Blackboard Advisory Committee: Status Report, winter 2008
JQ Johnson, 22 Feb 2008 (for meeting scheduled 25 Feb 08)

Looking backward: the past quarter

The time since our last Advisory Committee meeting has been very busy, with lots of changes in the Blackboard system. Some items of particular note:

Blackboard usage
The system experienced a pattern of growth very similar to what we’ve seen in previous years. Including winter term and spring semester enrollments, I looked at usage as of 20 Feb. Unduplicated headcount is now at 18344 different users enrolled in active (i.e. available) CRN coursesites, compared with 17438 a year ago, and there are a total of 1621 such coursesites compared with 1394 a year ago.

That's a 5% increase in headcount (we’re near ceiling now that 90% of students are using Blackboard for at least one course) but a strong 16% year-to-year growth in number of courses using blackboard. In fact, although as usual for winter the total number of students is very slightly lower than it was fall term, the total number of courses grew between fall and winter as well.

Another way to measure Blackboard usage is that we have a total of 62296 enrollments in courses using blackboard, which I estimate to be about 70% of all student course enrollments.

Unscheduled downtime
We had one unscheduled outage during the 3 month period. On Dec 14, much of campus including Knight Library experienced a multiple-hour power outage due to an EWEB transformer problem. Although the Blackboard application servers in Knight library have battery backup, it isn’t designed to handle a long outage, so we shut down the blackboard servers. Blackboard and much of the campus network was down from approximately noon until 2:30pm. Luckily, the outage occurred after the end of fall term final exams, so the impact on student work was minimal. Based on the experience, the library has upgraded its UPS monitoring and management hardware; although these changes would not eliminate downtime in the particular (and highly unusual) circumstances of Dec 14, it does make it more likely that we would be able to stay in operation during a shorter power outage and that an after-hours power issue would immediately trigger staff notification.

System and operational changes
We converted Blackboard to native LDAP authentication on Dec 21. During fall term we had continued to authenticate users and passwords using the “Radius” authentication protocol. This is the same authentication technology as we had used for many years, and is the protocol used by the IS modem pool and other services. Since the end of summer the Radius authentication system has itself used LDAP to query the new identity management system (IdM) database. We eliminated the middleman.
This was a very satisfying change, one that we had been planning since 2003. Behind the scenes it meant we could retire some old and unsupported special code. From a user viewpoint it made a major difference since users now log in using just their Duck ID (e.g. “jqj”) rather than their UO email address.

A week later, on Dec 27 (during winter break), we took additional downtime for a database software upgrade, converting from Oracle 9i to the current version of Oracle, 10g. Although the upgrade took a substantial amount of downtime and labor by the UO’s database administrator, it went smoothly and produced no user visible changes.

Longtime members of the committee will recall that last spring the Ed Tech committee approved funding for a major hardware upgrade, but that due to delays in acquisition we had been unable to upgrade during summer. We concluded in mid-December that we would not have time to do the hardware upgrade during winter break, and so scheduled it for our next regular monthly maintenance window, on Feb 9. Although a number of faculty expressed concern that we would take a day of maintenance time in the middle of a term, Information Services argued that the hardware upgrades were sufficiently pressing that they should not wait till spring break. The Feb 9 upgrade went very smoothly, and we are now running on new database server hardware.

Tim Boshart and I don’t yet have a detailed hardware configuration, but our understanding is that the new architecture for the database server replaces a single 5 year old multiprocessor database server located in the Computing Center with a fully redundant modern configuration. Database information is now stored on 2 redundant NetApp SANs (storage area networks), with one copy at the Computing Center and another in Oregon Hall. It is accessed by a pair of database servers at the same locations, each a linux server running an up to date version of 64 bit Oracle. The databases are synchronized in near-real time using SnapManager for Oracle. As in the past, the currently active database server is in turn used by the Blackboard applications servers located in Knight Library.

Overall capacity of the system increased significantly (though perhaps not noticeably since database processor power has not usually been a bottleneck), and should provide us with enough processing power to deal with expected Blackboard demand for several years. The biggest benefits of the new system, though, are expected to be in reliability and disaster recovery. In the old system, a catastrophic disk or processor failure could have resulted in up to a day or more of downtime as hardware was replaced and data restored from backup tapes; such a failure could also involve a loss of hours of changes to the system. In the new architecture, a major failure in one of the two redundant systems simply implies a brief delay as the other system takes over, with at most a minute or two of lost changes. Such failure recovery currently requires manual intervention, so actual downtime might be up to an hour if it happened today, but we expect that as of the next release of Blackboard we can make the failover automatic with under 5 minutes of downtime in the event of such a failure. The new system can also survive a wider range of major natural disasters such as fires, floods, or earthquakes since at least one of the two locations is resilient to most such disasters. An additional benefit we expect in the future is an eventual reduction in the amount of time we schedule every Friday night for system backup.

