

Look Before You Leap into Google's Cloud Services

Pilot Findings from "Going Google"

February 16, 2010

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Executive Summary

In today's challenging economic climate, corporate managers are looking for innovative ways to optimize costs and increase agility without introducing risk. New software delivery models such as cloud computing or Software as a Service (SaaS) may provide increased ways to align IT strategy with business imperatives. Many companies are developing IT roadmaps that include cloud strategies as a way to consolidate and offload server infrastructure used for messaging (e-mail) and collaboration. In some cases, businesses are even evaluating whether traditional consumer based offerings such as Gmail or Google Apps might fit their strategic direction.

However, as with any new technology or vendor offering, the criteria to sort out the true costs and risks in search of the promised results are not available, and this makes it increasingly important for IT departments to drive thorough evaluations with increased scrutiny.

This white paper is intended for Information Technology (IT) executives and managers who are concerned with planning for IT, managing IT, or delivering IT value. Other business decision makers and managers who influence or are directly accountable for IT investments can also benefit from reading this white paper.

Before your organization decides to adopt Google's cloud solution, read this white paper to find out why this company abandoned its pilot program and decided to investigate other vendor offerings.

IMPORTANT: This white paper examines the potential outcomes of a pilot implementation of Google Apps from the vantage point of a hypothetical company. The company is fictitious but the examples are real and summarized based on many actual customer experiences and documented feature gaps. (Note: Links and resources section contains direct customer testimonials from Case Studies). The paper focuses on the impact of that pilot program with the company's user productivity, IT support, security and compliance measures, and overall financial bottom line.

Leaping into the Cloud

A Critical Turning Point

Like many companies, Contoso, Ltd., needs to rapidly adapt to ever-changing economic and technology trends. Pressured by foreboding economic forecasts and persuaded by a Google advertisement, John Woods, the CIO of Contoso, decided it was the right time to make a change. With an aging Microsoft Exchange Server 2003 platform, the future of Contoso's e-mail system reached a critical turning point. Was it the right time for an upgrade that required new hardware and software licenses or was there an opportunity to transition to the cloud?

Fictitious Company Profile | Contoso Ltd.

CIO: John Woods

Location: U.S., with large facilities at home and abroad

Size: 1200 employees

Industry: Manufacturing

Specialty: Builds custom components for wind and water turbines that are sourced to large engineering firms that deploy alternative energy

The Pilot Program Plan

John felt the time was right to test the Google Apps cloud solution. SaaS applications, he believed, offered a potential alternative to the existing platform. He felt the benefits of shifting from capital expenditure (CAPEX) to operational expenditure (OPEX) could free up IT resources and allow the company to become more agile to support potential growth and decline of personnel. The table below outlines John's plan for implementing the "Going Google" Pilot Program.

Figure 1: Overview of Contoso's Pilot Program to Test Google Apps

The "Going Google" Pilot Program	
<i>Goal</i>	Assess the viability of adopting the Google Apps cloud solution
<i>Process</i>	Task a cross section of users across the company to test Google Apps: Gmail, Google Talk, Google Docs, and Google Calendar
<i>Time Frame</i>	Two months
<i>Test User Groups</i>	<ul style="list-style-type: none">• End Users• IT Administration• Security and Compliance
<i>Evaluation Categories</i>	<ul style="list-style-type: none">• Costs Savings (software, hardware, IT administration)• Feature Availability (synergies with current capabilities for end users)• Support and Service-Level Agreements (SLA)

User Groups

Three different users groups were formed to evaluate the following scenarios in Google Apps:

- Google Apps with Microsoft Office Outlook® configured with Gmail
- Google Apps and Gmail with a browser-based Google user interface
- Both configurations

Figure 2: User Group Evaluations

Users Groups	Test Users	Evaluation Category	Feature/Capability Tested
Group A: Google Apps with Outlook configured with Gmail	Sales Representative	Feature Availability	<ul style="list-style-type: none"> • Collaboration • External Document Sharing with Customers
	Design Engineer	Feature Availability	<ul style="list-style-type: none"> • Ease of Use • E-mail • Calendaring
	IT Security Officer	IT Security and Compliance	<ul style="list-style-type: none"> • Data and E-mail Security
Group B: Google Apps and Gmail with a browser-based Google user interface	Marketing Manager	Feature Availability	<ul style="list-style-type: none"> • Collaboration • Document Fidelity
	Manufacturing Team Lead	Feature Availability	<ul style="list-style-type: none"> • Collaboration • External Document Sharing with Suppliers
	Compliance Manager	IT Security and Compliance	<ul style="list-style-type: none"> • Regulatory Compliance • Archiving
Group C: Both configurations	IT Manager	Costs Savings	<ul style="list-style-type: none"> • Administration All Up • Change Management • Training Needs
	Directory Admin	Support and SLAs	<ul style="list-style-type: none"> • Directory Synchronization-Migration
	E-mail Admin	Support and SLAs	<ul style="list-style-type: none"> • User Provisioning • Ease of Use of Administration Tools

