

**GOOGLE APPS & MICROSOFT EXCHANGE SERVER 2007 –
TOTAL COST OF OWNERSHIP ANALYSIS**

Sara Radicati, Ph.D.
Principal Analyst

THE RADICATI GROUP, INC.
595 Lytton Avenue
Palo Alto, CA 94301
Tel: 650-322-8059
Fax: 650-322-8061
<http://www.radicati.com>

Courtesy of:
Synaptic Systems, Inc.
125 Technology Drive
Southpointe, PA 15317
724-734-4740 voice
724-743-4760 fax
www.synapticsystems.net
info@synapticsystems.net

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Google Apps & Microsoft Exchange Server 2007 – Total Cost of Ownership Analysis

A comparison of the Acquisition and Operational Costs of running Google Apps vs. Microsoft Exchange Server 2007 in Enterprise Environments

SCOPE

This analysis of the Total Cost of Ownership (TCO) of Google Apps versus Microsoft Exchange Server 2007 was conducted by The Radicati Group, Inc. in late 2008. The study provides extensive information on costs in the areas of acquisition, maintenance, storage, setup and configuration, administration, wireless administration, downtime, staffing requirements, training and more.

This study analyzes and compares at the costs of deploying Google Apps and Microsoft Exchange 2007 in four mid-size organizations in the 300-1,000 user range, with a median of 800 users.

For simplicity's sake, this study uses the terms "E-mail" and "Messaging" interchangeably.

Note: This study focuses only on comparing the costs of deploying Google Apps vs. Microsoft Exchange 2007. It is intentionally not a productivity or ROI study, while a productivity or ROI study could be a complement to this study, it would follow an entirely different methodology from that employed for this particular study.

Sponsorship of the Study

This study was funded in full by Google, Inc.

METHODOLOGY

The data and analysis in this report is based on primary research conducted by analysts of The Radicati Group, Inc. in the form of a specially designed questionnaire administered by phone and email. Respondents interviewed were largely senior managers, high level administrators, and IT managers knowledge-able about messaging within each of the enterprise organizations surveyed. A full description of the survey demographics for both groups analyzed in this study is provided.

All financial information presented in this study is in US\$.

EXECUTIVE SUMMARY

This study provides an analysis and comparison of the Total Cost of Ownership of deploying Google Apps and Microsoft Exchange Server 2007 across organizations in four mid-size organizations in the 300-1,000 user range, with a median of 800 users.

- The Total Cost of Ownership model used in this study looks at a broad range of cost factors, including: acquisition costs, annual maintenance contract costs, setup and configuration costs, on-going administration costs, downtime costs, training and storage costs. It uses a straight-line three-year depreciation model, where all acquisition costs are assumed to be incurred in the 1st year of operation and amortized over a three-year period.
- Google Apps and Microsoft Exchange Server 2007 are two fundamentally different ways to provide messaging and collaboration functionality to business organizations:
 - Google Apps is a hosted system, where Google maintains and runs the messaging and collaboration system, and provides access to it through a Software as a Service (SaaS) model.
 - On the other hand, the deployments of Microsoft Exchange Server 2007 analyzed for this study were on-premises software deployments, this means the customers purchased and ran their own messaging and collaboration system. *(Note: Microsoft also provides a hosted version of Microsoft Exchange Server 2007 but that was not the focus of this study).*
- Google Apps and Microsoft Exchange Server 2007 customers incur costs differently over a three year period, as follows:
 - Google Apps customers incur a \$50/user licensing fee in each of the three-years. Whereas, Microsoft Exchange Server 2007 users incur an acquisition cost for hardware and software in the 1st year only.

- Google Apps customers have no annual maintenance costs (as these are included in the annual licensing fee). Microsoft Exchange Server 2007 customers incur maintenance fees on hardware and software over the course of the three-year period.
- Both Google Apps and Microsoft Exchange Server customers incur setup and configuration costs, as well as training costs are incurred in year 1.
- Storage costs, Administration and Downtime costs are incurred by both Google Apps and Microsoft Exchange Server 2007 customers in all three years.
- Table 1, below, summarizes the costs of deploying Google Apps vs. Microsoft Exchange Server 2007 over a three-year.

