

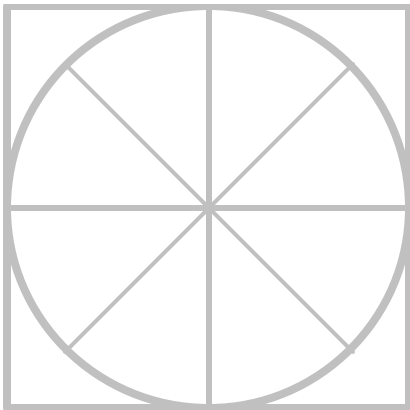
•
•
•
•
•
•
•

The Radicati Group, Inc.
595 Lytton Avenue
Palo Alto, CA 94301
Phone 650-322-8059
Fax 650-322-8061
<http://www.radicati.com>

The Radicati Group, Inc.

Microsoft Exchange 2003 Total Cost of Ownership

• • • • • • • • • •



A White Paper
www.radicati.com

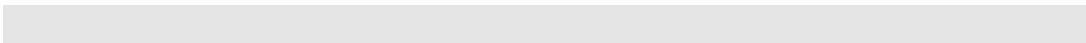


TABLE OF CONTENTS

1.0 Scope	2
2.0 Methodology.....	3
3.0 Executive Summary.....	4
4.0 Survey Sample	6
5.0 The Enterprise TCO Model.....	8
<i>5.1 General Assumptions</i>	<i>9</i>
6.0 Microsoft Exchange 2003 TCO.....	10
<i>6.1 Acquisition Costs.....</i>	<i>11</i>
<i>6.2 Maintenance Costs</i>	<i>15</i>
<i>6.3 Administration Costs.....</i>	<i>17</i>
<i>6.4 Migration and Upgrade Costs</i>	<i>18</i>
<i>6.5 Storage Costs</i>	<i>19</i>
<i>6.6 Downtime Costs.....</i>	<i>20</i>
<i>6.7 Training Costs.....</i>	<i>22</i>
<i>6.8 Microsoft Exchange 2003 Total Cost of Ownership</i>	<i>23</i>
7.0 Anti-Virus, Anti-Spam and Instant Messaging Use.....	26
8.0 Conclusions	27
9.0 Appendix A.....	28

Microsoft Exchange 2003 Total Cost of Ownership

An Assessment of the Acquisition and Operational Costs of Microsoft Exchange 2003 in Enterprise Environments

1.0 Scope

This analysis of the Total Cost of Ownership (TCO) of Microsoft Exchange 2003 was conducted by The Radicati Group, Inc. in late 2003. The study provides extensive information on Exchange 2003's acquisition costs, administration costs, downtime, staffing requirements and much more.

A total of 4 Global 1000 organizations were surveyed as part of this study. The Microsoft Exchange 2003 customers surveyed for this study were beta users.

In addition, the study also compares and contrasts the TCO of Microsoft Exchange 2003 with that of IBM Lotus Software Notes/Domino 6 (ND6). The TCO information on ND6 is based on an earlier study conducted in March 2003 by The Radicati Group, Inc., "Messaging Total Cost of Ownership 2003 - in Enterprise and Service Provider Environments." Key highlights from that study are re-printed here for ease of comparison between the two environments.

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

Sponsorship of the Study

This study was sponsored by Microsoft Corporation.

2.0 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, email or in person. Respondents interviewed were largely senior managers, high level administrators, telecommunications managers, and IT managers knowledgeable about messaging and collaboration within each of the Enterprise organizations surveyed. A description of the survey population is provided in the Survey Profile section of this study. The full questionnaire used is included in Appendix A of this study.

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

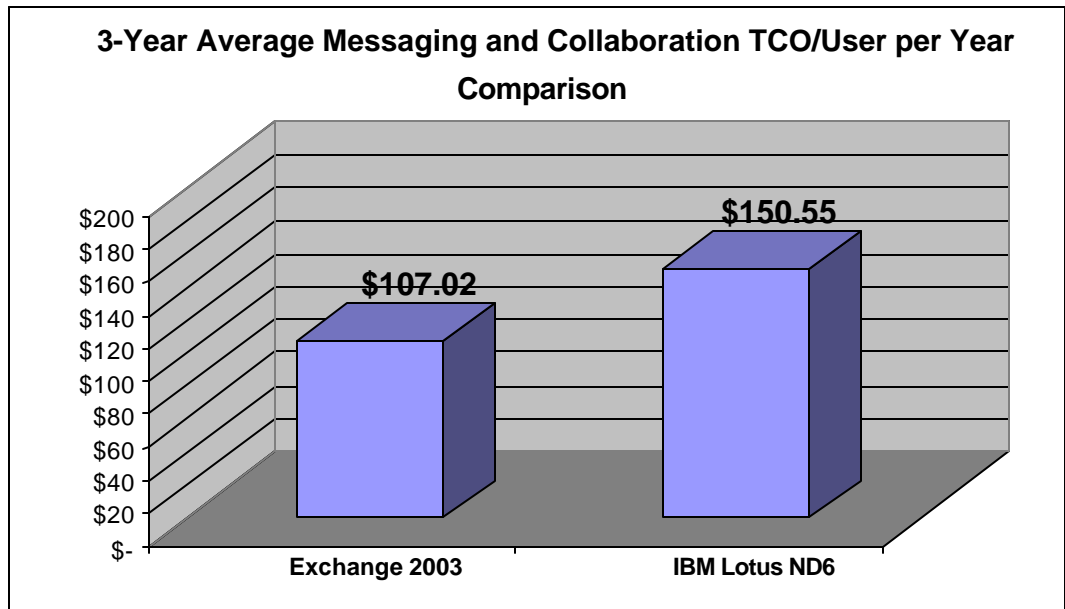
3.0 Executive Summary

- This Total Cost of Ownership study shows that Microsoft Exchange 2003 offers a significant Total Cost of Ownership advantage over IBM Lotus Software Notes/Domino 6 (ND6), on the order of 41%. There are cost advantages in a number of key areas, including Downtime and Training.
- Exchange 2003 was released in October 2003; it was designed to be a “modular upgrade,” comparable to the upgrade from Exchange 5.0 to Exchange 5.5, as opposed to a major architectural upgrade. Exchange 2003 will operate on the Windows 2000 Server or the upcoming Windows Server 2003.
- For this study, we surveyed 4 organizations which were provided as customer references by Microsoft Corporation. These consist of:
 - Global 1000 corporations (75%)
 - Government organizations (25%)
- This study differentiates between:
 - i. *Messaging and Collaboration TCO* - which can be used to compare the cost-efficiency of different messaging and collaboration products.
 - ii. *Loaded Messaging TCO* – which includes Platform and Infrastructure costs, and can be used by companies to benchmark operating costs and understand the financial impact of platforms and the full infrastructure typically required for each product.
- The following table shows the Microsoft Exchange 2003 Messaging and Collaboration TCO over a 3-year period.