Note: The company had just deployed Microsoft Office 2007 the previous year and was starting to use Microsoft SharePoint® 2007 as their standard collaboration system for sharing files and managing project tasks. Also, the entire management team and many of the tech-savvy information workers were using a variety of mobile devices, including BlackBerry devices for mobile mail and calendaring.

Results of the Pilot Program

After the two month pilot program was complete, the evaluation team started to perform interviews with the different groups. Pilot users had tested a variety of normal work scenarios such as creating and sharing documents, setting up calendar appointments, and managing individual e-mail files. The issues reported by the pilot end users fall into the following categories:

- Document Fidelity
- Data Migration
- Installation and Configuration
- Missing Features

Document Fidelity

The top issue submitted by pilot users was related to document compatibility. Contoso works with external companies, including business partners and suppliers. They share information using e-mail for the most part and commonly attach files such as sales proposals, price sheets, or product related inquiries—all built with Microsoft Office. Pilot users reported the following communication problems with external colleagues and other Contoso employees that were not part of the pilot program:

Figure 3: Evaluation of Document Fidelity in Google Apps

Feature/Capability	Issue
<i>Opening Microsoft Office Excel® workbooks in Google Spreadsheets</i>	Missing charts and formulas that failed to copy over, creating error results for Web-based users
<i>Opening Microsoft Office Word documents in Google Docs</i>	Permanently altered fonts, layouts, tables, and other document elements see <i>Figure 4</i>
<i>Uploading Word documents</i>	Inability to upload Word documents that exceed Google's 500 kilobyte limit
<i>Presenting Microsoft Office PowerPoint® presentations in Google Presentations</i>	Permanently altered PowerPoint presentations that included animations and other elements
<i>Saving documents in different formats</i>	Does not allow for regional compliance— Users found similar fidelity issues with all ODF based documents.
<i>Working offline</i>	Users without Microsoft Office were limited "view only" experience for documents.
<i>Receiving attachments and uploading password-protected documents</i>	Inability of Gmail users to receive attachments included with calendar invitations created by Outlook users and does not allow users to upload documents with password protection
<i>Using Watermarks</i>	Compromises documents with watermarks of "Draft" and "Company Confidential," even removing some watermarks
<i>Tracking changes in documents</i>	Incompatible "Tracked Changes" (comments and edits in the document) between Word and Google Docs, making it difficult for users on two different platforms to work together seamlessly
<i>Checking availability</i>	Occasional failure of online IM availability status, confusing users by showing the status of some users as online even though they signed off

Figure 4: Example of Document Fidelity Issue with Uploading a Microsoft Word file to Google Docs



Microsoft Word "Before"

Google Doc "After"

After reviewing the end-user complaint lists on document fidelity, the evaluation team included the following quote to their findings report to help the CIO understand that these were known problems. On November 13, 2009, Dave Girouard, president of Google's enterprise division, told ZDNet *"We wouldn't ask people to get rid of Microsoft Office and use Google Docs because it is not mature yet."*

Data Migration

A subset of users in the Marketing and Sales pilot group tested what a total transition to Google Apps would be like when migrating their existing e-mail data (messages, calendar entries, folders, and more) to the hosted environment. They found that not all data was moved and some items actually were corrupted along the way. The table (figure 5) below outlines the reported issues related to migrating data from Exchange and Outlook to Google Apps.