	Google Apps	MS Exch 2007
<i>Mid-size Business</i>		
1st Year TCO/User	\$91	\$295
Follow-on Year TCO/User	\$87	\$137
3-Year Average TCO/User	\$88	\$190

Table 1: Google Apps vs. Microsoft Exchange Server 2007 Deployment Costs Mid-Sized Organizations

- Figure 1 shows the three-year Total Cost of Ownership difference for Google Apps vs. Microsoft Exchange Server 2007.

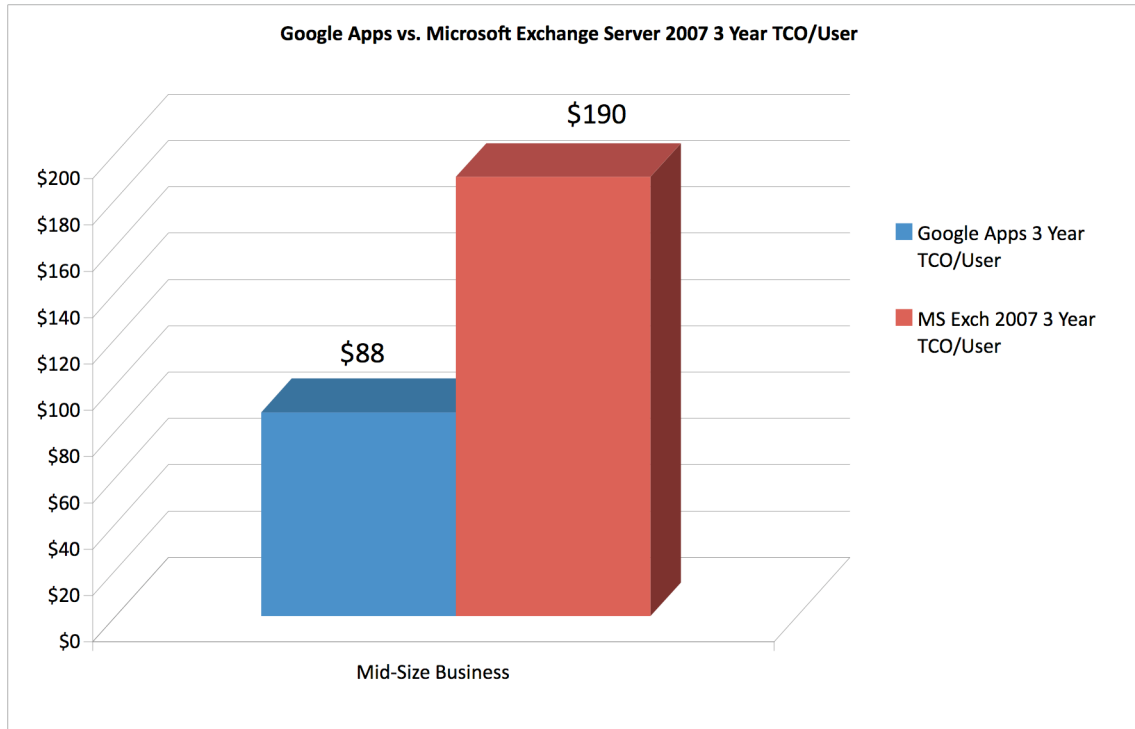


Figure 1: Google Apps vs. Microsoft Exchange Server 2007 – three-year TCO/User

1.0 TOTAL COST OF OWNERSHIP MODEL

The Radicati Group's Messaging and Collaboration Total Cost of Ownership Model for enterprises has been built to assist organizations in assessing the effectiveness of their systems, reduce costs and make better decisions on how to invest time and budgets.

The enterprise TCO model used in this study looks at the following key components of cost:

- **Acquisition Costs** - Acquisition Costs refer to the costs of purchasing the hardware and software required to run the messaging and collaboration environment. In the case of a hosted solution, such as Google Apps, this involves mainly a per user subscription license fee. In the case of an on-premises solution, such as Microsoft Exchange Server 2007, it includes the cost of the server hardware platform, the Windows Server operating system server and user licenses, and the Microsoft Exchange 2007 server and user licenses. In either case, we did not include the costs of the desktop hardware and software platform, as these costs are not directly attributable to the messaging system deployed (i.e. users will have desktops no matter what email system is used).
- **Maintenance Costs** - This refers to the cost of yearly support contracts for all hardware and software components accounted for as part of the acquisition costs outlined above.
- **Storage Costs** – Many organizations still rely primarily on the messaging server platform to store emails, however, as email volumes grow organizations need to off load a certain percentage of email storage to external backup devices. Such external storage can comprise a variety of approaches ranging from simple tape backup systems to complex SAN/NAS architectures, as well as email archiving products. Our model makes a simplifying assumption that external storage is based on tape backup only. Attempting to include the costs of SAN/NAS, or email archiving products would have derailed this analysis into a cost analysis of different storage systems rather than a TCO analysis of the messaging system itself.