There have also been various more minor changes to the Blackboard system. For example, now that we have LDAP authentication we have been able to install the Turning Point (classroom clicker) building block. This feature allows synchronization with an instructor’s Turning Point software, but is less significant than we had originally expected since we are evaluating moving away from Turning Point to a different clicker vendor as a campus standard.

As noted last year, one large addition to the Blackboard system was the SafeAssign term paper submission and antiplagiarism software. SafeAssign has been successfully used in a small number of
UO courses, particularly in AEI. There were some rough edges in the early implementation that now seem to have been addressed. For example, Blackboard recently made significant improvements in the time it takes to generate a plagiarism report, going from average of a day to about an hour.

**Staffing and support changes**

There have been no significant staffing changes in the Library’s management of the Blackboard system. JQ Johnson continues to provide overall project management, with Tim Boshart providing technical management, liaison with Blackboard Inc., most user services support, and coordination. At Information Services, a major improvement is the successful hire of a second database administrator to supplement Stephany Freeman. Tyfanie Wineriter started work in mid-February.

One significant operational change has been deployment of the RT trouble ticketing system for managing Blackboard problem reports. This system has been in use by Network Services for several years, and last year a campus task force recommended that it be widely adopted for other trouble ticketing functions. Blackboard was an early adopter, along with Microcomputer Help and more recently other services such as the Library’s systems help. From a user viewpoint, Blackboard problems and service requests should still be emailed to courseinfo@blackboard.uoregon.edu, and from there are routed to the trouble ticketing system (which can be viewed at http://ithelp.uoregon.edu). Frontline blackboard support for faculty is still being provided by CET Consulting (6-1942), with referrals via the RT system to Tim or JQ. Over time we expect the CET consultants to handle more of the routine trouble tickets in the system.

One advantage of the new system is that it allows trouble tickets to be transferred between Blackboard and Microcomputer Services. This is an example of successful collaboration with Micro Services in providing Blackboard support, especially to students. Currently, student problems of the form “I can’t log in to Blackboard” are almost always handled by Micro Services. This is the most common class of technical problem, and one where Micro Services, with its good access to the IdM database, is well suited to handle. Problems with actually using Blackboard are referred either to the library ITCs or via the trouble ticketing system to Tim or JQ.

**User Accounts and Access**

As noted in the November status report, the introduction of the IdM implied numerous changes in Blackboard access. Overall, the criteria for who has Blackboard access are now set by the IdM rather than by the Blackboard system. Only those Duck IDs that have the “Blackboard Access” flag set can log in to Blackboard. The set of such users is slightly smaller than it was last summer. For example, it does not include temporary employees (who were added to the list of Blackboard users last summer), and does not automatically include future instructional staff who are not yet employees but have been added by hand to the Registrar’s table of instructors of record. On the other hand, the processes for adding new faculty have been streamlined somewhat so there is less delay from the time a department files paperwork for a new hire to the time the paperwork is processed in Johnson Hall and the new employee gets Blackboard access.

After our November meeting, a subgroup of our committee (Sandra Gladney, Mark Horney, JQ Johnson, Rick Troxel) met to discuss Blackboard access issues. Sandra identified several specific problems with instructional staff who have unusual sorts of appointment contracts, and has worked with Noreen Hogan to make sure that the criteria the IdM uses for identifying “Fixed Short Term Faculty” in fact include the correct criteria. In addition, Mark argued forcefully that instructional support needs to provide for a range of online access controls including tools that are quite open and allow for free interaction of students with the wider community. It is notable that this perspective, though very consistent with Web 2.0 collaboration trends and at the core of many of our values for education such as the concept of a “public intellectual,” tends to create tension with some federal laws such as FERPA and copyright.
Information Services has reconvened a policy group that originally met in 2006 to discuss IdM and computer access in general. Members of that group apparently include Sara Brownmiller, Herb Chereck, Judy Duff, Randy Geller, Susan Hilton, Noreen Hogan, Russ Tomlin, and Joan Walker. I was not there, but Noreen Hogan reported to me that the group met on Feb 11, and among other things discussed Blackboard accounts. She notes that the group had some concerns about the terms of the Blackboard license, but that “Since temporary and student employees are UO employees, … the consensus at the meeting was that access should be given as requested based on approval by the Registrar’s office.” I believe that the next step is for Herb, Noreen, and myself to meet to develop an appropriate workflow.

