

Comparison of Collaboration Email Services

For Lyric Semiconductor, by Edward Harvey Consulting

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Requirements and Overview

Given:

The goal is to identify a cross-platform compatible (Windows and Mac) email/calendar/addressbook collaboration solution, specifically for Lyric Semiconductor, and also in general as it may apply to other organizations.

Products being considered:

- Microsoft Exchange 2007
- Google Apps
- Kerio MailServer

In retrospect should have also considered:

- Novell Groupwise. Never heard of it till after doing this work, and getting feedback from the community
- FirstClass. Never heard of it till after doing this work, and getting feedback from the community

Honorable Mention (intentionally not being considered):

- Zimbra
 - Without looking too deeply, it appears that Zimbra is very comparable to Kerio. It has similar functionality and similar completeness. User and admin fondness of Zimbra and Kerio are comparable.
 - Zimbra was acquired by Yahoo. There are rumors of possible acquisition of Yahoo by Microsoft.
 - Since Zimbra is an alternative to Exchange, there is no telling what Microsoft would do if they acquired it. Maybe spin it off. Maybe embrace it. Maybe kill it.
 - Because of the similarities with Kerio, and the possible death by Microsoft, we opted not to do an in-depth evaluation of Zimbra.
- Notes
 - No favorable feedback from any users or admins I encountered

Criteria for comparison:

- Web access
- Windows offline client
- Mac offline client
- PDA support
- Data security, privacy, and backup
- Support option
- Cost
- Other characteristics worth mention

Google Apps

Summary of risks (details below)

- Calendar is weak for Windows, Mac, and Web interface
- Windows email clients are weak
- Addressbook sync is weak for both Windows and Mac
- Backups are nonexistent
- Tech support is weak
- No escape or migration plan available, even if going to another google apps account

Web Access

- Available anywhere, works equally well on any browser.
- Email interface is very robust and reliable.
- Calendar interface suffers ⁽¹⁾ in terms of reliability and usability.

Windows Offline Client

- Outlook Express. This is the least poor of all the poor client options available. It does email reliably enough for most people. There is no option for addressbook or calendar sync.
- Outlook has some important performance and reliability problems connecting to google IMAP ⁽²⁾
- Thunderbird has some important performance and reliability problems connecting to google IMAP ⁽³⁾
- No suitable calendar / addressbook sync has been identified. ⁽⁴⁾

Mac Offline Client

- Mail.app works well with google IMAP. Only minor issues have been identified. ⁽⁵⁾
- Entourage works well with google IMAP.
- iCal – This is improving, but still has some important problems. ⁽⁶⁾
- Addressbook can sync to google, but only if you own an iPhone. For some reason, Apple only enabled this functionality if you connect an iPhone.
- No suitable calendar / addressbook sync has been identified for people who don't have an iPhone. There are many 3rd party applications, and a solution may exist, but a robust reliable solution including invitees, free/busy, and offline sync for both addressbook and calendar seems unlikely.

PDA Support

- iPhone Supported and tested via nuevasync
- Blackberry They say it's supported. But it was found to have some important problems. ⁽⁷⁾
- G1 They say it's supported. I haven't tested it.
- Palm Did not investigate
- Windows Mobile Did not investigate

Data Security, Privacy, and Backup

- There are concerns about security. ⁽⁸⁾
- There are concerns about privacy. ⁽⁹⁾
- There is no reasonable backup solution. ⁽¹⁰⁾

Support Option

- There is a lot of information on the web. Much of it is misleading or inaccurate.

- Phone support is available only for system critical issues. Even if you have a system critical issue, phone support is poor.
- Email support is available for all other issues. This support is exceptionally poor.

Cost

- \$50 per person per year

Other Characteristics Worth Mention

- A lot of people are attracted ⁽¹¹⁾ to Google Docs and Google Chat.