- **Setup and Configuration** – This comprises the cost to initially setup and configure the messaging environment. It applies to both the initial setup and configuration of Google Apps, as well as to the initial setup and configuration of Microsoft Exchange Server 2007.
- **Administration Costs** - These include a series of tasks, on-going as well as corrective, performed by Messaging Administrators to ensure the efficient update and operation of the messaging system. It includes the time to install new software patches, add/delete users, manage policy settings, and much more.
- **Downtime Costs** - Downtime can be either scheduled (i.e. due to normal maintenance requirements), or unscheduled (i.e. due to unexpected failures of the system). In the case of both scheduled and un-scheduled downtime, we account only for the cost to the administrators of dealing with the downtime; we do not attempt to estimate user productivity loss.
- **Training Costs** - These include training costs for Administrators and Help Desk Staff.

Both Google Apps and Microsoft Exchange Server 2007 include powerful anti-spam and anti-virus filtering capabilities. However, as it is common for companies to layer additional defense mechanisms from different vendors, we asked companies participating in this study to tell us whether they are deploying additional anti-spam and anti-virus products. The answer to this question was not computed as part of the TCO calculations, but we report what companies said to provide an interesting reference point to this critical element of any company's messaging deployment.

1.1 GENERAL ASSUMPTIONS

In order to be able to compare costs across different organizations, this TCO model makes some key assumptions, which are essential to our calculations. These include:

1. **Salaries** – In order to compare costs across organizations we made the following assumptions about salaries:

- a. \$69/hour for Messaging Administrators fully burdened (i.e. includes overhead, taxes, benefits, etc.). We also assume Full-time and Part-time Messaging Administrators receive the same level of compensation.
- b. \$45/hour for Help Desk Staff, fully burdened.
- c. \$57/hour for Messaging Users, fully burdened.

Note: *The salaries used in this study are in line with current accepted industry levels.*

2. *Population size* - We assume the number of users deployed on either system stay constant over a three-year period. While we know that the user population does not remain constant and most organizations will either grow or diminish in user population over a three-year period, this process occurs at a different pace in each company and it becomes nearly impossible to generalize it across all companies surveyed. Our model, therefore, assumes that the user population remains constant over the three-year period.
3. *Depreciation* – We assume a simple three-year, straight-line depreciation model in estimating messaging acquisition costs. We further assume that all acquisitions occur in the first year of deployment, and are therefore amortized over the three-year period.
4. *Hardware Platform Costs* - Microsoft Exchange 2007 requires a 64-bit server platform to run on. There is a wide cost spread for 64-bit servers, ranging anywhere from \$2,000 to upwards of \$12,000. For the sake of simplicity and based on the median costs reported by the companies surveyed, we picked a standard cost of \$5,000 for the server hardware platform.
 - *Hardware maintenance* – we assume a fixed annual hardware maintenance fee of 15% of the hardware acquisition costs for all companies using Microsoft Exchange 2007. This is based on available industry data, and was confirmed by survey responses to this question, which typically ranged from 10% to 25%.

5. *Training costs* – while this study includes training costs, we looked only at training costs in terms of the amount of time that administrators help desk personnel and messaging users invested to go through some form of training process. We did not take into account the cost of the “trainers” or training programs, that is of engaging a 3rd party to deliver training to the organization – such costs vary greatly and would have been impossible to account for in a systematic way across all organizations surveyed.
6. *Setup and configurations costs* – we looked only at the time (and resulting cost) of the company’s own administrators setting up and configuring either Google Apps or Microsoft Exchange Server 2007. We did not include the cost of any external consultants, systems integrators or other 3rd party professional services organizations, which may have assisted in the initial system planning and deployment stages. There are many possible such external 3rd party choices available to companies and it would have been impossible to account for their different service fees in a consistent manner.
7. *Storage* – Storage decisions vary greatly from organization to organization and are often driven by other corporate choices not directly related to messaging use. So while company storage choices range from simple Tape backup systems to sophisticated SAN/NAS environments, this study looks only at what percentage of email storage organizations choose to offload from their email system and assumes that in all cases tape is being used for external backup. We further assume a cost of \$0.25/GB of tape storage based on average industry data.

