



# E-MAIL 2.0

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# Outline of Session

- Who we are
- Where we're coming from
- What we want to get to
- How Zimbra's going to get us there
- ..and When



# Audience Participation!

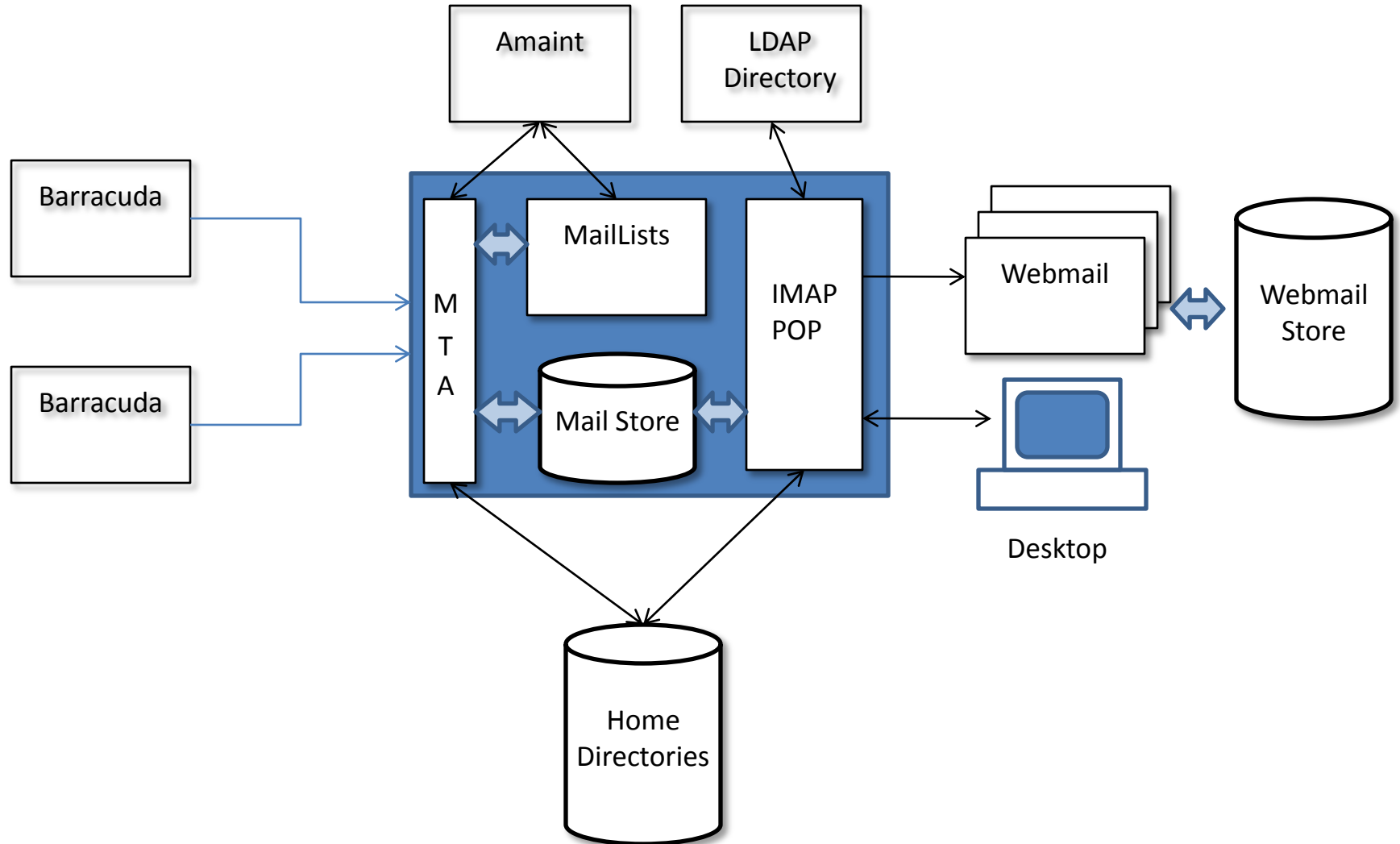
# Who we are

- Mid-sized university with ~30,000 students, 5000 staff/faculty. 50,000 accounts
- Highly centralized IT dept provides all users with Mail, Web, File storage, Authn/Authz, as well as eLearning, ERP, etc



# Where we're coming from

# Current Architecture





# Why redesign what already works??

What we have now already works:

- It's fast
- It's reliable
- It's simple
- It's been working well for 15 years



But..

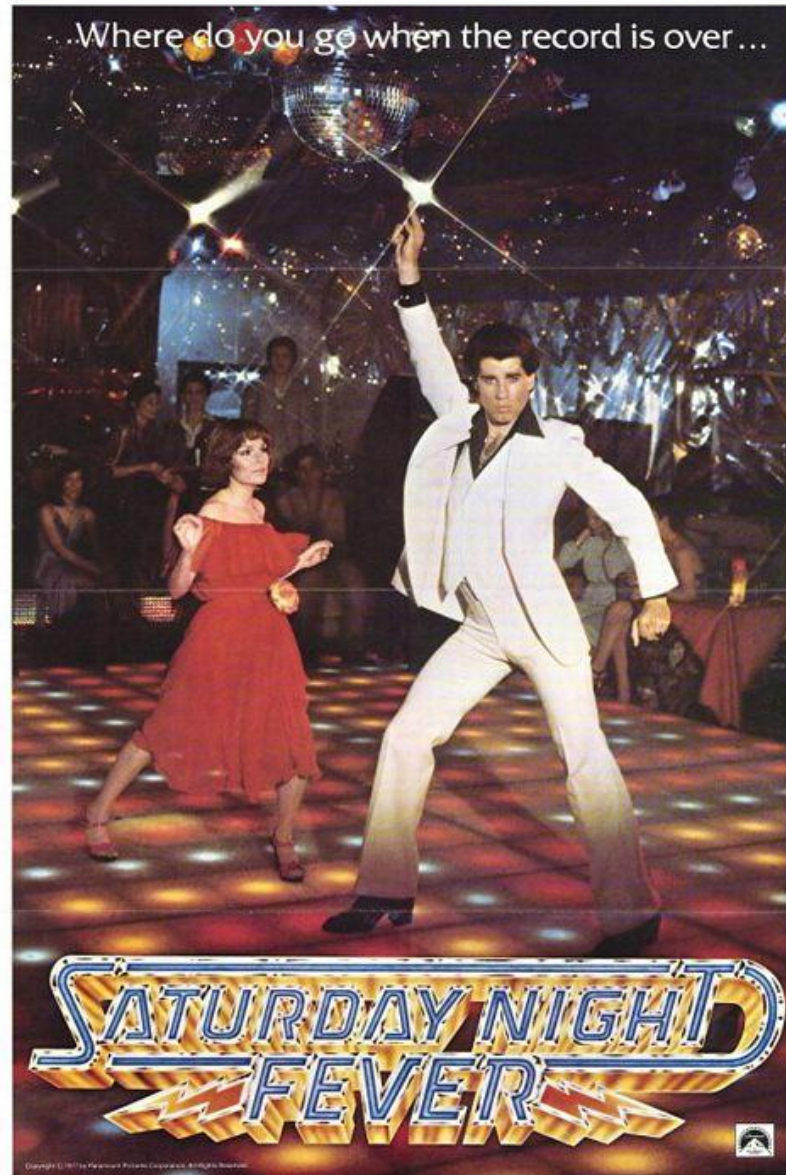


- It's vulnerable to system failure



- That one server is big and expensive to replace

- The Webmail interface is dated



- Eudora is dead





- Our calendar is ~~Corporate Time~~  
Oracle (not site-wide)



- Our Email infrastructure is fully understood by one person – me.



# And I bike to work





# What we want to get



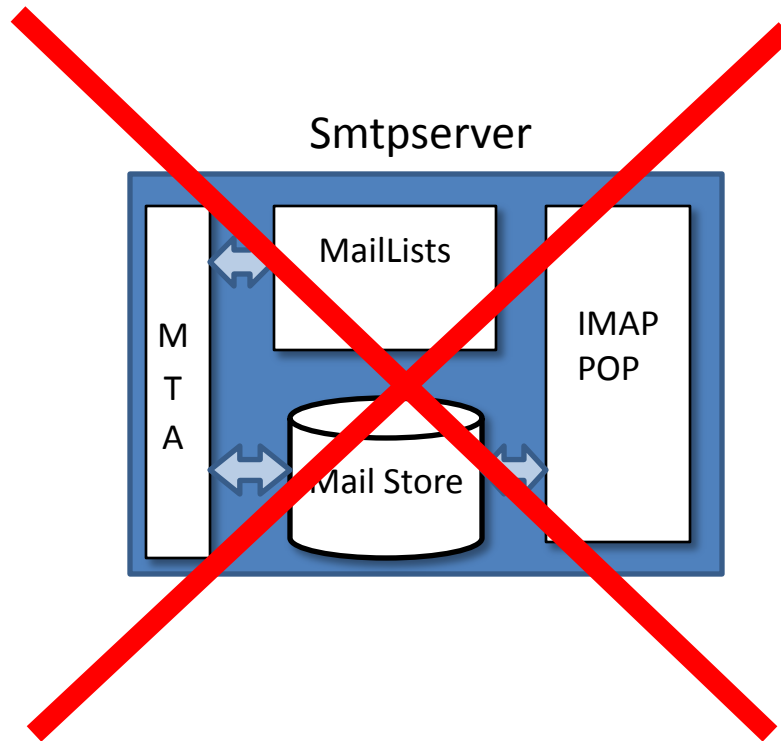


# Objectives

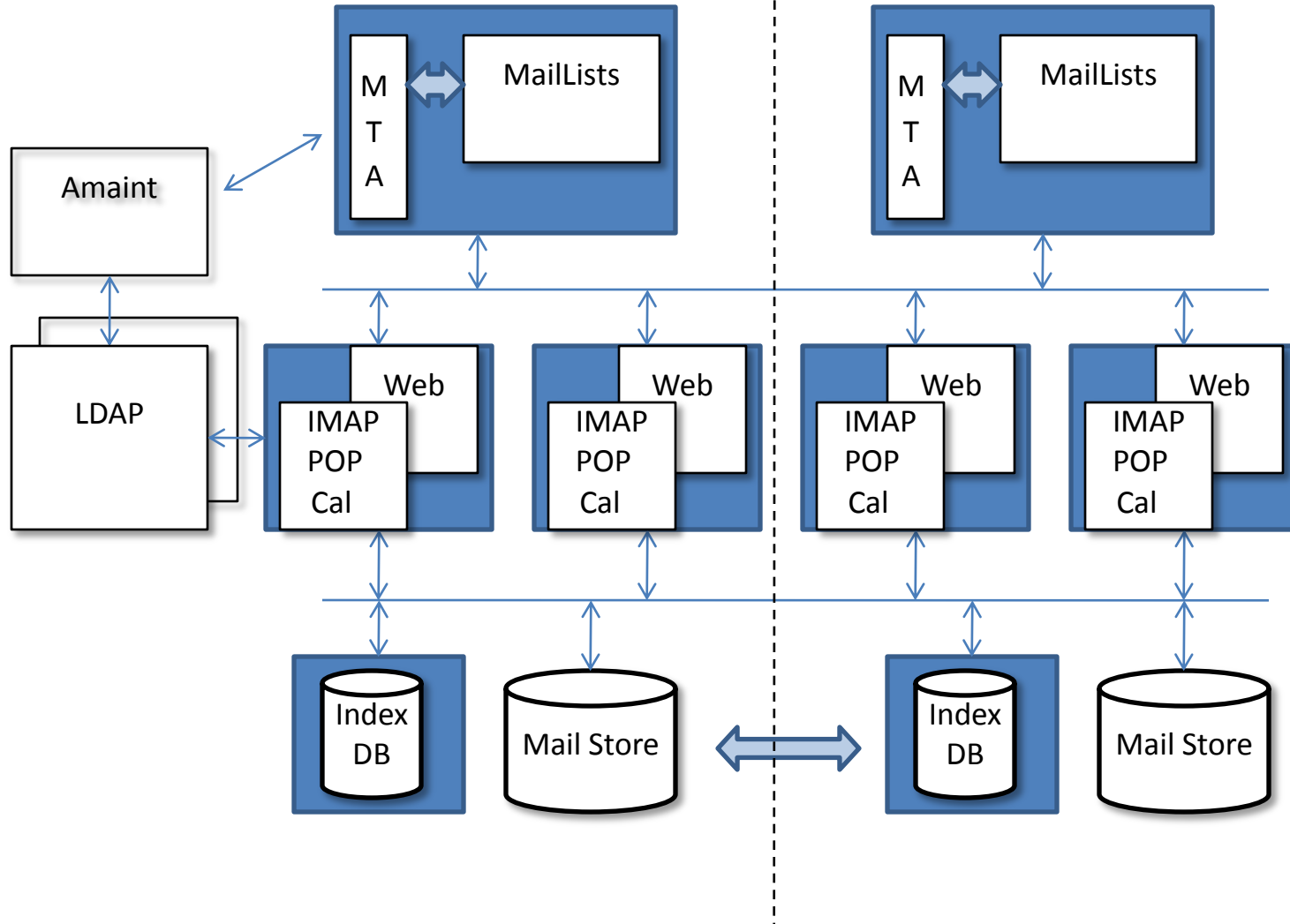
- Fault tolerant
- Lightweight e-mail accounts
- Web-centric with modern look & feel
- Easily expandable to support greater capacity
- Calendaring
- Mobile Support
- Minimal loss of existing functionality (excellent maillist support, solid POP/IMAP/SMTP, anti-spam)
- Open Source but supported



# An Architecture to meet the objectives



Fault Tolerance





# A Taste of What's Out There

## Cyrus/Horde-IMP

- Alumni service runs Cyrus. IMP is mature but dated

## MS Exchange

- Poor Mac Support
- Very foreign skill set req'd to support it

## SunOne – Still being developed?

## Scalix/OpenExchange

- Similar to Zimbra, not as attractive overall



# How Zimbra will get us there



But wait...Just what IS Zimbra??

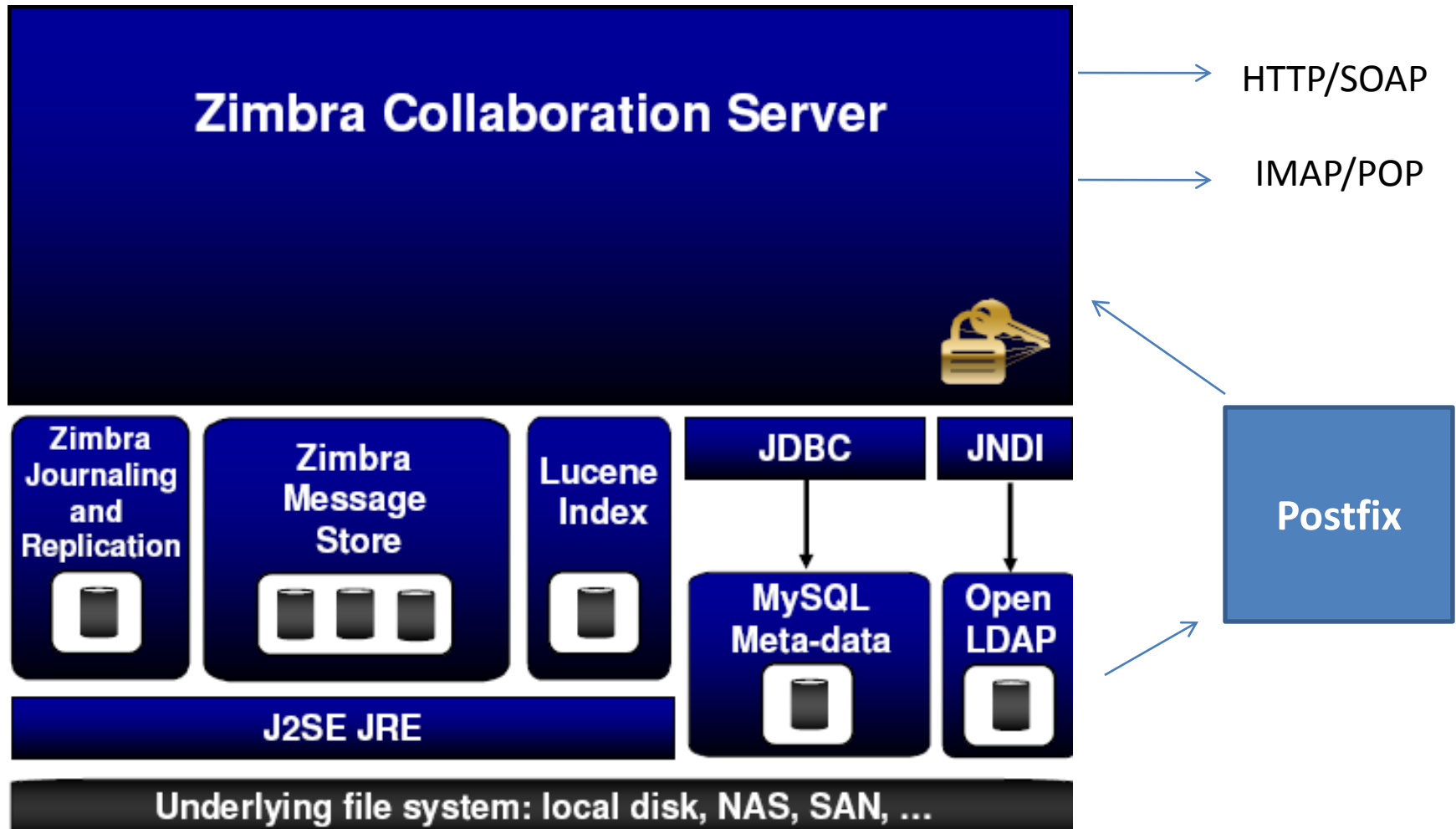


# Zimbra is..

- On the server side:
  - Java-based application server (open source)
  - Numerous 3<sup>rd</sup>-party open-source packages.  
E.g. MySQL, JeTTY, Apache, Lucene, Postfix
  - Linux or Mac OS X platform



