

Faculty Senate Information Technology Ad hoc Committee Annual Report

August 2016-May 2017

Chair: John Grego

The Faculty Senate IT committee succeeded the IT Ad Hoc Committee formed in January 2015. The standing committee proposal was approved at the April 26, 2016 General Faculty Meeting and subsequently approved by the administration and the Board of Trustees. The committee continued its biweekly meetings in AY 2017, and hosted its second Symposium on Research Computing Infrastructure on April 14, 2017.

The committee is comprised of eight faculty members (Andrea Benigni, Electrical Engineering; Bob Brookshire, Integrated Information Technology; Mark Cooper, English; Mark Ferguson, Management Science; John Grego, Statistics; Douglas Meade, Mathematics; Susan Rathbun-Grubb, Library and Information Science; Simon Tarr, Visual Arts & Design) a graduate student representative, an undergraduate student representative, and six ex officio members (Cheryl Addy, Provost; Glenn Bunton, University Libraries; Jeff Farnham, UTS; Debbie Kassianos, VPR; Aaron Marterer, Registrar; Phil Moore, RCI). Despite requests to student government for recommendations, no student appointments were made to the committee this year.

The chair of the committee served on the Faculty Senate Steering Committee, the Information Security Advisory Committee and the Chief Information Officer search committee. Subcommittees were set up, but did not function effectively, in part because the subcommittee topics were overtaken by topics that needed more immediate attention.

Meetings, invited guests and topics:

8/26/2016. Jeff Farnham updated the committee on faculty migration to Microsoft Outlook. Guests were Mike Kelly, Chief Data Officer, George Lampl, Counsel, and Stan Lawrimore, UTS. Mike discussed revisions to university data policies UNIV 1.51 and UNIV 1.52. Stan Lawrimore reported briefly on Office 365 for Business Services.

09/16/2016. Guests were Profs. Heather Heckman and Mary Alexander, Office of the Provost, from the Faculty Budget Committee; Brad Holt, PeopleSoft Finance Program Manager; Gloria Johnson, Senior Director of Sponsored Awards Accounting; Mary Peak, Assistant Controller; Richard Moak, Director of IT, Division of Administration and Finance. Brad Holt discussed the difficult roll-out of PeopleSoft and the progress that has been made recently. Questions were asked on a variety of topics and upcoming improvements were discussed.

09/30/2016. Committee members suggested topics for CIO candidates on campus visits. Aaron Marterer provided a Banner update. Members of the Provost's

Research Computing Committee provided updates on their current work. Committee priorities for the remainder of the year were set.

10/21/2016. Guest was Chad Hardaway from the Office of Economic Engagement. The CIO search was briefly discussed. An update by Aaron Marterer on a FAQ page for faculty-student email and FERPA became a broader discussion of university email accounts. Chad Hardaway discussed his office's work with IBM.

11/4/2016. Dean Hossein Haj-Hariri was our guest. Administration of the data survey by the Provost's Research Computing Committee and the HPC survey by our committee was discussed. Subcommittees were identified. Dean Haj-Hariri discussed the work of the Research Computing Committee.

11/18/2016. Guest was Todd McSwain, UTS Director of Network Services and Executive Director of Communication Infrastructure. Todd updated the committee on WiFi improvements and discussed plans for this year. Use of the USCGuest account was also discussed.

12/2/2016. Guests were Todd McSwain, UTS Director of Network Service and Executive Director of Communication Infrastructure and Jeff Hostilo, UTS Director of Collaborative Technology and Academic Support. Brief updates were provided on the new CIO and the awareness campaign for USCGuest. Jeff Hostilo led a discussion of classroom IT tiers. We discussed the current ticketing system and preliminary plans for the spring Symposium. Brief reports were provided by the subcommittees.

1/23/2017. Guest was Mitch West, UTS. Updates were provided on the data survey and Adobe license. Mitch discussed Blackboard.