1.2 ESTIMATING GOOGLE APPS ACQUISITION COSTS

Google Apps pricing is fairly simple. Google provides access to all services on a hosted (i.e. SaaS) basis. Organizations pay a flat fee of \$50/user per year. No hardware or software is required on the customer premises.

1.3 ESTIMATING MICROSOFT EXCHANGE SERVER 2007 ACQUISITION COSTS

Microsoft pricing is complex. Microsoft offers a variety of programs under which organizations may purchase software, in addition channel partners may offer various bundling options and volume discounts. In order to provide a baseline fair comparison for

the purposes of this study, we made a few simplifying assumptions and relied mainly on published Microsoft list pricing.

In order to run Microsoft Exchange Server 2007 on-premises, organizations will need to purchase the following:

- Server Software for Microsoft Exchange Server 2007
- Client Software for Microsoft Exchange Server 2007
- Windows Server software and client (i.e. CAL) licenses
- Server Hardware Platforms
- Software Assurance

For the purposes of this study, we made a number of simplifying assumptions about pricing for Microsoft Exchange Server 2007, as follows:

1. We based our acquisition pricing only on the discrete Microsoft Exchange Server and Client licenses, not the Core or Enterprise Suite licenses. We used Microsoft Standard CALs at \$67/user, and Microsoft Enterprise CALs at \$25/user. (*Note: The Enterprise CAL is additive and requires that a Standard CAL also be purchased for each user, so the total cost of an Enterprise CAL is \$92/user.*)
2. We did ask organizations about their mix of Standard and Enterprise licenses and used a different percent distribution of Standard and Enterprise licenses in the two survey groups analyzed.
3. We assumed an industry standard volume discount of 20% on the software list price.
4. We chose to use Windows Server Standard Licenses at the list price of \$699/server, and Windows Server Standard CAL licenses at \$40/user.
5. We applied a 25% annual charge for Software Assurance to the total cost of all Microsoft Exchange Server software purchased, as well as to the cost of the Microsoft Windows Server software purchased.

6. Organizations surveyed indicated they were deploying Microsoft Exchange Server 2007 on a wide range of 64-bit hardware platforms, ranging in price from \$2,000 to \$12,000. Based on survey responses, we used \$5,000 as the hardware platform cost.

7. Based on industry averages, as well as survey responses we chose to use 15% as the annual charge for hardware maintenance contracts.

2.0 MID-SIZE COMPANY TCO

The organizations surveyed in this group ranged in size from 300 to 1,000 employees. The median population size in this group was 800 email users.

- All companies surveyed in this group were US based.
- The organizations in this sample deploying Google Apps, represented the following vertical industries:
 - 1 Legal (25%)
 - 1 Travel (25%)
 - 1 Media & Advertising (25%)
 - 1 R&D (25%)
- The organizations in this sample deploying Microsoft Exchange Server 2007, represented the following vertical industries:
 - 1 Education (25%)
 - 1 Entertainment (25%)
 - 1 Transportation (25%)
 - 1 Pharmaceutical (25%)

2.1 ADMINISTRATOR STAFFING COMPARISON

Table 13, shows the number of Administrators and Help Desk staff for both Google Apps and Microsoft Exchange Server 2007. Many organizations have a mix of full-time and part-time administrators, we asked about both and applied 50% of the part-time administrator population to the total administrator population (i.e. 2 full-time administrators, and 2 part-time administrators was taken as 3 administrators for the purposes of this study).

Environment Information	Google Apps	MS Exch 2007
Number of Users	800	800
Number of Administrators	1	2.5
Number of Help Desk Staff	2	4

Table 2: Administrator Staffing – Mid-Size Organizations

2.2 ACQUISITION COSTS

- Table 14, below summarizes the acquisition costs for a mid-size organization.

Acquisition Costs	Google Apps	MS Exch 2007
Number of Servers	n/a	2
Server Hardware Cost	n/a	\$10,000
Software Cost	\$40,000	\$78,717
Acquisition Cost/User	\$50	\$111

Table 3: Acquisition Costs – Mid-Size Organizations

- The Acquisition cost per user was \$50 for Google Apps, and \$111 for Microsoft Exchange Server 2007.

