

Ajax Unplugged

Architecture and Tips for Taking Web Applications Offline

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Agenda

- Who am I?
- Why do we need offline AJAX?
- What options are there?
 - Review some offline approaches
- Demo!
- Architecture of Zimbra Desktop
- Challenges for the developer
- Questions?



AJAX Unplugged

Why Offline?

- Lack of always-on internet access
 - Always-on need for information
- Travel – Air, Train, Auto, etc
- ISP service interruptions
 - Client or Server (Data Center)
- Remote; unconnected land and water
 - Even a remote office
- More and more data lives in 'the cloud'
 - Today's SAAS require network access
- Your users are asking for it!

Why Offline AJAX?

- Data closer to the user (Akamai principle)
- Performance (client and server)
 - Removes latency from network ops
 - Offloads more work to client CPU
 - Allows server requests to be batched
- Clear simple programming model
 - SAAS still enforces good design
- Same UI both online/offline
 - Saves \$\$ training users for one app
 - Saves \$\$ on software costs of separate offline app

What solutions are out there today?

- **Apollo (Adobe)**
- **Dojo Offline Toolkit (Dojo/Sitepen)**
- **Slingshot (Joyent/Magnetk)**
- **Firefox 3 Offline Support (Mozilla)**
- **XUL Runner (Mozilla)**
- **Roll your own**
 - **Salesforce.com**
 - **TiddlyWiki**
 - **Zimbra Desktop**

Apollo (Adobe)

- **Features**

- Most demo/example apps are Flash/Flex based
- Eventually could be delivered via Flash
- WebKit for HTML/JavaScript rendering
- WinXP SP2+ & Mac OSX 10.4.8+

- **License**

- Plan to contribute rendering changes to WebKit
- Actual runtime appears to be closed source
- Developer license cost

- **Availability**

- Developer Alpha
- Several demo apps (on their wiki)



Dojo Offline Toolkit (Dojo/Sitepen)

- **Features**

- Mac OSX & Win32
- Supports standard JavaScript/HTML
- Tiny proxy and offline/online events
- Pluggable storage (Flash, Browser storage, etc)

- **License**

- Open Source
- Same license as Dojo (AFL or BSD)

- **Availability**

- Developer Alpha
- Live Demo Moxie (doc editor)

The Dojo logo is displayed in a white box with a thin grey border. The word "dojo" is written in a lowercase, serif font with a macron over the 'o'.

Slingshot (Joyent/Magnetk)

- **Features**

- Mac OSX & WinXP
- Safari (WebKit) & Internet Explorer
- Ruby on Rails
- Handles sync of some data

- **License**

- Doesn't appear to be open source
- Free if using Joyent's application hosting

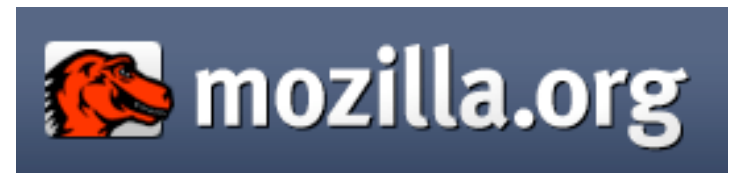
- **Availability**

- Closed beta starting soon
- Screencast of demo app



XUL Runner (Mozilla)

- **Features**
 - Where Firefox runs (*nix, Win, Mac)
 - Gecko rendering for HTML/JavaScript
 - WHATWG client-side storage, offline events
 - `<link rel="offline-resource">` to put resources into offline cache
 - The jar: URI scheme
- **License**
 - MPL - Open Source
- **Availability**
 - Developer Preview
 - Shipping apps today (Google Adwords Editor)



Firefox 3 (Mozilla)

- **Features**
 - Anywhere Firefox runs (*nix, Win, Mac)
 - Gecko rendering for HTML/JavaScript
 - WHATWG client-side storage, offline events
 - `<link rel="offline-resource">` to put resources into offline cache
 - The jar: URI scheme
- **License**
 - MPL - Open Source
- **Availability**
 - Developer Preview