# Server Architecture





# Zimbra is..

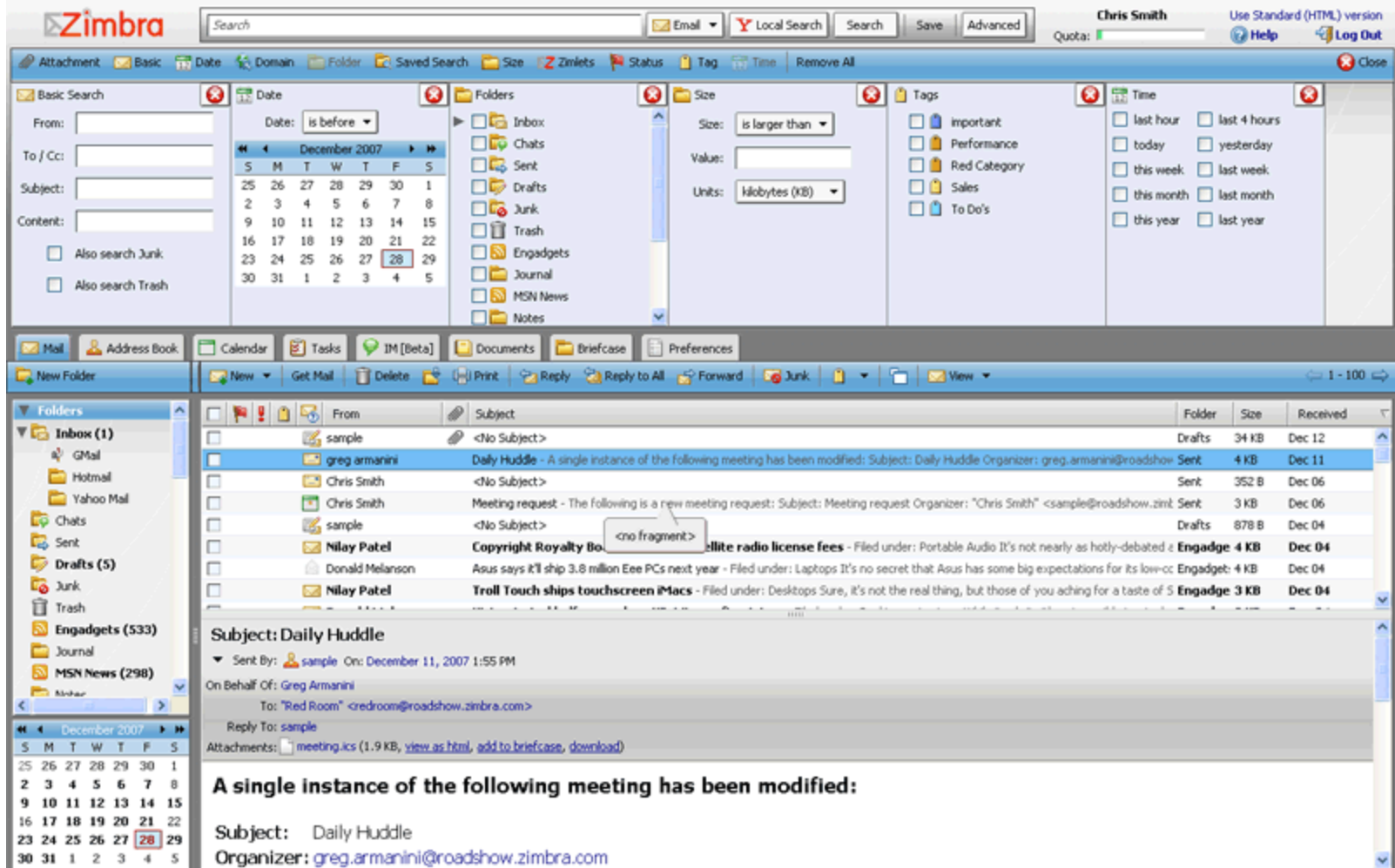
- On the client side:
  - Browser-based SOAP client written in Javascript
  - Entirely AJAX-powered
  - Support for modular plug-ins (Zimlets) to extend functionality
  - Powerful 'search' functionality thanks to Lucene indexes
  - Collaboration via folder sharing (messages, calendars, contacts, file folders, etc)



# Zimbra is..

The screenshot displays the Zimbra webmail interface. At the top, the Zimbra logo is on the left, and a search bar with 'Email' and 'Local Search' buttons is on the right. Below the search bar is a navigation bar with icons for Mail, Address Book, Calendar, Tasks, IM [Beta], Documents, Briefcase, and Preferences. A secondary bar contains action buttons like New, Get Mail, Delete, Print, Reply, Reply to All, Forward, and View. The left sidebar shows a 'Folders' list with 'Inbox (1)' selected, and a 'Searches' list below it. The main area shows a list of emails with columns for From, Subject, Folder, Size, and Received. One email from 'Andy Pflaum' is highlighted. A tooltip for this email reads: 'I'll be on UA 7 in the morning (arriving 11:00am PST on June 28th) or I'll be on BA 285 in mid-day (arriving 1:30pm PST on June 29th) or maybe on AA ...'. Below the list, the selected email's details are shown, including the subject 'Re: MySQL follow Up', the sender 'Andy Pflaum', and the body text which repeats the travel schedule information. At the bottom, a calendar for December 2007 is visible, with the 26th highlighted.

# Search



**Zimbra** Search [Search] [Email] [Local Search] [Search] [Save] [Advanced] Chris Smith Use Standard (HTML) version [Help] [Log Out]

Quota: [Progress Bar]

Attachment Basic Date Domain Folder Saved Search Size Zimlets Status Tag Time Remove All

**Basic Search** From: To / Cc: Subject: Content: [Also search Junk] [Also search Trash]

**Date** Date: is before [Calendar: December 2007]

**Folders** [Inbox] [Chats] [Sent] [Drafts] [Junk] [Trash] [Engadgets] [Journal] [MSN News] [Notes]

**Size** Size: is larger than Value: Units: kilobytes (KB)

**Tags** [Important] [Performance] [Red Category] [Sales] [To Do's]

**Time** [last hour] [last 4 hours] [today] [yesterday] [this week] [last week] [this month] [last month] [this year] [last year]

Mail Address Book Calendar Tasks IM [Beta] Documents Briefcase Preferences

New Folder New Get Mail Delete Print Reply Reply to All Forward Junk View 1 - 100

**Folders** [Inbox (1)] [GMail] [Hotmail] [Yahoo Mail] [Chats] [Sent] [Drafts (5)] [Junk] [Trash] [Engadgets (533)] [Journal] [MSN News (298)]

	From	Subject	Folder	Size	Received
<input type="checkbox"/>	sample	<No Subject>	Drafts	34 KB	Dec 12
<input type="checkbox"/>	greg armanini	Daily Huddle - A single instance of the following meeting has been modified: Subject: Daily Huddle Organizer: greg.armanini@roadshow.zim	Sent	4 KB	Dec 11
<input type="checkbox"/>	Chris Smith	<No Subject>	Sent	352 B	Dec 06
<input type="checkbox"/>	Chris Smith	Meeting request - The following is a new meeting request: Subject: Meeting request Organizer: "Chris Smith" <sample@roadshow.zim	Sent	3 KB	Dec 06
<input type="checkbox"/>	sample	<No Subject>	Drafts	878 B	Dec 04
<input type="checkbox"/>	Nilay Patel	Copyright Royalty Bo... elite radio license fees - Filed under: Portable Audio It's not nearly as hotly-debated e	Engadgets	4 KB	Dec 04
<input type="checkbox"/>	Donald Melanson	Asus says it'll ship 3.8 million Eee PCs next year - Filed under: Laptops It's no secret that Asus has some big expectations for its low-co	Engadgets	4 KB	Dec 04
<input type="checkbox"/>	Nilay Patel	Troll Touch ships touchscreen iMacs - Filed under: Desktops Sure, it's not the real thing, but those of you aching for a taste of S	Engadgets	3 KB	Dec 04