2.2.1 UNDERSTANDING MICROSOFT EXCHANGE SERVER 2007 ACQUISITION COSTS

- While Microsoft Exchange Server 2007 can easily support 1,000 users on a single server, all mid-size organizations surveyed were deploying more than 1 server. We believe this is mainly for reliability reasons, but sometimes could also be a reflection of the companies' geographical distribution.
- The mid-size organizations we surveyed had an average of 50% of users on Standard CALs and 50% on Enterprise CALs.
- All servers deployed were Standard edition.

- All mid-size organizations surveyed indicated that they had purchased Software Assurance.
- On average, 50% of users were deploying wireless email services based on Microsoft Active Sync.
- Table 15, below, shows in detail how Microsoft Exchange Server 2007 Acquisition costs were computed.

Microsoft Exchange Server 2007	Cost	Mid-Size	Acquisition Cost
Average # of Users		800	
% Users on Standard CALs		50%	
% Users on Enterprise CALs		50%	
Server Hardware Cost	\$5,000	2	\$10,000
<i>Exchange Server 2007 Licenses</i>			
100% Exchange Server (Standard)	\$699	2	\$1,398
Total Exchange Server Cost			\$1,398
<i>Exchange Client Licenses</i>			
% Exchange CALs (Standard)	\$67	400	\$26,800
% Exchange CALs (Enterprise)	\$92	400	\$36,800
Total Exchange Client Cost			\$63,600
<i>Windows Server License</i>			
Windows Server License (Standard)	\$699	2	\$1,398
Windows Server CAL (Standard)	\$40	800	\$32,000
Total Windows Server Cost			\$33,398
Total Software Cost			\$98,396
20% Volume discount			\$19,679
Software cost after discount			\$78,717
Total Cost			\$88,717
Total Cost/User			\$111

Table 4: Microsoft Exchange Server 2007 Acquisition Costs – Mid-Size Organizations

2.3 MAINTENANCE COSTS

- Table 16, below shows the cost of Maintenance contracts for both software and hardware over a three-year period.

Maintenance Costs	Google Apps	MS Exch 2007
Maintenance Costs	n/a	\$21,179
Maintenance Costs/User	n/a	\$26

Table 5: Maintenance Costs – Mid-Size Organizations

- Google Apps customers pay a flat licensing fee per user per year and therefore pay no maintenance contract fees.
- Microsoft customers surveyed pay an average of \$26/user per year in hardware and software maintenance fees.

2.3.1 UNDERSTANDING MICROSOFT EXCHANGE SERVER 2007 MAINTENANCE COSTS

- As previously mentioned all organizations deploying Microsoft Exchange Server 2007 had purchased Software Assurance. We estimate that Software Assurance represents 25% of the software purchase price on an annual recurring basis.
- We estimated 15% of the hardware purchase price on annual recurring basis for server hardware maintenance contracts.
- Table 17, below, shows how Microsoft Exchange Server 2007 maintenance costs were computed.

Microsoft Exchange 2007 Maintenance Costs			
Software (with SA)	\$78,717	25%	\$19,679
Hardware	\$10,000	15%	\$1,500
Total Maintenance Costs			\$21,179
Maintenance Cost/User			\$26

Table 6: Microsoft Exchange Server 2007 Maintenance Costs – Mid-Size Organization

2.4 STORAGE COSTS

- We asked Microsoft customers what percentage of their email is kept on their servers and what percentage is off loaded to back-up tapes.

- Google Apps customers required only 1% of external storage.
- Microsoft customers indicated they store about 20% of their email on backup tapes.
- Based on our on-going research we know that the average business user requires about 6.5 GB of storage a year for email.
 - As the amount of email exchanged increases from year to year, so do storage requirements. In an effort to keep this model simple however, we assume that the amount of storage per user remains constant at 6.5 GB per user/year.
- Table 18, below shows the cost of external Storage (i.e. storage other than the mail server itself) for both Google Apps and Microsoft Exchange Server 2007 over a three-year period.