Figure 5: Evaluation of Data Migration in Google Apps

Data Item	Issue	Comment
<i>Distribution Lists</i>	Distribution lists or groups are not migrated to Google	Users had to maintain their distribution lists locally in Outlook and did NOT have access to them through the Web-based Gmail Apps Sync tool; the Gmail Apps Sync tool does not move these items up to the Gmail account on the server. Once Outlook is gone those distribution lists are lost.
<i>Public Folders</i>	No support for moving public folders	Contoso was using public folders in Exchange for sharing business unit documents.
<i>Contacts</i>	Contacts are not migrated to Google automatically	Users have to run a separate process called Google Apps Sync to move contacts from Outlook.
<i>Some Folders Not Migrated</i>	Problem with migrating folders including "/" slash characters in the name	Many of the power e-mail users had folders with naming conventions that included these characters. All content within these folders was not moved and had to be sent over manually by the end users.
<i>Tasks/To Do's</i>	Tasks do not migrate up to Google	Users had to maintain their Tasks locally in Outlook and cannot forward them or assign tasks to other users.

Installation and Configuration

To achieve closer functional parity with their previous Microsoft experience, every end user was required to download, install, and configure four separate software tools to function correctly with Google Apps. IT and Engineering groups felt that end users who were not tech-savvy could dramatically increase reliance on IT help desk for basic troubleshooting. The list (figure 6) below outlines the manual steps users had to take to achieve functional parity with their previous experience.

Figure 6: Evaluation of Installation and Migration in Google Apps

Software Utility	Reason for User Installation	Supported by Google Apps SLA
<i>Apps Sync for Outlook</i>	Provides synchronization to Outlook client for mail, calendaring, and contacts	No
<i>Google Talk</i>	IM/Chat software package (<i>no integration with Outlook however</i>) Requires rich client to receive e-mail notifications locally	Yes
<i>Google Gears</i>	Supports offline synchronization of e-mail and documents for users who do not want to use Microsoft Office	No
<i>Video Conferencing Add-In</i>	Provides video conferencing with special add-in software for Google Talk	Yes

Missing Features

The final issues categorized during the pilot assessment were related to feature gaps. End users complained that without certain capabilities they would spend an inordinate amount of time on their daily tasks. The table (figure 7) below outlines the different missing features and groups them into functional categories.

Figure 7: Evaluation of Missing Features in Google Apps

Category/Feature	Issue	End-User Importance
<i>Calendaring</i>		
<i>BlackBerry Access</i>	Difficulty managing recurring meetings since BlackBerry only has a one-way sync option	Medium
<i>Shared Calendars</i>	Does not allow users to share their calendars in Outlook (Internet calendars, however, can be shared)	High
<i>Delegating Calendars</i>	Does not allow users to delegate management of their calendar to other users, including the ability to create, accept, or decline meeting invitations	High
<i>Forwarding Meeting Invitations</i>	Does not allow users who receive forwarded e-mail invitations to add the event to their calendar	Medium
<i>Reserving Conference Rooms</i>	Does not let Outlook users see the new name for meetings that have already been scheduled, if their domain administrator changes the name of a conference room or other resource	Medium
<i>Scheduling Recurring Events</i>	Does not allow Outlook users to see an event if a Google Calendar user schedules a recurring event that begins on a different day than the meeting recurs	High

Category/Feature	Issue	End-User Importance
<i>Messaging</i>		
<i>No Delegation Options</i>	Does not allow users to use Outlook to delegate management of their mailbox to an assistant or other users	High
<i>No Public Folders</i>	Does not allow users to share their folders with other users because folders in Outlook map to e-mail labels in Google Apps, which do not have permission properties	High
<i>Out-of-Office Support</i>	Incompatible with “Out of Office” status in Outlook	High
<i>Tasks/Notes/Journal Entries</i>	Users could still use these features from Outlook, but only for personal work, not for multi-user interactions (could assign tasks to other users or share notes). Also, this data is stored locally on computer and available only from Outlook, not from the Google Apps interface.	Medium
<i>Attaching E-mail Threads</i>	Requires users to forward separate message threads when sending or forwarding e-mail messages	Medium
<i>Directory Lookups</i>	No metadata for phone number, supervisor, business group, office location, or other basic information	Medium
<i>No Mobile Directory</i>	No support for offline synchronization of a local copy of the directory	High
<i>Recovering Deleted Items</i>	No option, as in Outlook, for recovering deleted items with Google Apps Sync	Medium
<i>Presence Integration</i>	No support of the familiar presence integration that users rely on to respond quickly with an IM instead of an e-mail	High
<i>Documents</i>		
<i>Spell Checking</i>	No automated spell checking or auto-correct features that users are accustomed to in Microsoft Office in Internet Explorer (enabled in Firefox but as a feature of the browser, not the application)	High
<i>Grammar Checking</i>	No grammar checking capabilities—users had to perform grammar and punctuation checks manually	Medium
<i>Version Control</i>	Document version control, provided by SharePoint on-premises, was no longer available with Google Docs	High
<i>Document Reviews (Tracking Changes, Edits, and Comments)</i>	Tracking what edits were performed during document reviews was no longer available, and comments were problematic since they added in the new comment text along with the author and date when accepted into the document	High
<i>Images</i>	Images from documents cannot be pasted into Google presentations	Medium
<i>Charts</i>	Charts cannot be copied from Google Spreadsheets and pasted into Google docs	High
<i>Formatting</i>	Document formatting in Word is altered by Google Docs (font types, document layout, tables, and other document elements)	High