Exchange 2003 Messaging and Collaboration Costs	Year 1	Year 2	Year 3
Messaging & Collaboration Acquisition Cost per User	\$ 59.29	N/A	N/A
Messaging & Collaboration Maintenance Cost per User	N/A	\$ 14.82	\$ 14.82
Administration Cost per User	\$ 22.17	\$ 22.17	\$ 22.17
Migration & Upgrades Cost per User	\$ 5.70	\$ 5.70	\$ 5.70
Storage Cost per User	\$ 10.50	\$ 10.50	\$ 10.50
Downtime Cost per User	\$ 36.81	\$ 36.81	\$ 36.81
Training Cost per User	\$ 2.20	\$ 2.20	\$ 2.20
Messaging and Collaboration TCO per User/ Year	\$ 136.67	\$ 92.20	\$ 92.20
3-Year Average Messaging and Collaboration TCO per User/ Year			\$ 107.02

Microsoft Exchange 2003 Total Cost of Ownership

- The study also compares and contrasts the TCO of Microsoft Exchange 2003 to that of IBM Lotus Software Notes/Domino 6 (ND6) from our March 2003 TCO Study “Messaging Total Cost of Ownership 2003 - in Enterprise and Service Provider Environments.”
- The figure, below, compares the 3-Year Average Messaging and Collaboration TCO per User/Year of Exchange 2003 with that of IBM Lotus Software Notes/Domino 6 (ND6).



4.0 Survey Sample

- The Microsoft Exchange 2003 enterprise survey sample consists of 4 organizations which were provided as customer references by Microsoft Corporation. It consists of:
 - Global 1000 corporations (75%)
 - Government organizations (25%)
- The organizations surveyed represent the following vertical industries:
 - education (50%)
 - government (25%)
 - travel and hospitality (25%).
- In terms of company size, the breakdown of the organizations surveyed is as follows:
 - 25% of the organizations surveyed are very large email deployments with more than 10,000 email users.
 - 75% of the organizations surveyed have between 5,000 and 10,000 email users.

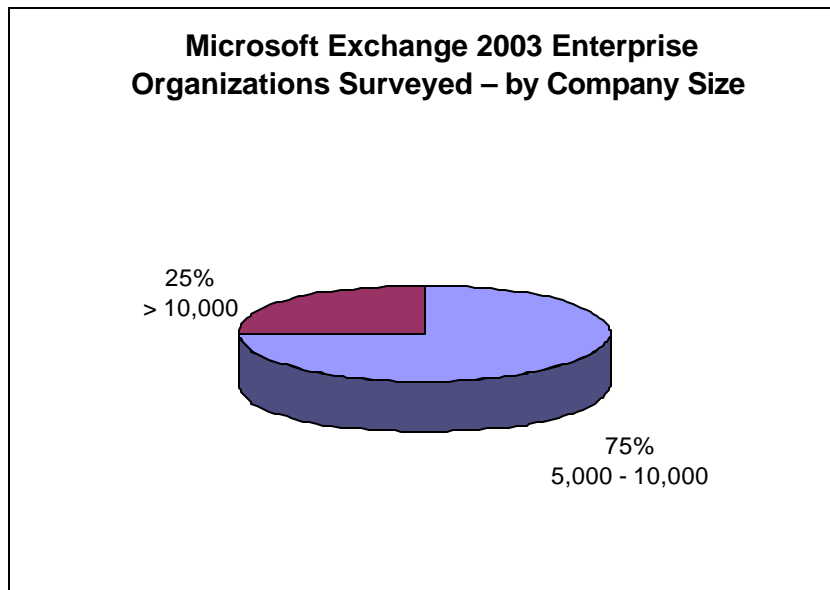


Figure 1: Organizations Surveyed – by Company Size

Figure 2, shows the organizations' geographical breakout:

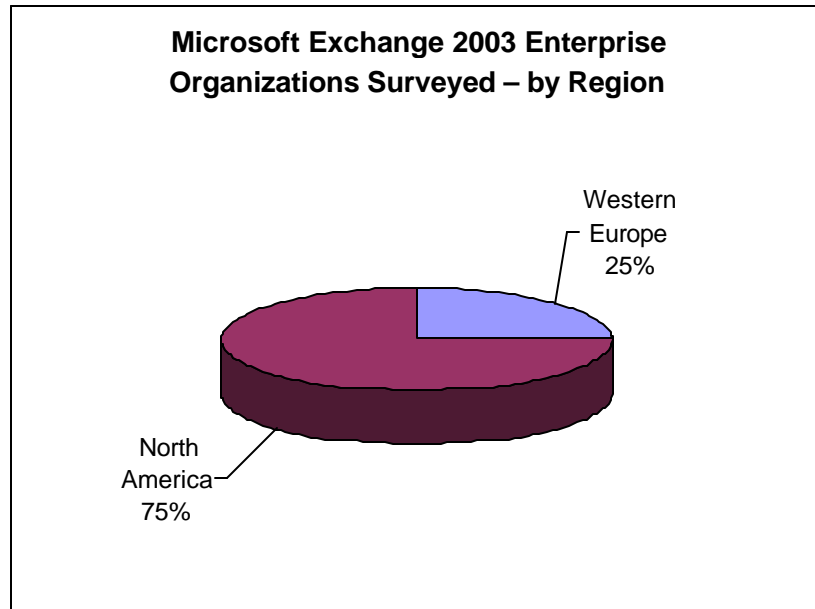


Figure 2: Organizations Surveyed – by Region

4.1 Survey Sample of IBM Lotus Software Notes/Domino 6 (ND6)

- This study compares and contrasts the TCO of Microsoft Exchange 2003 to that of IBM Lotus Software Notes/Domino 6 (ND6). To that effect, we briefly summarize here the make-up of the ND6 survey sample used in that study.
- The ND6 survey sample from The Radicati Group, Inc.'s March 2003 TCO Study consisted of 4 Global 1000 organizations which were provided as customer references by IBM Lotus Software.
- The 4 organizations surveyed represented the following vertical industries:
 - banking and financial services (75%)
 - manufacturing (25%)
- In terms of company size, the 4 organizations surveyed were as follows:
 - 50% of the companies surveyed were very large email deployments with more than 10,000 email users.
 - 25% of the companies surveyed had between 5,000 and 10,000 email users.
 - 25% of the companies surveyed had less than 5,000 users.

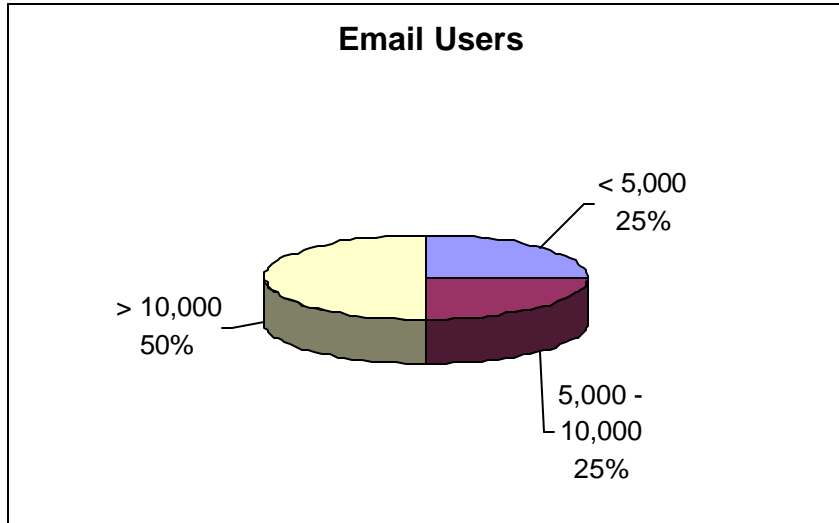


Figure 3: Organizations Surveyed – by Company Size

- In terms of geographic distribution, the 4 organizations surveyed were all from North America.

5.0 The Enterprise TCO 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 money.

The Enterprise TCO model used in this study is exactly the same as that used in our previous studies, as well as our March 2003 TCO study.

