

Exchange, MAPI & Evolution

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Novell.

“ You had me at EHLO ”



Next 2440 seconds ...

- Exchange OWA Connector
- Openchange
- Design
 - Exchange OWA Connector
 - Exchange MAPI Provider
- Status
 - Now
 - Future
- Challenges

Exchange OWA Connector



Exchange OWA Connector



- Based on Exchange OWA WebDAV
- GPL'ed in May 14, 2004. *
- Connects with Exchange 5.5, 2000, 2003

* <http://www.novell.com/news/press/archive/2004/05/pr04034.html>



Exchange OWA Connector : What happened now?

- Exchange 2007 - Launched in November 2006
- Removed Exchange WebDAV support *

- OWA Connector lost its ability to talk to Exchange 2007

* <http://blogs.msdn.com/exchangedev/archive/2008/05/22/exchange-developer-roadmap.aspx>

OpenChange's libmapi



Openchange's libmapi

- Project was founded in 2003 at EPITECH by Julien Kerihuel *
 - Provide interoperability with Exchange protocols.
 - libmapi , a client side MAPI library
 - Provide a transparent replacement to Microsoft Exchange Server
 - OpenChange server.
- Prototype MAPI provider plugin written by Epitech team.

* http://www.openchange.org/index.php?option=com_content&task=view&id=15&Itemid=49



Openchange's libmapi

- libmapi dependancies
 - Samba 4 Libraries
 - talloc – Memory allocator with destructors
 - dcerpc
 - gensec - security subsystem
 - ldb - LDAP-like embedded database
 - ndr
 - parse-pidl-perl – IDL Parsing



Openchange's libmapi

- Adopted by Evolution for Exchange 2007 Connectivity
 - Easier integration.
 - Started development in October 2007 *

* <http://mail.gnome.org/archives/evolution-hackers/2007-October/msg00066.html>



Openchange's libmapi

- Status

- libmapi-0.7 PHASER released in April 2008. *
- libmapi 0.8 ROMULUS - in development
 - 82 of 127 calls implemented.
- Making good progress

- API Docs

- <http://apidocs.openchange.org/overview/index.html>

* http://www.openchange.org/index.php?option=com_content&task=view&id=104&Itemid=76