That policy committee also discussed a major issue that has been raised numerous times by the Blackboard Advisory Committee, the need to provide Blackboard access for guest instructors. For context, it’s worth noting that Information Services is moving ahead rapidly with providing guest wireless access to UOnet, but that such access is “transit only” with the expectation that by not providing access to any UO resources it will avoid triggering licensing or CALEA issues. I think, but am not sure, that some progress was made on the Blackboard front. At the Feb 11 meeting I gather that there was some misunderstanding of the precise terms of the Blackboard license agreement, but also some appropriate concern that the agreement is a bit ambiguous as to who can legitimately be given a Blackboard account. I corresponded afterwards with Randy Geller and discussed the possibility of renegotiating the license agreement even though my reading of it is that it allows us to provide access to guest lecturers if we wish, and his bottom line response was that “You are the person at the University responsible for compliance with the license. I merely provide advice about compliance. It’s your call.” Based on that, I’m hopeful that Information Services will be able to move forward to implement a sponsored account policy.

The details and timing of such a sponsored account policy are still very fluid. Very likely there would be a request form of some sort, with signatures depending on length of requested access. A UO instructor would need to affirm that the guest met the license criteria, perhaps specifying a particular course and that the guest was a “collaborating researcher of the course instructor whose use of Blackboard will be limited to assisting with the UO course.” One proposal I heard was that access (Blackboard-only, not including network access or email, though a similar request could provide network access) would be free and by request but quite time limited. Guest accounts less than 7 days in duration could be requested by an individual faculty member. Accounts that are needed up to perhaps 4-6 weeks would need department head approval. Noreen indicated that a sponsored account mechanism would require additional work to implement; I suggested that the process needed to be in place no later than fall term.

One reason why establishing a sponsored account system is particularly pressing is that there are indications that the provost’s office will be tightening criteria for courtesy appointments. Currently it seems that courtesy appointments are sometimes used by departments as a workaround solely to provide necessary Blackboard access. It’s important that we provide other more transparent replacement mechanisms.

A specific issue connected with user accounts that required a substantial amount of time this term was Blackboard accounts for Disability Services ASL translators. These ASL interpreters need accounts in order to review course materials prior to a lecture and make sure they know the appropriate technical vocabulary. However, they had previously been employed on personal services contracts, and hence could not get Blackboard access. We’ve convinced Disability Services to hire the translators as temporary employees, and we think now have a mechanism in place to get them Blackboard access.
The expectation is that once they have access to the system as a whole faculty will add them to their coursesites, typically as “course builders,” so they can participate as necessary in the course.

**Looking forward**

As noted above, one possibly major change to the Blackboard system would be further changes in access rules. We don’t at this point know what the prospects and timeline are, but there is definitely more progress than in the recent past.

Also as noted above, there is growing interest in using more open and modern communications tools as part of classes. One frequent request is to have a course wiki. We concluded that we could not afford to license the Learning Object Campus Pack, which adds blog, wiki, and podcast functionality to Blackboard. After some investigation, I concluded that the best current approach is for faculty to establish a course wiki on the PBwiki system, and link to it from their blackboard sites. We are working on better documentation to encourage this.

Blackboard, Inc. released their next major software release, “Blackboard 8.0,” during December. We have begun evaluating it, and expect to be ready to install it (or perhaps 8.1 if it is released by then) during downtime on Aug 16, 2008. 8.0 is a major release, and in particular includes a completely re-implemented grading system, replacing the “gradebook” with a new “grade center.” The user interface to most grading functions changes significantly, and there are enhancements in functionality such as logging of most grade changes, the ability to drop the lowest score in a set of assignments, and the ability to view a filtered set of gradebook entries e.g. all students in a particular group. A major question on which we need advice from the committee is how and when to provide training for faculty who may be impacted by the new version.

Tim Boshart continues to be very active in the national Blackboard community. He is on the program committee for Blackboard World, scheduled for July 15-18 in Las Vegas, NV. This is expected to be a large conference, and potentially interesting both to faculty and Blackboard system administrators. See [http://www.blackboard.com/company/events/bbworld08](http://www.blackboard.com/company/events/bbworld08). Tim is also this year’s president of the NorthWest ELearning Community (that’s the new name of the regional organization that sponsored the Blackboard conference at the UO in October. Their next conference is scheduled for 17 October 2008 in Pascoe, WA, and is expected to be at least as good as the one we had at UO. In particular, they are planning additional in depth (half day, 16 Oct) workshops for faculty in a variety of topics such as “how to use SafeAssign effectively” or perhaps “teaching a blended course.”

