Blackboard Advisory Committee: Status Report, fall 2009

JQ Johnson, 29 Jan 2010 (for meeting scheduled 1 Feb 10)

Looking backward: fall 2009

Although it has been only two months since our fall meeting, quite a bit has happened in the interim. Some notes:

Blackboard usage

As reported in our fall status report, Blackboard usage for fall grew robustly. Overall year-to-year growth in number of coursesites was 8%, or 11% if measured in number of student course enrollments in active coursesites.

Data for winter term is still preliminary. However, it appears that winter term will be very similar to winter 2009, and hence will not reflect as great a continued growth in blackboard usage:

<table>
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<th>sites</th>
<th>enrollments</th>
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<td>win. 10</td>
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<td>1857</td>
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</table>

During January 2010 (thru 1/29), the Blackboard system had 490,000 visits, displayed more than 29 million web pages, and had a total of 101 million hits. For more details on traffic, see https://blackboard.uoregon.edu/local/awstats/awstats.pl.

System upgrades, downtime, and operational issues

As scheduled, the Blackboard system was down for maintenance on Dec. 29. During that time we upgraded the network connection for Blackboard; the former dedicated 100Mb/s connection was replaced by a shared (with other library services) connection at 1Gb/s. The Blackboard connection is separately encrypted for security, so the end result is that our available bandwidth was significantly increased. At the same time we installed OS updates on the application servers and updated the Blackboard application to 9.0.505.15 (Bb 9 SP 2 Hotfix 1). There were no feature changes but there were some important bug fixes including:

- Several system performance improvements
- A security fix
- A fix for the VTBE where the “Edit” box would sometimes cover a test question
- A fix to allow users to hide course names in “My Courses” if there are more that 25 courses
- A fix where setting course duration dates prevented instructor from making the course available

The new term did not begin propitiously, though. On Jan. 4 the campus experienced a very widespread power outage starting at 9:04am. The blackboard system has battery backup to handle short power outages, but this one lasted long enough that Library Systems needed to shut down the servers, and...
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blackboard was down from approximately 9:15am until 9:47am. Most users on campus were without power on their workstations for even longer. Campus power was again disrupted several times during the month, notably on Jan 18, though the blackboard servers remained in operation.

In addition, an unforeseen side effect of the software upgrade Dec 29 caused significant performance problems during the first week of January. Tim and Stephany Freeman tracked the problem to bad code in the synchronization between Banner and Blackboard, and we decided that we had to decrease the frequency of synchronization. Rather than loading blackboard with data on new accounts and course enrollments twice a day, we converted to doing the loading once a day at 6am.

**User support**

Based on the blackboard trouble ticketing system, we have had moderate usage in the past month. We had a total of 308 trouble tickets in January (through Jan 29). At about 11 per day, this is a slightly lighter load than we were seeing early fall term. The pattern of reported problems seems rather similar to fall term. For example, some of the most common and easily resolved problems included:

- Students reporting inability to log in, usually because they were not using their Duck ID, did not yet have a valid Duck ID, or were trying to log in before we had synchronized and had information on a new Duck ID
- Faculty (and some students) who had accidentally minimized the left column in their blackboard accounts, resulting in what appeared to them to be a missing main course menu and control panel.

Interestingly, one class of problems that seems much reduced is problems with students taking quizzes, despite the fact that use of blackboard quizzes seems to have increased this term. This may be due to better documentation on “best practices” in constructing and taking quizzes. For instance, see:

- [Test Taking in Blackboard](#): Suggestions for students
- [Suggestions for Constructing Blackboard Tests](#): How instructors can build quizzes to avoid potential problems

As noted at our December meeting, we’re exploring options for improving the quality of user support. One change this term was to shift some responses to trouble tickets to Nargas Oskui in CMET Consulting. Our plan is that most first level trouble ticket response will be handled by Nargas, with problems escalated to Tim as appropriate. We have also worked with library staff to ensure that the Knight Library Computer Help Desk can handle typical student problems. We are working with the technical support people for non-Eugene programs (the AIM virtual program in Business, an Ed Leadership graduate program being taught as a hybrid course sequence in Vancouver BC, UO in Bend, etc.), to make sure that they can provide support for their customers.

