

White Paper

**Keeping Worlds in Sync and in Control
with
MailShadow[®] for Google Apps[™]
Professional Edition**

By

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Introduction

Today's corporate IT departments provide an array of email services for employees using a multi-vendor mix of internally owned and managed application servers like Microsoft Exchange Server and Research in Motion's BlackBerry Enterprise Server. They deploy Microsoft Office Outlook 2003/2007 to user desktops/laptops, and issue employees handheld smartphones, like BlackBerry, Treos, or other devices. IT manages everything on behalf of the company while attempting to keep all these systems operating, available, backed up, archived, and "discoverable" to meet legal and compliance requirements.

At the same time, employees maintain separate personal mailbox accounts "in the cloud" on Google's Gmail, Google Apps, Yahoo, and other free email service providers, where they also keep separate lists of contacts and manage their personal calendars. Employees do unpredictable things. They buy the newest smartphones like the T-Mobile G1 that are not company sanctioned, and expect the IT department to just "get my email to my phone." And we, as denizens of today's Internet, are forced to "context-switch" between these two worlds, these two disparate data management systems. We struggle to keep our minds wrapped around the now rather quaint notion that our personal and professional tech toys can be cordoned off from each other in this manner when the lines have become so blurred as to become nearly irrelevant.

Case in Point: When the company's email system goes down, as they often do, employees attempt to continue conducting business by using their personal email accounts to send and receive corporate messages and documents. We've all done it. The problem with this approach is threefold for the individual and for the corporation:

1. The personal email account has none of the corporate contacts, calendar, and email data present in the mailbox in advance of the outage, or at best, has stale data from a previous, point-in-time data import. Our most current working data set is not there.
2. Messages sent from the personal account appear as just that, personal email. This looks unprofessional to the recipient of the email sent when Exchange is down.

3. Those personal email accounts are not company assets. They are not under corporate IT management and control, and thus are not available for discovery or retention for corporate recordkeeping purposes for compliance.

Enter MailShadow for Google Apps

MailShadow for Google Apps, Professional Edition synchronizes email, contacts, and calendar data between one's Microsoft Outlook/Exchange corporate mailbox, and one's Google Apps or Gmail mailbox and Google Calendar. It does so in the background, automatically, continuously, in real-time, and bi-directionally. By synchronizing one's Exchange mailbox data with Google Apps, the user can make Outlook send/receive email through either the company Exchange server, OR through the Google back-end system. And, the Google accounts can be configured such that the sender looks like a company sender in the email **From:** field. That is, an email composed in Outlook 2003 or 2007, sent by John Smith at Acme.com, can be sent from Outlook and gets routed through Gmail, with *jsmith@g.acme.com* or even *jsmith@acme.com* as the sender, even when the Exchange server is down!

Thus, MailShadow for Google Apps, when coupled with a company-provided and managed Google Apps Standard or Premier account, provides an effective, low-cost, geo-diverse email continuity and e-discovery solution for small-to-medium businesses. Because MailShadow performs continuous replication of email data in real time, your two mailboxes are always in sync with each other. This always-on protection provides major benefits:

1. No failover process or sequence, like in clustering, high availability or disaster recovery approaches. Thus, no failure in a failover process is possible, since there is none.
2. No "failover time" or "recovery time" in the traditional sense. It is effectively zero.
3. Almost zero data loss, even in the event of a catastrophic Exchange failure or internal site disaster.
4. The Outlook user sees a unified Inbox, Contacts, Calendar, and Sent Items folders that are synched to BOTH back-ends in the background, in real-time.
5. The familiar Outlook user experience is retained even during an Exchange outage or site disaster. No switching over to another client/interface during a crisis or outage to access data.

If the company's Exchange server goes down, as they sometimes do, the user can continue sending and receiving email FROM WITHIN OUTLOOK, through the Google back-end. If the connection to the Google back-end goes down, the user can send/receive email from within Outlook through Exchange.

Finally, the company can exercise governance and control over its Google Apps environment and manage archival and retention policies. Employees can use the powerful Google search functionality for e-discovery of corporate email records, all in accordance with corporate governance and compliance needs.

This collaborative ecosystem requires a new way of thinking about corporate IT controls, compliance, and e-discovery in a world where cloud computing is becoming more and more acceptable. With *MailShadow for Google Apps* coupled with Google's recent achievement of SAS 70 Level II certification in November, 2008¹, it is now feasible for corporate IT to provide a hybrid service model that combines internally managed PLUS in-the-cloud assets, and delivers world-class email continuity and e-discovery at a lower cost than ever before.

What about those new Google Android Smartphones?

Want your corporate email and data on your new T-Mobile G1 smartphone with the Google Android operating system? No problem. With MailShadow for Google Apps, you can get your corporate Exchange/Outlook email, contact, and calendar data on your new G1 Android phone. Because MailShadow for Google Apps synchronizes your corporate Exchange/Outlook mailbox data to Google Apps/Gmail, and because Google pushes that data to the G1 (Android) phone, MailShadow for Google Apps provides one of the only ways to move your corporate email, contacts, and calendar data onto your new G1 smartphone.

IT departments can leverage MailShadow for Google Apps to provide corporate email data synchronization support to executives and other employees purchasing G1 smartphones and demanding their corporate email, contacts, and calendar data on their new G1s.

Mass Migration Mitigation

Many organizations are looking to make a complete switch from internally-managed email systems based on Microsoft Exchange, to email in-the-cloud from Google Apps or another corporate email service provider. This makes sense for many organizations, especially small to medium size ones (SMBs), where it is difficult to justify the cost of one or more full-time IT employees just to manage messaging systems and servers. Further, ageing email servers running Microsoft Exchange 2000, 2003, or even Exchange 5.5, need replacing, and the cost of acquiring and migrating to a 64-bit Exchange 2007 Server platform can put a strain on SMB IT budgets.

Faced with shrinking IT budgets during a period of economic contraction, moving email to the cloud becomes an even more attractive alternative for SMBs. A Google Apps Standard account (free) provides 6.7 GB of storage space per mailbox, while a Google Apps Premier account at \$50/year provides 25 GB. With a Premier account, one also gets Google Docs and Google Sites, an alternative to an internally managed SharePoint and file server for document storage, management, and collaboration.

But migrating your users to the cloud can be difficult – both for the IT department as well as for the end users themselves, psychologically. There are many differences between the

¹ <http://googleenterprise.blogspot.com/2008/11/sas-70-type-ii-for-google-apps.html>¹

Outlook/Exchange world we have become accustomed to, and the world of Google Apps, chief among which are:

1. Outlook/Exchange has folders visible in a vertical tree hierarchy. Gmail has “Labels” with no visible vertical tree hierarchy in the web browser.
2. Outlook is a relatively rich, polished client experience. Google Apps/Gmail is a web browser interface with no drag-and-drop functionality.

Expecting your end users to embrace and accept these differences as an “IT-cramdown” in a knife-edge cutover over a weekend is NOT the best way to engender warmth and happiness amongst your end users, particularly your executive end users.

Enter MailShadow for Google Apps – Allows for Co-Existence and User Self-Orientation

With *MailShadow for Google Apps, Professional Edition*, bi-directional synchronization between both back-ends (Google and Exchange) is provided continuously and in real-time. End users can continue using Outlook against Exchange, letting MailShadow sync to (and from) Google Apps in the background. They can bring up the Gmail web interface side by side with Outlook on their desktops/laptops, and see how changes to items in one interface are reflected in the other in real-time. Users can elect to send email from within Outlook, either through Exchange OR through the Google back-end, without ever leaving Outlook.

Most data migration tools are one-time, uni-directional applications which copy all data over once and then require a knife-edge cutover for the user. *MailShadow for Google Apps Professional Edition* allows users to co-exist in both back-end worlds concurrently and use either Outlook OR the Google Web interface to access, send and receive email, and manage contacts and calendars. Each user can notify the IT department when they are ready to be switched over, once they are comfortable and accustomed to their new application. Thus, MailShadow eases the psychological transition and reduces friction with the IT department.

How Does it Work?

On the Desktop/Laptop: *MailShadow for Google Apps Professional Edition* installs on virtual machines or real systems running Windows XP or Vista, and requires Microsoft Outlook 2003 or 2007 be installed. **The user must be running Outlook with a “cached Exchange mode” Outlook profile against an active Exchange server.** MailShadow runs within the Outlook process and also has a system tray component for configuration and control. Once installed and configured, it synchronizes the contacts, calendar, and email data from the user’s Outlook OST file (associated with the user’s cached Exchange Mode Outlook profile) with the user’s Google Apps/Gmail account.

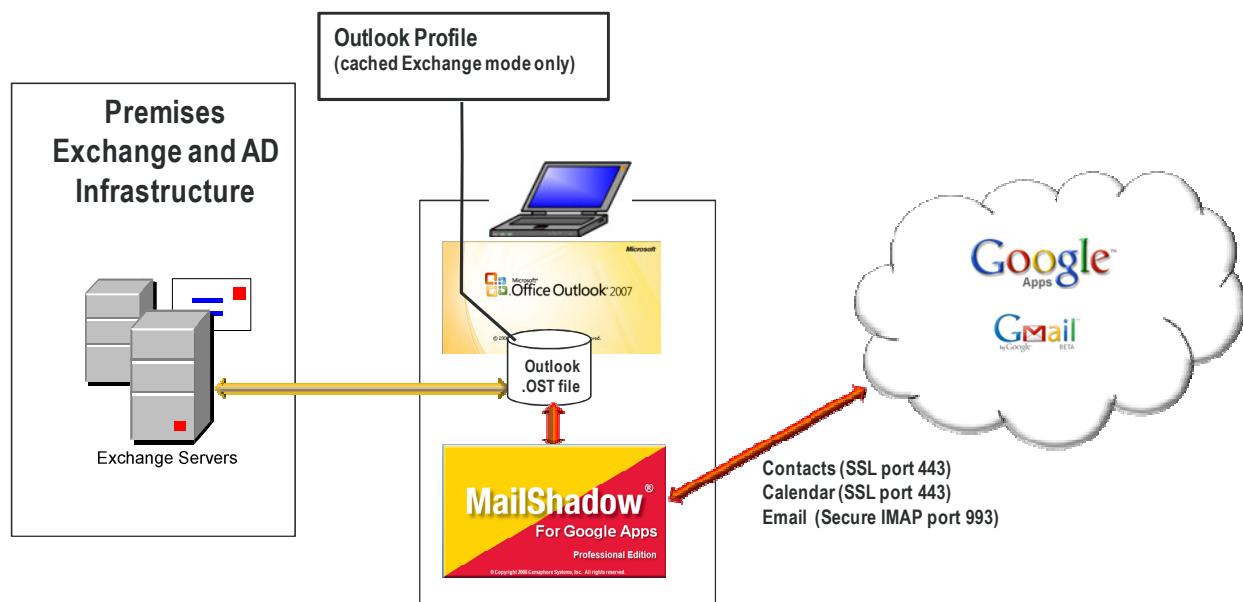


Figure 1. MailShadow for Google Apps Bi-Directional Data Synchronization

Exchange – Google Mapping, Translation, and On-Going Synchronization: MailShadow for Google Apps Professional Edition performs the mapping and translation between the two back-end systems, Microsoft Exchange and Google Apps, and presents the user with a unified Outlook experience. In this context, “unified Outlook experience” means that the user can stay in Outlook 100 percent of the time if so desired, send and receive email, and manage contacts and calendar data, without having to go to the Google Apps/Gmail/Google Calendar web interfaces.

Outlook email folders, such as *Inbox* and *Sent Items*, are mapped to their equivalent Google “Labels” on the Google side, and vice versa. Calendar items are synced between the default Outlook calendar and the user’s Google Calendar. The Outlook default *Contacts* folder is synced with the user’s Google Contacts.

A change to an item made within Outlook (e.g., a message going from an Unread to a Read state) gets synced to its mapped item over on Google (e.g., changes from Unseen to Seen). In turn, a

change to an item using the Google web interface gets synced back to its mapped item in Outlook, and then Outlook itself syncs the change into the Exchange Server.

If desired, users can bring up Outlook AND Google Apps/Gmail web interfaces side by side on the same machine and watch as changes made to items in Outlook, like, say, a meeting time change, get synced over to the corresponding meeting on the Google Calendar, in a matter of seconds (after the initial data synchronization run has been completed).

How do I Deploy it for Just Me?

An individual can try or buy MailShadow for Google Apps directly from the www.cemaphore.com website. Within a single-user license subscription, one can install MailShadow on a single Windows XP/Vista system, such as the one normally used for day-to-day Outlook activity, as depicted previously in Figure 1.

Alternatively, as shown in Figure 2 below, one can also install MailShadow on a different device than the primary one used, in order to synchronize one's data in the background via a computer that is always connected to the network.

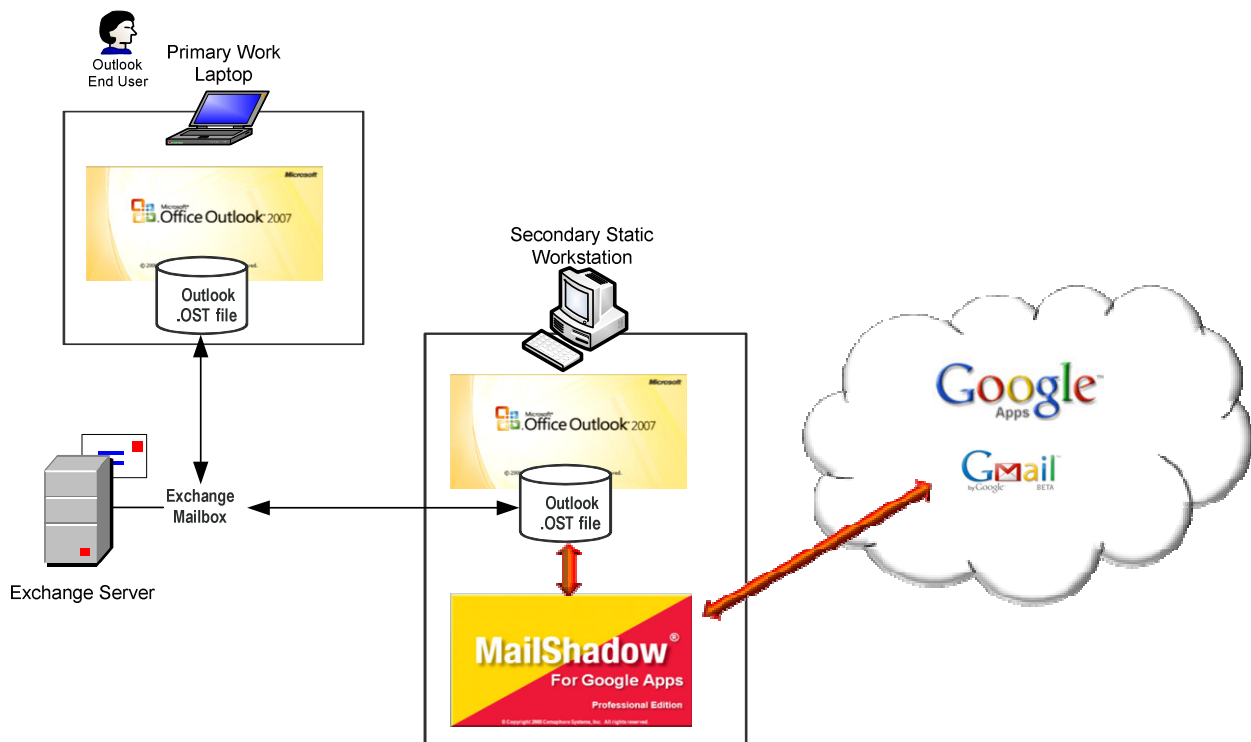


Figure 2. Running MailShadow for Google Apps on a Secondary Workstation

In either case, MailShadow for Google Apps uses SSL port 443 connections for synchronizing contacts and calendar data to/from Google, and for email, uses secure IMAP port 993 to

imap.gmail.com. Thus, these outbound (from the enterprise) firewall ports must be open for outbound connections to Google, in order for MailShadow to work properly.

How do I Deploy MailShadow for an Organization?

An organization can try or purchase single and multiple activation subscription licenses and download *MailShadow for Google Apps Professional Edition* directly from the www.cemaphore.com website. The standard download is a self-extracting executable installer package (.exe). Alternatively, an organization can request and purchase an MSI installer package with multiple activations by contacting sales@cemaphore.com. The MSI installer package can be deployed by the IT department to multiple networked user machines via the organization's existing software distribution mechanism, or, via the Active Directory group policy method.

As shown in Figure 3 below, IT departments can also configure multiple virtual machines to synchronize data between Exchange and Google in the background, without end user involvement. This scenario is particularly useful for an email continuity or Exchange migration solution, where involvement of Outlook end users in the actual use of MailShadow for Google Apps is not desired or feasible.