2/6/2017. Guest was Doug Foster, CIO. The committee heard updates on the data management survey, Banner, the research symposium, and the new shared cluster. Doug Foster addressed numerous questions about campus IT.

2/20/2017. Guest was Mitch West, UTS. Mitch West introduced an attendance tool in Blackboard and asked for our approval. The committee was updated on planning for the research symposium. The committee was updated on a February 9 discussion about perpetual email for emeritus faculty.

3/13/2017. Guest was Ryan Webber, Office of the Registrar. The committee received updates on the research symposium, an Adobe Creative Cloud demonstration, and the shared cluster. Aaron Marterer and Ryan Webber presented new features of Banner. Augie Grant updated the committee on UNIV 1.51 and UNIV 1.52 compliance.

3/27/2017. Guests were Doug Foster, CIO, Michele Branch-Frappier, UTS and Jeff Hostilo, UTS Director of Collaborative Technology and Academic Support. The committee was updated on the research symposium. Doug Foster discussed plans for IT governance, including a faculty/staff advisory committee; the proposed committee

was conditionally endorsed by the IT committee. Jeff Farnham, Michele Branch-Frappier and Jeff Hostilo presented the Academic Media Portal. A motion to support an enterprise proposal for the Academic Media Portal was tabled.

4/10/2017. Guests were James Perry, CISO and Stan Lawrimore, UTS. James Perry spoke to the committee about new information security tools. Stan Lawrimore talked about conversion of all university email to Office 365 Email.

4/14/2017. The second Symposium on Research Computing Infrastructure had 123 registrants. Talks were delivered by a NSF Keynote speaker, two corporate speakers (Hewlett Packard and Nvidia), and three USC faculty speakers. Sponsors included CIO, VPR and IBM, while IIT and RCI provided logistical support. The conference had registrants from Comprehensive/Palmetto colleges, USC Upstate, USC Beaufort (including 10 undergraduates), and USC Lancaster. Faculty and students presented eleven lightning and eight posters. Details can be found at the symposium website.

5/1/2017. Guests were Michele Branch-Frappier, UTS and Jeff Hostilo, UTS Director of Collaborative Technology and Academic Support. The committee reviewed the conference and planned thank you notes to speakers and a summary memo to upper administration. The research computing survey will be administered later in May. We reviewed the recent data center visit and multifactor authentication. Mark Cooper demonstrated the use of Ensemble Video and a discussion of an Academic Media Portal Enterprise solution followed.

1. University data:

University Policy 1.51 Data and Information Governance and University Policy 1.52 Responsible Use of Data, Technology, and User Credentials were approved in early summer despite concerns flagged by the (then ad hoc) committee. Mike Kelly, George Lampl, John Grego, and Augie Grant met over the summer to go over these concerns and brought proposed revisions to the committee for discussion.

CDO Kelly emphasized that the intent of policy was to make the university compliant with state requirements and to encourage good business practices; they were trying to formulate policies people will understand and follow.

The proposal for University Policy 1.52 included:

- a new definition of University Business to exclude teaching and learning activities, academic research data, personal property, items of public record, and intellectual property. Policies relevant to academic data are cited in the policy's scope.
- changes to Appendix 1, the User Agreement Template, to remove the threat of termination for a first offense in favor of acknowledgment that "appropriate measures will be taken" according to University policy and the law specific to existing procedures for faculty, staff and students.

The proposal for University Policy 1.51 included:

- amending University Data to exclude “information that is public record, personal property, intellectual property, academic research data, or content directly related to or produced through teaching and learning activities” and to add “privacy” and “security” to the University’s responsibilities in 16.c
- revising Section IV (Scope of Policy) to exempt “content produced for or by teaching and learning activities” (research data were already exempted).

The committee made recommendations on the placement of definitions of University Data and University Business indicating the exclusions.

A dense network of policies are interrelated with these policies—these range from policies defining a faculty member’s intellectual property to those listing authorized campus email servers. The committee recommended that every effort should be made to call out related policies in these documents, perhaps in an appendix, and there should be an FAQ.