**Looking forward**

**Hardware relocation**

The most notable change in January was a policy decision driven by the power outage at the beginning of the term. Based on that experience, the decision was made to relocate the blackboard service on Information Services hardware (in the Computing Center) rather than on dedicated systems in the Library. This is expected to be a major hardware change, the largest in the blackboard system since 2007. Don Harris has promised that the change will result in an overall improvement in blackboard availability and, due to hardware virtualization, a long-term decrease in cost. On the other hand, it offers the potential of a short-term decrease in performance, since the blackboard application (the Tomcat server and file servers in particular) is carefully tuned for the existing hardware.
Tim Boshart, JQ Johnson, and several staff members from Library Systems have been meeting with Information Services staff (Brad Davidson, Jose Dominguez, Stephany Freeman, Noreen, Hogan, Micah Sardell, Troy Travis, etc.) to develop a plan and schedule. The next meeting of that group is scheduled for Wednesday. Prior to that meeting we have only very tentative ideas of what the new architecture will look like, but it will probably involve running the blackboard applications on virtual servers managed by IS, with file storage on the IS SAN rather than on a dedicated NAS. Our expectation is that management of the Blackboard applications will not change, but that systems and operating system management for the blackboard servers will likely change to some extent, with some responsibility shifting from UO Library Systems staff to IS Systems staff.

Information Services’ initial estimates are that total downtime for the move is likely to be fairly small – a few hours. Depending on the details that we work out, it seems likely that the move will occur during spring break. It is likely that the move will consist of a cutover from the existing hardware to the new hardware, followed at a later date by a transfer of the existing blackboard hardware to Information Services to be used for other purposes.

Software upgrade planning and downtime schedule

As usual, our downtime plans are documented at http://libweb.uoregon.edu/scis/blackboard/schedule.html. We are expecting to receive a patch from Blackboard Inc. in the next few days that may resolve the performance problems with Banner synchronization. If so, we expect to install it on Feb. 13 during our scheduled Saturday downtime; if the patch is not available or does not resolve the problem, we will likely cancel that downtime. Assuming the patch is successful, we will be able to return to twice-daily synchronization.

Blackboard 9 Service Pack 3 is tentatively scheduled for release in March, and if it is available in time for us to perform local testing we will install it during Spring break. Service packs like this typically are mostly collections of major bug fixes rather than additional features, and so it is typically in our interest to install them as soon as possible. However, it is likely that the release will be delayed until late March or early April, in which case we will need to evaluate alternatives. Some possibilities for this upgrade would be our scheduled (but as “reserved for emergency updates only) June 12 maintenance window which occurs after final exams but before grades are due, a special downtime to be scheduled, e.g. on June 19. Depending on how important the service pack fixes are, we might be able to defer the upgrade until late summer, but we need to develop a fallback plan assuming that the service pack is fairly urgent to install.

We are also expecting a release of the next major version of the software, Blackboard 9.1, probably in May. Once we know more about its features we will need to schedule a time for its installation. If the additional user features are fairly minimal – we believe, for instance, that it will include a wiki and some user interface cleanup but perhaps not much else – then it may be best to install at the end of August 2010. If there are major changes to user interface or if backend changes mean that we will need to have the system down for an extended period during the upgrade then we expect to defer the upgrade until winter break 2010.

Moodle

We didn’t manage to meet our goal of offering a Moodle experiment winter term, but we are making progress on offering Moodle as part of the overall Blackboard course management system. We now have an operational moodle server running on hardware that could become a small production server in the future. We expect to have minimal Blackboard integration in place during February, and to be able
to offer experimental Moodle coursesites in time for spring term. Our hope is that we will at a minimum have

- A Moodle server that performs adequately for 2 to 5 courses.
- Sufficient staff training so CMET Consulting can assist faculty in these courses in using Moodle features.
- Synchronized Blackboard and Moodle authentication, in which users log in to Blackboard, see their Moodle courses listed under My Courses when they click the “My UO” tab, and can view their Moodle courses without logging in again. [Instructors will probably need to manually add their students to the Moodle instance of the course]
- Some user interface integration providing similar color schemes and the green top frame with the “My UO” tab visible even while the student is in a Moodle course, allowing students to switch from their Moodle course back to other Blackboard courses.
- Transfer of grades from Moodle to Blackboard so they show up in "View Grades" tool in the My UO toolbox.

If all goes well with this experiment during spring term, we would expect to expand it summer term. We hope to offer Moodle as a production option for UO faculty starting fall term, perhaps on a different hardware platform.

**Blackboard world**

The annual BbWorld and Blackboard Developer Conferences are scheduled for July 12-16 in Orlando FL. Tim Boshart will be attending and presenting from UO.