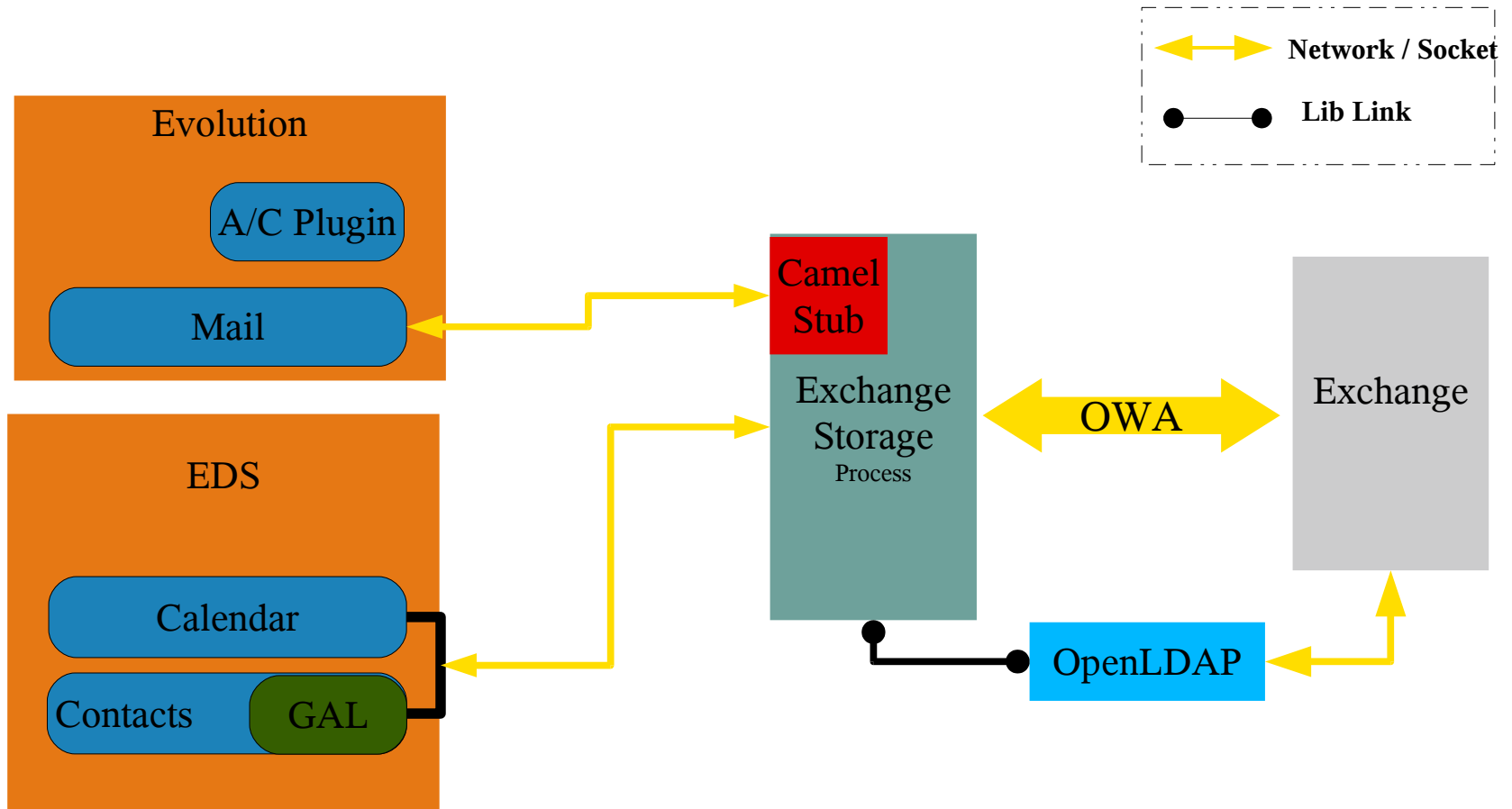
Openchange's libmapi

- Is libmapi written using *Reverse Engineering* ?
 - NO ! Protocol Analysis.
- Open Protocol Specification :
 - Decided to release Exchange Protocol Docs
 - 0.1 Initial public version on April 2008
 - 1.0 on June 2008
 - 70+ Documents in total.
 - BestBody Algorithm
 - Techniques to create meeting items