Summary of Findings

The exit interviews with pilot program end users revealed some extremely important deficiencies with the Google solution. Some issues were expected, including problems with data migration for e-mail and calendaring. The problems with Outlook migration, however, were slightly improved when the pilot users adopted the Google Apps Sync. The more troubling deficiencies end users encountered were the lack of features still not available in Google Apps. Missing out on Presence/IM integration with Outlook was the biggest issue for power users, along with the lack of delegation and shared calendaring rights.

In contrast, the missing features in Google Docs were a big problem for all users familiar with Microsoft Office. Anyone on the pilot that listed themselves as a document creator or collaborator, especially with outside partners and suppliers, stated that they would not be able to complete their daily work by relying on Google Docs and Spreadsheets.

IT Administration Problems

Contoso's IT group knew that e-mail was the main form of business communication within the company. If moving to the cloud negatively impacted e-mail, there would be a huge backlash from the business groups. While saving money was paramount, the IT group knew it had to come without increased risk.

Service Level Agreement

Understanding what is covered by Google's SLA was one of the IT group's top priorities, especially given Google's recent high-profile outages and security breaches.

The IT team found that lost data recovery is **not** covered in the SLA and that Google claims of a financially backed SLA were in reference to service credits and did not include any downtime less than 10 minutes. This meant Contoso could experience multiple outages, of 10 minutes or less, during any month without any recourse. In fact, they found out that Google limits the amount of credits at two weeks credit.

Additional research by the IT team revealed that a lot of customers openly complained about their downtime experiences from Google. (See examples at <http://www.infoworld.com/d/architecture/downtime-makes-google-apps-customers-wary-261>). The team also learned that any features released by Google under Google Labs were not covered at all by the SLA. With the possibility of Google releasing experimental and unannounced features to end users at Contoso in a mission-critical environment, the IT department was concerned this might cause numerous help desk escalations, without any support coverage from Google.

Directory Synchronization

Contoso was hoping for the most transparent experience while synchronizing their corporate directory with the new Google Apps hosted environment.

Google Apps required a completely separate Lightweight Directory Access Protocol (LDAP) directory deployment on-premises. In addition, a separate server dedicated to running the one-way directory sync with the Google Apps environment needed to be deployed and maintained. Contoso would have to integrate the new LDAP directory with their centralized Active Directory, an extra step that entailed adding another directory just for e-mail and a new set of user accounts and passwords for administrators to maintain.

After two months of the pilot testing the IT group provided the following list of directory synchronization issues for the evaluation team:

- No native directory (Active Directory) connectivity or synchronization is available.
- Directory sync processes are one-way only, from Google Apps down to on-premises LDAP directory, and require a separate open source tool.
- The synch process requires a dedicated on-premises server, increasing IT costs and support.
- Whether adding or deleted, users are managed from an output CSV file from the LDAP server. This list could contain thousands of users and can make provisioning time consuming.
- No permanent password synchronization, so users have separate sign-on for Google Apps access. SSO only enabled when Exchange password matches the Google Apps password.
- The new e-mail directory (Global Address List) only shows user names and e-mail addresses. Other information (such as office location, supervisor, job title, and company) is not shown in the global addresses (but they are shown in users' personal contacts).

Note: Contoso was told that Google offers directory sync utilities from third-party providers for additional functions but they cost extra.

Server Support and Client Software Add-ins

As mentioned previously, Contoso's IT group found out that there were specific servers that they would still need to support and maintain on-premises. These included the BES servers for the mobile BlackBerry users, plus the dedicated directory synchronization server.