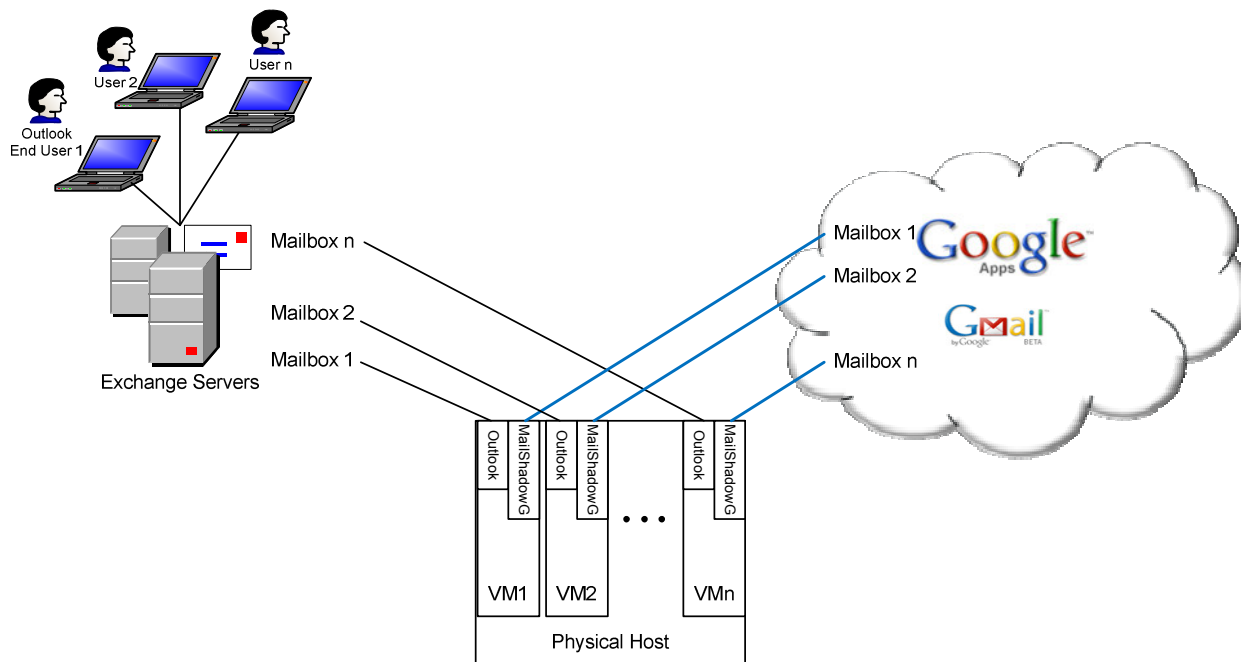



Figure 3. Synchronizing Multiple Mailboxes in the Background Using Multiple Virtual Machines

In either case, MailShadow for Google Apps uses SSL port 443 connections to synchronize contacts and calendar data to/from Google. For email, it uses secure IMAP port 993 to *imap.gmail.com*. Thus, these outbound (from the enterprise) firewall ports must be open for outbound connections to Google, in order for MailShadow to work properly.

How do I Configure and Control MailShadow for Google Apps?

MailShadow for Google Apps installs a dual-flag icon  on the Windows desktop system tray as shown in Figure 4, and can be configured to separately enable/disable email, calendar, and contact data type synchronization. One can also choose how far back to synchronize one's email data, based on age.