Microsoft Exchange

Summary of risks (details below)

- Mac client is weak unless using VM / Windows / Outlook
- G1 client is weak or nonexistent

Web Access

- For users of IE6+, the Mail, Calendar, and Addressbook are all highly available, reliable, and functional via OWA.
- For all other users, there is OWA Light. This might be good enough for some situations, but it is lacking some important ⁽¹²⁾ features. OWA Light is also lacking some non-critical ⁽¹³⁾ features.

Windows Offline Client

- The obvious choice is Outlook 2007. Everything works well, is reliable, easily supportable.
- Performance of Outlook 07 with Exchange 07 is 10x faster than any competing solution. ⁽¹⁴⁾
- Connection reliability with Exchange is more stable than any competing solution. ⁽¹⁵⁾

Mac Offline Client

- Most administrators recommend Entourage 2008. This is the Mac alternative to Outlook, and is frankly not as well implemented as Outlook. Entourage 08 has some important reliability ⁽¹⁶⁾ problems.
- Entourage EWS Beta is available for testing, and soon to be released in its non-beta form. This upgrade is supposed to address the problems mentioned in regards to Entourage 2008. Initial reviews ⁽¹⁷⁾ from users and admins are positive.
- Mail.app has some important functionality limitations and performance problems ⁽¹⁸⁾ when used with Exchange.
- Virtual Machine. If users have a virtual machine with Windows installed, they can use Internet Explorer and Outlook to connect to Exchange.
- Crossover and Outlook. Crossover has some important ⁽¹⁹⁾ limitations. Using crossover is cheaper than using a VM with Windows in it, but less supportable, less reliable, etc.

PDA Support

- iPhone They say it's supported. I haven't tested it.
- Blackberry Supported & Tested
- G1 Is there an activesync solution for G1 yet?
- Palm They say it's supported. I haven't tested it.
- Windows Mobile They say it's supported. I haven't tested it.

Data Security, Privacy, and Backup

- Administrators have full control of security and privacy.
- Users may share items with each other if they wish. Administrators are not required to help.
- There is no ability to share items (mail folders, calendars, etc) outside the organization.
- Backup solutions are robust and well tested.

Support Option

- A vast majority of support issues are resolved via Internet. Because Exchange is such a mainstream solution, there are so many resources out there, that it is rare to encounter an issue which has not been previously solved and recorded by others.

- Fee-based support is available from Microsoft. They are knowledgeable and helpful, but some issues don't attract enough attention to really get solved in a timely manner, such as the Mail.app IMAP compatibility problem.

Cost

- Hosted exchange can be used for as low as \$10 per month per person.
- Small businesses can implement their own Exchange server for (absolutely minimal) \$2k to (quite robust) \$25k

Other Characteristics Worth Mention

- If you migrate from Exchange to anything (including another Exchange), the process is very clear.
- Administration for user/group move/add/change/delete is simple and straight forward.
- Users can easily send email or invitations to groups. They can easily expand the group to find out who is in it. Recipients are handled individually, so each recipient can specify their own attendance response etc.
- Because Exchange is so mainstream, there is broad support for 3rd party applications, such as CardScan and USB Intellisync, etc.

Kerio Mailserver

Summary of risks (details below)

- Web interface search abilities are weak.
- Windows client search abilities are weak.
- Windows client is grade B otherwise, including many minor problems
- PDA sync claims to be supported, but is largely untested during this evaluation

Web Access

- Works equally well on any browser
- Search ability is weak. ⁽²⁰⁾

Windows Offline Client

- Kerio Outlook Connector has one important problem, ⁽²¹⁾ and several minor problems. ⁽²²⁾

Mac Offline Client

- Mail.app via IMAP works quite well.
- Addressbook sync works quite well.
- iCal – This is improving, but still has some important problems. ⁽²³⁾

PDA Support

- iPhone They say it's supported. I haven't tested it.
- Blackberry They say it's supported. I haven't tested it.
- G1 Is there an activesync solution for G1 yet? Does it support Kerio?
- Palm They say it's supported. I haven't tested it.
- Windows Mobile They say it's supported. I haven't tested it.