In addition to end user add-ins required (figure 6), the following list outlines all server software add-ins that needed to be deployed and supported for end-users and servers:

Figure 8: Software Add-ins for Google Apps

Server Add-ins
Directory Synchronization Tool (one for LDAP and potentially another if using Postini)
BlackBerry Connector for BES Servers supports only 500 users per BES server (additional servers needed)

Administrator Support

One of the most disheartening issues identified by the IT team during the pilot was Google's handling of support. The Google Apps support phone line was only available from Sunday night to Friday night. Any issues or urgent requests that required a Google specialist would have to wait until Google's business hours resumed.

Handling important data recovery requests was even more troubling. Since the "Recover Deleted Items" option is not available when using Outlook with Google, the mail administrators who were part of the pilot tried the support line to see if they could have their deleted messages retrieved. After lengthy wait times they received an e-mail message saying that this was **not** possible and that they would have to manually recreate the e-mails.

Risky Business

The final interview stop for the evaluation team was with the Security and Compliance group. The team summed up their concerns by providing citations to the 37 security breaches that have occurred between July 2004 and August 2008, as well as the well documented system wide outages of gmail over the last 2 years.

Security Concerns

After two months of detailed analysis, the Security and Compliance group had found some very damaging issues to report to the CIO's evaluation team. They found that Google had the basic industry certifications such as SAS70 Type II for some of their services as well as good physical security for their data centers. However, the team was responsible to deliver broader security measures holistically. For example, Google does not support the basic end-user security features used by certain departments. They outlined their findings in a basic chart.

Figure 9: Security Features in Google Apps

Security Feature	Available in Google (Yes/No)
E-mail Encryption	No
Flag Message Types (Confidential, Personal)	No
Information Rights Management (policy based rules of "view only," "do not forward," and "no printing")	No
Watermark Preservation (when uploaded to Google Apps)	No
SSL Enforcement	Yes (able to turn off)

From an IT administration perspective, the group also pointed out some potential security deficiencies with Google Apps. The flexibility to delegate tightly defined control to a specific user to perform their role was not available or extremely limited. Google's "off the record" IM feature was a 'showstopper' for the compliance officer as it allowed end users to deliberately engage in chat sessions where entire or portions of conversations could be conducted without any IT record. And unlike what Contoso was used to previously, Google would provide only one level of administrative control, thereby increasing the burden on specific IT personnel, or allowing untrained users to have excessive system-wide control.

The security and compliance group also found out that the company would have to pay for an archiving compliance solution with Gmail. The necessary archiving service for compliance and eDiscovery is available at an additional cost through integration with Google's Postini service offering.

Data Location

With operations in the U.S. and Europe, Contoso needed to understand exposure to data storage locations. Google was very clear that at no time could they tell Contoso where their data was located. Google's online only option would essentially leave Contoso in a security and compliance vacuum during an internet or data center outage.

In addition, the team uncovered impractical data retention policies. These would not be controlled by Contoso, but by Google's terms of service (TOS). The first concern related to these policies was that e-mail is potentially never deleted. Google reserves the right to maintain copies of all information in backups per their terms of use. And the counter to this problem was that Google doesn't guarantee that they maintain backups of e-mail for data recovery. Both issues were extremely troubling to the Security and Compliance group.

Lessons Learned

Moving specific IT services to a cloud hosting provider can transform communication in your organization, yielding cost savings, improving IT productivity for core services, and providing your organization with greater flexibility. However, it is critical to understand that not all offerings are created equal. Before you take the leap to cloud services, be sure to analyze the environment you may be moving into, just like the example company in this document.

To get the most out of your cloud based transition, consider the following steps when making your decision.

Build a cloud services vision. You must first understand the unified communications and collaboration business needs of your environment by including all stakeholders, and avoid investing in silos of technology driven by different business groups. A cloud services vision 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 between many different workloads, including the owners for e-mail, IM, security, help desk support, mobility, desktop applications, collaboration, and Web conferencing, as well as business leaders who will be using the tools. Ensure alignment across these groups early.

Conduct a migration design session. Microsoft has developed a customizable migration design session that drills into a company's business objectives and aligns them with specific transition steps necessary for a successful move to the Business Productivity Online Standard Suite (BPOS) environment. This session provides architectural guidance, input on preferred practices, architecture, tools, and risk analysis for CIOs, architects, and senior members of your IT team. A transition design session can also help ensure that your organization uses interoperability strategically to meet long-term business goals rather than to simply patch together disparate solutions for the short term while the migration takes place.