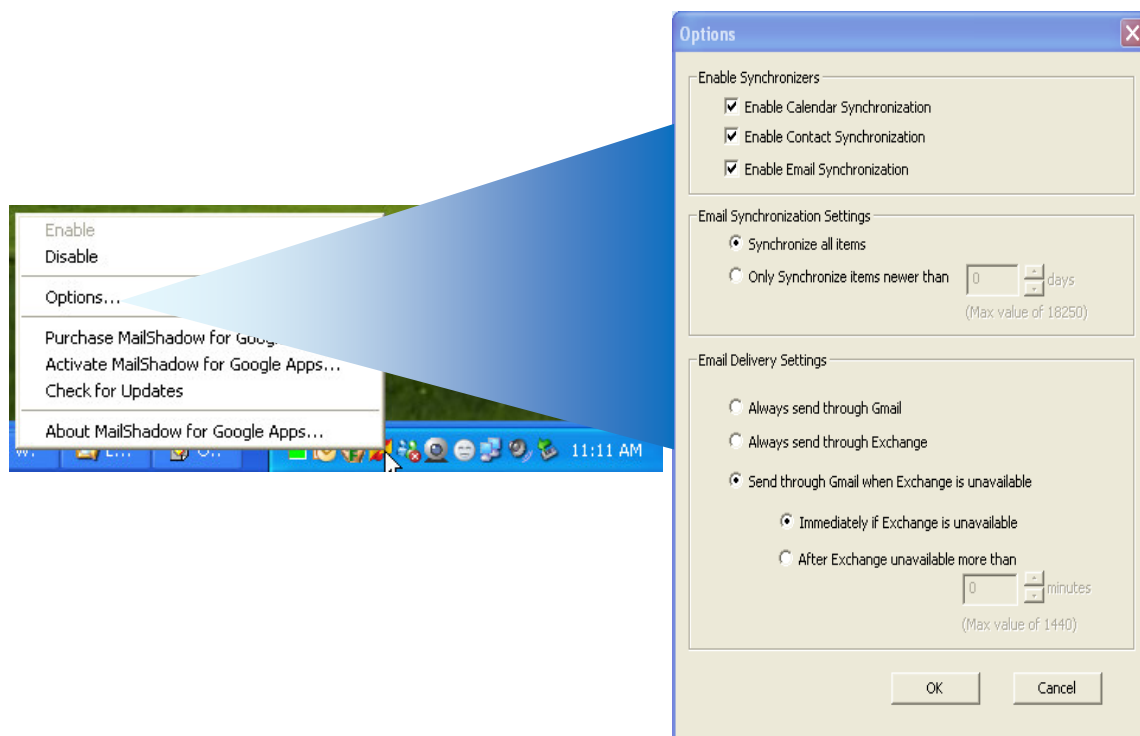


Figure 4. MailShadow for Google Apps Configuration/Options

Further, one can configure email delivery settings (as shown in Figure 4 above) to alternately send outbound email through Gmail if Exchange becomes unavailable, or to always send through

either Exchange or Gmail. *MailShadow* will automatically detect Exchange unavailability and pop up a user prompt, as shown in Figure 5, on whether one wishes to send through Gmail if Exchange is unavailable and there are messages waiting to be delivered in the Outlook's *Outbox* folder.

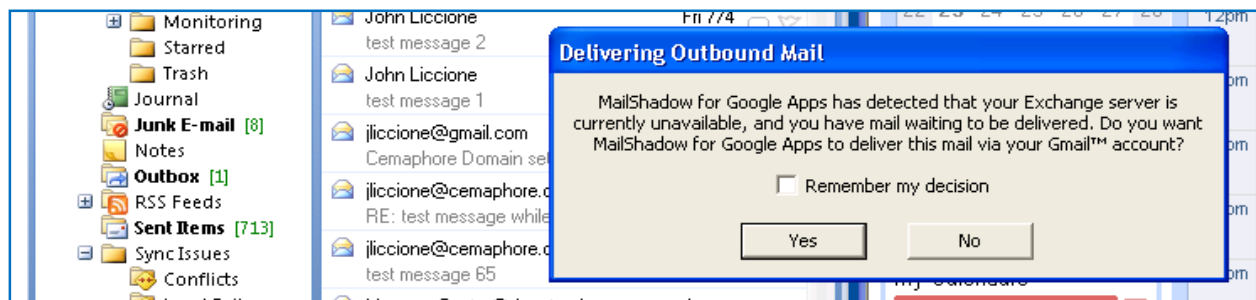


Figure 5. Exchange Unavailability Detection and Alternate Email Delivery Notification

Conclusion

In conclusion, *MailShadow for Google Apps, Professional Edition*, when coupled with a Google Apps Standard or Premier account, or even with a personal Gmail account, can be used to provide email continuity for your Exchange/Outlook mailboxes and users by synchronizing critical email, contact and calendar data between internal Exchange Servers and the Google Apps platform.

It is also a powerful co-existence migration tool to migrate end user data to the Google cloud with minimum end user downtime. To ease transition between two worlds, users can familiarize themselves with the Google Apps environment from either within Outlook or the Google web interfaces, or both at the same time. Because synchronization is bi-directional, real-time, and continuous, users can co-exist in both back-end systems for as long as necessary or permanently if desired.

Finally, MailShadow can synchronize corporate Exchange email, contacts, and calendar data through Google to the newest Google Android equipped handheld devices such as the T-Mobile G1 smartphone.

MailShadow for Google Apps, Professional Edition, provides IT organizations and individuals with the means to achieve continuous availability for messaging and personal information management. MailShadow enables portability of messaging content, user-friendly migration, and universal email access from anywhere.