Design



Design : Exchange OWA Connector



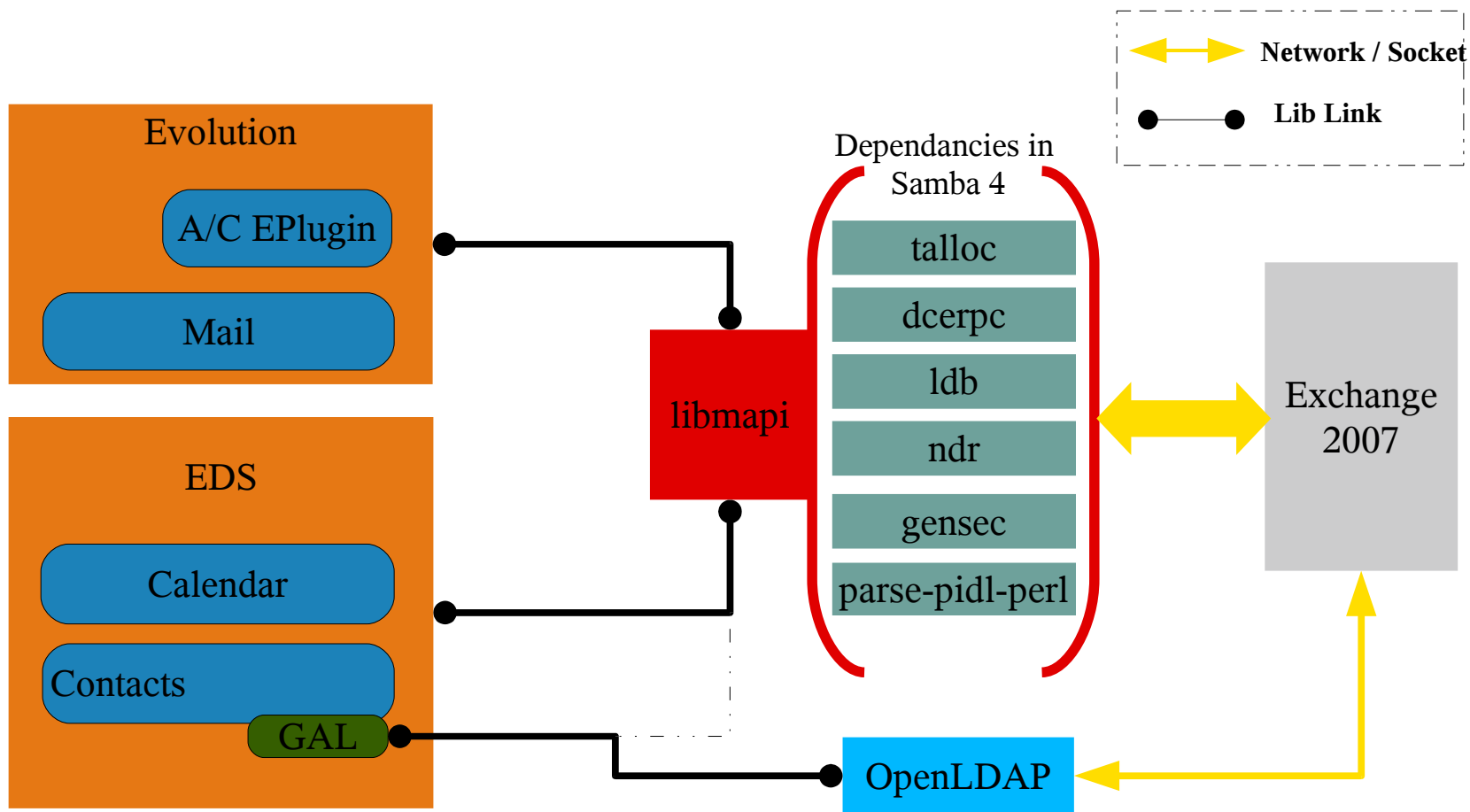


Design : MAPI Provider

- Follows standard design of Evolution Groupware backends
 - Groupwise provider as template
 - Common code in servers/mapi (libexchangemapi.so)
 - Calendar and Addressbook in EDS
 - Mailer in Camel
- Better than exchange-connector
 - No separate exchange-connector process
 - Avoids additional overload of camel-stubs



Design : MAPI Provider





Development : People

- Srinivasa Ragavan sragavan@novell.com (srag)
 - Addressbook / AccountSetup / libexchangemapi
- Johnny Jacob jjohnny@novell.com (jony)
 - Mailer / AccountSetup / libexchangemapi / Packaging
- Suman Manjunath msuman@novell.com (schooms)
 - Calendar / libexchangemapi / Packaging
- And Yay ! to community for testing.



Development : Code

- Development is going on
 - `svn://svn.gnome.org/svn/evolution-data-server/branches/EXCHANGE_MAPI_BRANCH`
 - `svn://svn.gnome.org/svn/evolution/branches/EXCHANGE_MAPI_BRANCH`
- Depends on
 - libmapi 0.8 (trunk rev 626)
 - samba4 (8b4c7fb)
- Preview packages are available in Build Service
 - Made as pluggable packages
 - e-m-p.rpm(deb) over existing evolution
 - `http://download.opensuse.org/repositories/home:/msuman:/evolution-mapi-provider/ **`

** Watch out for updates on the mailing lists



Development : Schedule

- Will miss GNOME 2.24 *
 - API/ABI freezes in few weeks.
 - Samba 4 as external dependency

- Targeting GNOME 2.26

* <http://www.mail-archive.com/evolution-hackers@gnome.org/msg02660.html>



Features : Mailer

- Folder List Fetch (Done)
- Summary Fetch (Done)
- Message Fetch (Done)
- Multipart mails (In Progress)
- Sending mails. (Plain text + Attachment)
- Message Deletion / Flag Syncs
- Folder Operations : Create, Delete, Rename, Move, Copy
- Public Folder Support [TODO]



Features : Calendar

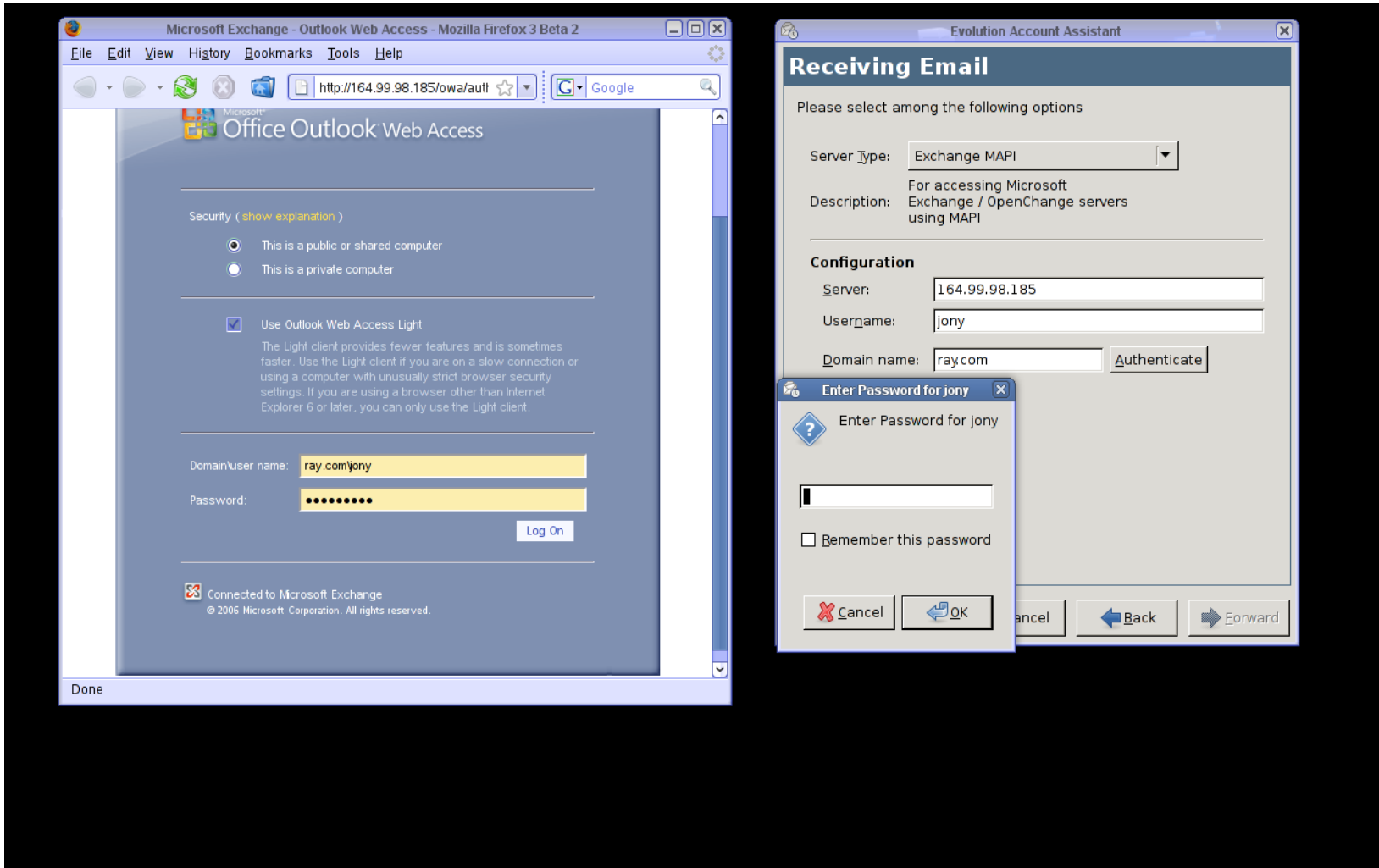
- Fetch items
 - Appointments / Meetings / Simple tasks / Stickynotes (memo) - Done.
 - Assigned tasks - (in progress)
- Create, Modify, Delete items (Done, except recurrence)
- Delta fetching (Done)
- Timezone handling (partial implementation)



Features : Addressbook

- Fetch Contacts
- Create / Delete / Modify Contacts
- Delta Fetch (TODO)

Screenshots



The screenshot shows two overlapping windows. The background window is Mozilla Firefox 3 Beta 2 displaying the Microsoft Office Outlook Web Access page. The browser's address bar shows `http://164.99.98.185/owa/autl`. The page content includes a "Security" section with radio buttons for "This is a public or shared computer" (selected) and "This is a private computer". Below that is a checked checkbox for "Use Outlook Web Access Light". The "Domain/user name" field contains `ray.com\jony` and the "Password" field is masked with dots. A "Log On" button is visible. At the bottom, it says "Connected to Microsoft Exchange © 2006 Microsoft Corporation. All rights reserved." and "Done" is at the bottom left.