**Subject: Daily Huddle**  
Sent By: sample On: December 11, 2007 1:55 PM  
On Behalf Of: Greg Armanini  
To: "Red Room" <redroom@roadshow.zimbra.com>  
Reply To: sample  
Attachments: meeting.ics (1.9 KB, view as html, add to briefcase, download)

**A single instance of the following meeting has been modified:**  
Subject: Daily Huddle  
Organizer: greg.armanini@roadshow.zimbra.com

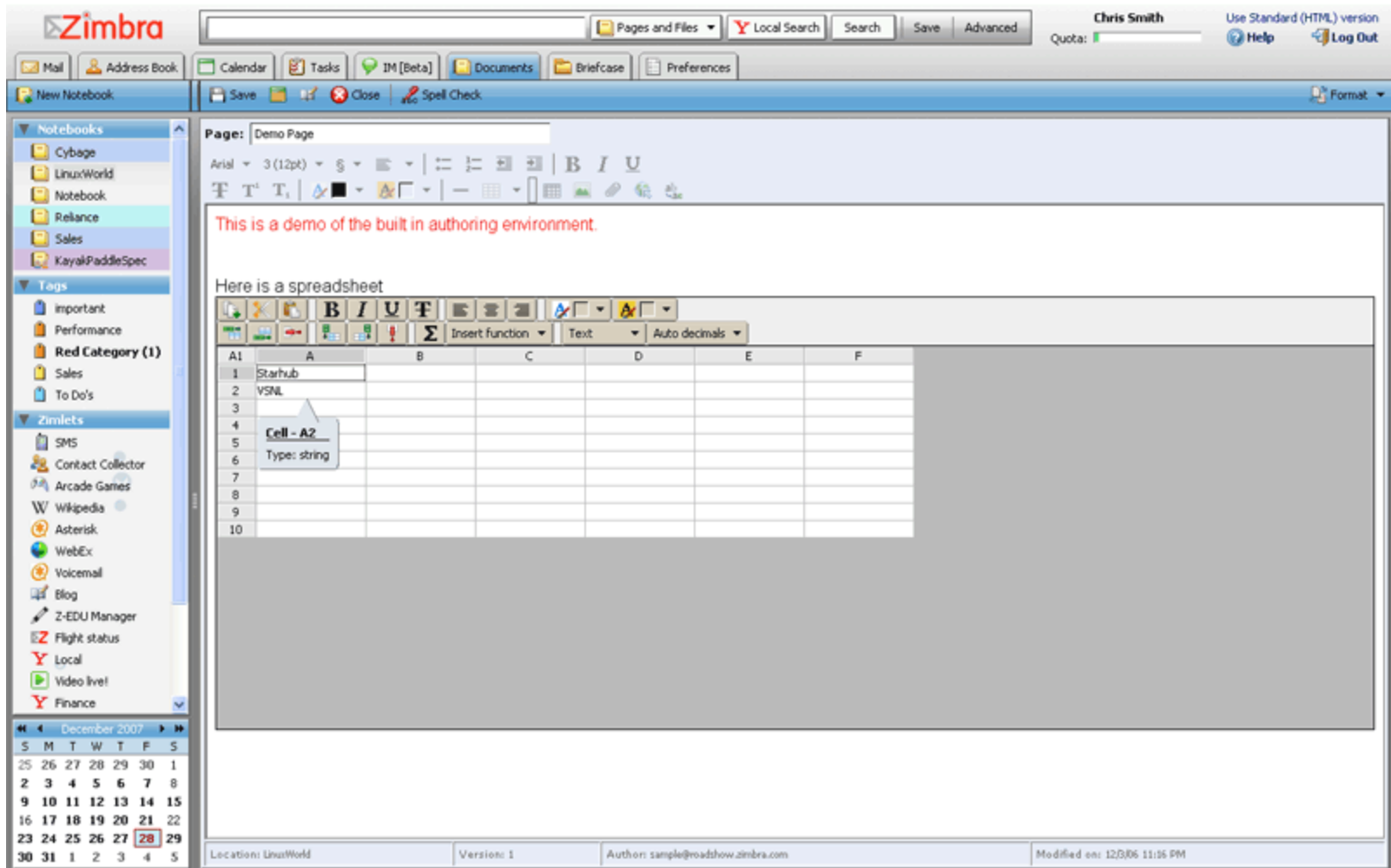


# Calendar

The screenshot displays the Zimbra webmail interface. At the top, the Zimbra logo is on the left, and a search bar with 'Appointments' and 'Local Search' options is on the right. Below the search bar, a navigation bar includes links for Mail, Address Book, Calendar, Tasks, IM [Beta], Documents, Briefcase, and Preferences. The main interface shows a calendar view for December 2007, with the current date set to Friday, December 28th. The calendar grid shows events for the week of December 24th to 28th. On the left side, there is a sidebar with 'Calendars' (Calendar, Calendar/Meet, evite, Hawaii Hoops, Project Raindrop), 'Tags' (important, Performance, Red Category (1), Sales, To Do's), and 'Zimlets' (Traffic, Contact Collector, SMS, Arcade Games, Wikipedia, Asterisk, WebEx, Voicemail, Blog, Z-EDU Manager, Flight status, Local, Video live!). At the bottom left, a small calendar for the month of December 2007 is visible, with the 28th highlighted. The main calendar grid shows the following events:

- Mon, Dec 24:** 2:00 PM Daily Huddle (red).
- Tue, Dec 25:** 11:00 AM Daily status meeting San Mateo, CA (orange), 1:30 PM (orange), 2:00 PM Daily Huddle (red).
- Wed, Dec 26:** 8:00 AM staff (orange), 1:30 PM Daily Huddle (red).
- Thu, Dec 27:** 11:00 AM Daily status meeting San Mateo, CA (orange), 1:30 PM (orange), 2:00 PM Daily Huddle (red).
- Fri, Dec 28:** 1:00 PM TPS (orange), 2:00 PM Daily Huddle (red), 9:05 PM New Mexico at Hawaii (cyan).