The model looks at the following key components of cost:

- **Acquisition Costs** - Acquisition Costs refer to the costs of purchasing all the hardware and software which makes up the Messaging and Collaboration Environment. In measuring acquisition costs within enterprise environments, we look at costs along two lines:
 - *Messaging and Collaboration Software Acquisition Costs* - which allows us to compare products.
 - *Platform and Messaging Infrastructure Acquisition Costs* - which gives an idea of what organizations are actually spending to provide messaging and collaboration to their employees.

- ***Maintenance Costs*** - These comprise the cost of yearly support contracts for all hardware and software components. Similarly to Acquisition Costs, Maintenance Costs can be looked at along two dimensions:
 - *Messaging and Collaboration Software Maintenance.*
 - *Platform and Messaging Infrastructure Maintenance.*
- ***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.
- ***Migration and Upgrade Costs*** - Migration and upgrades represent a major cost component in most enterprise organizations. For the purpose of this model, we are assuming 1 major upgrade a year, and 2 minor upgrades a year. This is in line with what most organizations have told us in this survey, as well as many other corporate surveys which we have undertaken in the past two years.
- ***Storage Costs*** – Storage Costs represent the cost of email storage per user per year. This can vary greatly among organizations, and even within the same organization, with different tiers of users being allotted different amounts of storage space.
- ***Downtime Costs*** - These include any lost productivity caused by failure (i.e. downtime) of the messaging systems. These include both scheduled and unscheduled downtime.
- ***Training Costs*** - These include training costs for Messaging Administrators, and Help Desk Staff.

5.1 General Assumptions

All financial information shown in this study is in US\$, unless explicitly noted.

The TCO model used in this study makes the following assumptions regarding salaries:

- \$60/hour for Full-Time Messaging Administrators fully loaded (i.e. includes overhead, benefits, taxes etc.), or \$124,800/year.

- \$60/hour for Part-Time Messaging Administrators fully loaded (i.e. includes overhead, benefits, taxes etc.), or \$124,800/year.
Note: Often, the salary of a Part-Time Messaging Administrator is lower than that of a Full-Time Messaging Administrator, but for simplicity's sake, our model assumes that they have the same salary.
- \$30/hour for Help Desk Staff fully loaded (i.e. includes overhead, benefits, taxes etc.), or \$62,400/per year.
- \$35/hour for Messaging Users fully loaded (i.e. includes overhead, benefits, taxes etc.), or \$72,800/per year.

6.0 Microsoft Exchange 2003 TCO

Microsoft environments analyzed in this study are running Microsoft Exchange 2003 (Exchange 2003) on a variety of hardware platforms including: Compaq Proliant 6400/DL580/ML570, IBM Netfinity 5000, and xSeries 220.

Microsoft deployments have an average of 21,930 messaging users, deployed over an average of 44 servers. This yields an average 498 users per server; however, the average maximum number of users per server was 3,684.

Enterprises running Exchange 2003 are very distributed with about 50% of messaging users connecting from remote locations to do their work.

In terms of directory services, the organizations are relying on Exchange 2003 directory services, Active Directory, for messaging and collaboration.

On average, enterprises deploying Microsoft Exchange 2003 have 1.88 full time messaging administrators, 1.75 part-time administrators and 9.75 help desk staff.

Messaging and Collaboration Staff	Exchange 2003
FT Administrators	1.88
PT Administrators (i.e. 50% of time or less)	1.75
Help Desk Staff	9.75

Table 1: Exchange 2003 Staffing Chart

The following table compares the Messaging and Collaboration staffing of Exchange 2003 with that of IBM Lotus Software Notes/Domino 6 (ND6).

Messaging and Collaboration Staff	Exchange 2003	IBM Lotus Software
FT Administrators	1.88	7
PT Administrators (i.e. 50% of time or less)	1.75	3
Help Desk Staff	9.75	6

Table 2: Staffing Chart Comparison between Exchange 2003 and IBM Lotus ND6

In terms of security products, Microsoft organizations surveyed indicated that they are using Exchange 2003's own encryption. In addition, popular products for virus control include McAfee Group Shield, Trend Micro and Trend Virus Wall.

6.1 Acquisition Costs

In terms of pricing, the Acquisition Costs for Exchange 2003 in this study assume a mix of Exchange 2003's Enterprise Server and Standard Server editions, as follows: 75% Standard Servers, and 25% Enterprise Servers. Similar to Exchange 2000 pricing, Exchange 2003 Standard Server software licenses cost about \$588, and Enterprise Server software licenses cost about \$3,365.

Exchange 2003 Enterprise Server is designed for larger organizations with greater requirements. It enables organizations to create multiple storage groups. It features all the functionality of the Exchange 2003 Server, plus increased scalability with no limitation on the size of the database, multiple databases per server, and support for distributed configurations.

Organizations can expect to pay \$57 for an Exchange 2003 CAL, which includes rights to the Outlook 2003 CAL, as well as Outlook Web Access, Outlook Mobile Access and Exchange Server ActiveSync.

Other costs include the cost of the client desktop platform, and any additional infrastructure costs such as: bandwidth, firewalls, storage systems, support, administration, etc.

To obtain a full understanding of the total cost of messaging and collaboration for organizations, we also looked at the Loaded Messaging and Collaboration Acquisition costs, which include the following cost components:

- The cost of the computing platform (both hardware and software) used for messaging and collaboration.
- The share of the client desktop platform (both hardware and software)

attributed to messaging and collaboration.

- The cost of any additional network infrastructure, such as: network bandwidth, firewalls, supplies of media, including all labor required to support these, etc.

The average cost of the client desktop platform in the Exchange 2003 environments surveyed was \$2,035.

In this study, we look at Acquisition Costs along 2 lines:

1. Messaging and Collaboration Acquisition Costs, which allow us to compare different messaging and collaboration products. The Messaging and Collaboration Acquisition Cost per User for Microsoft Exchange 2003 is \$59.29.
2. Platform and Infrastructure Acquisition Costs, which gives an idea of the total amount which organizations are spending to provide messaging and collaboration to their employees. The Platform and Infrastructure Acquisition Cost per User for Microsoft Exchange 2003 is \$450.39.

Acquisition Costs for Exchange 2003 in the environments we surveyed are as follows:

Microsoft Exchange 2003 Total Cost of Ownership

Acquisition Costs	Quantity	Price	Exchange 2003
Number of Users	21,930		
Number of Servers	44		
Messaging and Collaboration Acquisition			
Messaging and Collaboration Server Software:			
75% standard server	33	\$ 588	\$ 19,404
25% enterprise server	11	\$ 3,365	\$ 37,015
Messaging and Collaboration Client Software:			
90% Exchange 2003 CAL	19,737	\$ 57	\$ 1,125,009
10% OWA CAL	2,083	\$ 57	\$ 118,731
Total			\$ 1,300,159
Messaging and Collaboration Acquisition Cost/User			\$ 59.29
Platform and Infrastructure Acquisition			
Total Messaging Server Platform Cost (Hardware and OS)			
	44	\$ 30,000	\$ 1,320,000
Client Desktop Platform (Hardware and OS)			
	21,930	\$ 2,035	
% Attributed to Messaging	15%	\$ 44,627,550*	\$ 6,694,133
Any Additional Infrastructure: bandwidth, firewalls, storage systems, support and administration, etc.			
			\$ 1,862,858
Total			\$ 9,876,991
Platform and Infrastructure Acquisition Cost/User			\$ 450.39

*Note: This figure is the cost of the Desktop Platform (\$2,035) multiplied by 21,930 users.