Storage Costs	Google Apps	MS Exch 2007
Total Annual Storage in GB	5,200	5,200
External Storage (i.e. Tape)	1%	20%
Amount of external storage in GB	52	1040
Avg. cost of external storage/GB	\$0.25	\$0.25
Total Storage Cost	\$13.00	\$260.00
Storage Cost/User	\$0.02	\$0.33

Table 7: Microsoft Exchange Server 2007 Maintenance Costs – Mid-size Organization

2.5 SETUP AND CONFIGURATION COSTS

- Table 19, below shows the initial setup and configuration costs for both Google Apps and Microsoft Exchange Server 2007

Setup & Configuration Costs	Google Apps	MS Exch 2007
Total Setup & Config. Hours	40	440
Setup & Config. Costs	\$2,760	\$30,360
Total Wireless Setup Hours	0.5	10
Wireless Setup Costs	\$35	\$690
Total Setup & Config./User	\$3	\$39

Table 8: Setup & Configuration Costs – Mid-Size Organizations

- Google Apps customers spent an average of \$3/user to initially setup and configure Google Apps including its wireless capabilities.
- Microsoft customers spent an average of \$39/user to setup and configure Microsoft Exchange Server 2007, including wireless capabilities.

2.6 ADMINISTRATION COSTS

- Our TCO model asked survey respondents how many hours per week administrators spend on a variety of on-going administrative tasks. Table 20, below, summarizes the response to this question.

Administration Costs	Google Apps	MS Exch 2007
adding/deleting users (hours/week)	1.5	1.5
managing distribution lists (hours/week)	1.0	0.8
managing access controls (hours/week)	0.5	1.0
managing user passwords (hours/week)	1.0	1.5
directory management (hours/week)	0.0	1.8
backups/restores (hours/week)	0.0	4.0
admin of remote clients (hours/week)	0.0	1.0
admin of wireless clients (hours/week)	0.0	0.5
admin of archiving system (hours/week)	0.0	1.0
recovery of deleted email (hours/week)	0.0	1.0
admin of policy/rules (hours/week)	1.5	0.0
admin of AV inc. patches/updates (hours/week)	0.0	2.0
admin of AS inc. patches/updates (hours/week)	0.0	2.3
admin of other security (hours/week)	0.0	1.0
end user config support (hours/week)	2.5	2.5
installing & config new SW patches (hours/week)	0.0	1.0
<i>Total for all tasks (hours/week)</i>	<i>8.0</i>	<i>22.8</i>
Administration Costs	\$28,704	\$81,806
Administration Costs/User	\$36	\$102

Table 9: Administration Costs – Mid-Size Organizations

- Google Apps administrators are spending an average 8 hours a week on administrative tasks, at an average cost of \$36/user per year.
- Microsoft administrators are spending an average of 22.8 hours a week administering Microsoft Exchange Server 2007, at an average cost of \$102/user per year.

2.7 DOWNTIME COSTS

- Messaging systems often incur some amount of scheduled and un-scheduled downtime.

Downtime Costs	Google Apps	MS Exch 2007
Scheduled (hours/month)	0	2
Un-scheduled (hours/month)	0.8	1
Downtime Costs	\$662	\$6,210
Downtime Costs/User	\$1	\$8

Table 10: Downtime Costs – Mid-Size Organizations

- Google Apps customers reported no scheduled downtime, and 0.8 hours of un-scheduled downtime per month. This translates into a total downtime cost of \$1/user per year for Google Apps.
- Microsoft Exchange Server 2007 customers reported an average of 2 hours of scheduled downtime per month, and 1 hour of un-scheduled downtime per month. This translates into a total downtime cost of \$8/user per year for Microsoft Exchange Server 2007.

Note: Section 1.0 describes how downtime is calculated.

2.8 TRAINING COSTS

- We looked at training costs as a one-time cost of training administrators and help desk staff. We estimated only the time spent by administrators and help desk staff in training programs; we did not attempt to measure the cost to deliver these programs as that varies too greatly from organization to organization.

Training Costs	Google Apps	MS Exch 2007
Administrator training (hours)	3	20
Help Desk training (hours)	3	20
Training Costs	\$477	\$7,050
Training Costs/User	\$0.60	\$8.81

Table 11: Training Costs – Mid-Size Organizations

- Google Apps customers on average required about 3 hours of Administrator training and 3 hours of Help Desk training. This resulted in an average cost for training of \$0.60/user.
- Microsoft Exchange Server 2007 customers required about 20 hours total of Administrator training and 20 hours of Help Desk training. This resulted in an average cost for training of \$8.81/user.