# Documents



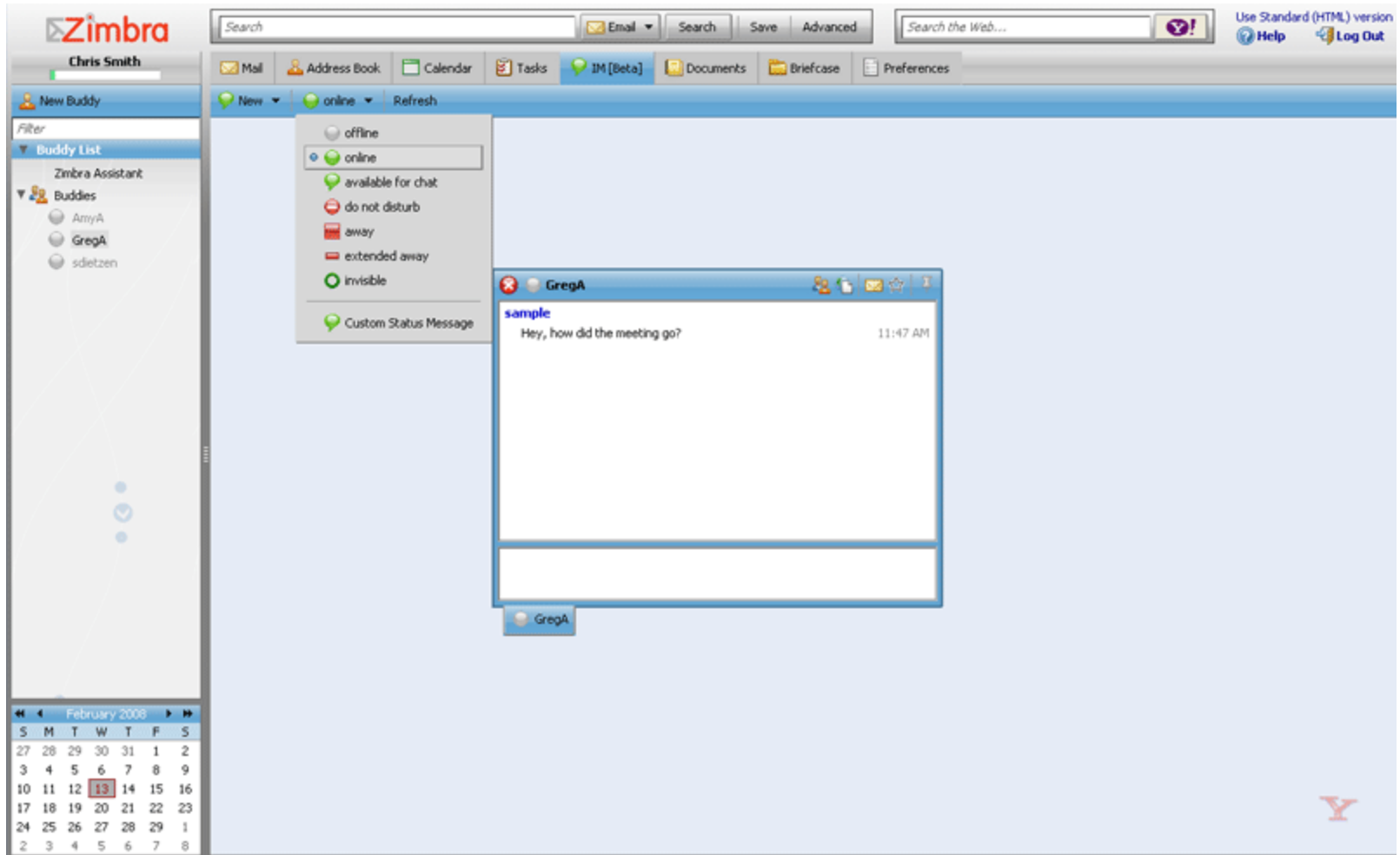
The screenshot shows the Zimbra web interface. The top navigation bar includes the Zimbra logo, a search bar, and links for Pages and Files, Local Search, Search, Save, and Advanced. The user is logged in as Chris Smith, and the interface is in Standard (HTML) version. The left sidebar contains a list of notebooks (Cybage, LinuxWorld, Notebook, Reliance, Sales, KayakPaddleSpec) and tags (important, Performance, Red Category (1), Sales, To Do's). The main content area displays a document titled "Demo Page" with a text editor toolbar. The text content includes "This is a demo of the built in authoring environment." and "Here is a spreadsheet". Below the text is a spreadsheet with columns A through F and rows 1 through 10. The spreadsheet contains the following data:

	A	B	C	D	E	F
1	Starhub					
2	VSNL					
3						
4						
5	Cell - A2					
6	Type: string					
7						
8						
9						
10						

The bottom status bar shows the location as LinuxWorld, version 1, author as sample@roadshow.zimbra.com, and modified on 12/06 11:35 PM.



# Instant Messaging





# Clients

- “Light” and “Mobile” HTML interface also available
- Standard POP/IMAP/CalDAV clients supported
- Zimbra Desktop offers “offline” web interface (beta)
- ZCO – Zimbra Connector for Outlook provides Exchange-like functionality to Outlook users (\$)
- ZimbraMobile provides ActiveSync support for mobile devices (\$)
- Support for Blackberries (via BES server) (beta)





# More Goodness

## Server:

- HSM Support (\$)
- WebDAV and REST access to content
- Active/Standby Cluster support (\$)

## Client:

- Briefcase: Web-based file space



# It's Not All Goodness

- No Solaris support
- Limited documentation
- Very “young” code
- Rapid code change means more bugs
- Product expertise lies with the vendor