Select vendors objectively. To arrive at a more competitive comparison, define a set of requirements and ask vendors to provide the costs and benefits of their hosted solutions. Provide real scenarios and compare apples to apples across all offerings. This process allows each vendor to showcase its solution according to clearly-defined customer needs. The decision should not be made on the basis of the initial cost of acquisition but should take into consideration ongoing maintenance costs, benefits accrued due to increased organizational performance and employee productivity, and the peace of mind that comes with the assurance that the service has a high level of advanced security and is backed by a financial guarantee.

Start small and weigh the benefits. Organizations can greatly benefit from early learning important lessons prior to a mass roll out. Select small groups of users on hosted service solutions and compare the deployment and management experience, the realized benefits, and user feedback. To get started, take advantage of the BPOS Trial and BPOS Test-Drive Programs to take advantage of opportunities to investigate these capabilities in your organization's environment. For more information on these programs, contact your Microsoft account manager.

Conclusion

After Contoso completed its two month pilot of Google Apps Premier Edition, there were many eye-opening discoveries summarized by the evaluation team's report. Despite his initial eagerness, the CIO decided to end the pilot of Google Apps and evaluate other approaches. The main reasons for this decision are outlined in the team's final report below:

Costs Savings

The pilot team identified potential software, hardware, and IT administration costs associated with the move to Google Apps that were not previously understood or anticipated. These additional costs included investments in on-premises hardware along with administration support for directory synchronization and mobile BlackBerry users. There was also the unanticipated risk of end-user downloads increasing help desk dependencies. In addition, there could be more monthly costs associated with the need for full e-mail protection and archiving from Google's Postini offering.

Adding those new hardware and service costs—and factoring in the on-premises administration costs to support the integration and user provisioning—made the long-term TCO much less attractive.

Feature Availability

The feature gap between Google docs and familiar Microsoft Office products was too wide and deep for pilot users to cross. Contoso needed to ensure high fidelity with document sharing and collaboration both internally and externally as part of their core business needs. These issues, combined with the issues relating to missing e-mail security options, were seen as huge red flags for the viability of a migration of all users to a Google cloud solution.

Support and Service Level Agreements

With just a minimal amount of research the team was able to find numerous occurrences reported for Gmail downtime. E-mail is the main business communication tool used by Contoso and to have recurring downtime in small time segments would be a major disruption.

Security and Risk

Finally, the showstopper issues for rejecting the Google cloud solution were related to the security holes and risks related to moving e-mail services and documents into the Google cloud. Without control mechanisms to easily lock down messages and attached documents there was a glaring possibility of confidentiality leaks. Added to that were the data retention concerns and administration flexibility issues that were raised by the security and compliance team.

Links and Resources

For more information about hosted services from Microsoft, visit the following links and resources:

- Microsoft BPOS Trial:
<http://technet.microsoft.com/>
- Google vs. Microsoft – Hosted Services Comparison White Paper:
<http://www.microsoft.com/uc/businessvalue/decrease.mspx><http://www.microsoft.com/tbd>
- Google Apps vs. Microsoft Office – Feature Comparison Videos:
<http://www.whymicrosoft.com/google>
- Google Apps Case Studies:
http://www.microsoft.com/casestudies/Case_Study_Search_Results.aspx?Type=1&Keywords=Google%20Apps&LangID=46

- Customer Testimonials and Associated Case Studies
 - Datatune: *“Google Apps is a **square peg into a round hole**”*
http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000002896

 - CIF: *“Google Apps is not an enterprise-class solution. **It’s a consumer solution**, and we did not want to risk our business on it.”*
http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000005041

 - W.J. Bradley Company: *““Our users almost universally preferred to use Outlook® as their e-mail client, and getting everything to work properly with e mail servers that weren’t running Exchange Server presented lots of challenges—especially with mobile devices”*
http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000003747

 - Procure: *“We looked at Google Apps, but it **doesn’t offer the range** of services found in Microsoft Online Services.”*
http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000003799

 - Competitiveness.com : *“The Microsoft online and offline applications complement each other. Google is **online only** and posed **compatibility** and formatting **issues**”*
http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000003809

 - SaaSIT: *“Yes, we might have saved one or two dollars per month going with **Google Apps**, but it **wasn’t worth it**. Selecting software that makes it more difficult to work is the wrong way to save money.”*
http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=4000004063