

Email & Calendaring Options and Implications

In July 2015, TP&PC endorsed a move of email and calendaring services to either Gmail or Office365 with an evaluation to be conducted during Academic Year 2016. Our Zimbra host (merit.edu) will be discontinuing hosting in October 2017 and there is a sense that Zimbra has fallen behind. Given these challenges, the two new choices are the better option at this time. This report summarizes the findings of the steering group¹ and contains five parts: 1) a summary of current usage of email and calendaring services, 2) a comparison of the two products, 3) a look at the choices of peer institutions, 4) a summary of the strategic tradeoffs and 5) a recommendation.

1. CURRENT SITUATION & SERVICES

1a. How does our community use email and calendaring?

Our steering group conducted a **community survey** in October, the results of which are shared in Appendix C. The calendaring features are more important to staff, and they use them in more complex ways, such as managing multiple calendars, checking meeting availability, and calendar sharing. That said, more than 60% of faculty and nearly 70% of students mention that they use the calendar feature of “scheduling meetings with other people” and 90% of faculty responded that they use a calendaring system to “manage [their] own events.” Clearly, these tools are important to all constituents even though they are used in different ways by each.

When Carleton **faculty** are exploring someone’s availability, they most often send an email. The next most favored approach is ‘using Doodle’, followed by ‘calling them’ and lastly ‘checking Zimbra’. **Students** most often send an email, followed by social media/text message, signing up in Moodle, ‘using Doodle’, calling and lastly checking Zimbra. Interestingly, **staff** send a direct email almost as often as they check “free/busy” availability in Zimbra with significant calling and use of Doodle. This manual approach to campus calendaring is inefficient and begs the question of whether this migration is a chance to revisit some of our communications practices.

As for **email** use, all constituencies (faculty, staff and students) use mobile devices for checking email nearly as often as the Zimbra web client. Other critical functionality includes mailbox management. The survey found that 80% of both faculty and staff “set up filters/folders” for college-related email. In addition, 40% of our staff respondents manage a mailbox shared among two or more people, and nearly 10% can edit 6-10 faculty/staff/resource calendars.

1b. Other calendaring tools

During our research, we learned about the significant and growing use of tools (beyond Zimbra) to find a time to meet, including Doodle², Moodle Scheduler, and 3rd party appointment scheduling. Moodle Scheduler is used to manage faculty office hour appointments and often requires an additional Moodle course per faculty member. Some staff offices are using a web-based tool for appointment scheduling,

¹ See Appendix B for members and original charge.

² A Doodle poll invites meeting attendees to enter their availability for a group of times.

and some faculty have a custom script to manage office hours. This sprawl points to the need for a process review.

1c. Other Google and Microsoft services

As we consider these two products, it is important to remember that both of these vendors have a suite of cloud services that extend beyond email and calendaring – and that the Carleton community is already using both of them. Given that they don't provide equivalent functionality, it's difficult to imagine that we would "turn off" one of them.

The Google Apps for Education (GAE) collaboration tools – including Google Docs and Google Hangouts – have been available and broadly used for about 7 years. The Microsoft cloud services were "turned on" about 2 years ago as a way of providing access to the latest version of Microsoft Project. Since then, over 400 users (mostly students) have discovered this suite, which provides free access to the Microsoft Office applications³. It is clear that Google Docs and the Microsoft Office products serve different – and very important – functions. The former is the premiere tool for collaborative content creation, and the latter is the premiere tool for advanced document creation (e.g. Excel).

While some of the applications in these suites can coexist, the primary functions of email and calendaring cannot. We could separate the community (i.e. have students on one system and faculty/staff on the other), but doing so would add significant administrative work, and those on one system would be unable to view the free/busy information for those on the other. Finally, there isn't enough distinctive value to warrant the complexity of implementing both systems.

1d. Document sharing & other emerging services

One final layer to this puzzle is the changing role of email as the dominant way of sharing campus communications. For example:

- Email has been used quite extensively to share documents on and off campus, but that function is being replaced by (self-sharing) cloud storage options such as GoogleDrive and Dropbox.
- Email was the place where communications about Career Services and Annual Fund volunteers happened, but those communications will be shifting to Salesforce.
- Email was the only way that emergency notifications were sent, but now e2campus is used to send campus (and technology) emergency messages via texts as well as email.
- Email was the place where project and topic-based communications happened, but there is emerging use of third party tools to enable those threaded discussions (e.g. Asana & Slack).
- Email has been the primary way of communicating with students, but some departments are exploring software solutions that allow them to manage text messaging communications.

In the 2014 MISO survey, email was rated as the second most satisfactory technology service by Carleton staff with a 3.81 rating on a 4 point scale. Given that, it is surprising that the announcement –

³ Note that the current Office 365 accounts are created manually and outside the infrastructure needed for automation of campus-wide account management and connection to our Microsoft spine. User passwords are reset upon request by a system administrator.

at the November Quarterly meeting – of Zimbra going away was greeted with significant applause. We have come to wonder if the community associates the burden of email with Zimbra, in particular. For the new system to be successful and most helpful to our community, it is clear that a review of our practices around email and calendaring is in order as part of this transition.

2. EVALUATING FUNCTIONALITY & FIT

2a. Findings from our research - “merging 100 points of view”

The Steering Committee and an ITS technical team identified roughly 60 features to be tested in 14 viewing combinations, including through a web browser, mobile devices (iOS and Android), and desktop applications (Outlook and Apple Mail). A group of 10 members of ITS tested those features during 28 hour-long testing sessions between October and January. The 13 members of the steering committee spent 4 hours testing Google and 4 hours testing Office 365 in November. In December and January⁴, 17 faculty, 58 staff and 2 students attended testing sessions. Altogether, 100 people have spent an estimated 500 hours testing these two products.

After all of that, we concluded that the minor differences in functionality were overshadowed by viewer preference and that the method of viewing had only a small impact⁵. In other words, as many people found Google “clearly better” as found Microsoft “clearly better”. The tendency was for students, faculty and younger staff to prefer Google and to point out the cleaner interface and fewer unnecessary choices (e.g. the Microsoft interface includes 3 similar buttons: Junk, Phishing and Clutter, compared to the single “Report Spam” button in Gmail). Administrative staff – especially those who have worked at Carleton for 10 or more years – generally preferred the more business-like feel of Office 365 and/or the Outlook application. To our surprise, the vast majority of testers – even those with a preference – said that either product would be fine (and better than Zimbra).