**Downtime and upgrade plans**

We currently have a few fairly definite upgrade commitments, with others in various stages of planning:

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
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<tbody>
<tr>
<td>Spring Break 2008</td>
<td>install Bb 7.3 hot fix, application server OS patches</td>
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<tr>
<td>(tentatively all day Mar 28)</td>
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<tr>
<td>summer 2008</td>
<td>likely upgrade date to Blackboard 8.0</td>
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<tr>
<td>(all day Sat., 16 Aug 2008)</td>
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<tr>
<td>(possible downtime Sept 13)</td>
<td>Blackboard 8.0 additional fixes</td>
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<tr>
<td>Winter Break 2008</td>
<td>Likely major upgrades</td>
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<td>(dates not yet firm, but tentatively either Dec 18-19 or 22-23)</td>
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We currently anticipate additional downtime as usual each Friday evening 10pm-midnight, and additional downtime occasional Saturdays. Our most recently announced downtime schedule is available on-line at [http://libweb.uoregon.edu/cet/blackboard/schedule.html](http://libweb.uoregon.edu/cet/blackboard/schedule.html). We do not yet know whether the changes to the database architecture in Information Services will allow a reduction in the amount of Friday evening scheduled downtime during 2008.
We do not have firm dates for several other planned Blackboard upgrades, including implementation of load balanced front ends.

**Outstanding Issues**

**Hardware upgrades**

We have now completed a major goal set by this committee a year ago, with the successful upgrade of the database component of the Blackboard system. One set of hardware upgrade issues in the next 2 years is likely to be the need to upgrade the data storage for files and attachments. We are currently at approximately 50% capacity on our network attached storage in Knight Library. We are seeing more and more courses that use large amounts of disk space. Contrary to previous predictions, that has been less because of faculty posting video and more because of faculty assignments that require that students turn in (via discussion board attachments or the assignment manager) large files. Currently we seem to be in good shape for at least a year, but need to start longer range planning in conjunction with Library Systems. In roughly the same time frame we will likely also need to upgrade all of our application servers.

**User accounts and access to the Blackboard system**

User access was the second major goal identified by last year’s Blackboard advisory committee. As noted above, we hope that progress is being made on these issues, but the locus of decision making seems to have shifted.

**Budget**

The overall Blackboard budget continues to be an area of concern. My projections are that absent budget restructuring the Blackboard FIS index will be in the red by at least $20,000 at the end of this fiscal year. More importantly, the recurring Ed Tech budget that has in the past funded Blackboard does not take into account inflation in the price of the Blackboard license, increased costs from Information Services connected with database maintenance, or the need for future hardware replacement. So absent any changes we expect deeper red ink during 2008-09. The university is implementing a “new budget model” that will significantly change the way service units such as library in information services are funded. The initial model is promised to be a “hold harmless” one in which service units do not see radical changes in their overall budgets, but until we know more about details we can’t be sure how this will affect Blackboard. The library is very committed to the Blackboard system as a critical library service, and expects to reallocate resources if necessary to continue service at present levels. However, we expect a period of belt tightening. As a concrete example, I currently do not anticipate renewing the site license for the Respondus quiz management software system next summer. Although that is not a large annual expense ($3,000), the Respondus system is not heavily used and it seems prudent to cancel our license.

**Student support**

An ongoing concern is how best to provide support for students using the Blackboard system. Although very few students have major difficulties using Blackboard (except for problems with their accounts and with initial login), there are a few. The problem is particularly acute for off campus students, since a standard troubleshooting technique if a student’s problems seem browser related is to ask them to try it in a known-good on campus computer lab. We have had several difficult to resolve issues with students taking distance ed courses who are not even in Oregon let alone the Knight Library.

Questions include who should provide technical support, how can we provide adequate support at a distance, and to what extent can and should we be providing basic training in use of Blackboard and computers in general.
Faculty training for Blackboard 8.0

We are tentatively planning a 3-pronged approach to training for the 8.0 upgrade.

- Starting in spring term we will offer a variety of sneak peaks and will attempt to locate online training materials from other sites. The goal of this phase of the training will be to alert faculty to the new features and the need to devote at least a small amount of time to looking at their Blackboard sites before fall term.

- During summer 2008 we expect to provide some focused training aimed at Law School faculty, who will be the first to use the new system in their courses, plus at training the trainers (CET consultants, TEP, etc.). This training will likely include demonstrations and hands-on training using our development server, but we will not be able to provide law faculty with ongoing access to their own coursesites running the new system.

- After we upgrade to 8.0 on August 16, we will provide training for all faculty.

Is this overall plan going to meet the needs of UO faculty?

Other issues

Perhaps most importantly, what are the other issues that members of the committee feel we need to address over the next 3 to 6 months?