**Note: All prices assume volume discounts.

Table 3: Acquisition Costs for Exchange 2003

Figures 4 and 5, compare the Acquisition Costs of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6). While Exchange 2003 has a relatively higher Acquisition Cost than IBM Lotus Software ND6, it is important to note that there is great variance in the number of users and servers between the environments surveyed. ND6 environments surveyed were using a slightly more expensive platform, which increases their overall costs when looking at the full Platform and Infrastructure Acquisition cost.

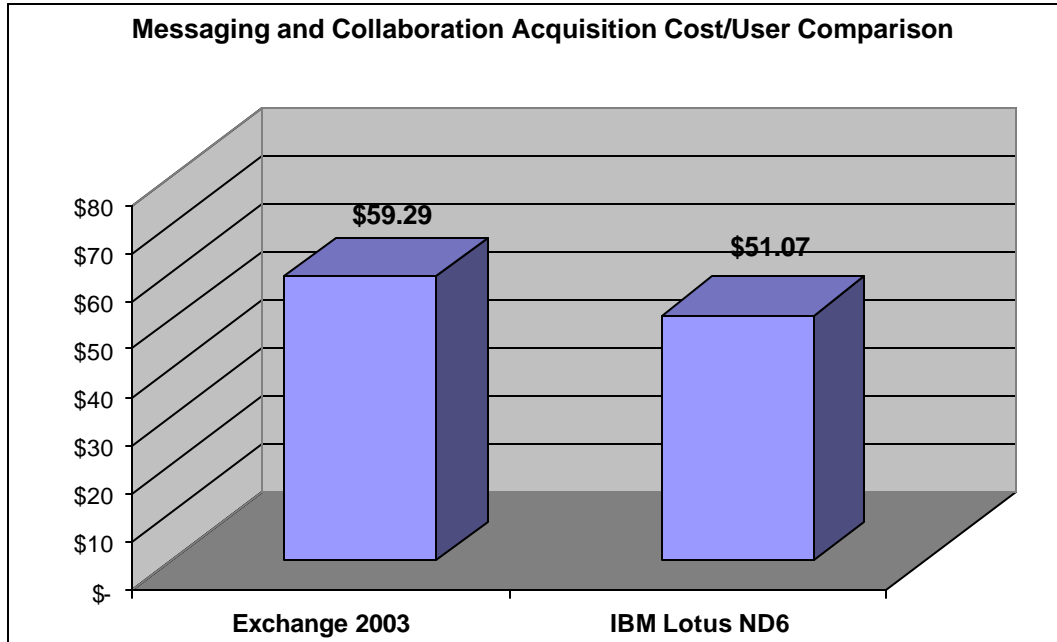


Figure 4: Messaging and Collaboration Acquisition Cost/User Comparison between Exchange 2003 and IBM Lotus ND6

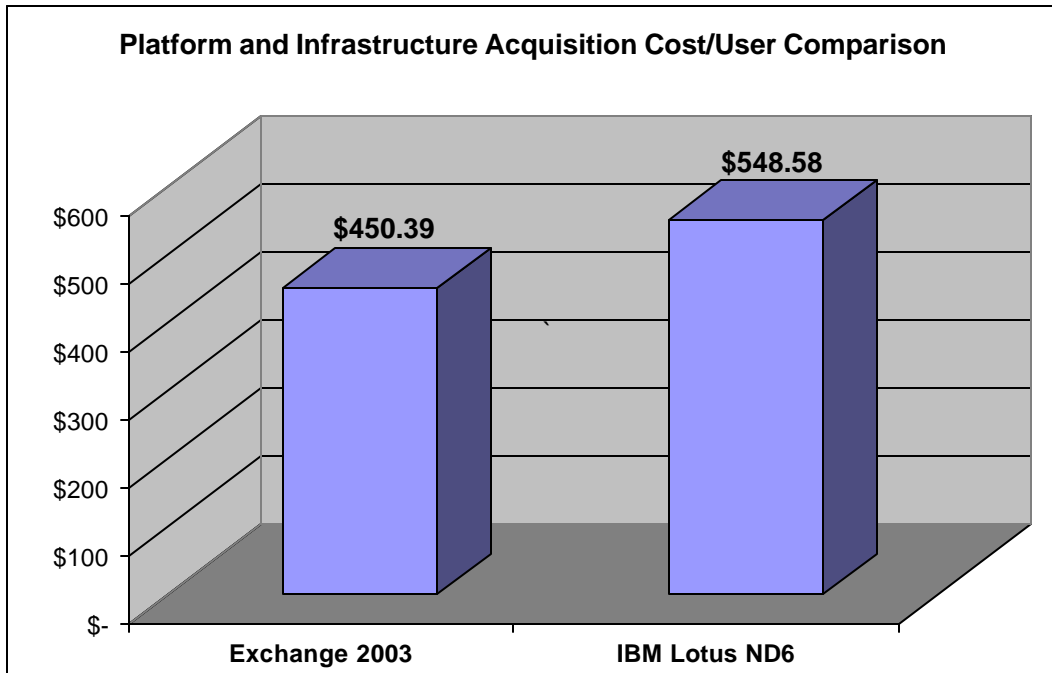


Figure 5: Platform and Infrastructure Acquisition Costs Comparison between Exchange 2003 and IBM Lotus ND6

6.2 Maintenance Costs

Maintenance costs for messaging and collaboration for Exchange 2003 are based on the following cost components:

- Maintenance of the Messaging and Collaboration Software, which for Exchange 2003 is \$14.82 per user per year.
- Maintenance of the Share of Computing Platform and Infrastructure Maintenance, which for Exchange 2003 is \$90.08 per user per year.

Maintenance Costs for Exchange 2003 per user per year are as follows:

Maintenance Costs	Quantity	Price	Exchange 2003
Messaging and Collaboration Maintenance			
Server Software Maintenance	25%	\$ 56,419	\$ 14,105
Client Software Maintenance	25%	\$ 1,243,740	\$ 310,935
Total			\$ 325,040
Messaging and Collaboration Maintenance Cost/User			\$ 14.82
Platform and Infrastructure Maintenance			
Messaging Server Platform Maintenance (HW and OS)	20%	\$ 1,320,000	\$ 264,000
Client Desktop Platform Maintenance (HW and OS)	20%	\$ 6,694,133	\$ 1,338,827
Additional Infrastructure Maintenance	20%	\$ 1,862,858	\$ 372,572
Total			\$ 1,975,399
Platform and Infrastructure Maintenance Cost/User			\$ 90.08

Table 4: Maintenance Costs for Exchange 2003

The following figures compare the Maintenance Costs of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6). ND6 environments surveyed were using a slightly more expensive platform, which increases their overall costs when looking at the full Platform and Infrastructure Acquisition cost. This ultimately increases their Maintenance costs which are a percentage of the Acquisition costs.