Gray areas may be left by the definitions of University Data and University Business. Particularly in the area of teaching related activities, distinctions between administrative and academic data might not be clear. It was also unclear how to handle third party services (e.g. Survey Monkey, Prezi) regularly used for administrative tasks. These are likely perennial challenges and it would be practically difficult to write policies that anticipated every case. A lucid articulation of principles appears to be the best approach.

The University can be compelled to deliver documents, email etc through FOIA. George Lampl explained how the university responds to FOIA requests and what it may legally exclude.

University email auto-forward would be affected; the new policies will end alias redirect. In a later meeting, Augie Grant discussed the implementation of new policies UNIV 1.51 and 1.52, under which faculty members are required to use university email for university business. Some faculty are not in compliance. Should faculty be required to comply? We agreed that the committee would likely need to return to this issue.

2. University email

Augie Grant brought to the committee’s attention an emeritus professor who wanted to maintain their USC email account. Although departments can choose to sponsor such accounts, annual renewal is required and renewed accounts may appear to be discontinued at random when expected communications do not occur. Perpetual email was discussed at a meeting with the IT Committee, Counsel, Human Resources and others on Feb 9. The University Affiliate program can meet most

emeritus faculty needs. Someone can be appointed to affiliate status for up to five years with approval by the college. University policy 2.50 discusses affiliate appointments, but retired faculty are not explicitly mentioned.

Stan Lawrimore reported on Office 365 Email. The update was originally planned to take place over two months in late spring (note that the deadline has since been deferred). Websites, FAQs, and training were all in the works. The major complication had been merging emails for faculty/staff who also have student accounts (already on Office email). In response to questions about our commitment to Microsoft, Stan reported that we have a 3-year renewable contract with Microsoft for this email service. There was discussion of the viability/desirability of dropping additional domains (e.g., mailbox) from .sc, such that everyone could have username@sc.edu addresses. This is not planned, but would be facilitated by the migration currently underway. The new email is predicted to have better spam filtering.

3. WiFi upgrade:

Todd McSwain provided a WiFi update in the fall with past phase and next phase costs and targets summarized in slides circulated separately. McSwain noted that upgrade costs can vary greatly based on building construction. Glenn Bunton noted that WiFi improvements in TCL have been successful with no complaints in the fall.

There was discussion of how the list of buildings to be upgraded is determined. In general, student need/demand sets the priority, but some consideration is given to “low hanging fruit”—areas where Access Points (APs) can be replaced easily without other infrastructure upgrades. There was discussion of whether some buildings, such as McMaster, in proximity to newly-constructed buildings should be elevated in priority. Everyone agreed that coordination of WiFi upgrades with building renovations is wise.

Discussion of WiFi usage led to discussion of the USC Guest Network, which sees a lot of traffic. Beginning in January, Guest was to have employed a captive portal to harvest basic user information. In the discussion that followed, the need to meet security requirements and keep a handle on WiFi demand was weighed against convenience, misconceptions of anonymity, and the untested conviction that Guest works better. Traffic over Guest is moved directly outside the firewall, limiting access to protected services on the University network. Several committee members offered suggestions for ways to get in front of the change with the messages 1) that it would be happening and 2) that security matters. As part of this conversation, Jeff Farnham reminded the committee that the state not only sets standards but also asserts broad rights to traffic over its networks.

4. Research Computing and Data Curation

Dr. Hossain Haj-Hariri, chair of the Provost's Research Computing committee, met with the IT committee to discuss his committee's work. His committee recommended spending \$1.25M in one-time money on HPC. The emphasis is on developing a centralized resource capable of achieving economies of scale. Researchers bought into the cluster on the condo model, increasing USC's purchasing power to \$2 million. On the condo plan, researchers buy three years of capacity on the cluster, then have the option of paying maintenance for another 2 years or replacing the purchased nodes.

The next phase of the committee's work involves subcommittee proposals for the \$350,000 in recurring spending. The advertised \$1 million in recurring spending came with \$650,000 in salaries already committed.

