

CERES Systems Engineering Committee

Members: Tammy Ayers, SSAI (DM)
Denise Cooper, SSAI (DM)
Tonya Davenport, SSAI (ASDC)
Vertley Hopson, SSAI (ASDC)
Walt Miller, SSAI (DM)
Sue Sorlie, SSAI (ASDC)
Scott Zentz, chair, SSAI (DM)

Charter: Serve as a forum for resolving issues which affect more than one working group. Report to the CERES Data Management Team.

February 24, 2010 @ 10:30

Sue Sorlie, Tonya Davenport, Vertley Hopson, Denise Cooper, Tammy Ayers, Walt Miller, and Scott Zentz were in attendance.

Topics Discussed:

1. As requested by Chris Harris, we discussed the need for an extra backup solution above and beyond that of the user's personal home directory.

Two areas were identified that fall in this category. An area where CM files can be stored and software collaboration can be done. Also, an area to back-up critical ancillary data files that multiple users need to access and would be a significant portion of a user's quota. Given the recent outages, a workspace for each subsystem that could be quickly recovered would be advantageous.

The new archive system implemented by ASDC will go a long way to solving this issue with respect to archiving data files that are generated at the SCF and are deemed important by DMT members and scientists. This will allow the users to feel comfortable putting these files on the /SCF2 filesystem as long as they have also archived them. This should also free up some homedir space for these users as well.

The committee agreed that one more piece is needed to complete a comprehensive backup solution for users and groups. In general the 100GB of backup space available now in a user's homedir is sufficient except for Sunny and Denise's groups. Walt suggested that subsystem home directories be created, but due to how the quota system is deployed on the homedir filesystem this may not work. Under the homedir filesystem the quota policy tracks only a user's quota, so even if they wrote to /homedir/subsystem it would count against their personal quota.

One strategy is just to establish a new directory on /SCF2 inside clouds and instrument that Karen Brown backs up regularly like she does with CERESlib and CERES_CM. There is no reason to make one for each subsystem if it isn't

needed. It is not unreasonable for the subsystem leads and the ASDC admins to come to some agreeable understanding regarding these new paths and allowable space usage.

One other solution proposed by Denise is to simply create a higher-level path, such as /SCF/CERES/backup-src/, where subsystem paths can be added as requested. This will make backing up easier for Karen since it is just one path. These paths would work the same as described above, just isolated in one place.

Scott will consult with Chris Harris on this as soon as possible. At this point, the admin staff needs to weigh in on this and let them determine a solution. The solutions above will satisfy our immediate needs.

2. Revisited the problem of how to handle testing and operations on AMI with the dual architecture setup.

The ultimate end goal decided upon by the SEC was to have the DMT be responsible for two new scripts that would be necessary to run jobs through Sun Grid Engine independent of the architecture of the submitting host. The first is a pure file checking script that is run BEFORE a job is submitted via qsub. This script determines if all the input files needed by a job are in place. The second script will be a wrapper script that will replace much of the wrapper script(s) generated by the ASDC currently. This script will be the script that is sent through SGE and executes all necessary steps of setting up environment, generating PCF script, and executing the run script that controls the binary execution. Future deliveries will include these two extra scripts. The wrapper script will NOT issue the qsub command, it will not set the proper environment variables, and it will not do all the cleanup that the ASDC handles now. Future iterations may do some of these things if it is deemed worthy and necessary.

Now how do we reach this goal? Instead of having each developer make the scripts, which would be a huge burden on already over taxed people as well as lead us down a path where all these file checking scripts and wrapper scripts will be handled differently, It was proposed that we have a select few developers, Scott and maybe two others, who will effectively receive a delivery from a subsystem developer, pull out the file checking logic from the PCF script, create the new file checking script, and create the wrapper script that will eventually be used for job submittal by CM, SSI&T, and Operations. Once complete, the delivery is passed to CM where it will be tested using SGE.

Scott spoke to Lisa about this topic since it is closely tied to her team's work, and she is onboard with this approach. Certainly an effort will be made by all to ensure that the work these developers do will mesh well with current and future initiatives that come out of Lisa's team.

A likely prototype candidate will be one of Denise's PGEs that is scheduled for an AMI delivery very shortly. If we get the necessary approvals from all involved soon, we can start this work next week. If all goes well we may even be able to do a "delta" delivery to update the already delivered PGEs on AMI to alleviate the need for SSIT personnel to write these scripts.

Meeting adjourned @ 11:45am