# Objectives Met?

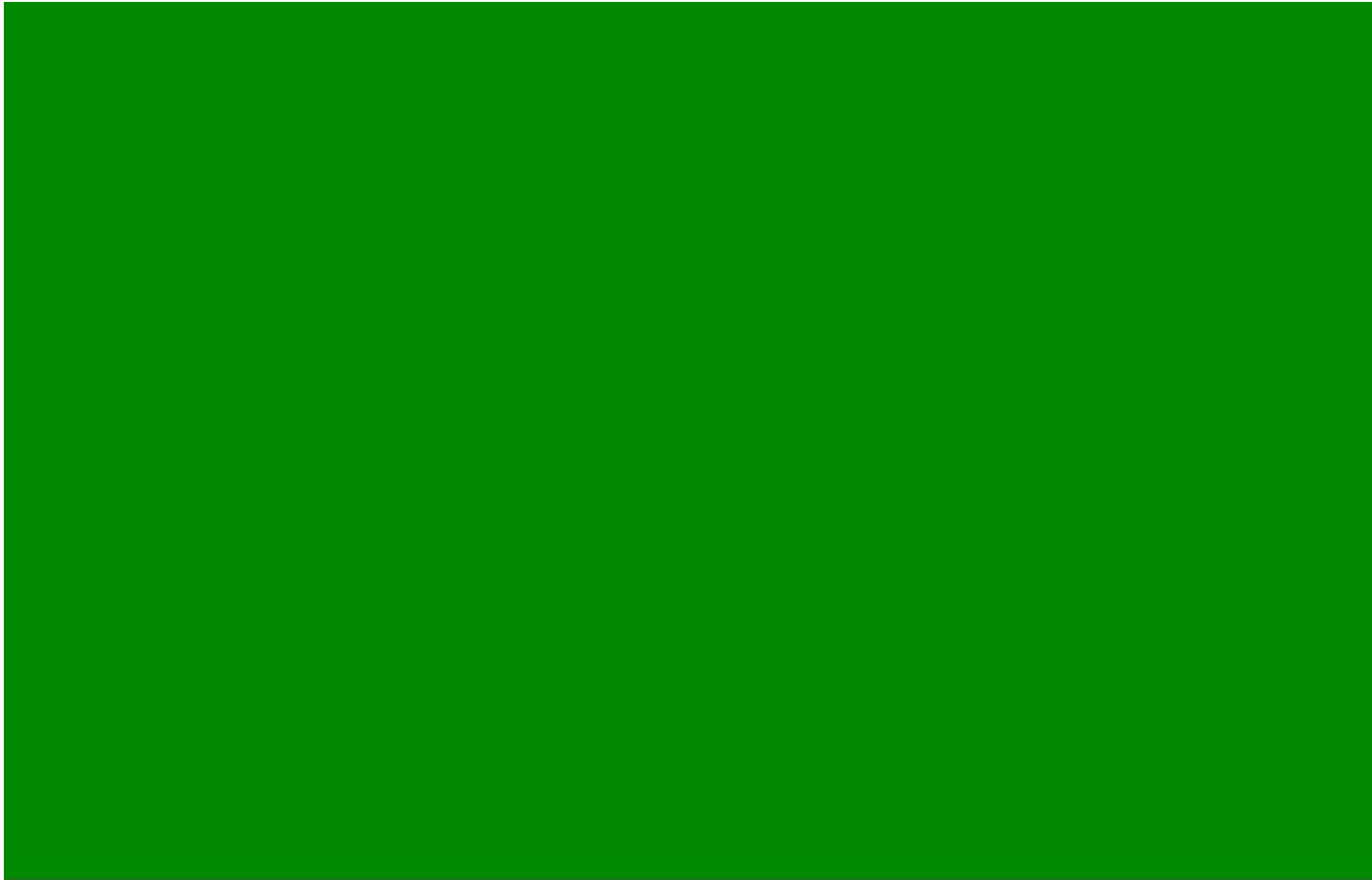
- Fault tolerant – Multi-server architecture
- Lightweight e-mail accounts - Yup
- Web-centric with modern look & feel - Definitely
- Easily expandable to support greater capacity - HSM
- Calendaring - Check
- Minimal loss of existing functionality (excellent maillist support, solid POP/IMAP/SMTP, anti-spam)
- Supported



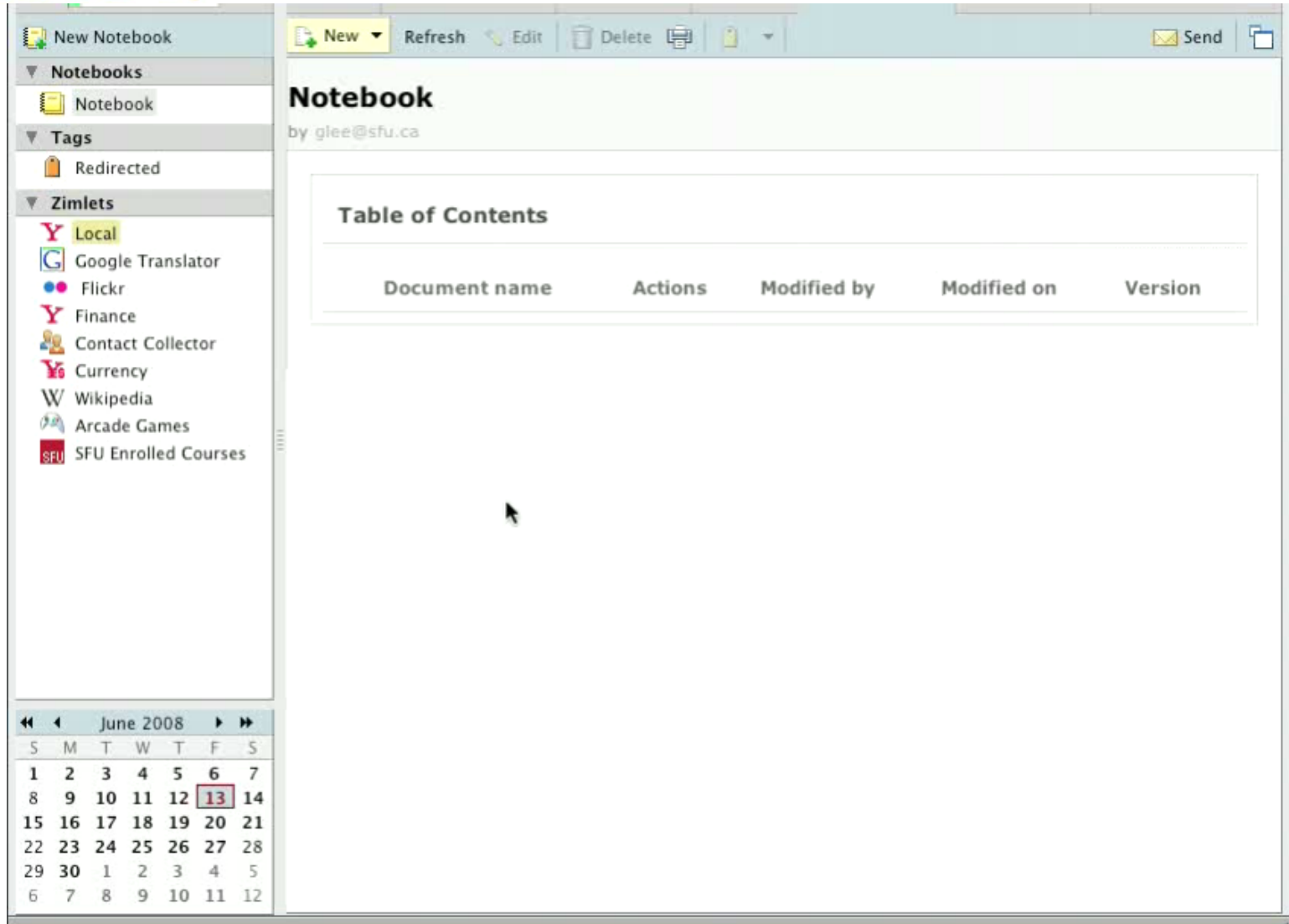
# More on Zimlets



# Simple Built-in



# Advanced Built-in



The screenshot shows the Zim desktop environment. On the left is a sidebar with sections for Notebooks, Tags, and Zimlets. The top has a toolbar with buttons for New, Refresh, Edit, Delete, and Send. The main area displays a notebook titled 'Notebook' by glee@sfu.ca, featuring a 'Table of Contents' section with a table.