See it in action



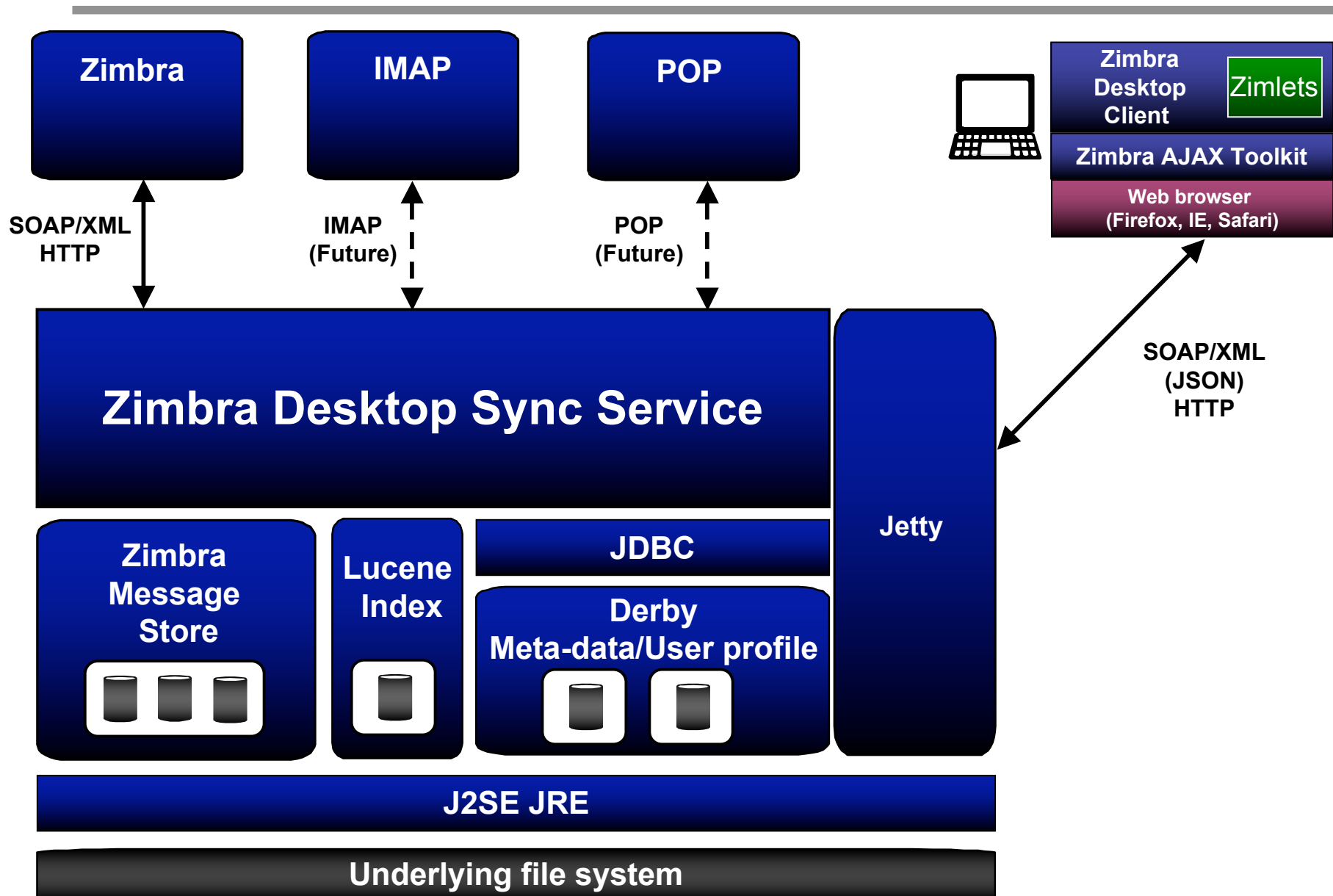
Demo



Zimbra Offline (Zimbra)

- **Features**
 - **Linux, Win32 and Mac**
 - **Firefox, Internet Explorer and Safari**
 - **Identical AJAX interface to online version**
 - **Micro Server for sync, persistence, and search**
 - ▶ **Derby (Meta Data, User Profile)**
 - ▶ **Lucene (Full text search)**
 - ▶ **Jetty (HTTP, JSP)**
 - ▶ **Filesystem for messages**
 - **Support for large datasets multi-GB**
- **License**
 - **MPL/ZPL - Open Source**
- **Availability**
 - **Zimbra Desktop Alpha**

Zimbra Micro Server Architecture



Challenges for the Developer

- **Selecting *what* to take offline**
 - Security risks
 - Does the user need it?
 - Can they use it offline?
- **Sync is hard**
 - Conflict resolution
 - Multi-user and multi-client
- **End-User Desktop Support**
 - Risk of increased support/debugging costs
- **Upgrades and Patches**
 - Have a plan *before* you release

Thank You!

Questions?

More Information:
www.zimbra.com/desktop
www.zimbra.com/blog
www.zimbra.com/forums

Some Related Links

- <http://blog.monstuff.com/archives/000272.html>
- http://developers.sun.com/javadb/overview/product_tour/readme.jsp
- <http://labs.adobe.com/technologies/apollo/>
- <http://www.sitepen.com/blog/2007/01/02/the-dojo-offline-toolkit/>
- http://codinginparadise.org/projects/dojo_offline/release-02-20-2007/demos/storage/editor.html
- <http://joyeur.com/2007/03/22/joyent-slingshot>
- <http://blog.magnetk.com/2007/03/22/joyent-slingshot/>
- <http://www.bluishcoder.co.nz/2007/02/offline-zimbra-with-firefox.html>
- http://weblogs.mozillazine.org/roc/archives/2007/02/offline_web_app.html
- <http://ejohn.org/blog/offline-events/>
- <http://developer.mozilla.org/en/docs/XULRunner>
- http://blogs.salesforce.com/features/2006/03/offline_edition.html
- <http://www.tiddlywiki.com/>
- <http://www.zimbra.com/desktop>

Zimbra Snapshot

Next-Generation Messaging and Collaboration

- Mail, Contacts, Calendar, Mobile, Web Documents, Wiki, VOIP, RSS, Mash-ups, Search, Sharing, Web services, etc.

What Makes Us Different?

- Innovation – rich, ubiquitous user experience + cost-effective administration
- Open Source – transparency, community, extensibility
- Compatibility – investment protection, flexibility, application integration

Principals: Enterprise / ISP software and UM/Messaging veterans

- Openwave / Onebox.com — UM, Email, Mobile messaging
- BEA/WebLogic & Javasoftware (Sun) — Java, J2EE, XML, etc.

Investors: Benchmark, Redpoint, Accel

Partners:



Awards:

