

Microsoft

Fact-Based Comparison of Hosted Services

Google vs. Microsoft

January 28, 2010

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Contents

Executive Summary	5
Service Capabilities	5
Security	5
Support	5
Transition and Migration	6
Cost	6
Communications Services and Capabilities: E-mail and IM	7
Outlook Client Support	7
Instant Messaging and Presence	9
Offline Capabilities	9
Mobile Access	11
Security	12
Data Centers	12
E-mail and IM Security	13
Mobile Device Security	13
Support and Service Level Agreements	14
Downtime Definition	14
Third-Party Widgets and Undocumented Features	14
Compensation vs. Financial Backing	14
Cost Comparison	15
Training	15
Integration	15
Downtime	16
Predictability	16
User Transition	17
Content Migration	17
User Training	19
User Adoption Issues	19
Conclusion and Recommendation	20
Define a Software Plus Services (S+S) Vision	20
Bring Groups Together	20



Conduct a Migration Design Session.....	20
Select Vendors Objectively	20
Start Small and Weigh the Benefits.....	21
Links and Resources	22
Customer Case Studies.....	22
Customer and Analyst Quotes.....	23
Microsoft Links	23

Executive Summary

Current economic conditions are prompting more chief information officers (CIOs) to explore cloud computing as a way to deliver cost savings and increase IT agility. Many companies use cloud computing to avoid buying, deploying, and managing hardware and software. Companies can let a hosted services provider run selected systems or applications in the companies' infrastructures from off premises. Industry observers say that cost savings related to hosted cloud services typically range from one-third to one-half of an organization's current IT costs (see related article). These kinds of savings are always appealing, especially with today's economic reductions and IT budget optimizations.

This white paper showcases two approaches for cloud-based messaging (for example, e-mail) and collaboration solutions. This white paper compares Microsoft® Business Productivity Online Standard Suite (BPOS) offering to Google Apps Premier Edition (GAPE) in terms of true business value and cost differences. The following subsections provide a high-level overview of the findings for this executive summary. The specific details and illustrations are listed within the chapters of this white paper.

- Service Capabilities
- Security
- Support
- Transition and Migration
- Cost

Service Capabilities

The Microsoft BPOS offers organizations the familiar and easy-to-use e-mail interface and personal information management of Microsoft Office Outlook®. Microsoft BPOS offers unified communications capabilities that provide integrated presence and instant messaging (IM). Users can take advantage of rich productivity applications to edit documents offline, and to perform simple editing on their mobile devices. In contrast, for corporate users, the Google offering does not provide the full feature set of calendaring and e-mail capabilities, such as effective offline features (especially on mobile devices) rich document formatting, or a comprehensive collaboration solution.

Security

Microsoft is committed to industry-leading security and interoperability principles, including open connections and support for standards and data portability. On top of this commitment, Microsoft delivers layered security, including rights management. Google does not support rights management-based document protection. GAPE also lacks precise control over mobile devices, including such features as PIN enforcement and remote wipe.

Support

Microsoft offers a financially-backed service-level agreement (SLA) of 99.9 percent—with no downtime restrictions and around-the-clock multilingual support every day of the year—which will help mitigate an organization's downtime and reduce support costs. Google's version of a financially backed SLA does not cover downtime lasting fewer than 10 minutes and provides outage refunds only in the form of service

credits. In addition, the GAPE service offers phone support from Sunday at 5:00 P.M. PST through Friday at 5:00 P.M. PST.

Transition and Migration

To transition to its hosted services as seamlessly as possible, Microsoft provides effective migration tools. Users can work with these tools when moving from current Microsoft Exchange environments as well as when switching from Novell, IBM Lotus Notes, and other systems.

"In a five-month timeframe, we migrated roughly 30,000 people to a hosted [Microsoft] solution, without impacting their business or interrupting their day-to-day operations."
Esat Sezar, CIO, Coca-Cola Enterprises

Further, Microsoft business partners can offer unique and valuable services for enterprises wanting to transition to the cloud. For example, one partner offers a speedy transition called "Weekend Express," which can move up to 5,000 IBM Lotus Notes e-mail users and their associated messaging data to the BPOS-hosted environment over a weekend.

By comparison, Google provides only simplified, IT-driven data transfer capabilities for moving e-mail and some contact and calendar data to Google's hosted environment. For Exchange customers, this procedure ignores archived mail, encrypted and rights-managed e-mail, global distribution lists, tasks, and shared folders; the end user must install the Google Apps Synchronizer application and move much of the data manually.

