EMAIL-SIG

Service Update
August 10, 2011
AGENDA

SMTP-Relay
PennNet Mailing Lists
Forward-Only
Exchange
Mobile Devices
Zimbra
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 53 hosts (up 10% in FY11)
- $10/IP address/month; No charge for mail within ISC service
PennNet Mailing Lists

- March 10: Upgrade to LISTSERV from 15.5 to 16; small changes to displays, newsletter templates, report formats
- May 10: Added option to secure lists with Confirm option
- Goal to explore feasibility of integrating with Grouper in FY12
- Rate structure remains $0.50/list/month in FY12
Email Services – 20,000 Accounts

- Zimbra: 64%
- Exchange: 19%
- Forward-Only: 17%
Forward-Only

- Leverages existing infrastructure for mail routing and MessageLabs AV/AS
- Almost 3,500 accounts (up 170% in FY11)
- Infrastructure due for a refresh
- Rates remain $0.75/month in FY12
Exchange 2007

• Service Lifecycle: 7/2007-8/2011
• August 2010: Quota increase from 250 MB to 500 MB
• 99.95% uptime in FY11
• Some components still in use
• Retiring legacy infrastructure soon
Exchange 2010

- 100% virtualized, 16 VMs (4 physical hosts)
- Geographically distributed across 4 data centers
- Scaled to accommodate multi-gigabyte mailboxes for all
- 3 copies of every mailbox (1 active, 2 passive)

- Mailbox resiliency
- Online mailbox moves
- Client throttling
- Outlook Web App (support for Firefox, Safari, etc.)
Exchange 2010 Architecture
Service Snapshot

• Over 4,000 accounts (up 13% in FY11)
• About 850 ActiveSync devices (up 40% in FY11)
• About 330 BlackBerry handhelds (down 11% in FY11)
EXCHANGE MIGRATION

Review
Thanks to the Team

• David Dimm
• Diane Galeone
• Criss Keating
• Matt Miller
• Amy Phillips
• Eric Snyder
• Peggy Yetter

• ... and all our pilot users, ISC colleagues, and ... you!
Timeline

- January - March: Development builds, internal testing, documentation
- April: Production builds
- April 26: First major change, 2010 CAS integrated
- May: Pilots; web application development begins
- June: Early adopter migrations
- July: Production migrations begin
- July 6: Base quota increase from 500 MB to 1 GB
- August: Clean up, turn down legacy service
Migration Issues

- Timing
- Quota notices
- Simultaneous use of both environments adds complexity (but is more flexible and less disruptive)
- Rewrite of significant portions of Exchange Account Management / Account Services
Client Migrations

- Mac client (Apple Mail, Entourage 2008) handling of new CAS
- Android devices and profile rebuilds
- BlackBerry handhelds and transition to BES 5.0
  - Connection thresholds
  - Activations not completing
  - Calendar duplicates
  - Rewrite of BlackBerry Account Management
Recent Known Issues

- BlackBerry Account Management multiple-match errors (FIXED)
- Resend service books (FIXED)
- Internal reporting on account reconciliation
Incidents

- July 21, 2:16-2:33: Unrelated system swamps NOC1 network, disrupts connections
- August 7: One CAS stops responding, is quickly pulled from cluster
Short-term Priorities

- Shut down old infrastructure
- Handle known issues
- Enhance monitoring with SCOM
- Metrics
Medium-term Priorities

- E-discovery
- Watching our vendors
Long-term Priorities

- Addressing capacity and quota needs
- Evaluate backup strategies
- Benchmark against our peers
- Manage costs
- Look for consolidation opportunities
Monitoring

- Nagios polls services, reports availability
- Spectrum pings, sends alarms
- Oncall service 24x7x365
Maintenance

- Monthly rolling Windows Server OS patches
- Over quota notices now sent in the morning
- May still have periodic targeted user moves between DAGs

As agreed, unadvertised, disruptive maintenance of up to 15 minutes may be performed:
- Mon-Fri: 1am-3am
- Sat-Sun: 6am-7am
Rates

- 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 4 GB
ISC’s Questions

• How to address storage needs: higher ceiling? bigger increments? unlimited and metered?
• Have you and/or your Mac users been using Lion? With what results?
• Are you successfully guiding your users toward particular mobile devices?
Your Questions