Subcommittees were formed to address: 1) increasing professional staff; 2) data inventory; 3) consolidated software acquisition and management; 4) bursting to the cloud; 5) maintenance; upgrades, and additional nodes; and 6) development of heterogeneous computational resources.

There was discussion of the data inventory subcommittee chaired by Cooper. He described plans to develop a survey for circulation in the spring. The aim was to develop a more accurate and granular understanding of data management needs on campus. Cooper invited comment on the survey from interested members of this committee and accepted the suggestion to add Mike Kelly to the subcommittee. The subcommittee and provosts committee will have finished their work and made recommendations by May 2017.

There was clarification of the role of the two committees with respect to software licenses and agreement to collaborate. The Provost's committee will refresh our understanding of software needs and opportunities for shared licensing and make some recommendations, likely including the MatLab recommendation already supported by this committee; our subcommittee will focus on Adobe Acrobat Professional alternatives (note: we did not progress on this goal). The Research Computing Committee will conclude its business by the end of the academic year.

Several on the committee voice strong support for centralizing resources, including staff, and using seed-funding approaches, as has succeeded with HPC.

We met with new CIO Doug Foster in January. Foster introduced himself, and presented general info about his approach and the current status of computing in USC. He noted that USC is lagging in research and teaching computing, and that differentiated units are not currently performing high level functions; material not tied to a unit's specialized mission should be centralized. He was optimistic about the trajectory of research computing infrastructure, but noted we yet had considerable progress to make.

The committee asked Foster about the persistence of investment in research computing. He felt it was too early to tell. For comparison, Foster's last institution had the biggest research cluster in the nation, at a cost of \$5-7M/year. The current investment (a \$1.25M one time investment, with \$1M recurring, \$700k of that precommitted) is not going to be sufficient.

The committee also asked about the current chargeback model for IT services to units. Foster noted that USC is struggling to fund projects, and we need to make changes to incentivize research innovation. In a typical approach in academia to research computing, researchers pay only for the hardware. Not the support, the rack, the infrastructure, etc. If we buy big enough, then we should make it so there is no way it would make sense for researchers to go anywhere else other than centralized research computing infrastructure.

Foster suggested a faculty IT steering committee to chase down problems and encourage creative solutions; members pointed out that that this was likely the structure/domain of this particular committee. Note: Foster later returned with a more formal proposal for a much larger IT advisory group in which our committee would play a role.

There was discussion with Foster about the IBM partnership. Foster felt the larger partnership is a great idea and USC is not scratching the surface in terms of potential. We could take better advantage of IBM for analytics, consulting, and other areas where IBM excels. IBM does not excel in the areas where we are using them, and the outsourcing relationship is often ineffective.

5. Classroom Enhancement

Using UTS's inventory of classroom IT for approximately 255 "110 classrooms", the IT committee developed a classroom cluster analysis. The analysis identified 5 major clusters, with 130 classrooms falling into one of these clusters. The analysis also revealed that the Darla Moore School of Business has a very different set up from the rest of the University. Jeff Hostilo pointed out in a Fall meeting that UTS defines three classroom tiers (basic content sharing, standard enhanced classroom, advanced enhanced classroom). UTS and the committee shared their tiers/clusters for comparison purposes.

The University currently has a 10 year refresh rate for classrooms. As one would expect, the specification of the "standard enhanced classroom" changes within that timeframe. Some of the variety in classrooms can be attributed to generational changes in the "standard."

Upgrades to standard classrooms include remote monitoring, diagnostics, and laser projectors that extend life and reduce cost when compared to projectors requiring bulb replacements.

The issue of remote monitoring led to a discussion of difficulties in the handoff between college/unit level support and UTS support of classroom tech. Because UTS does not provide desktop support for classrooms, others who do provide desktop support need to be in the loop, but there is end-user confusion about how tickets move and who is responsible for them.