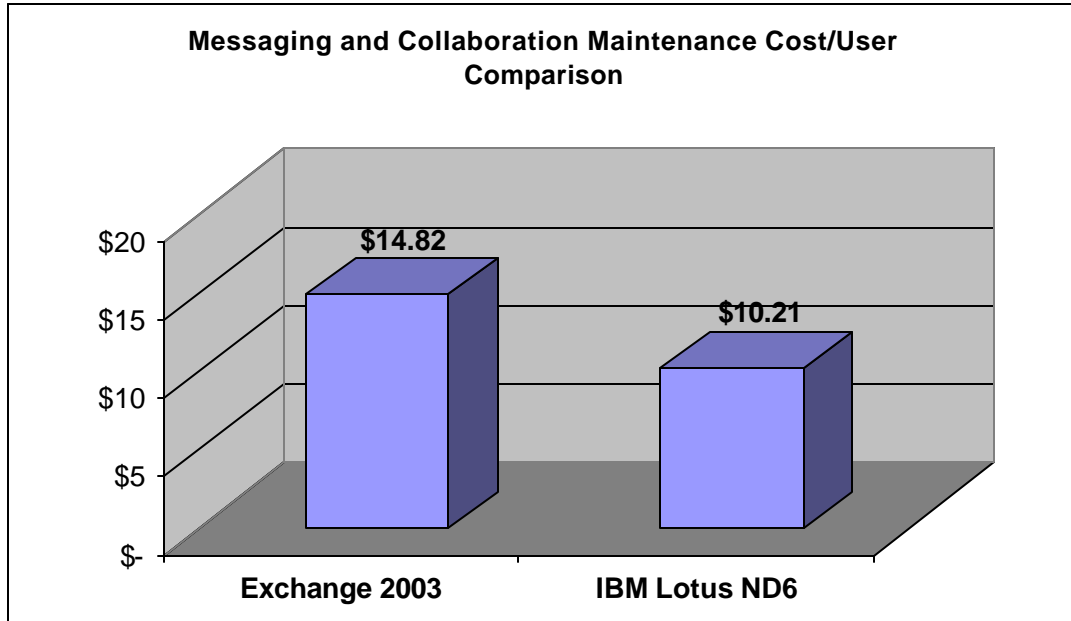


Figure 6: Messaging and Collaboration Maintenance Cost/User Comparison between Exchange 2003 and IBM Lotus ND6

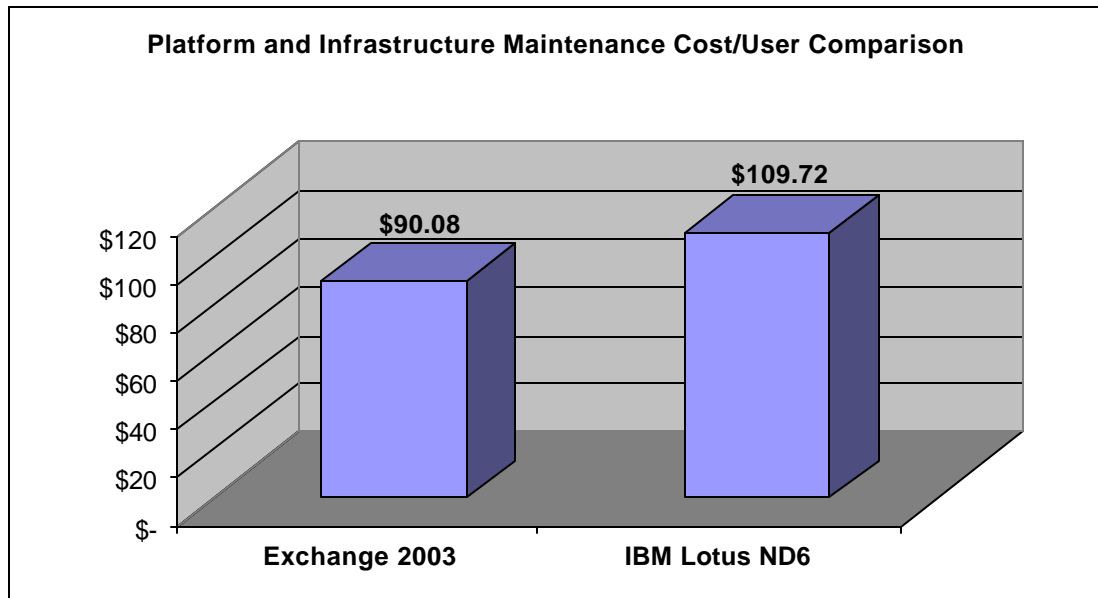


Figure 7: Platform and Infrastructure Maintenance Cost/User Comparison between Exchange 2003 and IBM Lotus ND6

6.3 Administration Costs

Exchange environments generally support fewer user-related administrative tasks compared to other systems, which tend to take up messaging administrators' time.

Administration Costs for Exchange 2003 are \$22.17 per user per year, as follows:

Administration Costs	No. of Administrators	Total Hours Per Week (for ALL administrators)	Salary per Hour	No. of Weeks	Exchange 2003
adding/deleting users	2.75	28.65	\$60.00	52	\$ 89,388
managing distribution lists	2.75	8.28	\$60.00	52	\$ 25,834
managing access controls	2.75	3.40	\$60.00	52	\$ 10,608
managing user passwords	2.75	4.53	\$60.00	52	\$ 14,134
performing backup and restores	2.75	6.28	\$60.00	52	\$ 19,594
administering web-access mail	2.75	1.53	\$60.00	52	\$ 4,774
administering rich clients	2.75	53.40	\$60.00	52	\$ 166,608
administering security	2.75	4.40	\$60.00	52	\$ 13,728
administering rules and directory management	2.75	1.78	\$60.00	52	\$ 5,554
administering remote client access	2.75	6.28	\$60.00	52	\$ 19,594
managing messaging-based applications	2.75	1.20	\$60.00	52	\$ 3,744
end-user support issues	2.75	2.40	\$60.00	52	\$ 7,488
administering anti-virus	2.75	19.40	\$60.00	52	\$ 60,528
administering anti-spam	2.75	8.40	\$60.00	52	\$ 26,208
Total		5.90	\$60.00	52	\$ 18,408
		155.83			\$ 486,192
Administration Cost/User					\$ 22.17

**Note: The 2.75 administrators comprises all 1.88 of the Full-Time Messaging Administrators, and 50% of the 1.75 Part-Time Messaging Administrators, which yields 1.88+0.87=2.75 total Messaging Administrators.*

Table 5: Administration Costs for Exchange 2003

The following figure compares the Administration Cost of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6).

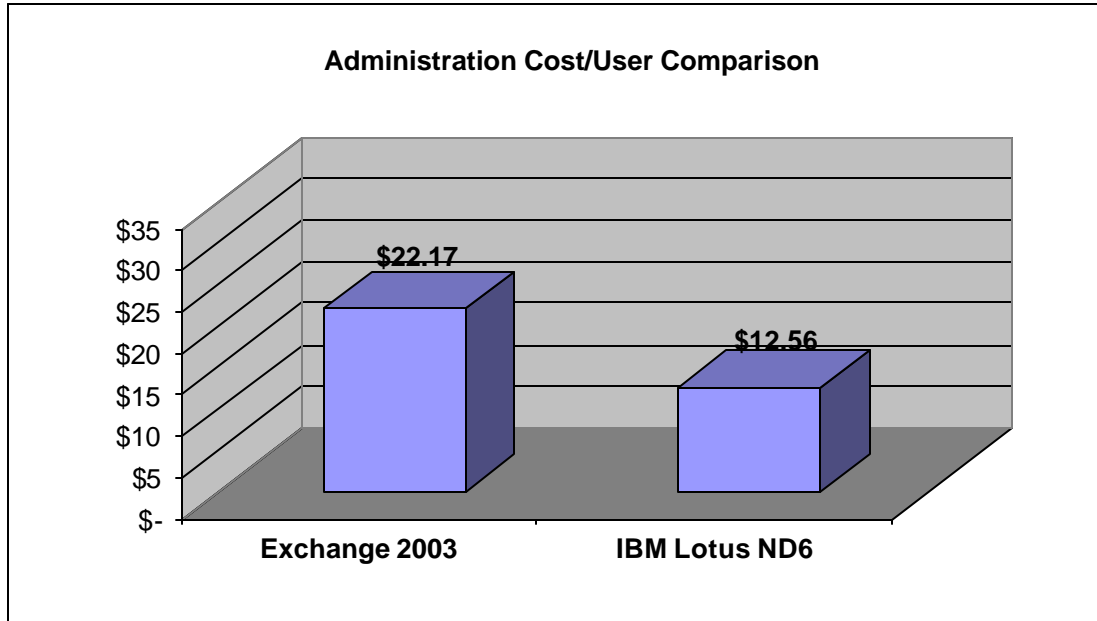


Figure 8: Administration Cost/User Comparison between Exchange 2003 and IBM Lotus ND6