2.9 TOTAL COST OF OWNERSHIP

- We estimate the three-year Total Cost of Ownership by putting together all the above categories of cost, as shown in Table 23 below.
- The various cost components, apply somewhat differently for Google Apps and Microsoft Exchange Server 2007, since Google Apps is a hosted solution whereas the Microsoft customers we surveyed were deploying Microsoft Exchange Server 2007 as an on-premises solution.
- Google Apps customers incur costs over a three year period as follows:
 - The-per user annual licensing fee is incurred in each of the three years.
 - There are no maintenance costs, as these are essentially bundled in the price of the annual license fee.
 - Setup & Configuration costs, as well as Training costs are incurred only in year 1.
 - Storage costs, Administration and Downtime costs are incurred in all three years.
- The total cost of deploying Google Apps was \$227/user in year 1, and \$224/user in each follow-on year.
- The three-year Total Cost of Ownership of Google Apps for a mid-size organization was \$225/user per year.
- Microsoft Exchange Server 2007 customers incur costs over a three year period as follows:
 - Acquisition costs are incurred in year 1.
 - Maintenance fee costs are incurred in each follow-on year.
 - Setup & Configuration costs, as well as Training costs are incurred only in year 1.
 - Storage costs, Administration and Downtime costs are incurred in all three years.

- The total cost of deploying Microsoft Exchange Server 2007 was \$295/user in year 1, and \$136/user in each follow-on year.
- The three-year Total Cost of Ownership of Microsoft Exchange Server 2007 for a mid-size organization was \$189/user per year.

	Year 1		Years 2 & 3	
	Google Apps	MS Exch 2007	Google Apps	MS Exch 2007
Acquisition Cost/User	\$50	\$111	\$50	n/a
Maintenance Cost/User	\$0	\$26	\$0	\$26
Storage Cost/User	\$0.02	\$0.33	\$0.02	\$0.33
Setup & Config. Cost/User	\$3	\$39	n/a	n/a
Administration Cost/User	\$36	\$102	\$36	\$102
Downtime Cost/User	\$1	\$8	\$1	\$8
Training Cost/User	\$0.60	\$8.81	n/a	n/a
<i>Total Cost/User</i>	\$90	\$295	\$87	\$136
GoogleApps 3 Year Average TCO/User	\$88			
MS Exchange 2007 3 Year Average TCO/User	\$189			

Table 12: TCO for Mid-Size Organization

- A mid-size organization in the 300-1,000 user range, deploying Google Apps can expect to save about 47% in costs over a three-year period, when compared to a similar size organization deploying Microsoft Exchange Server 2007.

2.10 ANTI-SPAM AND ANTI-VIRUS DEPLOYMENT

- Microsoft Exchange Server 2007 incorporates sophisticated security features for anti-spam and anti-virus protection. Nevertheless, it is common for organizations to layer multiple layers of protection. We asked organizations if they were using additional 3rd

party anti-spam or anti-virus products to protect their email environment. Mid-size organizations responded as follows:

- 2 organizations were deploying additional anti-spam and anti-virus product or services. The other 2 organizations in the sample were not.
- Google provides rich anti-spam and anti-virus protection through its Postini offering.
 - 1 organization was deploying additional anti-spam and anti-virus protection, whereas 3 organizations were not deploying anything other than the baseline Google Apps services.

3.0 CONCLUSIONS

- Table 24, below, summarizes the cost difference between Google Apps and Microsoft Exchange Server over a three-year period.
 - Google Apps is 3.2 times less expensive to deploy in the 1st year than Microsoft Exchange Server 2007 for a mid-size organization.
 - In the follow-on years 2 & 3, Google Apps is 1.6 times less expensive than Microsoft Exchange 2007 for a mid-size organization.

	Year 1 Mid-Size Bus.	Year 2 & 3 Mid-Size Bus.
Microsoft Exchange Server 2007		
Acquisition	\$111	
Maintenance	\$26	\$26
Storage	\$0.33	\$0.33
Setup & Config.	\$39	
Administration	\$102	\$102
Downtime	\$8	\$8
Training	\$8.81	

Total Employee Cost/Year	\$295	\$137
Google Apps		
Acquisition	\$50	\$50
Maintenance		
Storage	\$0.02	\$0.02
Setup & Config.	\$3	
Administration	\$36	\$36
Downtime	\$1	\$1
Training	\$0.60	
Total Employee Cost/Year	\$91	\$87
Cost Differential Google Apps vs. MS Exch 2007	3.2x	1.6x

Table 13: Google Apps vs. Microsoft Exchange Server 2007 – TCO for Mid-Sized Businesses