Appendix D contains names of the testers and two summaries grouped by these categories:

- Basic email functionality
- Email “surrogate/sharing” functions
- Basic calendar functionality
- Calendar “surrogate/sharing” functions
- Mobile functionality
- Client applications (e.g. Outlook and Apple Mail)

The first summary compiles the experience when each product is accessed via a web browser -- which is important because it's the easiest approach to use from any location. The second summary is a comparison of the “ecosystem” of options, considering student reliance on mobile devices and staff preference for the Outlook client (which can continue to exist with either Google or Office 365). For this review, we were looking to answer the question of how satisfied the varied constituencies would be if they were using their preferred viewer.

⁴ These sessions aren't completed at the time of this writing (i.e. participant count will increase). 35 staff attended this week's sessions.

⁵ iPhones/iPads behave more consistently with both options than Android devices. Additional features are available when checking Google on Chrome.

Although both systems can work just fine – as evidenced by a roughly equal split across our peer institutions – there are a handful of feature differences that should be noted. Our decision may come down to whether we are uncomfortable with any of the workarounds to address these differences.

Google:

- ⇔ Google uses a different organizational paradigm (than either Zimbra or Office 365) based on a reliance on searching rather than filing into folders. Our current folders would be converted into "labels" and would retain any "nesting"⁶ in all viewers including browsers and Outlook. Labeling is conceptually different and leads to features like the ability to add more than one label to an email.
- ⇓ In Zimbra, users can both ask ITS to create a shared mailbox and initiate sharing a mail folder with another user. In Google, shared mailboxes (such as admissions@carleton.edu) would need to be set up by ITS and would display the messages in a separate browser tab – or in a "list view" if using Outlook. However, the inability for an individual to initiate that sharing would require creation of new behaviors.
- ⇓ Both systems can be configured to display in any client, including Outlook, Mac Mail, Thunderbird, and any number of mobile apps. Given the strong preference for the Outlook client, it should be noted that Google provides a "connector" to Outlook, which adds more functionality but also more complexity. We have talked with 12 schools that use this combination⁷, and they report only infrequent issues with this technology pairing (issues are more likely with very large mailboxes), but it does increase support effort and risk.
- ↑↑ The Google Calendar offers a feature called "appointment slots" which could replace the functionality of the Moodle Scheduler and third party scheduling applications, with the benefit of immediate connection between a selected slot and an update on the individual's calendar. This feature doesn't exist in Office 365 and was highly praised by both faculty and staff.
- ↑↑ Google Calendar offers suggested times for a meeting among campus attendees, which surpassed the Office 365 feature that works with attendees whose calendars are shared with you.
- ↑↑ In terms of printing calendars, there is significant personal preference. One noteworthy difference is that Google will print multiple calendar layers on a single page whereas Office 365 doesn't provide that option. The printing features of Outlook are retained with Google or Office 365.

Office 365:

- ⇓ As mentioned above, the printing of calendars through the browser is limited to one at a time although the use of Outlook for printing matches current experience with Outlook.

⁶ The "nesting" results from folders created within folders in Zimbra. One could assert that extensive use of filing is no longer a needed – or efficient – practice with modern email systems and searching capabilities.

⁷ As part of a survey sent to a CIO listserv. The 65 institutions that responded sent helpful insights and also confirmed the even vendor split.

- ↓ Office 365 doesn't seem to integrate well with some of the Android phones. In our peer survey, one school mentioned moving to Google to address mobile issues and another (plus Stanford in an interview) mentioned issues with recurring events on mobile devices, although the majority of the Office 365 respondents to our survey reported no issues with mobile device compatibility.
- ↑ Neither Office 365 nor Google supports the "dragging" of appointments between multiple shared calendars when doing calendaring in a browser, but with Office 365 that feature is available when calendaring in the Outlook client.
- ↑ Office 365 has a few features that don't exist in Zimbra or in Google, e.g. a fine-grained feature for creating "archive" and "retention" policies based on the folder or a particular sender. This type of automatic deletion may not align with our culture, but for some offices this option could be beneficial. We don't yet know if that feature works in the Outlook client with Google.
- ↑ In general, Office 365 is more like Zimbra, which would make this an easier transition of current practices.

We created video demonstrations for you to view the difference between labels and folders and other features of both products. This [Dropbox folder](#), has 14 short videos lasting 20 minutes in total.⁸

2b. Implementation considerations

Without going too far into the migration details, let it suffice to say that either implementation will bring some level of disruption. And yet, in both cases one's current mail and events will be migrated and basic operations will work seamlessly immediately. After the product is chosen, the project will begin planning for the migration and associated training. The project team anticipates that the "GoLive" can be staggered to align with the timing constraints of different constituencies⁹. During the staging period, the free/busy availability will only work for those on the same environment. For that reason, we would recommend the smallest necessary transition window -- perhaps mid-June to mid-July.

Carleton community members will be encouraged to prepare for the transition, e.g. to find emails that exceed the new attachment limits (and download those documents to a file storage such as Dropbox), to simplify their folder system, to recover needed emails from the Trash and to prune listservs and other easily deleted messages¹⁰.

In addition, we would hope to continue to provide access to Zimbra email and calendars for community members to validate their migration. The Zimbra archive could be retained at Merit up until October 2017¹¹ for as long as we want to continue to pay for that hosting service.

For a Google implementation:

- Google Apps for Education is already integrated into our authentication and provisioning practices. As a result, email and calendaring could be activated with ease and no expense.

⁸ Videos are available for viewing at <http://tinyurl.com/znb2gd2>. Select "guest" viewing for easiest access.

⁹ Based on the number and size of mailboxes migrating at one time, some users may have to wait for a few days for their older email to complete the move.

¹⁰ A smaller overall Mailbox correlates to less crashing of Outlook regardless of the vendor choice (and a quicker migration process as well).

¹¹ It may be necessary to make the Zimbra archive unavailable during the *transition period* while some accounts are active in each system.

- St. Olaf IT staff have already provided support to our evaluation and have offered their expertise in support of our technical staff and community training efforts.
- Each email message, including all attachments, can be no larger than 25 MB compared to 112 MB for Office 365 (compared to a limit of 70 MB in Zimbra). It is possible that during the migration process these attachments could be automatically moved to Google Drive.

For an Office 365 implementation:

- Office 365 is newer in the market and brand new for us and would therefore need more development work and some amount of buffer for the unknowns that could arise. This option involves a new Microsoft infrastructure, which brings more risk and effort (and as described later, some benefits longer-term). In addition to developing account creation and authentication processes, we would also need to learn how to provide administrative support of email processes like legal holds, user-initiated email recovery and shared mailbox management.
- Ideally, the authentication would be connected to a “federated” approach that keeps community passwords on-campus and where the cloud service would verify logins with our on-campus service (as we do with Zimbra and Google currently¹²). We would need to design and implement this solution – most likely with consulting support, as described later.
- Given the size and scope of this implementation, we would be hesitant to commit to a June deadline. Although initial responses from two consultants are supportive of a June GoLive date, we feel that more investigation of the timeframe would be in order if Office 365 is selected.