6.4 Migration and Upgrade Costs

In this study, we assume 1 major upgrade and 2 minor upgrades per year. Upgrade expenses include mainly the time of administrators to install, test and reconfigure various aspects of their environments. All the organizations which we surveyed indicated they spend a great deal of their time on a yearly basis on migration and upgrade tasks, regardless of the products deployed.

It is worth noting that the administrators which we interviewed had a slightly different interpretation of migration and upgrades than vendors do. Essentially while vendors anticipate the need for migration when there is a new major or minor software release, administrators in our survey used the term “migration and upgrade” to denote any type of transition in their current environments. This accounts for the fact that even environments, which last released a major software upgrade some time ago, or were only recently released, indicated they were spending a great deal of their time on migration and upgrades.

The key issue we were striving to measure was not how often upgrades take place, but rather how long it takes to carry out upgrades. How long it takes to carry out upgrades is a reflection of how flexible the messaging environment is, and how well designed the administrative tools are.

Migration and Upgrade Costs for Exchange 2003 are \$5.70 per user per year, as follows:

Migration & Upgrade Costs	No. of Administrators	Hours / Year (ALL administrators)	Quantity Affected	Salary per Hour	Exchange 2003
Major Upgrades (HW and SW)	2.75	1,675	1	\$ 60.00	\$ 100,500
Minor Upgrades (HW and SW)	2.75	205	2	\$ 60.00	\$ 24,600
Total					\$ 125,100
Migration & Upgrade Cost/User					\$ 5.70

Table 6: Migration and Upgrade Costs for Exchange 2003

Figure 9, below, compares the Migration and Upgrade Cost of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6).

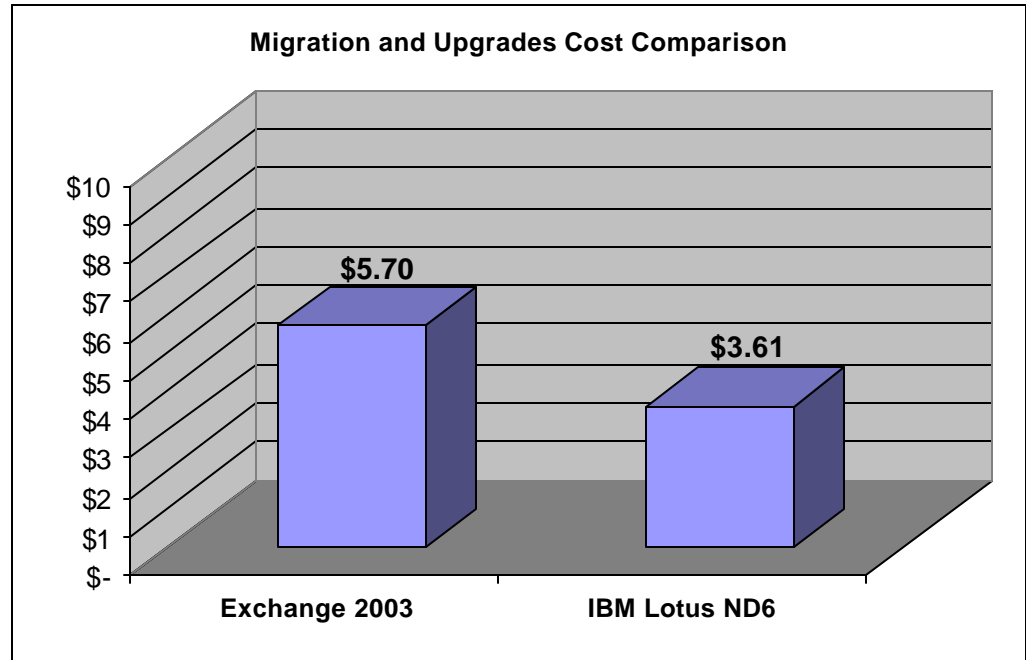


Figure 9: Migration and Upgrade Cost/User Comparison between Exchange 2003 and IBM Lotus ND6

6.5 Storage Costs

Exchange 2003 customers surveyed indicated they are spending an average of \$0.35/MB for storage. In order to provide a fair comparison, we assumed an equal amount of storage per user (i.e. 30MB) for all the environments surveyed, but we varied the cost of storage based on the cost per MB which was provided by the customers we surveyed.

Exchange 2003 Storage Costs are \$10.50 per user per year, as follows:

Storage Costs	Storage/User (MB)	Cost/MB	Exchange 2003
Storage allocated/user (MB)	30	\$0.35	\$ 10.50
Storage Cost/User			\$ 10.50

Table 7: Storage Costs for Exchange 2003

The following figure compares the Storage Cost of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6).

Based on the cost per MB it is clear that organizations are also deploying very different quality of storage devices. Storage costs varied greatly among the organizations surveyed. IBM Lotus Software environments averaged \$0.19/MB for storage. Also, the average storage size per user and storage management policies varied greatly among organizations.

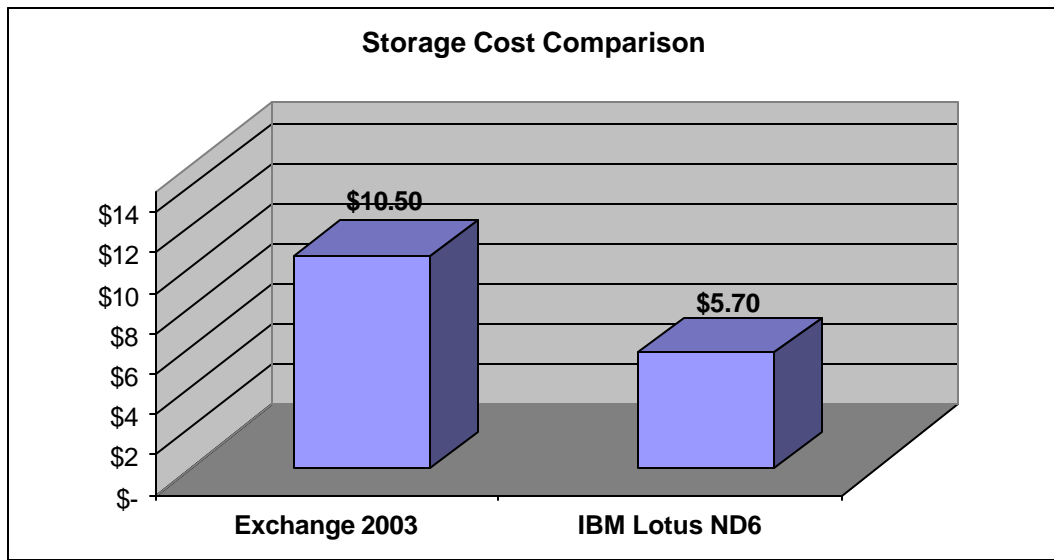


Figure 10: Storage Cost/User Comparison between Exchange 2003 and IBM Lotus ND6

6.6 Downtime Costs

Downtime is a reflection of the level of on-going maintenance required by each product (i.e. scheduled downtime), as well as the robustness of each product (i.e. un-scheduled downtime). Downtime Costs also include any lost productivity caused by failure of the messaging systems.

