SERVICE UPDATE
DECEMBER 14, 2010

ISC Networking & Telecommunications
Format

Forward-Only
SMTP-Relay
PennNet Mailing Lists
Exchange
Mobile Devices
Zimbra
Forward-Only

Leverages existing infrastructure for mail routing and MessageLabs AV/AS

Over 2500 accounts (up 25% this FY)

Zimbra-to-FO account migrations

Incident: July 10, 2010 – Grouper upgrade breaks SOAP API call used by some schools to autocreate forward accounts to Live@edu

Rates remain $0.75/month in FY12
SMTP-Relay

Use cases: printers, faxes, control systems that need to send email w/o user auth, or to external addresses

Separate service to avoid dependencies on Exchange and Zimbra

Currently used by 51 hosts (up 6% this FY)

November 13, 2010 – Discontinued SSL certificate

$10/IP address/month; No charge for mail within ISC service
LISTSERV 16

Upgrade TBD following testing
No UI changes

Small bug fix that would obsolete a workaround

Rate structure remains $0.50/list/month in FY12
EXCHANGE
Agenda

Overview of Service
Availability Report
Rates
Roadmap
Q&A
Overview

In production since July 2007
10 Windows servers in 3 campus data centers
2 TB of mailbox storage
Data replicated in Levy and Nichols campus data centers
Vendor contracts: Microsoft, RIM, Dell
Overview

Over 3,700 accounts (up 7% over FY10)
25% have handhelds

- About 390 BlackBerry handhelds (up 7% over FY10)
- Almost 540 ActiveSync handhelds (up 8% over FY10)
- Some mobile devices still using IMAP and are harder to track
Service Review

Availability for FY10 YTD
Incidents
Maintenance
Remedy Cases
Accomplishments
Rates
Availability

Target: 99.5% (43 hours, 48 minutes)
Exchange: 99.98% (1 hour, 30 minutes)
BlackBerry: 100%
Averaged across multiple servers/services
Incidents

July 15, 2010 – Failed database startup affected EAM/EAS

Jul 16, 2010 – Hardware problem on billing system

Aug 25, 2010 – EPO in one of N&T’s NAPs; No service impact

Oct 20, 2010 – Hotfix to BES to resolve problem with Inbox Redirection being unintentionally disabled

Oct 25, 2010 – Windows Server OS patches break Account Management for BlackBerry

Oct 26, 2010 – Again, Windows Server OS patches break Account Management for BlackBerry
Monitoring

Nagios polls services, reports availability
Logcaster examines event logs
Spectrum pings, sends alarms
Oncall service 24x7x365
Maintenance

Monthly rolling Windows Server OS patches
Over quota notices now sent in the morning
Periodic targeted user moves between SGs

As agreed, unadvertised, disruptive maintenance of up to 15 minutes may be performed:

Mon-Fri: 1am-3am
Sat-Sun: 6am-7am
Remedy Cases

SLA: 24 hour response

Over June-Nov, ~26 cases/month;
(up 13% from FY10)
Challenges

E-discovery
Backup/restore
Mobile device landscape
Rates – FY12

Exchange @ $9.00/month (from $7.75)
BlackBerry @ $15/month (from $14.00)
Additional storage: $0.50/250MB/month (from $1.25)
Default quota: 1 GB; Auto-quota up to 2GB; Max quota up to 5 GB
Exchange Roadmap

Short-term (0-3 months)
Medium-term (4-12 months)
Long-term (>1 year)
Exchange 2010

- More automatic failover features
- Transport resiliency
- Smarter about using cheap disk
- Client throttling
- Outlook Web App; support for Safari, Firefox
- ActiveSync – free/busy lookup, push Outlook updates to Windows handhelds
Short-term

In support of Exchange 2010:
- Planning
- Training
- Testing
- Development
- Design
Medium-term

In support of Exchange 2010:
Update local integrations (EAM/EAS)
Client/mobile device testing
Pilot
Migrations – goal by end of FY11
Long-term

Manage costs
Benchmark against our peers
Continue to investigate off-campus DR options
Look for consolidation opportunities
Q&A - Customers

Does a higher base quota solve problems or create more problems for you?

Does your business require custom message retention or archiving?

What trends are you seeing with users?

Interested in piloting Exchange 2010?