2c. Support considerations

For both options, the transition will require support and training. We imagine that divisions and/or departments will identify a point person to get advance training and to work with us in creating as smooth as transition as possible. The transition process could lead to beneficial process review, such as rethinking how documents are shared, e.g. using links to Dropbox (and possibly Google Drive) documents rather than emailing attachments.

With Google, we would need to identify users of shared mailboxes and to develop new practices to meet those needs. For users expecting to check email in a browser, it would also be important to review their foldering structure, aiming to reduce the nesting of subfolders within subfolders, which has a limit for visibility in browsers other than Chrome. If Google is selected, we would expect more demand for the Outlook client, which would require additional support effort from ITS. Given the feedback from our staff testers, the Outlook client will provide better functionality for shared calendaring and an easier transition from Zimbra to the Microsoft interface design.

With either product, we would anticipate a need for additional campus support and training for around six months. After the product is selected, we will explore those needs and the ways in which current staff and student workers and departmental liaisons can be aligned to meet that campus-wide need.

¹² Current Carleton users of Office 365 use a separate password that is created and, when needed, reset by one of our system administrators.

2d. Cost and contracts

In terms of **ongoing cost**, our Microsoft Campus Agreement provides pricing based on our student and employee headcount for a set of services. Our current license for the Windows operating system and the Office suite would cover the expansion to Office 365 email and calendaring without additional expense. Google Apps for Education is a free service and the features that used to be priced separately (email archiving and premiere spam filtering) are now part of the base service. It's impossible to predict the future costs, but both of these companies have modified their pricing models periodically, and we could expect that to happen again -- most likely for specific new "modules" of functionality.

In terms of **migration cost**, we will need to spend about \$20-25K for the software to migrate data from Zimbra to the new system. In addition, some amount of ITS and campus-wide staffing effort will need to be directed towards this project. If we choose Office 365, we should be prepared for an additional \$22-40K of migration support expense. These migration costs can be covered by ITS reserve funds.

For each of these vendors, we are currently under an **agreement** that would encompass expansion to include email and calendaring. From a lay person reading of the agreements, it seems that Carleton will be similarly protected in either case. Here are their statements around Use of Customer Data.

Google declares:

"Google will only process Customer Data in accordance with the Agreement and will not process Customer Data for any other purpose. For clarity, and notwithstanding any other term in the Agreement, Google will not serve Advertising in the Services or use Customer Data for Advertising purposes."

Microsoft declares:

"Customer Data will be used only to provide Customer the Online Services including purposes compatible with providing those services. Microsoft will not use Customer Data or derive information from it for any advertising or similar commercial purposes."

Each vendor has a number of documents and types of agreements with their Customers. It could be advisable to have a legal review of the contract(s) to answer specific concerns about either vendor.

2e. Risk/Complexity considerations

The reliance on the **Outlook client** has higher technical risk in Google than Office 365. Its connector is an additional piece of software that isn't needed in Office 365, due to their direct connection from client to web. Outlook worked well in our testing¹³, and twelve of the Google respondents to our peer survey use it successfully, with two of them mentioning an occasional need to recreate the user profile (as we do periodically with Zimbra to Outlook)¹⁴. Google has been supporting this connector for over five years, and it seems to be an essential part of their "Google for Work" offering for businesses.

The College's portfolio of options for **managing files** would be more complicated if we implement Office 365 email. If we embrace the Microsoft cloud offering, then it makes sense (and may be a requirement)

¹³ One system administrator user had conflicts with the Windows patches on his computer at two points during our testing.

¹⁴ With the Google Connector, users could recreate the profile themselves rather than waiting for ITS as required with Zimbra.

to utilize their OneDrive for storing files. Our evaluation last spring identified OneDrive as insufficient to replace COLLAB due to Mac incompatibility (and other ease of use concerns); not to mention that we would be *adding* OneDrive as a storage location in addition to Dropbox and Google Drive/Apps. If we don't have email in Office 365, it makes more sense to encourage storing Office documents in Dropbox, and when needed to be able to open those documents through the web-based Office365 Apps.

A final risk is the move to **cloud-provided** (Software As A Service) email and calendaring, which eliminates our ability to choose which software updates to apply to our system and when. In a SaaS environment, vendors can and do make changes on their own schedule which apply to all of their customers simultaneously. Based on our research, this reality would be true for either of these vendor services although both have gotten better at informing their customers of changes in advance.

3. USAGE BY PEER INSTITUTIONS

3a. Our Peer 25

Among our peer group of 25 institutions, there is a nearly even split of Google and Microsoft users – with 12 on Google and 10 on Microsoft¹⁵ for the entire campus. In addition, Wesleyan uses Exchange for faculty/staff and Google for students, and Swarthmore and Carleton round out the list as Zimbra users. There are two LACOL schools not included in our Peer Group – Claremont McKenna, which uses the split approach like Wesleyan, and Vassar which uses Google.

We don't have a way to know the satisfaction of faculty, staff and students at these institutions, but it would be reasonable to conclude that either of these products would work as well for us as they do for our peers. By way of comparison, Williams and Smith are on Google Apps, and Amherst and Grinnell use Microsoft. Locally, both St. Olaf and Macalester use Google.

3b. St. Olaf

This decision could be strongly influenced by how much weight we give to aligning with St. Olaf. There are three issues to consider: 1) the benefit to cross-campus classes/collaborators, 2) the benefit to our support of email & calendaring and 3) the value to tangible and intangible future possibilities of the collaboration. These factors will need to be weighed against our independent view of each product.

1. User Benefit: St. Olaf has been using Google since 2008. Elise and Peggy talked with their counterparts who report they are satisfied with Google (even without Outlook)¹⁶. St. Olaf's IT staff feel that the community is well-served by the web-based version and the tight integration with the Google Apps suite including easy linkage between email and documents and archived chat threads. The collaborative editing features are already employed to facilitate collaboration among faculty, staff and students across the two campuses. Our community could learn from their St. Olaf peers about best practice behaviors when using Google.

¹⁵ 6 of the MS schools use Office 365; 6 of them have Exchange. Bryn Mawr was counted as a MS institution since they are in the process of moving from Zimbra to Office 365. Bryn Mawr's rationale included the blocking of Google in China and the importance of Chinese students to their enrollment targets.

¹⁶ Elise's counterpart reports that she "folders in Google exactly as she'd filed in Zimbra" and "tends to keep about 9 calendars in front of her at a given time in a one-week view, and the color-coding overlay works well for her."