Document name	Actions	Modified by	Modified on	Version

At the bottom left, there is a calendar for June 2008. The date June 13 is highlighted with a red box.



# SFU Additions - Courses





# SFU Additions - ISBN



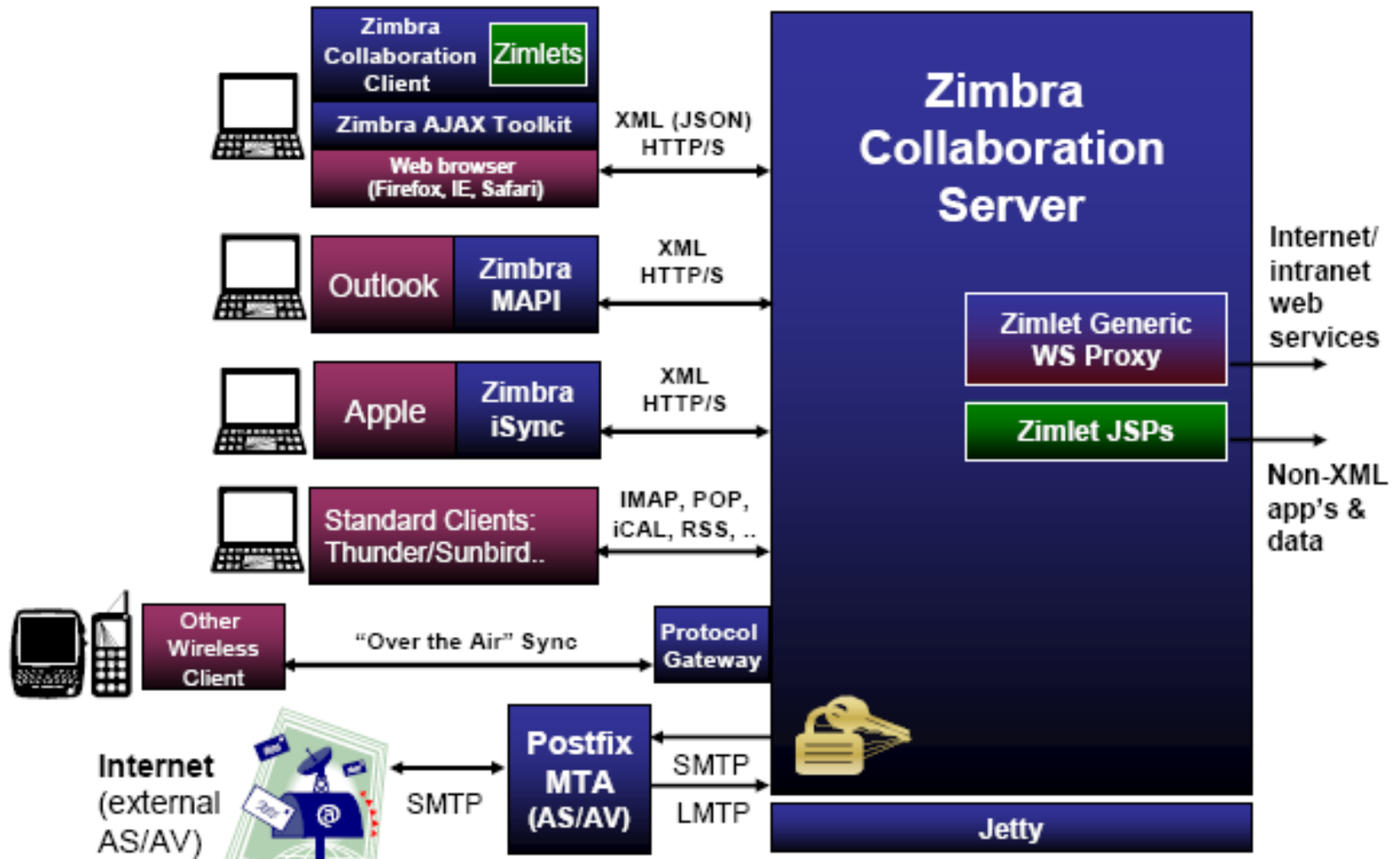




# SFU Additions – SFUId



# How They Work





# Where We're At Now



# A Brief History of Time

- Apr/07 – Test Server Up. Looking at OSS Zimbra
- Oct/07 – Re-org of IT, Email upgrade gets attention
- Dec/07 – Email Pilot Project created, pilot Zimbra license purchased for NE Zimbra
- Mar/08 – Pilot multi-server environment up on Linux on existing hardware
- Apr/08 – Migrated first “real” users over
- May/08 – Storage stability and scaling issues
- Jun/08 – New hardware purchased. Site-wide perpetual license purchased



# Today - Hardware

- Servers:
  - 8 Sun blade X86 servers – 8 core, 32gb RAM
    - 5 mailbox servers
    - 3 MTA/LDAP/Proxy servers
- Storage:
  - 2 NetApp 3040 filers via iSCSI
    - Dedicated FC spindles for DB, Indexes
    - Shared SATA spindles for mail store
  - 48 TB Sun Thumper for HSM



# Today - Migration

- 250 users migrated so far on voluntary basis
- Migration scripts for IMAP and Eudora-POP written
- Aggressive marketing to students to begin after storage upgrade (still voluntary)



# This Fall

- Name the service!
- Most Existing Portal functionality available via Zimlets
- Continuous data protection via iSCSI mirror to remote site
- New Admits added only to new system
- Begin block moves of departments



# Long Term

- Minimize Unix Home Directory Creation
- Substantially reduce desktop email support through migration to the web client
- More site-specific Zimlets





# Questions?

## More Info:

[hillman@sfu.ca](mailto:hillman@sfu.ca)

[zimbra-hied-admins@sfu.ca](mailto:zimbra-hied-admins@sfu.ca) mailing list (email me for details)

<http://www.sfu.ca/emailpilot>