What’s a reasonable attachment size limit?
Q&A – Your topics
References

http://www.upenn.edu/computing/email/
http://www.upenn.edu/computing/email/exchange/sig-meetings/
https://zimbra.upenn.edu/home/nt-dtime/Calendar?fmt=html
Mobile Devices
Current Platforms

- BlackBerry OS 6
- iOS 4.2
- webOS 2
- Windows Phone 7
Important Future Updates

Android 3.0 - ‘Spring’ ’11

webOS 2.x

Windows Phone 7 updates - January, February ‘11
## Platform Feature Comparison

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<th>Platform</th>
<th>EAS</th>
<th>Disk Encryption</th>
<th>Remote Wipe</th>
<th>AiPeMiNet</th>
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Smartphones account for 29% of US phone sales

US Smartphone Sales Q3 ’10

Smartphones account for 29% of US phone sales
ISC Exchange, Autumn 2010

- Android: 229
- BlackBerry: 51
- iOS: 414
- webOS: 388

ISC Exchange
ISC Email Services, Autumn 2010

ISC Services Overall
Tablets
ZIMBRA
Overview

Production on July 26, 2008
10 Linux servers in 2 campus data centers
2.5 TB of mailbox storage
Data replicated in Levy and MODV campus data centers
About 12,530 accounts (down about 7% from FY10)
Almost 648 with Mobile Sync enabled (up 300% over FY10)
Service Review

Availability for FY10 YTD

Incidents

Maintenance

Remedy Cases

Accomplishments

Rates
Availability

Target: 99.9% (<9 hours)

Zimbra: 99.76 % (9 hours, 30 minutes)

Averaged across multiple servers/services
Incidents

Jul 17, 2010 – Hardware problem on billing system; disabled account creation/deletion

Oct 9-16 – Problems with Kerberos logins on DES clients

Nov 12, 2010 – ZWC, ZAM, ZAS offline for 30 minutes to update Cosign certificate

Currently weathering phishing attacks and blacklisting
Maintenance

Aug 24, 2010 – 1-hour downtime for OS patches

October 8-9 – Zimbra 6.0.8 upgrade

Oct 16, 2010 – 2-hour downtime to rerun problematic upgrades from October 8 upgrade

Nov 2, 2010 – Increase IMAP threads, fix Zimbra short-circuiting, restore sync and audit logs

Nov 17, 2010 – Again, increase IMAP threads
Lessons

Even generous estimates can be insufficient in the event of problems

Some “defaults” aren’t implemented upon upgrade (i.e. read receipts)

Formats of backup data may change and need to be tested

A more detailed matrix of clients and configurations would have caught Kerberos problem in testing

… and many more
Maintenance

As agreed, unadvertised, disruptive maintenance of up to 15 minutes may be performed:

Mon-Fri: 1am-3am
Sat-Sun: 6am-7am
Remedy Cases

SLA: 24 hour response

Over June-November, ~29 cases/month; (up 70% from FY10)
Challenges

Zimbra 6.0.8 upgrade

Tuning to perform better under very heavy load and more clients

Phishing/compromised accounts
Rates – FY12

One price for Enhanced or Basic accounts

$3.50/month (from Enhanced @ $3.10 and Basic @ $3.60)

Driven by client access reality: mobile devices, calendaring

Enhanced still recommended for security, supportability, convenience

BlackBerry service to be discontinued by March 2011

Additional storage: $0.50/250MB/month (down from $1.25)

Quota: 1GB; Auto-quota up to 4GB; Max quota up to 10GB
Zimbra Roadmap

Short-term (0-3 months)
Medium-term (4-12 months)
Long-term (>1 year)
Short-term

Turn down BES

Determine immediate upgrade path: 6.09, 6.0.10, wait for 7?

Add disk to improve backup and recovery
Medium-term

Unified Communications - Integration opportunities between Zimbra, IM, and/or PennNet Phone

Beta Zimbra 7.0

More traction for an XMPP proxy in Zimbra 7.0
Long-term

What's going on at VMware/Zimbra: decoupling VMware corporate from Exchange; adding Zimbra to their application and cloud infrastructure stack; handling replication with vSphere; focus on appliances; focus on unified messaging

Rich iPad application

Self-service data recovery

Option to auto-save email

Revision control in the Briefcase

User-controlled Zimlets
Q&A - Customers

What’s a reasonable attachment size limit?

What improvements did you see from the 6.08 upgrade? And what new issues?

What are your plans for BlackBerry (i.e., alternative software or devices)?

Does anyone support only ZWC, or are desktop clients still the rule?
Q&A – Your topics
References

http://www.upenn.edu/computing/email/
http://www.upenn.edu/computing/email/zimbra/sig-meetings/
http://www.upenn.edu/computing/security/phish/
http://prowiki.isc.upenn.edu/wiki/ISC_Zimbra_documentation
https://zimbra.upenn.edu/home/nt-dtime/Calendar?fmt=html
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https://zimbra.upenn.edu/home/nt-dtime/Calendar?fmt=html
https://zimbra.upenn.edu/home/nt-dtime/Calendar?fmt=rss
Thank You