

## Spotlight on Cloud Computing Series

# A Community Discussion of Google Apps

*This brief summarizes the EDUCAUSE webinar “Spotlight on Cloud Computing: A Community Discussion of Google Apps,” held April 22, 2010. The speakers were Ted Fines, Assistant Director for Networked Services at Macalester College, and David Sisk, Associate Director for Administration, Information Technology Services at Macalester College.*

**T**he Google Apps hosted e-mail solution continues to draw a great deal of interest from higher-education institutions. Macalester College has now had more than two years of experience in integrating, maintaining, and supporting Google Apps for their user community. Macalester is a small, private liberal arts institution in St. Paul, Minnesota, with about 1,900 undergraduates and 500 faculty and staff. Everyone on campus—faculty, staff and students—uses Google Apps.

Macalester went to Google Apps because it wanted an e-mail system with the right tools for the campus. The college also wanted to add some new features, such as shared calendars and web access to e-mail (the latter being of special interest to the college’s many international students, and to faculty who travel internationally and expect their e-mail wherever they are).

The college began the process that led to its migration to Google Apps with a painstaking review process that involved faculty, staff, and students and included focus groups, surveys, and live testing. Four products made it to the testing phase: Google Apps, GroupWise, Mirapoint, and Zimbra. (Microsoft applications were considered but dropped before testing.) Through this thorough review and testing process, the campus chose Google Apps for adoption.

Like many campuses, Macalester struggled with questions about privacy and security of data in the cloud. One question at many

institutions, about the privacy of e-mail, was mitigated when institutional officers observed that there is no expectation of privacy in campus e-mail. Macalester’s contract with Google Apps explicitly says that the institution, not Google, owns Macalester’s data. After review by the college’s counsel and dean of students, among others, the institution was satisfied that use of Google Apps meets FERPA requirements.

Macalester’s migration to Google Apps accelerated when a local power outage destroyed the college’s e-mail server. That pushed the college to move more quickly than it had planned, jumping rather abruptly to the new platform. However, Macalester found that its migration to Google Apps was faster and smoother than expected.

### Account Provisioning and Integration

Integration at Macalester consists of account provision and authentication, both centrally managed by the college’s office of Information Technology Services (ITS). In terms of account provisioning, MAC uses a number of Python scripts that use Google APIs. Those scripts take care of adds, deletes, and changes in Google Apps accounts. Well-documented scripts and stable APIs meant no changes were needed to any of the provisioning scripts.

There are a number of ways to do authentication with Google Apps. Macalester

uses SAML (Simple Authentication Markup Language), the core authentication language behind Shibboleth, but perhaps in a simplified approach. That meant Macalester didn't have to change its back-end directory to have people authenticate to it using Google Apps. The authentication with SAML is implemented with a virtual Linux server running Apache and PHP. The code is built on examples provided by Google that were customized at Macalester.

### ***Macalester struggled with questions about privacy and security of data in the cloud***

End users at Macalester adjusted quickly to Google Apps, in part because the learning curve to use the functions is relatively easy. Today on campus, people use Google Forms for sign-ups and surveys. Google Docs are used in the classroom for collaborative editing. Student organizations quickly embraced Google Sites for its functionality and because access to it can be self-managed. Macalester ITS does its own budgeting using Google spreadsheets.

Looking forward, Google Apps offers some new applications for authentication. Google Apps Now supports OAuth, an additional authentication mechanism. Google Apps Directory Sync can automatically sync directories on campus systems to Google Apps, reflecting changes that users have made. Using the Google App Engine enables writing applications in Java or Python.

*For more information:* Further insights about advanced integration is available from the ELI Web Seminar of April 5, 2010, "[GLEANing the Socialscape: Graziadio's Learning Environment and Network](#)," in which Susan Gautsch described work at the Graziadio School of Business and Management at Pepperdine University to integrate Google Apps with other Web 2.0 applications.