2. Support Benefit: St. Olaf IT staff are very fluent in how they do the administrative functions that we would need to replicate such as account creation, spam management and developing programming interfaces. As Google rolls out new features/modules, there would be value in sharing the testing and training around those innovations. In addition, we currently have a shared security officer who is working to align our security practices around phishing protection, second-factor authentication, legal holds, etc. While it's unclear whether that role will continue after the Mellon grant, it's certainly true that choosing a different email & calendaring system makes it less feasible to continue.
3. The Collaboration: In addition to the current benefits of aligning with St. Olaf's choice, it is also possible that we can't anticipate future benefits or the benefits of good will between the institutions. We wish that choosing Google would mean that we could see the "free/busy" availability of community members across the river – our Librarians and IT staff alone would make excellent use of that feature. While it is not currently available, there's no way to anticipate whether that feature could become available, either from Google or from our own programming efforts.

4. STRATEGIC CONSIDERATIONS

4a. The Vendors – business models and risk profile

Both of these companies are significant players that are likely to stay solid in this market. Google has been the leading player in the cloud email market for 10 years and, although Microsoft's cloud offering is relatively new, it leverages their on premise Exchange platform that has been the premiere enterprise email & calendaring product for 20 years.

Microsoft's business model is clear -- they strive to be the core infrastructure for business and have significant penetration in both the for-profit and not-for-profit sectors. Their products work reliably well, although they work best when you adopt the entire Microsoft suite, and they frequently don't work as well on Apple products. There are many consultants trained in the Microsoft suite and there is value – and technical complexity – to be had in embracing the Microsoft authentication environment (ADFS), Sharepoint/BI and their cloud environment, Azure.

Google's business model started with selling the information they mine from the world's search behavior and has evolved into a series of services such as Google Docs, Google Earth and Google Hangout. Higher Education early-adopters negotiated a contract that prohibits mining our data and discloses where our information will be physically stored. For five years, Google has offered "Google Apps for Work" as a paid service for business customers. Google Apps for Education remains a service provided free of charge which is an unfamiliar and potentially uncomfortable business model for Carleton. Incidentally, the business and higher education customers have a shared technical support desk, and Google has begun investing heavily in education, especially in K-12, with services such as "Expeditions" for Virtual Reality experiences of the world.

Bottom-line, each of these vendors has a big stake in higher education and in their communication suite.

4b. The Vendors – value of doing more with them

Carleton has based technology decisions on the College’s needs, as opposed to aligning strictly with a particular vendor suite. For example, Carleton has many users of both the Microsoft Outlook and Mac Mail clients and roughly equal numbers of Macs and PCs. It is also relevant that Carleton has been using Google Apps for over seven years and has seen an upsurge in “unofficial” student access to the Office 365 applications¹⁷. Both of these suites offer chat and videoconferencing, and using one or the other (but not both) of those communication services would be useful for the campus¹⁸.

Microsoft’s products serve our administrative users very well and align with our Microsoft technology “spine”, which includes SQL Server databases, Active Directory authentication, and about 60% of our campus computers running on the Windows operating system.

The most tangible benefit of having email in the Microsoft environment would be the ability to easily integrate mailing lists with the “group” information that is stored in Active Directory. We currently manage a programming script that exports and manipulates that information to create our staff-all, faculty-all and other campus lists which are processed through a separate system called Sympa.

The richer benefits of doing more with Microsoft include implementing their High Availability features and their authentication service (ADFS) which is preferred by some of our vendors, e.g. OnBase. Choosing Google wouldn’t preclude extending the Microsoft infrastructure as warranted. In fact, ITS has a history of being selective about Microsoft products, e.g. choosing (along with St. Olaf) the “better” virtualization product – VMware – rather than Microsoft’s offering, HyperV. It is worth noting that most of the systems that target higher education, such as Ellucian and Salesforce, are agnostic about our email and infrastructure choices. This is likely due to the fairly even split among these email vendors.

Google’s products are in wide use by the Carleton community – both professionally and (for many) personally. Over the past month, 1700 members of our community have used the Google Drive services associated with carleton.edu. The advantage of doing more with Google would be to align and centralize the tools that are used to manage communications on campus. Processes could be streamlined by attaching links to Google Docs; Google Forms could be used for short surveys, and users could easily initiate chat sessions through the email window or a calendar appointment. Those chat sessions could be saved to Google Drive as needed. In addition, Google has an extensive suite of academic products that are valuable in Higher Education, such as Google Earth, Google Scholar, Google Hangouts and a “Marketplace” of 3rd party partners.

One **difference** between the two options is that Microsoft has an “infrastructure” that goes beyond the communication suite and into servers and other infrastructure whereas Google is an application suite. Although we use quite a bit of the Microsoft infrastructure, it isn’t practical to go “all in” with Microsoft

¹⁷ Students have learned that free access to the Office 365 applications is available through their school affiliation. Carleton has 400 such manual accounts which are created outside the infrastructure needed for full automation of campus-wide account management and connection to our Microsoft spine.

¹⁸ In Google, the chat sessions can be archived in Google Drive. In essence, they become a document that can be revisited. May be true in Office 365 also.

given their difficulties in providing equivalent service for those on Apple devices and our need to integrate with technologies that don't live in the Microsoft ecosystem.

We could very reasonably end up with **both** of these application suites in their cloud environments. Microsoft has announced that they will be leaning toward a “web first” approach of rolling out services – as with Adobe before them. Given that, we anticipate a move to the Office 365 cloud at some point regardless of the email choice. It seems unlikely that we would want to turn off the current use of Google Apps and/or the reliance on the Microsoft Office suite. In other words, this email and calendaring choice will not help eliminate one of these vendors from our ecosystem. We expect for Carleton to align with both of these vendors in order to leverage their particular value.

4c. Constituents – academic “versus” administrative

It is clear from our review of the functionality (section 2a) and considerations about the vendors (4a and 4b) that Microsoft provides an infrastructure with more business value for our administrative offices. For example, the features only available in Office 365 – automated document retention policies, scheduled delivery of emails and sharing file folders – are of more interest to administrators than students or faculty. The business model of Microsoft, where one pays for the services directly, is also more aligned with administrative expectations.

On the other hand, Carleton faculty and students are already engaging the Google Apps suite in collaborating with each other and with peers at other institutions. The close connection of email with document sharing and the Chat/Hangout services would be a natural extension of those behaviors. In addition, the simpler user interface and ongoing innovations provided by Google are well-aligned with the types of activities conducted in our academic arena. Several of the Google schools in our Peer 25 group highlighted the self-direction of their faculty and staff in exploring new features and methods.