Aaron Marterer mentioned that a better ticket system could solve some of these issues. This reopened discussion of Service Now, the solution adopted by UTS, which, at least under the current licensing structure, seems a cost-prohibitive solution to address the broader needs that UTS did not anticipate when acquiring it. Todd McSwain and Jeff Hostilo said they would look again at the licensing structure.

6. USC-IBM partnership

Jeff Hardaway from the Office of Economic Engagement (OEE) provided the committee with an overview of his office, with particular attention to the IBM relationship.

Business is booming in the Horizon incubation spaces and OEE has plans to develop the Catawba St. corridor as a new “innovation district” focused on engineering and computing.

OEE is working with IBM on several projects. The McNair Center offered a starting point through its relationship with Boeing, which attracted IBM, which then involved Siemens, and Gulfstream. OEE is now involved in a Watson “Internet of Things” Center of Competency, as well as initiatives for condition-based maintenance (better helicopter maintenance), healthcare, and law and cybersecurity.

OEE involvement with research faculty comes through networking. The best approach for faculty interested in working with IBM and other corporate partners to subsidize and monetize their research is to make OEE familiar with their value proposition.

In response to questions about the point person for the part of the IBM relationship that might not have do with commercialization, but rather with promised developments in the area of higher education support and analytics, Hardaway knew of no direct counterpart to himself in this domain but suggested the Provost’s office and Allen Miller.

7. Learning management systems

Mitchell West made multiple presentations to the committee about Blackboard. Blackboard plans to move out of java and plans for compatibility on phones; dedicated apps exist for mac and android phones. A new release is scheduled for the second quarter of 2017. Possible additional functionality may include: attendance,

additional calculation capability in the grade center for calculations that are doable in Excel but not in the grade center, and a tip of the week (synchronized with the most common activity in that moment of the year).

Much of the discussion on Mitch's first visit revolved around training and support. The committee suggested creating a faculty and student support tab to have access on how to perform specific functions. Mitch noted that housing staff received dedicated training so that they can be a first line of support for students. Additional presentations are given to students during UNIV 101 and specific training for faculty teaching these classes is offered.

General concern has been expressed about the user experience. Mitch noted an update (ULTRA) should be more modern looking but it is not clear when Blackboard will transition. ULTRA should be also more compatible with different devices and operating systems. The committee asked how often the contract with Blackboard was reviewed. USC is in a two-year contract for Blackboard; in considering replacements, we would have to weigh the ways in which Blackboard is used for administrative use: e.g. tenure and promotion files, and faculty senate documents.

At a follow-up meeting, Mitchell West demonstrated an attendance tool for blackboard called Qquickly. It allows attendance that can be automatically graded and recorded in the Blackboard grade center. It can either use an attendance list on a screen or allow students to check in on their browser with a countdown counter. Faculty can provide excused absences and download attendance statuses to a CSV file. Webpage check-in should be available for both iOS and Android. The annual cost is \$7500 for the entire USC system (including satellite campuses); the committee was supportive.

8. Banner

The ticketing system the IT committee discussed last year did not materialize. The Registrar is, however, able to receive tickets through a form on its webpage.

The Banner XE development scheduled for Fall 2016 missed June and August deadlines and was projected to be four weeks behind its revised December deadline. Banner XE was expected to bring a number of improvements highly desired by faculty.

Precise reasons for the delay were unknown, but discussion turned to a familiar pattern in the IBM relationship. For whatever reasons, IBM does not seem to be delivering anticipated services, requiring the University to claw back responsibilities and personnel and to hire additional contractors.

Role definition in Self Service Carolina and advisor training remain high priorities.

In the spring, Aaron Marterer and Ryan Webber presented new features of Banner; this was the delayed USC transition from Banner 8 to Banner XE. Some XE features will be released May 21 along with a new layout for the user interface.

9. PeopleSoft

In the fall, Brad Holt delivered a presentation on the history and current status of the PeopleSoft implementation to the IT Committee and the Faculty Budget Committee. Holt acknowledged that July 1, 2015 began a rocky year, in which an expected 3-month stabilization period turned into 6 months, then a year.