Data Security, Privacy, and Backup

- Administrators have full control of security and privacy.
- Users may share items with each other if they wish. Administrators are not required to help.
- There is no ability to share items outside the organization.
- Backups go to file, which can then be backed up by standard backup tools.

Support Option

- Kerio support is included with licensed products. Their support team is very competent, reliable, and helpful.

Cost

- \$3k to \$7k commodity server hardware and software licenses
- A couple or a few hundred per year ongoing license cost depending on number of users

Other Characteristics Worth Mention

n/a

EndNotes

¹ In Google Calendar, there are many “gotchas” surrounding invitees and reminder reliability. Some have been well identified and documented. They are moving targets – problems are not always reproducible, and smooth operation is not always reproducible. During my evaluation of Google Apps, the behavior of the calendar was so unpredictable, eventually I developed a habit of video recording everything I do, and when something goes crazy, I saved the videos in my “I’m not crazy” folder as evidence. The videos are available via http upon request. In some situations, for no apparent reason, reminders simply didn’t happen. In some situations, reminders didn’t happen, and it was found to have a cause – for example, you will not get a popup reminder if it occurs at a time when you’re not logged in. This is particularly a problem for all-day events, which begin at midnight. If you invite somebody to an event by typing their name into the subject bar, the item will appear to have invited them, but they will receive no invitation. If you mis-type an invitee’s address, they will not receive an invitation, and you won’t know that it didn’t reach them. If you invite a group, the members of the group are not handled individually, and they cannot add the item to their calendars. And so on.

² Google imap does not like Outlook, and vice-versa. There are frequent temporary-lockup “hiccups” and occasional server disconnections. When these happen, users often need to restart outlook, and even that will sometimes not suffice. Sometimes the user must wait a while (typically around 30 minutes) before reconnecting. No calendar or addressbook sync has been identified – Although google has a product, it had enough problems to be eliminated from our evaluation, and although many 3rd party apps exist, we pursued the issue no further.

³ Thunderbird connectivity to Google IMAP was eliminated from our evaluation because it can only open one message at a time, and you cannot do anything at all while it is busy with a send/receive. No addressbook/calendar sync was identified.

⁴ Google has a calendar sync application for Outlook, but it only recognizes one calendar in outlook and one calendar in google. It does not support free/busy invitations, and has some reliability problems. During my tests, I created calendar items with 0-minute reminders, which uploaded to google as a 5-minute reminder on the first sync, downloaded as a non-reminder on the 2nd sync, and uploaded the deletion of reminder on the 3rd sync. Google does not offer any addressbook sync. Third party applications are available for both calendar and addressbook sync, but none were tested.

⁵ Using Mail.app with google IMAP: If composing mail in text format, it always transmits correctly. If composing in HTML format, then it will be silently translated to plaintext approx 50% of the time during transmission. There are occasional server disconnects, but they are rare enough and handled smoothly enough by Mail.app that it’s not a large impact for users.

⁶ iCal using CalDAV seems to be improving, but it still has some important problems. A few months ago, I tested this out and it was a miserable failure. CalDAV only worked when you were online (showed blank calendar otherwise), it had no concept of inviting other people, no ability use addressbook (obviously) and major problems syncing. However, today I’m revisiting it, and most of that is cleared up. Today, my iCal still works when the network is down. I am able to invite others, from my addressbook, and view their free/busy. I am having connectivity problems however – For the last 24 hours, my iCal is silently spinning its wheels (spinning icon in the corner is the only indicator.) It cannot connect to CalDAV server anymore, since I created an event with attendee invitations in it. It is not able to sync, and reports no errors other than the spinning icon in the corner. At least all of the invitation/attendee controls exist – but the behavior is inconsistent. I created an event and invited somebody outside the domain (my home account). The invitation and everything worked perfectly. So then I created a couple of users (test1, and test2) inside the domain, and attempted for my account and these users to invite each other to events and so on. The invitations were never received, and the attendees never added to the event. The system silently discarded the invitations. I figured out the cause was a failure of addressbook lookup (invalid:nomail), figured out how to avoid the problem (addressbook contact drag & drop), and re-invited the attendees. This time, iCal just stays with a spinning progress indicator, silently not sending the invitations. Once in this state, it’s stuck permanently – iCal is now totally broken and unable to connect to CalDAV. Even deleting the event does not solve it. I think I have to delete and recreate my CalDAV account.