An open question is the extent to which the Appointment Slots feature in Google would be used. It is clear from faculty (and staff) reaction that it could offer significant improvement over the current approaches to scheduling office hours. Some faculty have asserted that this new feature – plus a move of college calendaring to an environment they already use – will make faculty more likely to use campus calendaring in some additional ways beyond their current usage.

Both faculty and staff had requested in our campus survey that we provide an easier way to integrate personal and professional calendars, and the survey also revealed extreme inefficiency in how calendaring is currently managed across campus. Our Steering Committee would like to encourage a campus conversation about any process improvements that could be introduced during this migration.

4d. Managing Change – aligning with a move to cloud storage

As referenced earlier, the campus has experienced a grassroots move to Dropbox (by faculty and staff) for storing and sharing files. As part of this migration, we would like to roll out a campus-provided Dropbox environment which would bring documents under our higher education discovery protections and would provide an ability to retain college documents after an employee leaves the college.

The cost of 1200¹⁹ accounts (for faculty, staff and student workers upon request), would be \$60K per year. That expense would be covered by the \$30K no longer needed for Zimbra hosting and \$30K of deferred expense from planned replacements of current storage hardware.

4e. Managing Change – embracing beneficial discomfort

As mentioned earlier, either direction will bring some level of disruption to our community. One of the strategic questions to consider is the benefit that could come from embracing this moment as an opportunity to improve business processes campus-wide.

A place to start is with the question of how **documents** are shared and to embrace new practices around where documents are stored. We recommend storing documents in a repository (e.g. Dropbox) and sharing a link rather than an attachment(s). How much effort will be needed to break the long-standing attachment habit and to realize the benefit of creating a known location that contains the latest copies of a set of topic-related documents?

There are many established **practices** across campus that haven't adapted to more efficient options that have become available. For example, we learned that some departments use shared mail folders as a way of tracking absence request form submissions or to archive departmental communications with current and former staff members. Although it could be difficult for those staff to move away from their current practices, the College would benefit from storing that information with less manual filing and in a way that would persist in the event of a staffing change.

The strategic question is whether to take advantage of the **convergence** of introducing both a new email platform and a new cloud storage system. Could we, as a campus, commit to the effort of reviewing and redesigning communication practices and would Carleton be better off as a result?

4f. Effective Compromise

Carleton often looks for the best compromise or blending of features. We looked for ways to achieve some of the benefits of each direction without adding undue support burden. Here are two possible paths forward.

- Option 1: focus on staff calendaring in Office 365 and faculty/student interactions in Google
Leverage the easier transition from Zimbra and close alignment of Office 365 with Outlook. Encourage faculty and students to forward email to personal Gmail accounts or to rely on the Apple Mail client.
- Option 2: build on current use of Google using Outlook to ease staff transition
Leverage the alignment with St. Olaf and tight integration of document sharing with the Google Apps and its ease of use for the majority of users and expand use of the Outlook client for administrative users.

¹⁹ Accounts with unlimited storage cost \$50/user/yr. More experimentation is needed to determine if student storage needs will be sufficiently met by Google Drive. If the majority of students want to opt-in to Dropbox, then more accounts would need to be purchased and a funding question would arise.

5. RECOMMENDATION

We recommend Google as the best choice for Carleton. Both products would meet basic email and calendaring needs, but there are 3 significant reasons to select Google. First, it is a natural extension of our significant use of the Google environment and an endorsement of their future in higher education. Second, it avoids another core storage environment and Mac issues. And third, it leverages collaboration with St. Olaf for academic sharing and for efficiency in providing support.

In addition to avoiding the ambivalence of Microsoft towards Apple products (e.g. difficulties with OneDrive), this direction would leverage the current use of Google Drive and Dropbox and acknowledge the close integration of document sharing with our email behavior. It would also allow access to the integrated appointment slots feature and the integrated chat and videoconferencing features.

In an ideal world, all users would use the web client, which is the simplest and most supportable campus-wide solution. However, we realize that continued use of the Outlook client, for some audiences, is necessary, especially in the short-term. By using the Outlook client, the staff users who prefer the Microsoft interface will be well-supported while reaping the overall benefits of the Google direction for our campus. Given the even split among our peer institutions, we should be reassured that Google will work well for Carleton as well.

We plan to continue to build a Microsoft spine in ways that support our administrative infrastructure and the cloud-based Office Suite that is highly advantageous to our students. Specifically, Carleton will continue its reliance on the Microsoft Office Suite, and will stay attuned to other Microsoft advances to implement as appropriate.

In addition, we would recommend a move to a College license of Dropbox for use by faculty and staff as a replacement for COLLAB and related file storage. There is tremendous efficiency to be gained by modernizing practices, such as sharing links and folders in lieu of emailing a series of attachments.

Philosophically, these recommendations align with the trend for IT departments to serve as integrators and advisors in an evolving world where users and departments have become more empowered with (cloud-based) information technology and less reliant on central IT to provide it.

The introduction of both a new email & calendaring service and a new cloud storage platform will give us an opportunity to update and streamline our communications. Ultimately, we believe Google is the least complex and most intuitive product that meets our needs.

Janet Scannell, *Chief Technology Officer*

Julie Anderson, *Director of Web Services*

Austin Robinson-Coolidge, *Director of Technology Support*

Elise Eslinger, *Associate VP and Chief of Staff*

APPENDIX A - Carleton's technology selection philosophy

In June 2015, the Technology Planning & Priorities Committee (TP&PC) adopted several ways of weighing one technology solution against another, including the use of a guiding statement (e.g. 'cloud first'), the use of the Constraint Triangle (e.g. pick 2 of cheap, fast and good), the use of a Values Pyramid (to align the selection priorities with the usage of the technology) or trying to align choices around a defined technology stack(s).

TP&PC reached several conclusions that are relevant for this evaluation: 1) Carleton embraces a diverse technology environment and solutions that provide the best functionality to meet College needs and 2) the vendor stack issue should be discussed and consolidated when possible and 3) the 'good & fast' approach (with perhaps more expense or resources) provides better return and should be privileged for services that are community-facing.

APPENDIX B – Email/Calendaring “Project Charter”

Created in July 2015 and modified September 5, 2015.

APPENDIX C - Email/Calendaring Survey Results

Slides from November 2, 2015. Note that the answers about “forwarding” of email in question 3 should be ignored. The responses are wildly larger than the counts of automatic forwarding of an account (which we can verify on the system configuration) and must mean that some respondents answered yes if they forward particular messages to another person.

APPENDIX D – Testing Results

a. Summary Feedback – browser based usage

A high-level summary of the key features of the two options when accessed via a web browser.

b. Summary Feedback – with all viewing options

A high-level summary of the key features of the two options with all configurations of how the community interacts with email and calendaring, i.e. browser, mobile and desktop clients.

1. why evaluate alternate email solutions?

- Our Zimbra host (merit.edu) will be discontinuing Zimbra hosting in October 2017.
- There is value to gain from broader use of either the Google Apps for Education (“GAE”) or the comparable online offering from Microsoft (Office 365).

2. evaluation

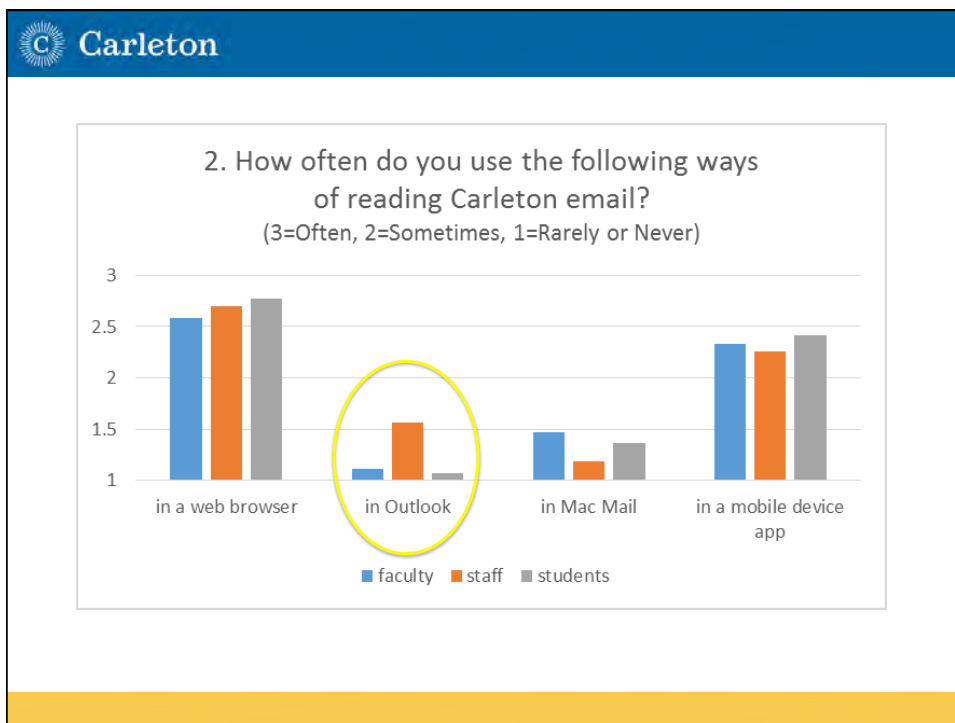
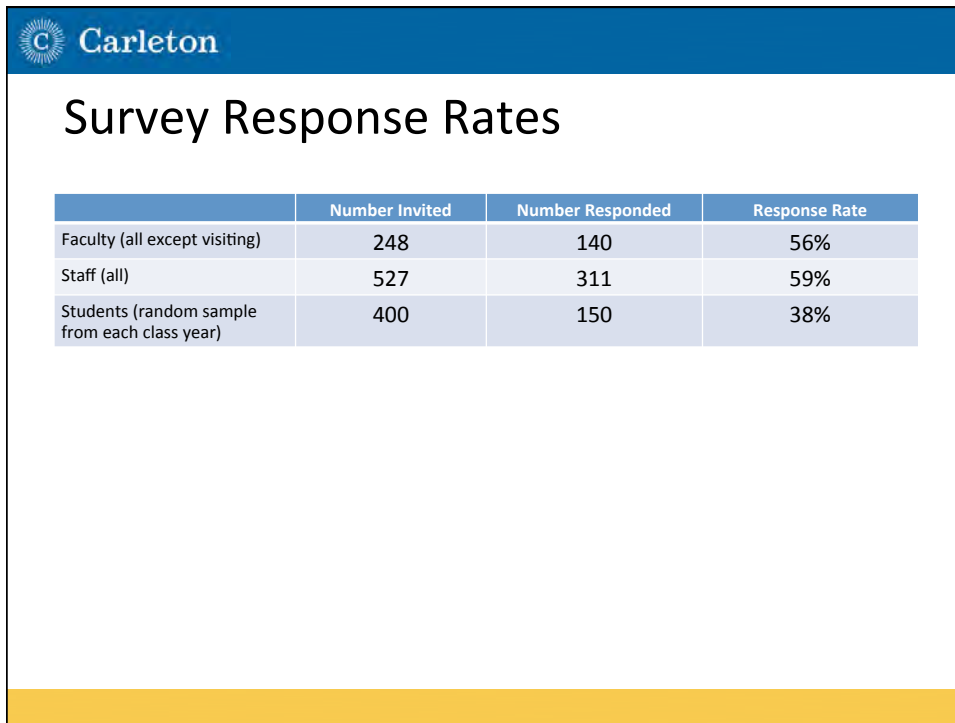
- define “must have” and “would like” features -- what features that we currently use are we willing to drop? e.g. loading course schedules from Moodle? restoring mail? Outlook compatibility? Would be good to ask the importance of these features in a community survey.
- Also beneficial to talk with other schools r.e. their sense of pros & cons, learn from their evaluation process. Ask how long the migration took and how they staged that process.
- decision is more complicated now that email isn't a service in isolation from other services. Need to consider shared calendar functionality, shared document editing, interoperability with other systems (such as Ellucian, Moodle, Reason and Salesforce), vendor business plan & anticipated direction and ITS back-end administrative functionality.