The foreground window is the "Evolution Account Assistant" dialog box titled "Receiving Email". It prompts the user to select options for receiving email. The "Server Type" is set to "Exchange MAPI". The "Description" reads: "For accessing Microsoft Exchange / OpenChange servers using MAPI". Under the "Configuration" section, the "Server" field contains `164.99.98.185`, the "User name" field contains `jony`, and the "Domain name" field contains `ray.com`. An "Authenticate" button is next to the domain name field. A smaller "Enter Password for jony" dialog box is open over the main one, with a question mark icon and a password input field. It has a "Remember this password" checkbox (unchecked) and "Cancel" and "OK" buttons. The main dialog box has "Cancel", "Back", and "Forward" buttons at the bottom.



File Edit View History Bookmarks Tools Help

http://164.99.98.185/owa/?ae=Folder&t=IPF.Note&id=LgAAACwl%2fff Google

Microsoft Office Outlook Web Access Type here to search This Folder Address Book Options Log Off

Mail Calendar Contacts Deleted Items Drafts [2] **Inbox (1534)** Junk E-Mail Sent Items Deleted Items Conflicts Local Failures Server Failures Sync Issues Manage Folders...

New Message Move Delete Junk Check Messages

	From	Subject	Received	Size
<input type="checkbox"/>	Suman M	meeting-no-lookup-accept-buddies	2/22/2008 11:04 AM	7 KB
<input type="checkbox"/>	Suman M	Task Request: have assigned a ta...	2/20/2008 12:04 PM	11 KB
<input type="checkbox"/>	Microsoft Exchan...	Undeliverable: test test test	2/9/2008 1:42 PM	20 KB
<input type="checkbox"/>	Suman M	meeting-except -that-freebusy-wa...	2/8/2008 12:23 PM	8 KB
<input type="checkbox"/>	Jacob Johnny	send att	2/7/2008 2:28 PM	239 KB
<input type="checkbox"/>	Suman M	bharath doesn't have auto-move t...	2/6/2008 10:47 AM	8 KB
<input type="checkbox"/>	Veerapuram Varad...	Testing Attachments from Varadha...	2/5/2008 12:04 PM	23 KB
<input type="checkbox"/>	Administrator	Exchange 2007 server is ready !!	11/6/2007 10:32 AM	2 KB
<input type="checkbox"/>	jeremy@linuxfrom...	cvcs commit: ALFS/profiles/LFS/sc...	8/26/2006 5:30 PM	5 KB
<input type="checkbox"/>	jeremy@linuxfrom...	cvcs commit: ALFS/profiles/LFS/sc...	8/26/2006 5:30 PM	9 KB
<input type="checkbox"/>	James Robertson	Re: cvcs commit: ALFS/DTD ALFS-3...	8/26/2006 5:30 PM	748 B
<input type="checkbox"/>	jeremy@linuxfrom...	cvcs commit: ALFS/profiles/LFS/sc...	8/26/2006 5:30 PM	5 KB
<input type="checkbox"/>	kpt Fleming@linuxf...	cvcs commit: ALFS/hALFS bootstrap	8/26/2006 5:30 PM	2 KB
<input type="checkbox"/>	kpt Fleming@linuxf...	cvcs commit: ALFS/hALFS CHANGES b...	8/26/2006 5:30 PM	4 KB
<input type="checkbox"/>	bugzilla@linuxfr...	[Bug 847] New: <search_replace> ...	8/26/2006 5:30 PM	2 KB
<input type="checkbox"/>	jwrober@linuxfro...	cvcs commit: ALFS/docs/syntax_doc...	8/26/2006 5:30 PM	3 KB
<input type="checkbox"/>	jwrober@linuxfro...	cvcs commit: ALFS/docs/syntax_doc...	8/26/2006 5:30 PM	74 KB
<input type="checkbox"/>	jwrober@linuxfro...	cvcs commit: ALFS/docs/syntax_doc...	8/26/2006 5:30 PM	16 KB
<input type="checkbox"/>	jwrober@linuxfro...	cvcs commit: ALFS/DTD ALFS-CVS.dt...	8/26/2006 5:30 PM	2 KB

Done



File Edit View Folder Message Search Help

New Send / Receive Reply Reply to All Forward Print Delete Junk Not Junk Cancel

(null) 0 total Show: All Messages Search: Subject or Sender conta in Current Folder