Two key factors contribute the most to the level of downtime:

Microsoft Exchange 2003 Total Cost of Ownership

- The relative newness of a product or release, which of course makes it more prone to failures and maintenance in the early months of production deployment.
- The number of users in the environments surveyed, since our TCO model assumes that un-scheduled downtime affects 25% of the total user population, the larger the population size the greater the financial impact of any un-scheduled downtime.

Exchange 2003 Downtime Costs are \$36.81 per user per year, as follows:

Downtime Costs	Avg. Hours/Month	Affected Personnel	No. of Months	Hourly Salary	Exchange 2003
Un-scheduled Downtime (affects 25% of population)	0.35	5,482	12	\$ 35.00	\$ 805,854
Scheduled Downtime	0.71	2.75	12	\$ 60.00	\$ 1,406
Total					\$ 807,260
Downtime Cost/User					\$ 36.81

Table 8: Downtime Costs for Exchange 2003

Figure 11, below, compares the Downtime Costs of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6). From these numbers, it is clear that Exchange 2003 has greatly improved on the robustness of its system with its highly-reduced downtime.

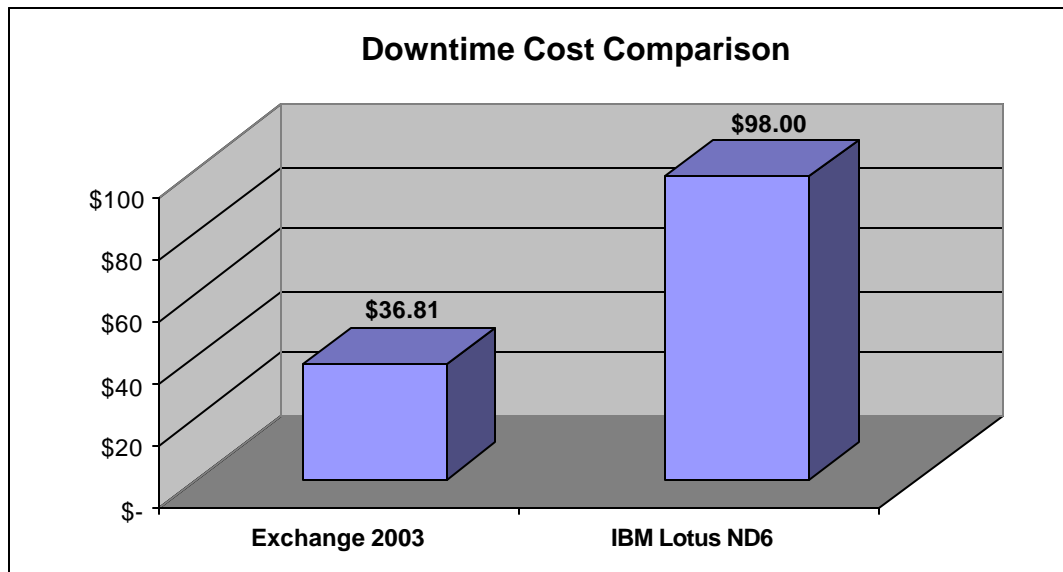


Figure 11: Downtime Costs Comparison between Exchange 2003 and IBM Lotus ND6

6.7 Training Costs

Training costs include training for all Messaging Administrators, and Help Desk Staff. Exchange 2003 Training Costs tend to be lower than most other messaging and collaboration systems as many administrators are already used to running Exchange systems, which has been on the market for a number of years.

Exchange 2003 Training Costs are \$2.20 per user per year, as follows:

Training (Yearly) Costs	Avg. Hours/Year	Affected Personnel	Hourly Salary	Exchange 2003
Messaging Administrators	107.50	2.75	\$ 60.00	\$ 17,738
Help Desk Staff	104.17	9.75	\$ 30.00	\$ 30,470
Total Yearly Cost				\$ 48,208
Training Cost/User				\$ 2.20

Table 9: Training Costs for Microsoft Exchange 2003

Figure 12, below, compares the Training Costs of Exchange 2003 to IBM Lotus Software Notes/Domino 6 (ND6). Training costs serve to gauge how easy the system is for administrators to learn and become proficient in.

Newer systems will require more training time as administrators and help-desk staff ramp up on all the features and functionality.

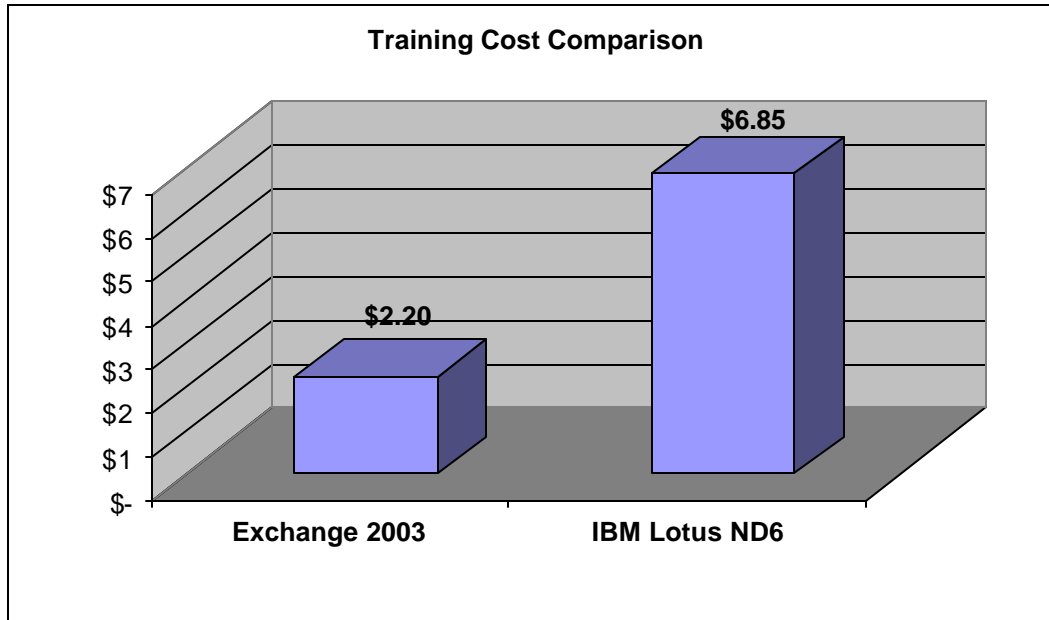


Figure 12: Training Costs Comparison between Exchange 2003 and IBM Lotus ND6

6.8 Microsoft Exchange 2003 Total Cost of Ownership

Microsoft Exchange 2003 Messaging and Collaboration TCO over a 3-year period is as follows:

Exchange 2003 Messaging and Collaboration Costs	Year 1	Year 2	Year 3
Messaging & Collaboration Acquisition Cost per User	\$ 59.29	N/A	N/A
Messaging & Collaboration Maintenance Cost per User	N/A	\$ 14.82	\$ 14.82
Administration Cost per User	\$ 22.17	\$ 22.17	\$ 22.17
Migration & Upgrades Cost per User	\$ 5.70	\$ 5.70	\$ 5.70
Storage Cost per User	\$ 10.50	\$ 10.50	\$ 10.50
Downtime Cost per User	\$ 36.81	\$ 36.81	\$ 36.81
Training Cost per User	\$ 2.20	\$ 2.20	\$ 2.20
Messaging and Collaboration TCO per User/ Year	\$ 136.67	\$ 92.20	\$ 92.20
3-Year Average Messaging and Collaboration TCO per User/ Year			\$ 107.02

Table 10: Exchange 2003 Messaging and Collaboration TCO per User per Year

Exchange 2003's 3-Year Messaging and Collaboration TCO comes up to an average of \$107.02 per user per year for an organization of 21,930 users.