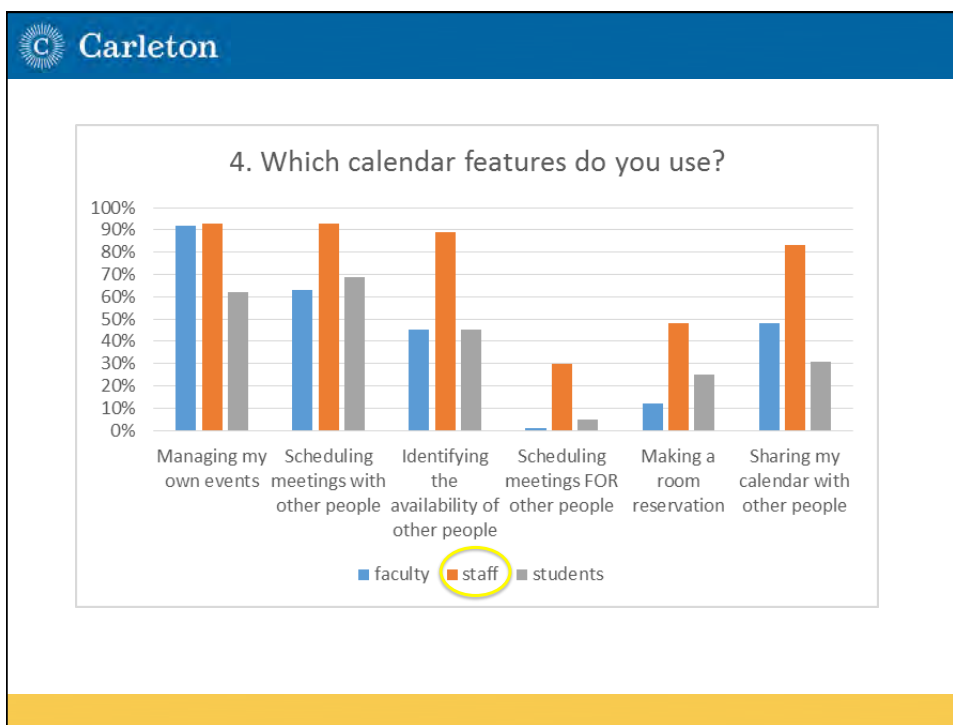
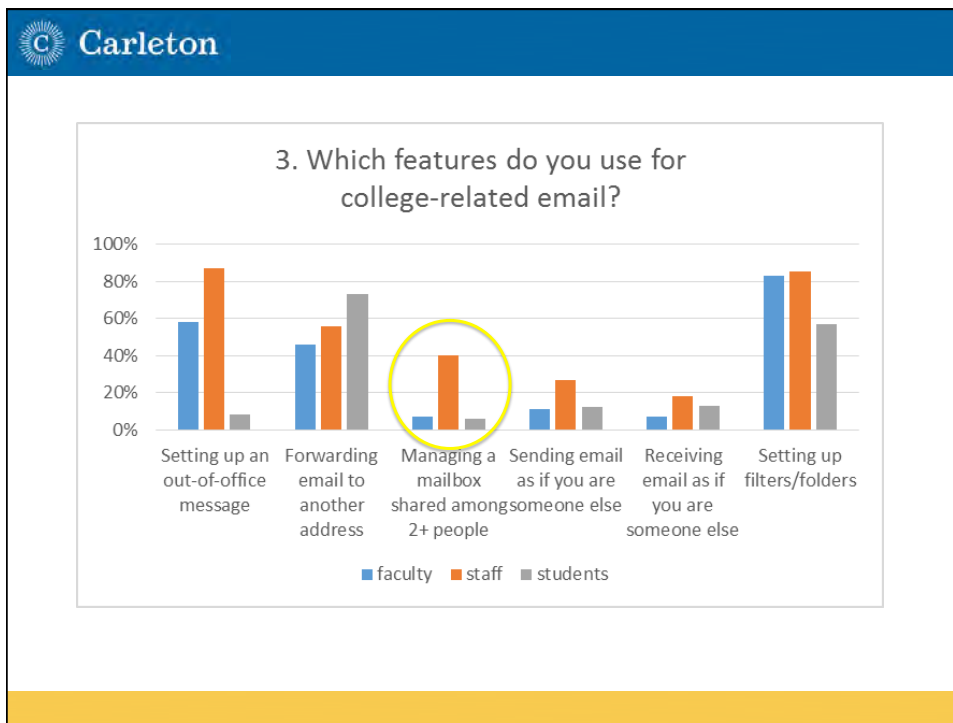
3. process and timing

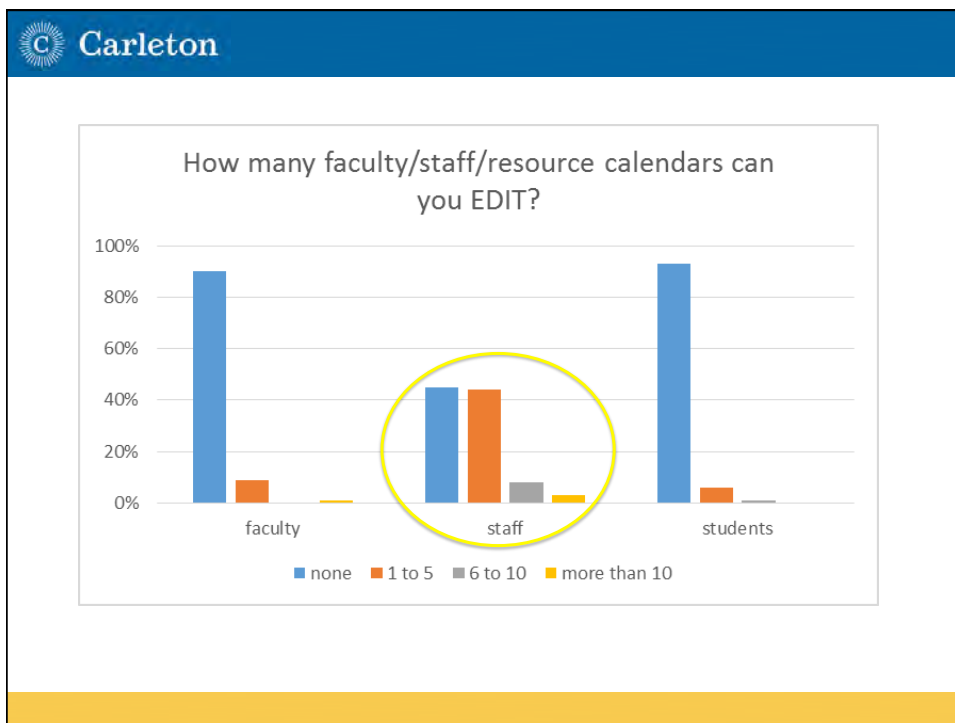
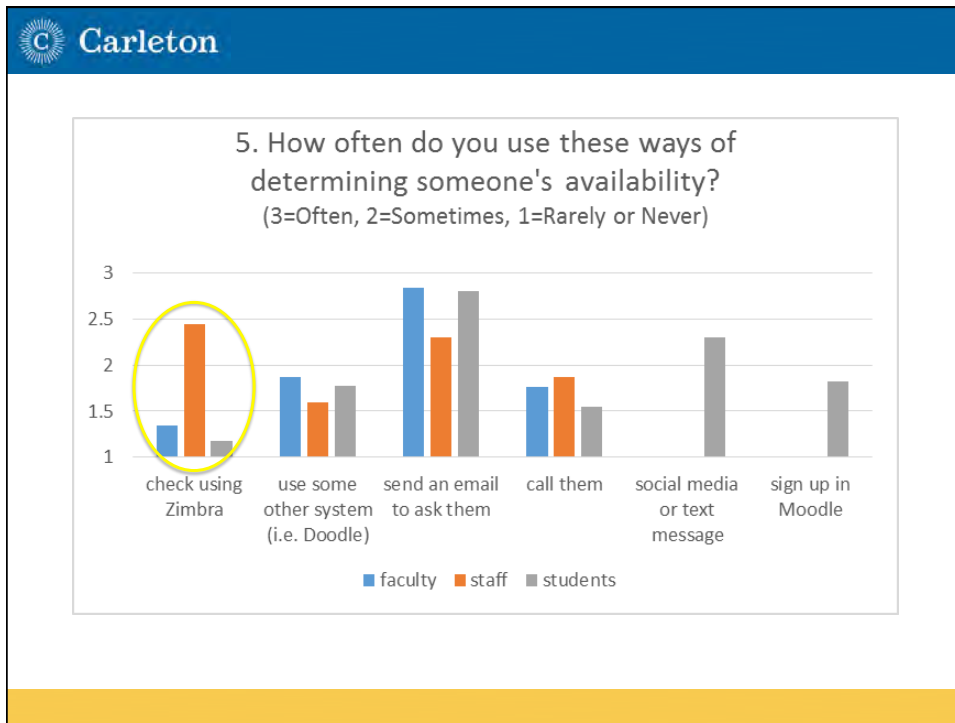
- surveys: ask initial questions about usage and pre-existing preferences/biases. Ask for volunteers to use both suites (such as shared document editing) and survey their opinions.
- Have some self-selected volunteers and some conscripted. Want to have a mix of opinions, e.g. strongly pro and anti the products and people who use different types of features.
- 2 week email immersion – 1 week with each product. During testing, will have one copy of an email in Zimbra and also in the new product although likely to have a new username and separate password. Calendars would need to be separately maintained. For how many people?
- Implementation will take roughly a month (to move mailbox data). Could have some accounts on each system at the same time but would lose “free-busy” visibility to those on the other system.
- Possible project timing and key milestones:
 - communications: talk about the process in weeks 1-2 and conduct survey in weeks 3-4;
 - ITS talk with other schools and prep for demo accounts & learn processes by Oct. 16th
 - steering group review survey results and have testing sessions in week 6 (Oct. 20-23)
 - communications: share survey results and announce Winter Term testing during weeks 7-8
 - conduct public sessions and selected parallel testing for 2 weeks in Winter Term
 - steering group digest factual differences and user opinions -> create matrix of pros & cons
 - TPPC/Tuesday Group make the decision by end of Winter Term
 - GoLive over the summer, perhaps with timing options especially for academic departments

