Raising the Bar in Cloud Security for Higher Education

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http://www.educause.edu/annual-conference/2012/raising-bar-cloud-security-higher-education
Adelphi University comprises of a small liberal arts college and a cluster of professional schools in the New York Metro Area.

Adelphi has been active in large-scale cloud computing deployments since 2007.

**Location**
New York Metro Area

- **8,000+ Students**
- **1 Main Campus**
- **3 Remote Teaching Centers**
Drivers to Google Apps Migration

1. Rather than replace an aging web-based email system for our students, we opted to move all student email to Google Mail in the Summer of 2007.

2. In addition to cost savings, major factors were our "green" initiative and reducing our physical footprint on space-constraint campus.

3. Students love the Google services.

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<th>Benefits</th>
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<td>1. Reduced capital investment</td>
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<td>2. Reduced support and maintenance overhead</td>
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<td>3. (Much) more functionality available to our students and alumni</td>
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<td>4. Reduced dependency on Garden City connectivity</td>
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Adelphi's Google Apps Environment

Three Domains:

Students & Alumni
- 52,000+ accounts
- All account provisioning via API calls

Faculty, Administration & Staff
- 3,500 accounts
- All account provisioning via LDAP synchronization

Emergency Website
- All account provisioning manually.
- No integration with any other AU resources
- Turned out to be essential during Hurricane Sandy
The Move to Google Apps

Challenges

1. Loss of visibility and control with respects to email, documents and sites
2. Comply with regulations like FERPA
3. Ensure that sensitive information is not exposed
4. Protect intellectual property
5. Enable secure external collaboration for staff and faculty to allow academic freedom
Search for a security solution that will allow us to fully take advantage of our Google Apps investment:

1. Make sure that IT is perceived as an enabler, rather than as a censor
2. Clearly define intellectual property ownership
3. Clearly define monitoring policies
4. Rigorously maintain an audit trail
Old vs. New World

On Premise

1. Acceptable Use Policies for on premise data
2. File Sharing policies
3. Protected information handling policy
4. Change Management

In the Cloud

Needed to find the tools to implement the same policies for data in the Google Apps cloud
● Create and enforce Acceptable Use Policies (AUPs)
● Automation
● User awareness

● Detect and Remove SSN and CCN (PII, PCI, PHI)
● Detect and remove custom RegEx

● Documented controls, procedures, SSP
● Done by Big 5 Audit Firm
● Commitment to customer's security
CloudLock Policy Engine is part of our daily routine:

1. Scan for keywords
2. Scan for sharing that violates policies
3. Alert when policies are compromised
4. Notify domain administrator
5. Notify data owners of potential exposures of sensitive data

Example | Searching for 'transcript' in documents that are public or externally exposed
Protecting PII in the Cloud

CloudLock Compliance Scan:

1. Comply with FERPA
2. Verify that PII data is not making its way to Google Apps
3. Protect student information and our commitment to privacy
Scalable Solution as we Grow

Google Apps Security Practice

Mature Deployment

Early Deployment

Phase I
- Visibility
- Audit / Controls

Phase II
- Policy Templates
- Admin Notifications

Phase III
- Customized Policies

Phase IV
- Customized Policies
- End User Notifications
- Automation
- Actions

Time