Software Architecture Meeting - Minutes, Thursday, January 24, 2008

Agenda

1. R4.5 status on code freeze and testing
2. Review of disk failure and possible actions
3. Release 5.0 and Fedora releases

General Items

We need to make another improvement in our code deliveries. Ron requested that all code that is delivered on the code freeze date should have test plans delivered on the same date. The plans should be written so that those not familiar with the code can read the test plans and execute the appropriate tests. In general, these plans should cover new features or features that have been modified.

Note that our next meeting has been changed to be on Feb. 14 at 9:30

R4.5 Status

R4.5 testing has just started. We discussed the delivery of the signature checking code and agreed to the following: a) We will assume that the only datastreams that have signatures will be those with "ARCH" as prefix (i.e. ARCH1, ARCH2, etc). Jeffery will remove code that was also looking for "DS" as a datastream ID, b) editing of failed objects will have to occur to change "DS" to "ARCH", and c) tests will be run on both lefty and mss2. Assuming success with these changes and tests, Kalaivani will arrange to edit the 70 some objects in mss3 that have the "DS" ID.   After editing, a signature check will be run on mss3 to verify that we have a clean run. If there are still problems, investigation will be undertaken to resolve the problems. Our objective is to have a clean run (i.e. no failed signatures) when we deliver the code to Dave.   Currently the signature checking is set to run through all objects in a seven day interval. Dave will configure appropriately on mss3 to complete all checks in a set time which may be less than seven days. We will need to discuss scalability of this code at some future date since, to take an extreme view, we will not be able to do full check on a million objects in a seven day interval.

Review of Disk Failure and Actions

Thanks to Dave and Ashwin for their efforts to restore content on our mass storage system. Dave provided an overview of our configuration and the work that transpired over several days to get back online. For those who want more detail, a view of the white board is available at http://harvest.rutgers.edu/scaredpoet/dave_dr_whiteboard.jpg (thanks to Isaiah). The notes here will cover topics that will need further discussion:

- Maintenance contract. Having the Sun technicians on site for several days resulted in considerable costs to RUL. We need to revisit the issue of maintenance contracts.

- We don't as yet have a good explanation for what caused the failure. Since we have recovered previously from disk failures, it appears that the problem was more than a disk failure. Sun has suggested that we need a controller firmware update. Would this update have been completed if the hardware was on maintenance contract?

- We need to revisit what is saved and synchronization between tape 1 and tape 2.

- There are many possible redundancy options including more tape copies, mirroring to another fedora site, a dark archive, etc. These options all have pros and cons that we will need to discuss further.

- It should also be noted that, in addition to the storage system failure, we also had a service outage of several days. We need to take this into account when we examine redundancy options.

- We should update our backup policy as appropriate.

Release 5.0 Planning

R5.0 is an architecture release in which we will move to 64 bit architecture and PHP 5.0. In addition, we need to move to the next most appropriate Fedora release. Fedora release 3.0 (F3.0) will be available in April with the primary new feature being CMDA. CMDA will be a big jump for those who have lots of disseminators (note: we have only a few disseminators). We could move to F2.2.2 which will provide bug fixes and support for Mulgara triple store. We decided to move to F3.0 in our 5.0 release. This will get this major jump behind us and get NJVid on the most up-to-date Fedora platform. It should be noted that we will not get large file ingest until F3.1 which should occur in the summer, 2008. Our strategy is to stay on a Fedora release for at least a year. As a result, our current plan is to run F3.0 for about a year and then move to F3.x (Spring, 2009) which will support large file ingest and the "managed external" mode.

Other Items

Kalaivani suggested that we discuss our communication and notification process, especially when we have to alert users outside of RU. There is potential of confusing users or perhaps unnecessarily alarming them. For future sw_arch agenda items we have the following on the list: a) continue disk failure discussion, b) OJS 2.0 and export to RUcore, c) WMS open source d) results of experiments with rels-ext and xacml, e) digital docs spec, f) storage architecture for NJVid, and g) shibbolizing fedora.