⁷ Blackberry googlesync only functions via mobile network. Cannot operate on wifi. During my tests, there were problems creating events with 0-minute reminders. Somehow sometimes reminders would be transmitted across a sync, and silently change from 0-minute to 5-minute, or 0-minute to no-reminder.

⁸ Google security concerns: Data is on servers with other companies and individuals. If they can hack the CIA and the FBI, they must be able to hack google. There have been some publicized security breaches already. Nothing like Enron yet.

⁹ Google privacy concerns: Do google administrators have access to read our data? There have been some times (even within this company) where users made information available to the internet unknowingly.

¹⁰ The only backup tool which supports google labels is “gmail-backup” which is an unsupported 3rd party freeware application. Although there is a support forum, it is full of spam and unusable. Gmail-backup can download via IMAP, all of your messages (preserving labels) but requires your login credentials to do so. Therefore sysadmins cannot backup data for the users. In my experimentation with gmail-backup, 99% of messages download error free, and 1% of messages fail to download at all. The saved data is not exportable or convertible to any format other than upload-into-gmail via gmail-backup.

There is no tool available to backup mailboxes *and* addressbook *and* calendar. (Forget about google docs).

¹¹ Google docs allows simultaneous multiuser editing available to anyone anywhere. No other product offers this. There are concerns about security, privacy, and lack of backups. There are many bugs and nonintuitive behaviors in the Google Docs web interface. Admins have no special privileges to access users’ documents or permissions. Still, many people find it useful because it’s so highly available.

¹² Some important features have been identified missing from OWA Light. (1) When you create an item on your calendar, you cannot specify when the reminder is to take place. (2) When you invite attendees, there seems to be no way to view their free/busy information. (3) There is no interface to manage “rules” in OWA.

¹³ OWA Light lacks some non-critical features such as hotkeys, drag and drop, and right-click. In your calendar, you have only “Day” view available. You cannot view week or month. To the credit of OWA Light, many of these features are not available in any competing product either. For example, the only web client that supports Drag & Drop is OWA for IE6+.

¹⁴ I benchmarked these options: (1) Outlook 07 with Exchange 07. (2) Outlook 07 with Gmail IMAP. (3) Outlook 07 with Kerio outlook connector. (4) Outlook Express with Gmail IMAP. (5) Entourage 08 with Exchange 07. (6) Entourage 08 with Gmail IMAP. (7) Entourage 08 with Kerio IMAP. (8) Mail.app with Gmail IMAP. (9) Mail.app with Kerio IMAP. The results were: Outlook 07 sync completed 50-70 messages per second, while all other products completed 3-12 messages per second. In all tests, my personal mailbox was used. So my comparisons are valid compared against each other, but may not match some other user’s results, if another user repeats these tests.

¹⁵ During the above mentioned benchmarks, there were connectivity problems isolated to: Google IMAP, Google CalDAV, and Kerio Outlook Connector. The most obstructive connectivity problems came from Google IMAP. When Google IMAP stops responding, it affects all IMAP clients for that user account, and the only workaround is to quit trying for an unknown period of time – typically 30 minutes or so. Google support could offer no help. The only Kerio Outlook Connector connectivity problems happened during long periods of high volume transfer. The workaround for Kerio Outlook Connector is to transfer a few hundred megs, restart Outlook, transfer a few hundred more megs, etc.

