The Launch of Google™ Apps at USC: Determinants, Decisions, and Deterrents

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Initial Google Apps use at USC

- Gould School of Law
  - Adopted Sept, 2007
  - 620 students
  - Used as email replacement - @lawmail.usc.edu
- Viterbi School of Engineering Distance Education Network (DEN)
  - Adopted Oct, 2007
  - 1300 DEN Students + 2500 USC students taking DEN courses
  - Used primarily for collaboration/calendar
2gigs of (and it's about time!)
INTRODUCING LAWMAIL

NEVER EXPIRES
GREAT INTERFACE
SEARCHABLE CONVERSATIONS
FORWARDING
SPAM FILTERING
powered by Google™

TIME TO GET
ORGANIZED!
CREATE AND SHARE SCHEDULES, MANAGE ITINERARIES, EMAIL ALERTS & MORE!
INTRODUCING PERSONAL CALENDARS

FIND YOUR WORK WHEREVER YOU ARE
ONLINE DOCUMENT & SPREADSHEET EDITING
WORD AND EXCEL COMPATIBLE
SHARE AND COLLABORATE
INTRODUCING DOCS & SPREADSHEETS

Fall 2008
Internet2 Member Meeting
New Orleans, Louisiana
October 13-16, 2008
Summer 2007

• Initial Statement of Goals:
  – Google mail for Students

• Justification:
  – “Better” web mail client
  – Increased storage (2 GB > 75 MB)
  – Not purged after 12 months (University legal requirement to purge local email at 12 months of age)
Email Usage, Summer 2007

• 38,000 students
• 75 MG storage per student account
• ~30% of students forwarding email
• ~15% of students already forwarding email to Google
Determining Factors

• May help to “save” email storage costs by reducing requirement to add additional storage per person.
• May simplify something a high percentage of students are doing anyway.
• Google says it is quick, easy, and free.
• Leading edge. “SaaS” - Software as a Service.
• Successfully used by departments at USC.
Initial Security Decisions

- Would not provide enterprise passwords to Google
- Use Shibboleth 2.0 IdP w/SAML 2.0 (anticipated release Fall 2007, actual release Spring 2008)
- Forward email rather than change DNS
  - Reduced risk of transmission of privileged/sensitive data outside USC
  - Ability to prevent delivery of USC email without breaking non-mail services
  - Compatible with other Email SaaS solutions
Initial Privacy Decisions

• Use Opt-in rather than cliff event
  – Allow students to decide for themselves
Initial Privacy Decisions

• Need initial Registrar-approved Privacy Policy Agreement because ...
  – Name, email address, Google password released to Google.
  – Name and email address visible within Google Apps at USC domain.
  – Name and email address visible outside USC domain (standard Gmail users) if a document is shared with individuals who have standard Gmail accounts.
Initial Usability Decisions

• Access to web applications only
  – Not many students using email clients
  – Google did not offer IMAP access in Summer 2007

• No automatic migration of email

• All student account holders are eligible

• Base Google account on student account name

• Integrate with University change password application

• Web-based activation application
November 2007

Google Mail for students ...

morphs into ...

Google Apps for students
Eleventh Hour Expectations

- Lifelong Google account/email
- Access to all Google Apps applications, including non-web apps like GoogleTalk
- Automatic email migration (Google Email API released November 15)
- IMAP and POP support
- Compatible with future unannounced non-web based Google Applications
- Available early January 2008
Password Challenge

• How to support non-Web:
  – IMAP
  – POP
  – Google Talk (XMPP/Jabber)
  – “Known only to Google” apps

Without giving Google our enterprise passwords???
Google-specific Password

- In Google Account Activation student creates a Google-specific password.
  - Unencrypted password transmitted to Google
  - Encrypted (SHA-1) in USC Directory
  - Tested against USC enterprise password to ensure different
  - Tested for password strength

- Password Change for Google and USC Enterprise Accounts validates to ensure they remain different
USC Email
USC Enterprise Apps
Web Apps
Google Mail IMAP
Google Mail POP
GoogleTalk
Non-web Google Apps

Password
Google Password
Google Apps @ USC Project
Project Plan Facts

- 150 tasks defined in phase one
- Phase one consumed 4000 hours
- Project team included 30+ staff
- “Just make it happen” attitude
- Many policy decisions pushed into phase two
- Phase two remains unfinished
Limitations Discovered

- Google offers no means of renaming an account
  - An issue because USC does 200+ account renames each year.
- Google requires everyone to have both first name and last name
  - An issue because some students do not report both first and last names.
- Google mail migration not as simple or secure as first thought
  - Initial Google solution required full access to our mail server
  - Migration utility must be multi-threaded
Limitations Discovered

- Deactivating a Google account bounces email
  - An issue when security requires temporarily disabling a student’s access to email
- No means of restoring a mistakenly deleted Google account
  - An issue if an account is mistakenly deleted by admin
- 5 Days to create an account with the same name as a deleted account
  - An issue if an account is mistakenly deleted by admin
- No means of migrating a user between domains
  - An issue if implementing an alumni domain
Limitations Discovered

• Google Talk implementation becomes institutional Jabber service

• Google will implement new services and new functions without advanced notice
  – Possible to prevent new services from being available
  – Not possible to prevent new functions within implemented services

• No mechanism to communicate to Google when someone is no longer a student
What Critical Work Remains

- Determining appropriate Google account lifecycle
- Automatic email migration
- Access for alumni???
- Transitioning of accounts from student (no ads) to former-student (with ads) status
- Improving support model with dedicated Google Apps administrators/experts
- Staying ahead of new Google Apps services
- Test System/Domain
Lessons Learned

• Was it quick? 8+ months to implement.
• Was it easy? No. Other projects impacted.
• Was it free? No. 4000 hours consumed.
• What has this enabled?
• Have we painted ourselves into a corner?
  – Flexibility due to forwarding, opt-in, extending student accounts
  – Have not given away enterprise passwords
  – Have limited ourselves to Google as Jabber server
  – But unable to deactivate student accounts
  – And unable to rename student accounts
Key Decisions to Consider

• What applications are included?
• What features of those applications?
• Is Single Sign-On required or desired?
• Redirect all enterprise email to Google or not?
• Are you willing to give Google enterprise passwords?
• Cliff-event or opt-in approach?
• Extension of account or replacement?
• What is the Google Account Lifecycle?
• What needs to be done to support Google Apps?
Resources and Links

• Google Apps At USC - http://google.usc.edu/
• Google Apps At USC Support - http://www.usc.edu/its/google/
• Brendan Bellina - bbellina@usc.edu