

Office of the CIO

Google for Staff & Faculty: Report to the CIO

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Prepared By	Google Investigation Team – Thomas Rees, Lead
Distribution	Michele Norin, Liz Taylor, Derek Masseth, Cathy Bates, Imell Lawson, Sylvia Johnson, Hank Childers

Background

UITs has been engaged in negotiations with Google since Fall of 2008 in regards to migrating the UITs provided student email service to Google Enterprise Apps for Education (Google Apps). UA has signed the Google contract for students and is awaiting the final executed contract from Google. During the course of the student negotiation, informal discussions regarding using Google Apps for email and calendaring for University of Arizona (UA) staff and faculty began in early April of this year. The first formal discussion of such a migration for staff and faculty took place April 30, 2009. As a result of that meeting and at the direction of the CIO, it was decided to form our group, the Google Investigation Team (GIT) to provide an expedited first look at the feasibility of such a migration. The defined scope of GIT's work was foundationally quite narrow: to answer the question, "Are there any functional reasons that would prohibit migrating UA staff and faculty to Google Apps?" That is, is there some work requirement at the University of Arizona that must be done, but could not be done inside Google Apps? Or, as we communicated it to campus, "Is there a cliff on the other side of the Google hill?"

Findings

It is the unanimous finding of GIT that Google Apps can adequately serve the functional and workflow needs of the University of Arizona staff and faculty. There are issues and concerns remaining that are addressed in more detail in Appendix A, but none that cannot be mitigated by reasonable levels of workflow changes, user education and training, and preparation. This will be the case regardless of what system is used to replace our current email and calendar offerings, especially if it were accomplished in an outsourced environment. It also may provide a viable alternative to many of the department/college email servers that are currently in existence, resulting in a reduced number of email server instances at the University.

Recommendation

It is our recommendation to move forward in investigating Google Apps as a possible replacement for the current UITs supported email and calendaring systems. We have had several contacts from personnel within the UA Office of the General Counsel (OGC). It is reasonable to expect that a request for their involvement would not be unanticipated by the OGC, and is probably one of the next necessary investigatory steps.

Appendices

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Appendix A

Google for Staff & Faculty: Issues and Concerns

Privacy and Compliance with Privacy Requirements

GIT noted a small number of session attendees that were uneasy with the thought of having their information (email, documents, etc) stored “in the cloud.” These people had a general feeling that storing their data this way would make the data more susceptible to privacy compromises. Statistically, it is easy to show that data compromise is much more likely on local, campus-run machines. Nonetheless, the concept of “the cloud” versus locally owned and controlled machines is a large enough paradigm shift as to make some users uneasy.

The question of Family Educational Rights and Privacy Act (FERPA) compliance was raised during most sessions. Session attendees appeared to be comfortable with the typical subsequent discussion pointing out that FERPA compliance is more a task of user behavior rather than infrastructure, and that the features within Google Apps allow FERPA compliance.

The most significant issue may be with the ability of Google Apps to allow compliance with The Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy Rule. Sessions were held at Arizona Health Sciences Center (AHSC) as well as at the remote Phoenix Biomedical Campus (PBC). The question of HIPAA compliance arose at both locations, although the most pointed comments were made here in Tucson. Steven Wormsley, the head of college IT for the College of Medicine, was explicit in expressing his doubts that Google would be HIPAA compliant, although without noting specific issues. An attorney from the UA Office of General Counsel's (OGC) Comstock satellite office was present at one of the AHSC sessions. She appeared less worried about present compliance, but informed us that the HIPAA rules would be updated as of February 2010, and might contain certain aspects of required encryption that is not presently mandated. GIT anticipates that we would purchase an optional but standard add-on for Google Apps, if we were to move faculty and staff into the Google structure, that allows much more control over staff and faculty email. This add on, the Postini service, would allow encryption of email data, as well as requirements such as ediscovery, mail rollback, archiving, record retention, etc.

There is some precedence in regards to education and healthcare institutions determining that Google Apps does allow HIPAA compliance. St. Louis University (SLU), a private school of approximately 13,000 students, has moved their faculty and staff to Google Apps. SLU has a comprehensive healthcare program, including a College granting medical degrees, and running a 365-bed academic teaching hospital. Their Compliance Office has determined that Google Apps meets HIPAA requirements. See more at <http://www.slu.edu/x22574.xml> .