	From	Subject	Date
	Suman M	meeting-no-lookup-accep...	Feb 22 11:04 AM
	Suman M	have assigned a task ...	Feb 20 12:04 PM
	Microsoft Exchange	test test test	Feb 09 1:42 PM
	Suman M	meeting-except -that-f...	Feb 08 12:23 PM
	Jacob Johnny	send att	Feb 07 2:28 PM
	Suman M	bharath doesn't have aut...	Feb 06 10:47 AM
	Veerapuram Varadhan	Testing Attachments from...	Feb 05 12:04 PM
	Administrator	Exchange 2007 server is ...	Nov 06 2007
	jeremy@linuxfromscratch.org	cvs commit: ALFS/profiles...	Aug 26 2006
	jeremy@linuxfromscratch.org	cvs commit: ALFS/profiles...	Aug 26 2006
	James Robertson	cvs commit: ALFS/DTD AL...	Aug 26 2006
	jeremy@linuxfromscratch.org	cvs commit: ALFS/profiles...	Aug 26 2006
	lnflaming@linuxfromscrat	cvs commit: ALFS/ALFS b...	Aug 26 2006

From: Veerapuram Varadhan <[Veerapuram Varadhan](#)>
Reply-To: Veerapuram Varadhan <[Veerapuram Varadhan](#)>
To: Jacob Johnny <[Jacob Johnny](#)>
Subject: No Subject
Date: Tue, 05 Feb 2008 12:04:30 +0000 (17:34 IST)

▶ 2 attachments

Testing attachments.

- Johnny

backup file attachment (evolution-mapi-provider.dsc~)



File Edit View History Bookmarks Tools Help

http://164.99.98.185/owa/?ae=PreFormAction&t=IPM.Appointment&a= Google

20	21	22	23	24	25	26	9 AM	
27	28	29	30	1	2	3	10 AM	
4	5	6	7	8	9	10	11 AM	
							12 PM	Big Meeting FooBar
							1 PM	
							2 PM	
							3 PM	
							4 PM	
							5 PM	Team Meeting FooBar
							6 PM	
							7 PM	
							8 PM	
							9 PM	

My Calendars

- Calendar
- Manage Calendars...

Done



File Edit View Actions Search Help

New Send / Receive Print Delete Previous Today Next Go To Day Work Week

Calendar Tuesday 15 Apr 2008 Show: Any Category Search: Summary Contains

CalDAV

- On This Computer
 - Personal
- On The Web
- Contacts
 - Birthdays & Annivers...
- Weather
- jony@ray.com
 - Calendar
- jony@ray.com

April 2008

M	T	W	T	F	S	S
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

9 am

10 am

11 am

12 pm

1 pm

2 pm

3 pm

4 pm

5 pm

6 pm

7 pm

Tuesday 15 April

11:30am Big Meeting

4:30pm Team Meeting

Tasks

Summary

Click to add a task

Memos

Summary

Click to add a memo



File Edit View History Bookmarks Tools Help

http://164.99.98.185/owa/?ae=Folder&t=IPF.Contact

Office Outlook Web Access Find Someone Contacts Address Book Options Log Off

Mail Calendar Contacts

Contacts

Manage Contacts Folders...

New Contact Move Delete

<input type="checkbox"/>	File as	E-mail	Phone	Title	Company
<input type="checkbox"/>	Johnny		12352342		
<input type="checkbox"/>	Foobar	foo@foo.foo	9865		

Move Delete

Page: 1

Connected to Microsoft Exchange



File Edit View Actions Search Help

New Send / Receive Print Delete Stop

Contacts 2 contacts Show: Any Category Search: Name begins with

On This Computer Personal	Foobar Full Name: Foobar Other Emal foo@foo.fo Home Phor 9865 Other Phor 9865	Johnny Full Name: Johnny Mobile Pho 12352342
-------------------------------------	--	---

On LDAP Servers

- jony@ray.com
 - Contacts
 - Global Address List
- jony@ray.com
 - Global Address List

Navigation icons: Mail, Calendar, Address Book, Notes, Reminders



Challenges

- Samba4

- Samba4 is in heavy development.
- Alpha4 was released on Jul 12.

- Licensing

- libmapi is gpl v3
- Evolution licence changes *

* <http://mail.gnome.org/archives/desktop-devel-list/2008-July/msg00065.html>

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