With respect to grants, Holt and Gloria Johnson of Sponsored Awards Management reported no funds lost or forfeited and billing was current. Non-Federal grants are being manually processed. Grants conversion was expected to be completed in January 2017. Financial reporting, collections, invoice turn-around, and cash management were priorities in the transition.

There was discussion of whether the IBM relationship helped or hindered the implementation. Holt felt there were positives and negatives, emphasizing that his position had been moved back to USC from IBM in recognition that the University needed to play a bigger role in managing the change.

There were questions about invoice turn-around time. Holt and Peak responded that it was now about as fast as it was before PeopleSoft: mostly net 15 days “for invoices submitted in a timely fashion” with a firm net 30-day commitment. Factors influencing turn-around time include: timely submission of properly approved requests, and whether it enters the payment, purchasing, or accounts payable queue. Peak noted that Ed Walton revised procurement policies partly in order to make the system more efficient. It was underscored, however, that Business Managers did not receive enough training in the transition, and that probably more training was still needed.

In year two, expect enhanced bank statements and implementation of the travel and expense module.

The current PeopleSoft support team includes 20 consultants and 6 IBM developers. In response to questions, Holt explained that it was generally more cost effective to use IBM employees because their services were already provided by agreement, but that it is still necessary to employ consultants who specialize in People Soft.

Everyone agreed that the Finance Intranet was a success and thanked Richard Moak (Division of Administration and Finance) for developing it. There are no plans to sunset this tool. However, Holt offered the University Dashboard, under the USC Enhancements Menu, as a comparable tool within PeopleSoft.

Committee members suggested improvements to email notifications of PeopleSoft training opportunities—it would be great to have a bit more information in the email itself as well as an ability to search the newsletter archive on the web. Everyone whose email is known to PeopleSoft gets the e-newsletter.

There was general discussion about how access to/encouragement of attendance at training might be improved. Holt noted that online video overview of the Grants Dashboard was recently published, and that there are many online instructional videos available at <http://training.ps.sc.edu>

There were questions about the challenges of upgrading PeopleSoft—was it as difficult as Banner? Holt reported that PeopleSoft is not nearly as modified as Banner, due to its architecture and the fact that centralized business processes are more standard than curricula.

In response to a question about department and fund numbers, Holt pointed to the Chart of Accounts mapping tool and noted that old department and fund numbers would disappear once the major legacy systems had migrated at some point in the not-too-distant future.

Human Capital Management (HCM) is the next major piece to be implemented. It comprises HR and Payroll functions. There is as yet no timeline. Top-level managers have asked for a detailed analysis and are looking for implementation partners. Funding remains a question.

In response to a question about the relationship between USCERA and PeopleSoft, Johnson and Kassianos said that USCERA tracks “preaward” information, whereas PeopleSoft is about the management of awards; it takes about 2 days for an award to move from USCERA to PeopleSoft.

Outside the immediate PeopleSoft team, 5 to 6 people in the Controllers Office and 2 in Purchasing have significant PeopleSoft responsibility.

There were a series of questions about who has decision-making responsibility for PeopleSoft and why it seems so difficult to learn from prior mistakes with respect to enterprise software implementation. Oversight is provided by the Provost, CIO, CFO, VP for Student Affairs, and VP for HR. There is a team that meets weekly with Associate Vice President level administrators to determine scope. At this point, there is no point person for HCM; queries should go through the Provost.

10. Cyber Security

CISO James Perry gave an Information Security update to the committee in Spring 2017. The University must provide evidence of compliance with state laws/policies

regarding data security; to do so the goal is to drive adoption of endpoint agents on all University owned machines by Dec. 1, 2017. Perry discussed two tools: Spirion, a data discovery tool for Mac and Windows which looks for restricted information and prompts users to delete or encrypt it; FireEye HX, an incident response tool for Mac, Windows, and Linux which helps investigators more quickly isolate machines affected by a data breach. Each tool costs about \$120K per year to license; neither tool works on iOS or Android devices. An estimate places current adoption of Spirion at around 25%.