ITAR

Compliance with International Traffic in Arms Regulations (ITAR) is also a significant issue. It seems clear that Google Apps is currently not ITAR compliant, due to their infrastructure moving all data in a global manner. This issue was raised with Google at the April 30th meeting, and has been acknowledged by Google. They are currently looking at the issue and possible solutions. GIT members have also discussed a possible workaround if Google cannot become compliant. It seems obvious to GIT that as a percentage, the number of staff that engage in work and communication that includes ITAR sensitive data is extremely small. In a worse case scenario it would be possible to simply exclude these accounts from the Google space so far as email or data storage is

concerned, providing a small local email server instead. These excluded users would still have Google Apps accounts, allowing for use of the calendars, tasks, chat, etc. that would integrate with the rest of campus. This would follow much the same policy rules currently in place wherein the user is responsible for retention, FERPA, and HIPAA compliance decisions. Due to the small number of users with ITAR compliant needs, this would not be an appreciable resource burden, although it is not an ideal solution.

Problems with ITAR are also well beyond both the scope and the knowledge of our team. Several Roadshow attendees mentioned that they believed there were procedures, policies, and methodologies already in place from DoD that governed ITAR sensitive communications and channel usage. If such is the case, it may be that ITAR compliance, like FERPA and HIPAA, is mainly a matter of individual training, education, and responsibility.

Exit Strategy

It has been pointed out that, at least from an historical perspective, sooner or later we will want to move our data back out of the Google App space and into some other environment. Hence, it is desirable to go into such an arrangement with some kind of usable "exit strategy." This could lead to a difficult scenario if we determined that we needed to move all the data back into a locally housed and controlled environment. Google is a popular and easy-to-use work environment. It is quite easy to anticipate that 5 or 10 years from now, each of our 15,000 to 20,000 staff and faculty users might be using as much as 50 percent or more of their storage allocation. This could lead to having as much as several hundred terabytes of University data stored in Google Apps. Moving that much data out of the cloud and on to local machines is not a trivial task. That would also be coupled with the fact that we would need to once again purchase, install and run all the infrastructure to allow us to bring it back in-house. Building an exit strategy for such a scenario a decade from now is not difficult, although executing it 10 years from now might be. An exit strategy dependent on moving all the data back to the campus data centers will need to be updated on an annual basis as the amount of storage necessary increases. It will also need updating as the tools available in the cloud continue to evolve, building data types and formats not presently available.

It is perhaps more likely that upon disassociating from Google we would simply move to a different cloud provider. Cloud-to-cloud migration can be anticipated to be much a simpler transaction.

Other Concerns

Given the rich and public API that comes with Google Apps, there have already been questions about how much each department can customize their user experience via one-off programming and/or distributed administration. While it is probably true that nobody "needs" such customization, it will be very attractive for departments with sufficient resources. At this time a Google Apps domain is inclusive and indivisible. Any such customization will need to be collaboratively addressed and authorized.

If the use of Google Apps, with both students and staff as members, becomes as intensive as is possible, it may become necessary to supply increased bandwidth to the Internet. Google Apps supports large quotas, large file sizes, and rich media including video and video chat. Video conferencing is expected in the near future. Intensive use could make our present Internet connections inadequate.

There is no comparable feature in Google Apps that substitutes for the Shared Folders feature in our implementation of Horde mail. That is apparently true of any other replacement solution. There are possible workarounds, mainly comprised of returning to our work methods that were in place prior to this feature being made available. This includes a single department account that forwards email to several designated department responders. Some departments also had department accounts that

were accessed by multiple employees through a single ID and password.

Several units on campus have the need to distribute email to all students with a single mailing. As well, there are departments that send email to a very large number of internal users at once. Due to the way Google Apps recognizes spam, this would most likely not be allowed within the everyday Google Apps environment. We will need to address this via alternative methods such as maintaining our own SMTP server or using different methodologies for sending such mail.

Regardless of the replacement solution selected and implemented, many people have raised concerns with the learning curve involved in such a change. This needs to be addressed with a good support model as well as self-help tools, online tutorials, and a training program.

There have been a small number of questions regarding Google Apps and how it fits into the Network Master Plan (NMP). The focal point of these concerns is the implementation of what is termed unified communications. The NMP mentions the ability to incorporate such communications as part of the plan strategy. Unified communications is not an industry standard. The actual concern is that moving to anything other than Microsoft Exchange for email would stop us from implementing the Microsoft/Cisco version of unified communication. This is obviously true. In fact, Google also markets unified communications as part of their offering. The differences between the differing approaches are twofold. First, the Microsoft/Cisco approach is largely centered around traditional voice communications at it's core, while Google concentrates on unifying the newer communications technologies such as Instant Messaging, audio/video chat, mobile technologies, email and calendaring. The second difference is one of scope. As is espoused by Google in their other offerings that compete with other enterprise providers, they claim having approximately 80% the feature set of the competition. It is our belief that using Google Apps for faculty and staff is consistent with the NMP and the inclusion of unified communication within it, and that the specific communications provided therein will more than adequately serve the needs of our campus.

Appendix B

Google for Staff & Faculty: Sessions and Tools

Overview

As directed by our mission, the intent of the team has been to try and discover any work-related issues with Google Apps that might preclude the UA from adopting it as the primary email and calendaring tool for staff and faculty. As such, we attempted to engage campus in a conversation about Google Apps as a primary, but not exclusive work tool. We believe we were quite successful. As a prelude, it was necessary to inform campus about the Google Apps tool, so that they would have a reasonable basis for asking questions and making judgments.

Sessions

GIT conducted 14 interactive sessions (Roadshows) with a varied cross-section of the campus community. The Roadshows began with a short projected presentation (created with, edited in, and presented via Google Apps), and segued into a question and answer period. Communication methods to announce and market these sessions included a flurry of 3D Memos, as well as postings to listservs such as the NetDiscuss list. Interested parties, such as College of Medicine also contributed to the effort by using their internal communication methods.

Beginning June 4th, there were two sessions held in the ILC primarily directed at IT staff. These were done under the assumption that IT staff would be prone to a more technical perspective, rather than as a user. As it turned out, IT staff from across campus participated in most sessions.

Seven other sessions were conducted in the ILC for all interested campus members.

Two sessions were held in Drachman Hall directed at AHSC employees.

One session was held in Gallagher Theater for UITS and Mosaic personnel.

One session was held at the Phoenix Biomedical Campus.

Approximately 400 people attended the sessions. GIT (special thanks to Patti van Leer) captured just over 120 questions from the Roadshow audience. Most have been answered. When finalized, these questions and answers will be posted to our community site, googlepilot.arizona.edu (see below).

There will be a final Roadshow session conducted via WebEx on Tuesday morning, June 30th.

Pilot Program

To enable interested campus employees to familiarize themselves with the Google Apps environment, we established the Google Pilot Program. This involved creating a Google Apps domain that will evolve into the production domain that will be used by the student population regardless of whether the faculty and staff will migrate to that space. Participation was invited via 3D Memo as well as by appeal during the Roadshow sessions. In fact, a major part of the Roadshows was to invite campus community members to participate in the Pilot. This resulted in the largest block of Pilot users coming from the Roadshow audience.

As well, an invitation was extended and accepted by a summer class in SIRLS

Further, a number of employees affiliated with GIT members were brought into the Pilot.

As of June 27th, there are 254 Pilot Program users.

At this time we do not have a date for closing the pilot program down. As the production domain that the students will migrate to, there is no need to remove pilot users. As well, some of the Pilot users are faculty that will opt in to the domain even if Google Apps is not chosen as the replacement system.

Community site – googlepilot.arizona.edu

While the Roadshows provided a rich source of questions, comments, opinions, and concerns, the Roadshows were limited by their immediate, one-off nature. To capture more feedback and to ensure continuity, we created a community social networking site, googlepilot.arizona.edu (thanks to Hale Thomas and Alison Miller). We encouraged the Pilot users to utilize this site to post questions that might arise out of using Google Apps through the Pilot. At the site, interested people can post their questions, have peer-to-peer conversations, answer other's questions, make comments etc. As well, we have posted an FAQ at the site, some relevant URLs, and are posting the video from one of the Roadshow sessions that we had captured by LTC personnel (thanks to Heather Lares and Maya Schmitt).

Appropriate data from the community site will also be extracted by 24/7 IT Support Center personnel to be used for continuing support needs as the student population is migrated to the Google Apps domain. As of June 27th, there are 142 googlepilot.arizona.edu members.

Appendix C

Google for Staff & Faculty: Related Information & Impressions

Related Information

The Roadshow and its associated tools supplied a usable vehicle for investigating the usability of Google Apps for staff and faculty. In so doing, it also supplied associated information that GIT believes would be valuable in the decision making process and in the subsequent move forward, if that occurs. While certainly not within the scope as originally defined, we would be remiss in excluding them. When the Google Apps domain was created for use in the pilot program we discovered that there were approximately 200 users already in the domain, courtesy of Google's "Team Edition" service. Such a "Team Edition" is created with the Google domain name set to the domain that the users requesting email address comes from. Obviously, many people with "email.arizona.edu" were already comfortable with Google Apps. It turns out that there are hundreds more UA people in such Google Team Edition domains as "u.arizona.edu," "Arizona.edu," and others. One can assume rather confidently that there is a Google Team Edition domain for virtually every Arizona.edu based email service that has existed over the last few years.

This was not just confirmed, but accentuated during the Roadshow exchanges. It became a standard practice to ask the audience who had used Google either as a public, consumer Gmail user, or as a University of Arizona employee, using the Google Apps space for official business. Numbers ran as high as 10 percent of the session already in Google. Every session had people in the audience that were using Google Apps for University business.

Typical usage was directed at the calendar features, but there were regularly people who were using it for the collaboration tools and even email. We have email from at least one department head who informs that he has moved his whole department to Google Apps Team Edition, and that he hopes the University will follow.

This brings two things to the forefront. Many staff and faculty, numbering in the hundreds, perhaps even in the low thousands, are perfectly comfortable and productive in the Google Apps environment. For them the change would be most welcome. As well, if those people are spread with at least some semblance of uniform distribution across campus, it would ease the transition to this new system—in effect, providing sources of knowledge and casual support in many departments and offices across campus.

Secondly, use of Google Team Edition, or the one-off single user Gmail Google accounts for University business is somewhat unsettling. One of the necessary attributes of Google Enterprise Apps for Education is the End User License Agreement (EULA) that comes only in the Education edition. The EULA that applies to the Team Edition and single public user accounts has unacceptable terms so far as data privacy is concerned. In essence, Google has the right in that public EULA to use the data in each user's account for purposes inconsistent with University privacy needs. Moving these people to a Google Education domain would be a very high added plus.

Impressions

Some members of the team were expecting a significant amount of pushback from some campus constituencies. This did not occur. In particular, there was some expectation that people on campus who were experienced with Microsoft Exchange would express less than happiness at the possibility of moving to Google Apps. While there were people who seemed rather reserved about the prospect, overall there seemed to be only two groups in the audience. The major group seemed to be basically neutral, so far as their preconceptions were concerned. The other group was composed of those folks who were already using Google, either at home or for work. Those people were overtly happy with the idea of using Google Apps officially.

It seems clear that so long as the conversation remains fixed on the set of email and calendar features it takes to do our jobs and to do them well, few people have any problem with moving to Google Apps. No doubt, if we moved to Google Apps instead of MS Exchange, there will be some disappointed people. However, gauging from the participants in the Roadshows, when the approximate costs and trade-offs are addressed and discussed, there is general agreement that greater value lies in Google Apps.

Overall, we would characterize the general reception of Google Apps by campus as slightly positive.

Appendix D

Google for Staff & Faculty: Team Members

GIT Members

Brian Atkinson – SBS
Kay Beasock – Mosaic
Wayne Brent – UITS
Victor Cordero – UITS
Gil Salazar – CALS
Alison Miller – English
Patti Fastje – UITS
Tom Rees - UITS
Kate Rehkopf – UITS
Lisa Stage – UITS
Hale Thomas – Humanities
Patti van Leer - UITS