- Mobile Device Reports on ActiveSync users, Blackberry users, last connected mobile device, etc.
- Brick-level backups
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
## Currently Supported Platforms

<table>
<thead>
<tr>
<th>Feature</th>
<th>Android</th>
<th>BlackBerry</th>
<th>iOS</th>
<th>webOS</th>
<th>Windows Phone 7</th>
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</thead>
<tbody>
<tr>
<td>Newest/oldest supported version</td>
<td>Unsupported</td>
<td>6.0/4.2</td>
<td>4.3.5/3.2.3</td>
<td>3.0/1.2</td>
<td>1.2/1.0</td>
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<tr>
<td>AirPennNet-Help</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
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<tr>
<td>Exchange</td>
<td>Unsupported</td>
<td>Uses BES(^1)</td>
<td>Y</td>
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<tr>
<td>Zimbra</td>
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<td>Unsupported</td>
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<td>Y</td>
<td>Y</td>
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<tr>
<td>PennNet Phone voicemail attachment playback</td>
<td>Unsupported</td>
<td>Y</td>
<td>Y(^2)</td>
<td>Y</td>
<td>Y(^2)</td>
</tr>
<tr>
<td>Security</td>
<td>Poor</td>
<td>Excellent</td>
<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
</tr>
</tbody>
</table>

\(^1\) BES usage incurs extra charges per month

\(^2\) Voicemail attachments are played via the system speaker instead of the earpiece

[http://www.upenn.edu/computing/provider/handheld/](http://www.upenn.edu/computing/provider/handheld/)
Platform Marketshare

ISC Exchange, August 2011

ISC Exchange, Sep. 2010 - Aug. 2011

- Android
- BlackBerry
- iOS
- webOS
- WM/WW7
Platform Marketshare

ISC Zimbra June '11 (EAS only)

Android: 5
iOS: 338
webOS: 9
WM: 55
Ongoing Android Issues

• 10809: Password is stored on disk in plain text

• Fragmentation

• Update inconsistencies
What’s new?

• TouchPad
What’s coming?

• iOS 5

• Ice Cream Sandwich

• Mango

• Bushel of BlackBerrys
Things to watch out for

- Death of unlimited data
- (Potential) AT&T/T-Mobile merger
- Global thermonuclear patent warfare
Questions, comments, & consultations

• mcclead@isc.upenn.edu
ZIMBRA

Availability for FY11
Incidents
Maintenance
Rates
Zimbra

- 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 13,000 accounts (up about 3% in FY11)
- About 670 with Mobile Sync enabled (up 70% in FY11)
Availability

- Target: 99.9% (<9 hours)
- Zimbra: 99.64% (52 hours, 40 minutes)
- Averaged across multiple servers/services
Incidents/Maintenance

- March 12: Upgrade to 6.0.10
- April 13: ZAM/ZAS 1.4 (acceptance policies for resource accounts, bug fixes, 8-character password compliance)
- April: BlackBerry service discontinued
- June 7, 8 a.m. - June 9, 2 a.m.: System unusable; eventual resolution: hardware
- July 1, 10 p.m. - July 2, 1 a.m.: Failover to rebuilt primary
- July 20, 10:15-11:20: New primary fails; again hardware, but possible SYN flood nuance
- August 19: Likely 2-hour maintenance for cutover to a more robust primary
Monitoring

- Nagios polls services, reports availability
- Spectrum pings, sends alarms
- Oncall service 24x7x365
Maintenance

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

- Mon-Fri: 1am-3am
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FY12 Rates

• 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
• Additional storage: $0.50/250MB/month (down from $1.25)
• Quota: 1GB; Auto-quota up to 4GB; Max quota up to 10GB
Short-term Priorities

• Scaling for Fall 2011
Medium-term Priorities

Tracking issues of interest
• Releases (6.0.13, 7.x, 8.x)
• Handling of IM
• Requested an enhancement to allow restores during backups
• Client space
Long-term

- Evaluate backup strategies
- Evaluate next generation options
- Benchmarking with our peers
- Managing costs
ISC Questions

• What’s on your wish list for a next-generation collaboration solution for your users?

• Time permitting, would you like to see some roadmap info on Zimbra 7 and 8?
Your Questions
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
Thanks