¹⁶ In Entourage 08, there are complaints of fidelity problems. Users create an email or calendar event with Entourage, and then try to see it with another client such as Outlook or iPhone or OWA, only to find the clients are not in sync. The item may not replicate at all. It may replicate with duplicates. Also due to protocol design limitations in Entourage 08, some non-critical features such as “Out Of Office” are not available and must be completed via OWA Light instead – that is *if it exists* in OWA Light. So far, nothing has been identified which is unavailable in both Entourage 08 and OWA Light.

¹⁷ Entourage EWS Beta uses the same protocol as Outlook. This is supposed to improve Entourage performance to match Outlook, enable the unavailable features such as Out of Office, and resolve the fidelity issues. In short, this new version is promised to be equally or nearly equally as functional as Outlook. The promise has not yet been delivered.

¹⁸ Problems have been identified with the Exchange IMAP engine compatibility with products such as Mail.app. It generally works, but many users complained of ridiculously slow performance (below 1K/sec) when accessing messages that have attachments. A frequent (yet correctable) misconfiguration does not correctly map “Sent Items” to “Sent Items” and so on. There are complaints that “Mail.app To Do simply does not work with Exchange Tasks.” No further investigation was done. There may be a solution.

¹⁹ Crossover support for Outlook 2007 is “bronze.” “This application installs, runs, and can accomplish some portion of its fundamental mission.” The following issues are reported in the Codeweavers Outlook 2007 forum: Can’t see free/busy. Can’t get autodiscover to work. Instant search is not functional (must use traditional search). Problems reading mail with a digital certificate.

²⁰ Kerio webmail search can only search on To, From, and Subject. It cannot search message bodies.

²¹ Kerio outlook connector does not allow outlook to search via either traditional or instant search. When you search for mail, outlook will hang until the search is complete. There is no spinning search glass. The results do not appear during the search. Outlook cannot do anything else until the search is complete.

²² Kerio Outlook Connector minor problems: (1) When a reminder pops up, if you open it, you cannot see the “Notes.” If you open an event in the calendar, and you open just this occurrence, you cannot see the “Notes.” If you want to see the Notes, you must open it from calendar, and open the series. (2) When switching from folder to folder, occasionally there’s a small amount of jitter or laginess. Enough to notice and feel slight annoyance, but not too bad. In fact ... I think this is true in general for basically any operation you might be doing. (3) When performing your initial sync, for uploads only, it is extremely memory intensive, and suffers memory leakage. Sometimes the import cannot complete. The workaround is to upload a few hundred megs at a time, and restart outlook in between separate imports.

²³ iCal using CalDAV seems to be improving, but it still has some important problems. A few months ago, I tested this out and it was a miserable failure. CalDAV only worked when you were online (showed blank calendar otherwise), it had no concept of inviting other people, no ability use addressbook (obviously) and major problems syncing. However, today I’m revisiting it, and most of that is cleared up. Today, my iCal still works when the network is down. I am able to invite others, from my addressbook, and view their free/busy. I am having connectivity problems however – For the last 24 hours, my iCal is silently spinning its wheels (spinning icon in the corner is the only indicator.) It cannot connect to CalDAV server anymore, since I created an event with attendee invitations in it. It is not able to sync, and reports no errors other than the spinning icon in the corner. At least all of the invitation/attendee controls exist – but the behavior is inconsistent. I created an event and invited somebody outside the domain (my home account). The invitation and everything worked perfectly. So then I created a couple of users (test1, and test2) inside the domain, and attempted for my account and these users to invite each other to events and so on. The invitations were never received, and the attendees never added to the event. The system silently discarded the invitations. I figured out the cause was a failure of addressbook lookup (invalid:nomail), figured out how to avoid the problem (addressbook contact drag & drop), and re-invited the attendees. This time, iCal just stays with a spinning progress indicator, silently not sending the invitations. Once in this state, it’s stuck permanently – iCal is now totally broken and unable to connect to CalDAV. Even deleting the event does not solve it. I think I have to delete and recreate my CalDAV account.