It is understood that the policy will eventually need to extend to private devices attached to the University network, but that is not the case for now, unless one's unit has specifically set a more restrictive policy due to the type of data members of that unit regularly handle.

There is currently no timeline for development of a policy for privately owned machines. Augie Grant strongly recommends that such a policy should come through this Faculty Senate committee.

The idea is that each organizational unit should specify how the policy is to be implemented—e.g., how exactly Spirion is to be used. There was discussion of the ambiguity of “organizational unit” and recognition that in large and complicated “units” like CAS polices would need to be specified at the department level. For instance, some units may need to exempt certain high performance machines on which sensitive data is not kept. This is permissible but needs to be documented for reasons of compliance.

For FireEye HX, Perry noted that the University has an exemption from the state to do its own incident response. FireEye HX works by scanning directory information for timestamps and other signatures related to known incidents. Machines can be quickly added to a “cleared” list or isolated for further investigation.

A standalone version of Spirion is available to faculty/staff through software distribution for installation on private machines. Units may, as a matter of policy, decide to use this standalone version, rather than the one that reports over the network, if it makes sense for their users.

Perry also reported on multifactor authentication and VPN. On June 5, multifactor authentication will be required for access to sensitive systems. A handful of committee members have successfully set up Duo.

Cisco VPN is running in select pilot groups. UTS anticipates enterprise implementation on May 5, after publishing instructions and executing a communication plan. Cisco VPN will support up to 5000 concurrent connections (legacy VPN supported 500) and is much more compatible with newer versions of operating systems. Reports are that the new VPN works great; it is the first service to use Duo and works in Chrome. The transition will occur June 12; the old VPN will still work, but we should use the new more secure one. Banner and Blackboard will not be affected right away.

11. Academic Media Portal and Ensemble Video

In Spring, Jeff Farnham, Jeff Hostilo, and Michele Branch-Frappier presented a proposal for the academic media portal, a system based on the Ensemble Video platform for processing, transcoding, and publishing video-captured material that is accessible by Blackboard. At that point in time, 102 pilot courses used it, 75% of which integrated it with Blackboard.

Mark Cooper provided a demonstration of Ensemble video in Blackboard. Pre-recorded slideshows (mp4 from Keynote for example), or those with embedded streaming of a film can be uploaded; video quality is comparable to commercial streaming services and far superior to Blackboard's capabilities. AMP video upload is similar to regular Blackboard content creation. Features such as metadata, copyright protection, and student uploads were discussed. Videos can be delivered securely to a class, an essential feature for copyright protection that is not available with Vimeo or YouTube.

The university should adopt a standard for streaming video that is funded through a university allocation. As with Blackboard, anything done outside this standard should be paid by those who choose to opt out. We need a strategic enterprise solution, as we are beginning to create with HPC and research, instead of silos. There is no enterprise license yet for Ensemble; a new RFP will not be needed since the current agreement could be augmented to accommodate the estimated 8000 FTE's needed. Alternatives such as Kaltura were investigated, and Ensemble was the clear winner.

The proposal includes an upfront cost for storage, though costs for additional storage were left unresolved. Jeff Hostilo recommended that an advisory committee should be formed to research and advise the administration regarding a digital content storage model and determine retention policies, governance and associated costs. CTE and the Faculty IT committee should be included.

The committee discussed captioning and transcription and Jeff Hostilo recommended that an advisory committee be formed to research ADA requirements and third party solutions, and then make a recommendation to the Provost. CTE needed to be included since they have already invested in DocSoft for captioning; Grad Council and Disability Support Services should be included as well. It will be up to the Provost to make a decision to support a particular solution because that is where the funding is likely to come from.

The IT committee chair was to write a letter of support for a solution and circulate amongst the committee and Jeff Hostilo was to provide information needed about Ensemble, slideshows, and policies on retention, etc.