Cost

While the upfront cost of GAPE appears to undercut that of BPOS, this perspective can be deceiving. GAPE lacks a financially backed SLA, rights-based document protection, and other security features. It also forces customers to retain their own Blackberry BES servers on-premises, fails to provide precise control of mobile devices, and does not provide full transition and migration capabilities. BPOS provides seamless integration with customers existing Microsoft Office applications and Microsoft SharePoint® environment to provide enhanced collaboration capabilities that are unavailable with GAPE.

By moving to Google's hosted services, organizations may encounter additional IT support complexity, reduced user productivity, and greater expenses than initially anticipated. That is, organizations may get less functionality and end up paying more.

By contrast, the Microsoft BPOS offering helps maintain user productivity with security and compliance technologies as part of the offering. In addition, organizations can choose to transition to BPOS in a hybrid model while retaining some services locally. As you will discover throughout this white paper, not all cloud based offerings are created equal.

Communications Services and Capabilities: E-mail and IM

Organizations depend on rapid communications through e-mail and, instant messaging (IM) that include awareness of a user's availability and location and the ability for users to work effectively while offline and on mobile devices. Functionality and flexibility of communications services are imperative to successful business. At the same time, managers are under intense pressure to do more with less while providing tools that give users opportunities to increase efficiency. As key cost factors and essential business success factors, e-mail and IM are among the communication focal points to consider when you are deciding on a hosted service provider.

Outlook Client Support

Microsoft Office Outlook is often the preferred mail client in organizations of all sizes. Therefore, organizations that want to use existing deployments and decrease training costs must understand the support requirements for Outlook. Google advertises its integration with Outlook as a major selling point for its Gmail services. However, the integration is disjointed.

Gmail originated in consumer services, so it lacks many business-level features required by organizations. Gmail services can only partially synchronize data with Outlook, and in some cases, require users to manage two different inboxes. Gmail can synchronize e-mail, the primary calendar, and Outlook contacts, but it lacks synchronization of Outlook tasks, notes, journal entries, follow-up flag dates, distribution lists, rich formatting in contacts, and more.

When Google synchronizes data, the synchronization is only partial. For example, in the Outlook Calendar, optional attendees, calendar attachments, and rich text formatting are not synchronized. This reduces the functionality of Outlook to match the capabilities of Google's less-capable, browser-based interfaces.

For IT, these limitations are on top of manually deploying client-side connectors on every PC, as well as setting up a server to synchronize LDAP with Google Apps for a Global Address List. Further, users cannot use or search this mail directory offline. All this complexity has an adverse impact on productivity and generates higher costs associated with user training. Additionally, the Google Apps SLA does not support IT deployment of new software.

From a flexibility perspective, only Microsoft Exchange-hosted services enable organizations to run Exchange in the cloud, on premises, or in a hybrid manner, with a mix of hosted and on-premises solutions. Also, the functionality of Outlook is exactly the same whether Exchange is hosted in the cloud or on premises. This identical functionality allows users to enjoy the same rich functionality of Outlook regardless of where Exchange is hosted, enriching and simplifying the user experience and reducing the overall cost of maintenance and support.

Figure 1: Microsoft Outlook Client Integration Comparison Table

Outlook Feature Supported	In Exchange Online	In Google Apps	Comments
<i>E-mail (messages with read state)</i>	Yes	Yes	
<i>Mail folders and Categories</i>	Yes	No	Folders are labels in Gmail. Categories are not supported.
<i>Attachments and rich formatting</i>	Yes	Partial	Executable attachments (including self-extracting .zip files) are not supported in Gmail. Rich formatting layout is altered when sending to non-Gmail users.
<i>Flags, reminders, and importance</i>	Yes	No	Flags are stars in Gmail and can't be sent to others. Follow-up reminders and priority are not supported.
<i>Inbox rules</i>	Yes	Yes	
<i>Signatures</i>	Yes	Partial	One signature only
<i>Delegations and sharing</i>	Yes	Partial	Full access to mailbox only: "work on behalf"
<i>Calendar Items</i>	Yes	Yes	Multi-calendar support
<i>Free or busy status</i>	Yes	Partial	No Tentative or Out of Office status; only "busy" or "free."
<i>Attendees and responses</i>	Yes	Partial	No "Optional" attendees, no "Tentative" responses. No verbose responses to invitations in e-mail.
<i>Event reminders</i>	Yes	Yes	
<i>Attachments and rich formatting</i>	Yes	No	No attachments or rich formatting in calendar events
<i>Sharing and delegation</i>	Yes	Yes	
<i>Personal Contacts</i>	Yes	Yes	
<i>Contact folders and categories</i>	Yes	No	One group for all contacts
<i>Personal groups and D/Ls</i>	Yes	Yes	
<i>Flags, dates, and reminders</i>	Yes	No	Not for contacts
<i>Rich formatting and notes field</i>	Yes	Partial	No rich formatting. Notes field must be smaller than 16k.
<i>Contact sharing</i>	Yes	No	
<i>Global Contacts (Global Address List)</i>	Yes	Partial	Groups and Distribution Lists are not supported for lookup; the only contact fields are Name, E-mail, and Address
<i>Notes, Tasks, Journal</i>	Yes	Partial	Tasks are supported with a very basic user interface. Notes and Journal are not supported.