## **Maintenance**

Google Apps have transformed routine maintenance at Macalester. For example, software and hardware upgrades are no longer necessary. The Macalester workgroup that recommended Google Apps also recommended that the institution not support any native clients, so ITS does not have to push out software upgrades to desktops. The college no longer has to manage storage or e-mail quotas (the current e-mail quota for each user is 7.4 gigabytes), nor does Macalester have to do any client configurations.

To "maintain" Google Apps, Macalester has to keep current. To that end, an ITS staff member is assigned to monitor, assess, and share information and new developments concerning Google Apps. Macalester also continually assesses new offerings of Google Apps to determine their utility for the school, how they might overlap with other products and practices on campus, and how they might be integrated with current systems. ITS also has a commitment to communicating about Google Apps to the campus community and to educating the campus about how it might best use current and new applications.

## **Challenges in Migration**

In its migration to Google Apps, Macalester encountered a few unexpected challenges. The largest of these was that people on campus were accustomed to archiving data in folders and subfolders they created. Google Apps has no folder setup, everything sits in one's inbox, and organization of data comes in the form of assigned labels. Some education was required to reorient users to Google's search capacity, the means Google Apps uses to enable users to find data.

Another problem was that users wanted to take given messages out of the threaded conversations in which Google normally organizes them. In time, users adjusted to this new paradigm.

Google Apps required ITS to adjust its own strategies, such as for making upgrades or adding new features. In Google Apps, new features appear without warning.

Macalester had the option to either let all of those new features appear immediately or delay them temporarily to plan strategies for their introduction on campus, but could not stop them. That has been a game changer for ITS.

Typical of many institutions, Macalester's philosophy had been that each available tool had to be documented exhaustively and accompanied by extensive training for IT staff, student helpers, and end users. With Google Apps, however, ITS points users to the Google Apps help tools. This approach has been largely successful.

Macalester ITS found that some of its concerns about support for Google Apps were unfounded. In contrast to typical accounts created with LDAP or Active Directory, for example, where every user account might have dozen of attributes, Google Apps has just four elements: First Name, Last Name, User Name, Password, along with just two attributes (a "disabled" flag and an administrative flag). It turned out that the new, more streamlined approach worked just fine.

ITS was concerned that it might face challenges in its ability to support mobile devices in migrating to Google Apps. The Google Apps system proved seamless in supporting a wide variety of mobile devices and has benefitted from ongoing improvements during the more than two years that Macalester has been using Google Apps.

Similarly, ITS anticipated some pushback from Macalester end users about adoption of the Google web client, doubting that any web client could be adequate for everyday use. The Google Apps web client proved robust enough for this, however.

## Unexpected Benefits

Macalester ITS also found unexpected benefits in using Google Apps. Instead of "forklift" upgrades that would take the system down for extended periods and introduce wholesale changes rather abruptly, Google Apps makes incremental upgrades possible and introduces new functionality in an unobtrusive, nondisruptive way.

Macalester has also succeeded in fostering a do-it-yourself mindset on the part of its users, who have been quick to adopt and

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explore Google Apps. In this context, ITS views users' declining need for ITS as a positive development. Users have even shown themselves to have a good sense of how certain applications can be used and have in turn educated IT staff about them.

Another unexpected benefit of Macalester's migration to Google Apps has been that ITS's reputation on campus has risen, and its hard work as a service organization is better recognized. For one thing, Google Apps was quickly adopted on campus and works well. Beyond that, the new system lifts the time-consuming burdens of ongoing maintenance of e-mail, freeing ITS to devote time that once went to day-to-day fixes to R&D and new-product testing. This allows ITS to meet users' needs at a higher level and more directly supports the institution's mission of teaching and learning.

Access this and other briefs in the Spotlight on Cloud Computing Series, as well as recordings, transcripts, and slides from the webinars, at <http://www.educause.edu/Resources/SpotlightOnCloud>.

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