4. evaluation team (steering group)

- This is a “sibling” to the data storage team (“Collab to the cloud”), i.e. 2 groups with overlap.
- Project Manager: Julie Anderson and Sponsor: Janet Scannell
- Other ITS members: Austin Robinson-Coolidge, Rich Graves, Bryan Reed
- Non-ITS members: Jane Rizzo, Peggy Pfister, Eric Rohn, Tammy Anderson, Mike Kotchevar, Susannah Ottaway, JordiKai Watanabe-Inouye ‘17
- Executive Sponsor (champion): Elise Eslinger







Google Apps for Education vs Office 365 – comparison of the WEB CLIENTS

January 2015

	Google	Microsoft	Comments
FUNCTIONALITY			
Basic email functionality	“less clicky but harder transition from Zimbra”	“more polished but some UI disadvantages”	Very different approaches, but basic email is workable in either. Most polarized user reactions in terms of their preference for this area.
Email “surrogate/sharing” functions	“more obvious but less flexibility”	“more functionality including self-sharing a mail folder”	User-shared email folders is possible (although clunky) in O365 and a feature that would be missed in Google. “Resource accounts” (like admissions@carleton.edu) can be handled in either.
Basic calendar functionality	“busy search far superior”	“prints one calendar layer at a time”	Some found the Google approach to be better, including offering suggested meeting times. Others preferred the look of the Office 365 approach.
Calendar “surrogate/sharing” functions	“appointment slots would fill a need better than current work-arounds”	“easier for managing multiple calendars”	Appointment slots would be a new feature that would replace current work-arounds in Moodle and 3 rd party products (neither of which are highly satisfactory to faculty now). In Office 365, multiple calendars can be shown in side by side view whereas they are overlaid with different colors in Google.
Client application (i.e. Outlook) functionality	n/a	n/a	(not applicable in a comparison of web clients)
Mobile functionality	“has been around longer; 3 rd parties make sure they work with Google”	“some Android options just didn’t work”	The ITS team expects both products to be an improvement over Zimbra, and gives Google the advantage given its longevity and better Android experience.
EASE OF USE	Overall, how do you like the interface and how the product works?	Generally preferred by the younger, more recently hired staff.	Comes down to personal preference: Google settings are “too much” vs “easier that [there is] only one place to go.” Microsoft “has more features” vs “too many choices, e.g. 3 buttons: Junk, Phishing, Clutter compared to 1 for Gmail.”

Google Apps for Education vs Office 365 – comparison of the WHOLE ENVIRONMENT

January 2015

		Google	Microsoft	Comments
FUNCTIONALITY	Basic email functionality	“searching for emails won’t be received well”	“prefer folders to labels”	Most folks said either is fine with staff leaning towards Office 365 or Outlook. “Our department is likely to use Outlook mainly.”
	Email “surrogate/sharing” functions	“for sharing, I’d likely use Outlook”	“we use the self-sharing of mail folders”	Office 365 preference among staff, primarily for the self-sharing of mail folders. Resource accounts (admissions@carleton.edu) can be handled in either.
	Basic calendar functionality	“like the suggestion of open times for invitees”	“prints one calendar layer at a time”	Some found the Google approach to be better, including offering suggested meeting times. More staff preferred the look of the Office 365 approach.
	Calendar “surrogate/sharing” functions	“appointment slots would fill a need better than current work-arounds”	“easier for managing multiple calendars”	Appointment slots would be a new feature that would replace current work-arounds in Moodle and 3 rd party products. Multiple calendars shown in side by side (in Office 365) and overlaid with different colors (in Google). Staff who do complicated calendaring are likely to use Outlook client.
	Client application (i.e. Outlook, Apple Mail)	“fine until people have trouble with the connector”	“prefer the direct connection that MS provides”	“Outlook behaves relatively the same against both systems.”
	Mobile functionality	“has been around longer; 3 rd parties make sure they work with Google”	“some Android options just didn’t work”	The ITS team expects both products to be an improvement over Zimbra, and gives Google the advantage given its longevity and better Android experience.
EASE OF USE	Overall, how do you like the interface and how the product works?	Generally preferred by faculty, students and the younger, more recently hired staff.	Generally preferred by the staff with longer tenure.	Either way: students will access via mobile devices most often; many faculty will use Apple Mail client and many staff will use Outlook.