
    IT 1894: sam locate via C++ api, for simple client needs
    IT 1979: Compiler warnings from sam_cpp_api
    IT 2071: quadratic project startup time growth (from Nov 1 2005)

PLAN      -
    Feb 15 deployment of new DCache pools
    Migration to 9940B tape can proceed anytime... when ?
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From: David Berg <berg@fnal.gov>
Subject: Re: enstore/dcache report
To: *sam-design@fnal.gov*
Cc: *enstore-admin@fnal.gov*
Date: *Mon, 15 Jan 2007 22:09:15 -0600 (CST)*

enstore/dcache report
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Operations
----
 o nothing to report

Downtimes
----
 o Feb 15, public enstore, 2 hours(?)
   - upgrade stkensrv0 (volume/file database)
 o Feb 15, public dcache, all day
   - reconfigure all pools to ~1 TB each
     (some files will be moved, but none should be lost)
   - 4 new pool nodes (~5 TB ea) will be split between Minos, exp-db
     (Minos keeps their existing raw data write pools;
      Minos, exp-db to no longer write to shared pools)
   - configure and turn on gPlazma for grid certificate authentication

Thanks,
David