Instant Messaging and Presence

Google offers a basic IM and “PC to PC” calling system called Google Talk, which is available as a standalone Windows application—the only part of Google Apps that has a downloadable client—or through the Web—the Web version of Google Talk is integrated with Gmail. Built on the open Extensible Messaging and Presence Protocol (XMPP) for IM, Google Talk connects with other XMPP-based IM networks so users can chat beyond the bounds of their organization; however, Google Talk has only limited compatibility with mainstream IM solutions.

In user presence, Google Talk does not integrate with other Google products, so it cannot be used as a central management point for user availability. That is, there is no automated set of rules related to how contacts can be communicated with based on their presence.

Microsoft uses its IM functionality in a more innovative and integrated way: IM functionality is both a messaging vehicle and a presence indicator in Outlook and other Microsoft applications. This indicator shows who is online and if they are available or busy at a given time. The presence of users who are part of an organization’s Active Directory® infrastructure is tracked in all communications and documents. Furthermore, users can click on a presence indicator and invite people to chat without leaving the context of the current application. Features like the presence indicator are possible because Microsoft designs applications to be integrated from the ground up, improving user productivity.

Additionally, with Microsoft federated services, users can collaborate with people outside their organizations. Users can include any partners and customers with whom the organization has a federation agreement. This functionality further enhances productivity because it allows users to work with other organizations closely associated with their organization.

Offline Capabilities

As a cloud-based solution provider, Google understands that offline capabilities are a big gap in the functionality of its solutions. Users are less productive when they cannot connect to the Internet. Google’s answer to this problem is Google Gears, which provides offline caching capabilities for a limited set of Google online services. This approach creates a couple of problems.

First, Google Gears provides only partial offline capabilities. For example, while it provides offline editing of word processing documents in Google Apps, it does not do so for spreadsheets or presentations; users can only view them. Furthermore, users cannot create new Google Apps-based documents, spreadsheets, or presentations when offline. Perhaps most seriously, Google Gears is a browser add-on that must be deployed to every user, and the data is stored locally in an unencrypted state. These are all very serious limitations as shown in the features overview table below.

Source: <http://docs.google.com/support/bin/answer.py?hl=en&answer=92254>

Figure 2: Google Gears—Offline Function Availability by Application

	Documents	Spreadsheets	Presentations	Google Apps**
View offline	Yes	Yes	Yes	No
Edit while offline	Yes	No	No	No
Create new*	No	No	No	No

Figure 3: Google Gears—Detailed Offline Feature Support by Application

Feature	Supported?	Comments
E-Mail		
<i>View and read</i>	Partial	Not all mail is available by default. Users must manually select which mail items will be available offline.
<i>Compose and create new</i>	Yes	
<i>Attach files</i>	Yes	
<i>Spell check</i>	No	
<i>Add and edit contacts</i>	No	Address “auto complete” is available based on conversation history.
Calendar		
<i>View and read</i>	Yes	
<i>Edit</i>	No	
<i>Compose and create new</i>	No	
Tasks	No	Not available
Google Docs		
<i>View and read</i>	Yes	
<i>Edit</i>	Yes	To sync offline changes, users must sign in with same computer, same browser, and same protocol (http vs. https).
<i>Compose and create new</i>	No	Users can open blank documents before going offline, then populate later.
<i>Spell check</i>	No	
<i>Assign collaborators and permissions</i>	No	
Spreadsheets		
<i>View and read</i>	Partial	Doesn't work with any version of Microsoft Internet Explorer® over a secure connection (https).
<i>Edit</i>	No	
<i>Compose and create new</i>	No	
<i>Spell check</i>	No	
<i>Assign collaborators and permissions</i>	No	
Presentations		
<i>View</i>	Yes	
<i>Edit</i>	No	
<i>Compose and create new</i>	No	

<i>Spell check</i>	No	Not a feature of Google Presentations
<i>Assign collaborators and permissions</i>	No	
Reader		
<i>Read or mark as read</i>	Partial	Text only: images and video will not be downloaded. Items will be marked as read.
<i>Tag</i>	Yes	
<i>Add new feed</i>	No	
<i>Share notes or articles</i>	No	

With Microsoft's solutions, you can have complete create, edit, and view capabilities whether you are online or offline. What's more, by using Microsoft SharePoint 2010, you can make changes to you offline documents and synchronize them when you are online. And these synchronization operations are efficient, even over low bandwidth connections, so that only the changes that were made while offline are pushed over the network. Microsoft takes this one step further with its mobile interfaces, which allow you to view documents with full fidelity and provide on-device editing functionality. As a result, you can view and edit documents not only when you are offline but even when you are on the go using just a smart phone.

Mobile Access

In today's increasingly mobile world, more employees need seamless access to more types of communication and collaboration information,—including e-mail, calendar, contacts, tasks, and shared content—from virtually anywhere, at any time.

Google's mobile solutions vary depending on device type. Google provides over-the-air, mobile access to Gmail-based e-mail, contacts, and Google Calendar data on Apple iPhone, Google Android, and Windows Mobile devices through a beta service called Google Sync. Google also supports other devices, including Research in Motion (RIM) Blackberry and Nokia S60, with varying levels of access to its hosted data. Some devices have native clients, while most "feature phones" must rely on less functional, Java-based applications or mobile Web versions of the services.

Microsoft Online Services includes two hosted services that users can access through smart phones: Microsoft Exchange Online and Microsoft SharePoint Online. Users can access both Exchange Online and SharePoint Online through a variety of devices, including Microsoft Windows Mobile® 6+ devices, RIM BlackBerry devices, and a growing collection of other devices that are compatible with Microsoft ActiveSync®. ActiveSync technology is quickly becoming the standard for connecting mobile devices to Exchange, the most popular corporate messaging server.

ActiveSync enables mobile, over-the-air access to e-mail messages, schedules, contacts, tasks, and other Exchange Server mailbox data. When using Windows Mobile–based phones, or ActiveSync–enabled mobile phones, users can more easily gain mobile access to the Exchange Server for e-mail messages, voice mail, fax messages, schedules, corporate address book (Global Address List), and tasks. Users can complete their work almost anytime, anywhere, with ActiveSync–compatible devices.

ActiveSync has been licensed by companies like Apple, DataViz, Helio, Nokia, Palm Inc., RemoSync, Samsung, Sony Ericsson, Symbian, and many others.

Security

To meet internal and external regulatory requirements, organizations must control security policies. These security policies require transparency and validation for security tools, including anti-virus and anti-spam, rights management, and policy compliance.

Corporate governance and compliance requirements are complicated, and they differ by country, industry, and other variables. Distributed data centers that host cloud computing solutions can provide quick access to customer information worldwide; however, organizations open themselves to risk if they store important corporate data off-premises, under the control of a third party.

On Google's hosted services, corporate data shares physical disk space with data from other corporations and individuals, creating security and privacy risks. In addition to these risks, companies rely on Google to back up data. Though Google claims to back up, they explicitly state that neither they nor their partners are liable for any data loss. Google executives admit they cannot tell you where your data resides. As Google Enterprise product manager Rishi Chandra noted in an interview, "The idea of data location is a challenge for us." Without access to company data, organizations may have difficulty complying with basic regulations like Sarbanes-Oxley, EU Data Protection, and the Patriot Act.

Microsoft provides more flexible capabilities to help maintain compliance. Microsoft products and services address security at the design level through the Security Development Lifecycle. Microsoft provides security functionality as an integral part of all products, not as an add-on feature. Hosted products from Microsoft integrate with organizations' on-premises Active Directory infrastructures, enabling organizations to manage rights from the group, business application, e-mail, and document levels. Active Directory can be federated with other organizations and used in hybrid scenarios that combine on-premises servers with hosted services.

By comparison, Google's security story is more uncertain. Between July 2004 and August 2008, the company's online services experienced at least 37 security issues that ranged from lost productivity and spam access to inadvertent disclosure of personal information. Security experts may question Google's lack of transparency regarding security.

Data Centers

Microsoft data centers are strategically located throughout the world. Each data center houses a highly reliable complex of equipment that provides seamless connectivity to the Microsoft Online suite of services. This global network of geo-redundant data centers provides around-the-clock access to business-critical collaboration services and helps keep data safe.

Because of data compliance, customization, and flexibility needs, many customers may want to deploy a hybrid approach that combines online and on-premises solutions. Microsoft goes beyond this functionality by providing the flexibility to choose between on-premises and online deployment models by geography, workload, or roles. For example, with this increased flexibility, a company could decide to deploy Exchange Server in its own datacenter for users at a central office. The company could then have users at branch offices subscribe to Exchange Online with BPOS. To enable a seamless experience (for example, a single address book), Microsoft provides a tool to synchronize entries in the on-premises directory with those in the online directory. This synchronization includes changing, adding, or deleting a user and changing user attributes.

For Microsoft SharePoint, customers can deploy one set of site collections on their on-premises Microsoft SharePoint servers and another set of site collections on Microsoft SharePoint Online. Regardless of where users are physically located, they can access the sites from both site collections.

Google has distributed datacenters throughout the world, but have not disclosed where any data is specifically located. Google's online-only option leaves organizations in a security and compliance vacuum when there is an Internet or datacenter outage.

E-mail and IM Security

Google has strong physical security for data center access and basic industry certifications, such as SAS70 Type II, for some of their services. However, corporate security needs are much broader than these basic controls and should be considered holistically. For example, Google does not support the ability to send e-mail between users with rules such as "don't forward" or "view only," which is a major functionality of the Microsoft Information Right Management platform. Without this functionality, users may more easily leak documents or inadvertently share private information.

Google provides anti-spam and anti-virus capabilities through Gmail. However, users can obtain optional phishing and malware protection at additional cost only through integration with the technologies Google purchased as part of Postini.

Microsoft Exchange Online provides in-depth security tools that help protect systems from spam and viruses with Microsoft Forefront™ Security or Microsoft Exchange Hosted Filtering. E-mail can be encrypted with TLS, Kerberos, and IPSec technologies; and like Google, Microsoft provides SAS70 Type II compliance and security. Microsoft Exchange Online uses HTTPS and SSL connections to secure Internet access to the hosted service.

Microsoft enables organizations to optionally take advantage of additional cost services that provide multiple layers of security. For example, Microsoft Exchange Hosted Filtering provides inbound and outbound protection from spam, viruses, phishing scams, and e-mail policy violations by employing multiple filters. Microsoft Exchange Hosted Archive provides an advanced message archiving system for e-mail and instant messages. And Microsoft Exchange Hosted Encryption enables users to send and receive encrypted e-mail directly from their desktops—as easily as regular e-mail—to anyone at any time.

Mobile Device Security

ActiveSync works equally well with both on-premises Exchange Server deployments and Exchange Online, providing users with confidence that data they use on the PC will match the data on their devices, regardless of the environment. Advanced security policies help to secure corporate assets and personal data, whether users access a hosted service or on-premises server via a Web interface, a rich Outlook client, or a mobile device. If a user's mobile device is stolen or lost, the supporting administrators can perform a remote wipe function to remove all data stored on the device.

Like many companies that provide corporate e-mail services, Google licenses ActiveSync. But Google has not fully implemented many core features of the technology, including e-mail support. Customers do not have important controls like PIN enforcement or a consistent way to deploy the service across devices. Remote device wipe is not supported on the Google platform. This may lead to a less secure environment and, potentially, additional costs.

Support and Service Level Agreements

Downtime Definition

Both Microsoft and Google offer 99.9 percent availability guarantees of their hosted services. Microsoft offers a less restrictive downtime policy, more functional clients, and a financially-backed SLA.

Google's SLA defines a Downtime Period: "For a domain, a period of ten consecutive minutes of Downtime. Intermittent Downtime for a period of less than ten minutes will not be counted towards any Downtime Periods."

Thus, any interruption in service of fewer than 10 minutes—no matter how frequently such downtime occurs—does not count as downtime. Google also claims to provide support 24 hours a day and 7 days a week, but will take phone calls only from 5:00 P.M. Pacific Standard Time on Sunday until 5:00 P.M. Pacific Standard Time on Friday. In addition, new features released for Google Apps may fall under the Google Labs umbrella, meaning they are not covered by the SLA.

Microsoft does not restrict downtime and will not give users experimental features in a mission-critical environment. Users can access Microsoft multilingual support by phone 24 hours a day and 7 days a week.

Third-Party Widgets and Undocumented Features

Google Labs provides a forum for developers to submit third-party gadgets and complementary features to various Google online services, including Google Apps. This functionality poses a risk to corporate IT because Google assumes no accountability for the quality or consistency of the Google Labs features.

The Web-based client for Exchange, Microsoft Outlook Web Access, includes familiar features that business users depend on for their productivity. Third parties cannot provide independently developed or unsupported features to hosted versions or on-premises versions of Outlook Web Access without an administrator's consent.

Compensation vs. Financial Backing

According to the Google SLA, Google compensates customers for loss of services by giving them service credits. But Google limits the penalty they are willing to incur due to downtime. Because businesses depend on these services, receiving a service credit may not fully compensate businesses. By comparison, Microsoft Online has a full, financially backed SLA of 99.9 percent with no downtime limitations.

Cost Comparison

While financial considerations are among the many touted benefits of cloud computing solutions like GAPE and Microsoft BPOS, determining the actual savings of these environments can be difficult because of the hidden costs beyond the monthly fees. Organizations must account for the financial implications related to migrating the solution, the capabilities of the solution, user training needs, ongoing support costs, costs related to downtime, and so forth. This section examines some of the major issues that will influence the true cost of each solution.

Training

Google understands that many mainstream business users consider Microsoft Office Outlook to be the key interface through which they communicate with others both internally and externally. Google must support Outlook interaction with its GAPE services to meet its corporate customers' expectations. In addition to only partially supporting Outlook, GAPE forces users to learn new, largely Web-based interfaces for services such as instant messaging and document creation and collaboration. These interfaces have fewer features than related offerings from Microsoft, including SharePoint, Microsoft Office Live Meeting, Microsoft Office Communications Server, and the Microsoft Office productivity suite. Companies that migrate to GAPE will need to train users how to work with the new solution despite limitations to basic functionality such as calendar-based tasks.

Integration

While Google does allow users to create and collaborate on Web-based documents, spreadsheets, and presentations through its Google Docs offering, this solution is immature and compares poorly to Microsoft Office; any corporation seeking to migrate to GAPE will need to continue licensing Microsoft Office on the desktop. This additional cost will need to be figured into the real cost of both GAPE and BPOS, along with any costs associated with the lack of deep integration between Microsoft Office and GAPE. By comparison, Microsoft and BPOS offer useful and efficient integration, not only through Microsoft Outlook, but also with such applications as Microsoft Office Word, Microsoft Office Excel®, and Microsoft Office PowerPoint®, which can work with SharePoint-based storage as seamlessly as the local storage on a user's hard drive.

The importance of integration is not limited to the client. Any e-mail, calendaring, and collaboration capabilities organizations adopt need to integrate with corporate infrastructure as well. Google's offerings are designed to replace an aging, on premises infrastructure or help a new company quickly install its infrastructure. However, Google does not offer any way to integrate its Web-based services with an organizations' on-site servers.

Microsoft supports a hybrid deployment model in which organizations can place part of the infrastructure in the cloud but leave part of it deployed on premises, all while integrating the solutions so that they work as a seamless whole. This provides business continuity and enables organizations to migrate to cloud-based services when applicable.

Downtime

One of the most important issue related to cost is ongoing availability of the hosted services. While both Google and Microsoft promise 99.9 percent uptime of their respective services, only Microsoft provides a SLA that will financially protect organizations in the event of unexpected downtime. And only Microsoft provides a complete offline solution for the applications that its customers use in tandem with BPOS, further minimizing the productivity effects of downtime. Together, these advantages translate into financial gain to customers in the form of reduced administrative and help desk support, improved user productivity, and the ongoing, non-IT activities of your business.

Predictability

Google's online services are well-known for being continually updated. Recently, Google removed the beta tag from its Gmail and Google Calendar services but still reserves the right to update its GAPE-based services hurriedly, and new capabilities are often added via Google Labs, complicating support and possibly confusing users. Microsoft updates BPOS on a predictable schedule, with new capabilities released to customers every 90 days. The most recent quarterly update also included a per-user, per-month price cut.

User Transition

Content Migration

Microsoft is in the forefront of developing open standards and support for standards-based document and messaging formats. Microsoft provides effective migration tools for users switching to Microsoft BPOS from Exchange, Novell, IBM Lotus Notes, and other systems. Microsoft provides a standardized and well-tested process to minimize the impact on productivity during the transition. Microsoft is building its portfolio based on XML to ensure document portability. Google is HTML-based with substantial formatting loss and potential data loss during data and document migrations and conversions.

Figures 4 and 5 compare the fidelity of e-mail and calendaring data migration supported by both BPOS and GAPE. These comparisons are based on the top two messaging platforms currently deployed within enterprises today: IBM Lotus Notes and Microsoft Exchange.

Figure 4: E-mail Data Migration from Microsoft Exchange—Comparison Table

Content or Feature That Can Migrate	Moved to Exchange Online	Moved to Google Apps	Comments
<i>E-mail (messages with read state)</i>	Yes	Yes	
<i>Mail folders and Categories</i>	Yes	Partial	Folders become labels in Gmail. Categories are not supported in Gmail.
<i>Attachments and rich formatting</i>	Yes	Partial	Executable attachments (including self-extracting .zip files) are not copied to Gmail. Rich formatting layout is altered.
<i>Flags, reminders, and importance</i>	Yes	No	Flags become stars in Gmail. Follow-up reminders are lost, as is High and Low priority
<i>Inbox rules</i>	Yes	No	Not migrated to Gmail
<i>Signatures</i>	Yes	No	Not migrated to Gmail
<i>Delegations and sharing</i>	Yes	No	Delegations and sharing settings do not import to Gmail.
<i>Calendar (all calendars)</i>	Yes	Yes	
<i>Free and busy status</i>	Yes	Partial	Out-of-office status is converted to "busy."
<i>Attendees and responses</i>	Yes	Partial	"Tentative" is converted to "accept." "Optional" is converted to "required."
<i>Event reminders</i>	Yes	Yes	
<i>Attachments and rich formatting</i>	Yes	No	Attachments and rich formatting in calendar events do not import to Gmail.
<i>Sharing and delegation</i>	Yes	No	
<i>Personal Contacts</i>	Yes	Yes	
<i>Contact folders and categories</i>	Yes	No	All contacts are imported into one group. Categories are not supported.
<i>Personal groups and D/Ls</i>	Yes	No	

<i>Flags, dates, and reminders</i>	Yes	No	Not migrated for contacts
<i>Rich formatting and notes field</i>	Yes	Partial	No rich formatting. Notes larger than 16k are truncated
Global Contacts (GAL)	Yes	Partial	Groups and Distribution Lists do not copy, and any fields other than Name, E-mail, and Address do not copy
Notes, Tasks, Journal	Yes	No	Do not migrate

Figure 5: E-mail Data Migration from IBM Lotus Notes—Comparison Table

Content or Feature that can Migrate	To Exchange Online	To Google Apps	Comments
<i>E-mail (messages with read state)</i>	Yes	Yes	Mail messages are automatically combined into threads based on subject line.
<i>Mail folders</i>	Yes	Partial	Folders become labels in Gmail. Names are truncated after if over the 40 character limit.
<i>Attachments and rich formatting</i>	Yes	Partial	Executable attachments (including self-extracting .zip files) are not copied to Gmail. Rich formatting layout is altered in the conversion to HTML.
<i>Flags, reminders, and importance</i>	Yes	No	Flags become stars in Gmail. Follow-up reminders are lost.
<i>Inbox rules</i>	Yes	No	Not migrated to Gmail
<i>Signatures</i>	Yes	No	Not migrated to Gmail
<i>Delegations and sharing</i>	Yes	No	Delegations and sharing settings don't import to Gmail.
<i>Encrypted mail</i>	Yes	No	Users must decrypt all mail before the migration.
<i>Calendar (all calendars)</i>	Yes	Yes	
<i>Free and busy status</i>	Yes	Yes	
<i>Attendees and responses</i>	Yes	Yes	
<i>Event reminders</i>	Yes	Yes	
<i>Attachments and formatting</i>	Yes	No	Attachments are stripped from calendar events. Rich formatting in calendar events do not import to Gmail.

<i>Sharing and delegation</i>	Yes	No	
Personal Contacts	Yes	Yes	Users must synchronize their personal address books prior to the migration.
<i>Personal groups and D/Ls</i>	Yes	Yes	
<i>Attachments, notes, and links</i>	Yes	No	Attachments are stripped. Links are no longer clickable. Notes larger than 16k are truncated.
Global Contacts (GAL)	Yes	Partial	Global Groups and Distribution Lists do not copy, and any fields other than Name, E-mail, and Address do not copy.
Tasks	Yes	No	Do not migrate

User Training

To minimize training needs for both end users and IT support staff, organizations must provide familiar solutions to communities. The Microsoft hosted services offering provides users with the same familiar and easy-to-use interface they already have on their desktops.

Google has introduced a very basic interface for end-user solutions and administration utilities. Organizations will have to train both end users and IT support staff how to use Google's utilities. Organizations must also avoid the inherent risks with Google Labs and other third-party widgets and fixes that can be slipstreamed into the environment.

User Adoption Issues

For quick user adoption, organizations need to provide the user community with the flexibility to work anywhere and still see a familiar user interface. Users need to be able to perform copy and paste without losing data and formatting, and they need to have tools that provide easy, fast, and reliable experiences from any browser. Office Web Apps bring streamlined versions of Word, PowerPoint, Excel, and Microsoft Office OneNote® to the browser to help users maximize productivity when they are away from their PCs. Office Web Apps will have the familiar Office Fluent user interface and will offer essential editing capabilities with no formatting or data loss.

Google offers very basic functionality with limited capabilities. The functionality lacks consistent document conversion and import/export capabilities, and exhibits feature gaps and bugs, limited flexibility and creativity within Google Presentations, and a restricted offline experience.

Conclusion and Recommendation

Transitioning on-premises IT services to hosted, cloud-based services is a complex process. Organizations must consider many options and risks before taking this leap. The agility benefits and cost savings associated with a migration to cloud computing may come with large trade-offs and hidden costs that are unacceptable to the organization.

This white paper has provided a categorical, fact-based comparison between Microsoft BPOS and Google GAPE, focusing on prompting organizations to holistically investigate hosted services providers. For an educated decision on moving to a hosted solution, consider the following steps:

- Define a Service Strategy
- Bring Groups Together
- Conduct a Migration Design Session
- Select Vendors Objectively
- Start Small and Weigh the Benefits

Define a Services Strategy

Organizations must first understand the unified communications and collaboration business needs of their environments by including all stakeholders. Further, organizations should avoid investing in silos of technology driven by different business groups. A Services strategy should include an integrated experience for end users, an infrastructure to provide a seamless transition, and the flexibility to extend communications capabilities using a supported and trusted developer platform.

Bring Groups Together

Adopting a true cloud computing business plan will require collaboration among many workloads, including owners and business leaders. The owners provide e-mail, instant messaging, security, helpdesk support, mobility, desktop applications, collaboration, and Web conferencing, while business leaders will be using the tools. Organizations must ensure alignment across these groups early.

Conduct a Migration Design Session

Microsoft has developed a customizable migration design session to understand a company's business objectives and align them with specific steps when migrating to the BPOS environment. This session provides architectural guidance, input on preferred practices, architecture, tools, and risk analysis to CIOs, architects, and senior members of IT teams. A transition design session can also help ensure that organizations use interoperability strategically to meet long-term business goals rather than simply patching together disparate solutions for the short duration of the migration.

Select Vendors Objectively

To arrive at a more competitive comparison, organizations can define a set of requirements and ask vendors to provide the costs and benefits of their hosted solutions. This process allows each vendor to showcase their solution according to clearly defined customer needs. The decision should not be made on the basis of the initial cost of acquisition but should consider ongoing maintenance costs, benefits accrued

due to increased organizational performance and employee productivity, and the level of security and backed service guarantees that are offered.

Start Small and Weigh the Benefits

Investing in cloud computing can lock organizations into vendor-controlled data storage. Organizations should first deploy small groups of users on hosted service solutions and compare the deployment and management experience, the realized benefits, and user feedback. To get started, examine the Microsoft BPOS Trial and BPOS Test-Drive Programs to investigate how these capabilities could benefit your organization's environment. For more information on these programs, contact your Microsoft account manager.

Links and Resources

For more information about hosted service offerings from Microsoft, visit the following links and resources.

Customer Case Studies

[GlaxoSmithKline](#)

The second largest pharmaceutical company in the world, GlaxoSmithKline supplies a quarter of the world's vaccines and produces some of the leading prescription medicines and consumer healthcare products.

Business Situation

GlaxoSmithKline needed to improve collaboration with partners, to improve effectiveness in growing markets, to move away from customized solutions, and to lower the cost of operations and investments.

Solution

GlaxoSmithKline chose to replace the Lotus Notes, Domino, and Postini services with the Microsoft Business Productivity Online Suite – including Microsoft® Exchange Online, Microsoft® Office SharePoint Online, Microsoft® Office Communications Online, Microsoft® Office Live Meeting and the Microsoft® Deskless Worker Suite to deploy to all of its employees worldwide. Everything would be hosted by Microsoft at Microsoft data centers around the globe.

Benefits

- Reduce Operational Costs
- Drive Innovation
- Improve Collaboration
- Simplify User Experience

[Clean Power Research](#)

Clean Power Research delivers software tools and services for the objective economic analysis of clean energy technologies. The company's main offices are in Napa, California, and Kirkland, Washington.

Business Situation

Clean Power Research wanted to replace its POP3-based e-mail with an enterprise-class messaging system, but without the expense and overhead of an internally deployed and managed IT infrastructure.

Solution

The company started using the BPOS from Microsoft Online Services, replacing its relatively slow and inefficient POP3-based e-mail system with Microsoft Exchange Online.

Benefits

- User productivity is enhanced
- Integrated calendars assist planning
- Mobile access provides greater flexibility
- Online services support growth

Customer and Analyst Quotes

"We have chosen Microsoft Online Services because it promises to deliver a simple intuitive Information Workplace that should not only bring value to the company through simplification, but provide an improved user experience and ultimately create a more productive GSK. "

Bill Louv, Chief Information Officer, [GlaxoSmithKline](#), March 2, 2009

"The multiple filtering engines and constant protection around the clock means we don't even have to think about spam now."

Phil Coleman, Director of Technical Operations, Office of Educational Technology, Kentucky Department of Education, April 2, 2008

Microsoft Links

- Business Productivity Online Standard Suite (BPOS)
<http://www.microsoft.com/online/default.aspx>
- Microsoft Exchange Online
<http://www.microsoft.com/online/exchange-online.aspx>
- Microsoft SharePoint Online
<http://www.microsoft.com/online/sharepoint-online.aspx>
- Microsoft Office Communications Online
<http://www.microsoft.com/online/office-communications-online.aspx>
- Microsoft Office Live Meeting
<http://www.microsoft.com/online/office-live-meeting.aspx>