Figures 13 and 14, below, show the Year 1 Messaging and Collaboration TCO per User/Year and the 3-Year Average Messaging and Collaboration TCO per User/Year of Exchange 2003 and IBM Lotus Software Notes/Domino 6 (ND6).

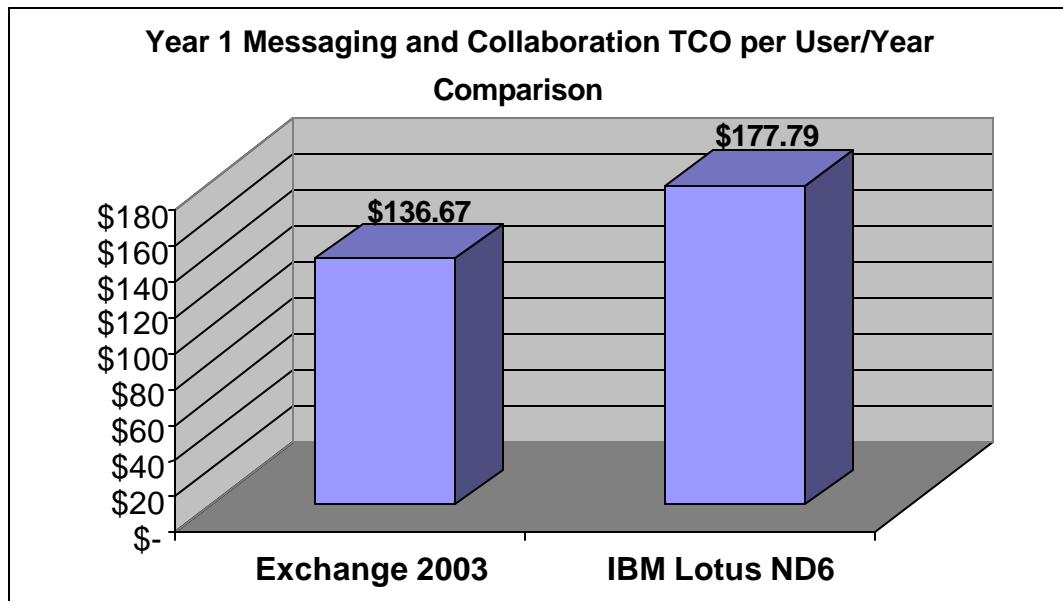


Figure 13: Year 1 Messaging and Collaboration TCO per User/Year Comparison between Exchange 2003 and IBM Lotus ND6

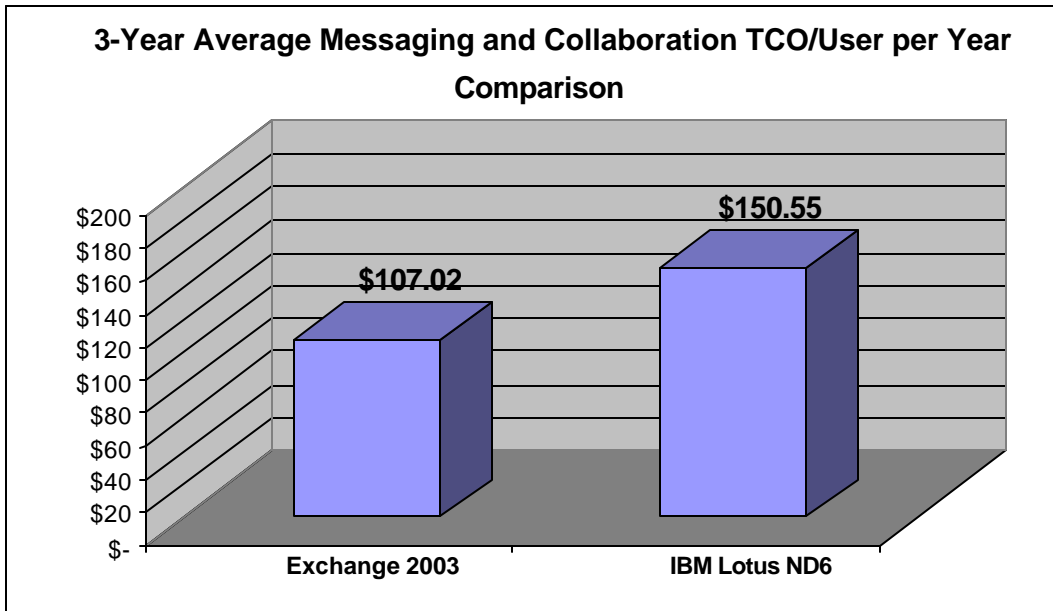


Figure 14: 3-Year Average Messaging and Collaboration TCO per User/Year Comparison between Exchange 2003 and IBM Lotus ND6

We also attempt to estimate the Loaded Messaging and Collaboration TCO, taking into account all platform and infrastructure costs. This number can vary greatly due to hardware, client software and implementation decisions. The average 3-Year Platform and Infrastructure cost per user in Microsoft Environments amounts to \$210.18 per user, as shown in the following table:

Exchange 2003 Platform and Infrastructure Costs	Year 1	Year 2	Year 3
Platform and Infrastructure Acquisition Cost/User	\$ 450.39	N/A	N/A
Platform and Infrastructure Maintenance Cost/User	N/A	\$ 90.08	\$ 90.08
Platform and Infrastructure TCO per User/Year	\$ 450.39	\$ 90.08	\$ 90.08
3-Year Average Platform and Infrastructure TCO per User/ Year	\$ 210.18		

Table 11: Exchange 2003 Platform and Infrastructure Cost per User

Adding the messaging-only and the computing platform and infrastructure costs per user, we find that the average 3-Year Loaded Cost of Ownership per Year for Exchange 2003 is \$317.21, as shown in the following table:

Exchange 2003 Loaded Messaging and Collaboration TCO	Year 1	Year 2	Year 3
Messaging and Collaboration TCO per User/Year	\$ 136.67	\$ 92.20	\$ 92.20
Platform and Infrastructure TCO per User/Year	\$ 450.39	\$ 90.08	\$ 90.08
Loaded Messaging and Collaboration TCO per User/Year	\$ 587.06	\$ 182.28	\$ 182.28
3-Year Average Loaded Messaging and Collaboration TCO per User/Year			\$ 317.21

Table 12: Exchange 2003 Loaded Cost of Ownership per User per Year

The following figure shows the 3-Year Average Loaded Messaging and Collaboration TCO per User/Year of Exchange 2003, comparing it to IBM Lotus Software Notes/Domino 6 (ND6).

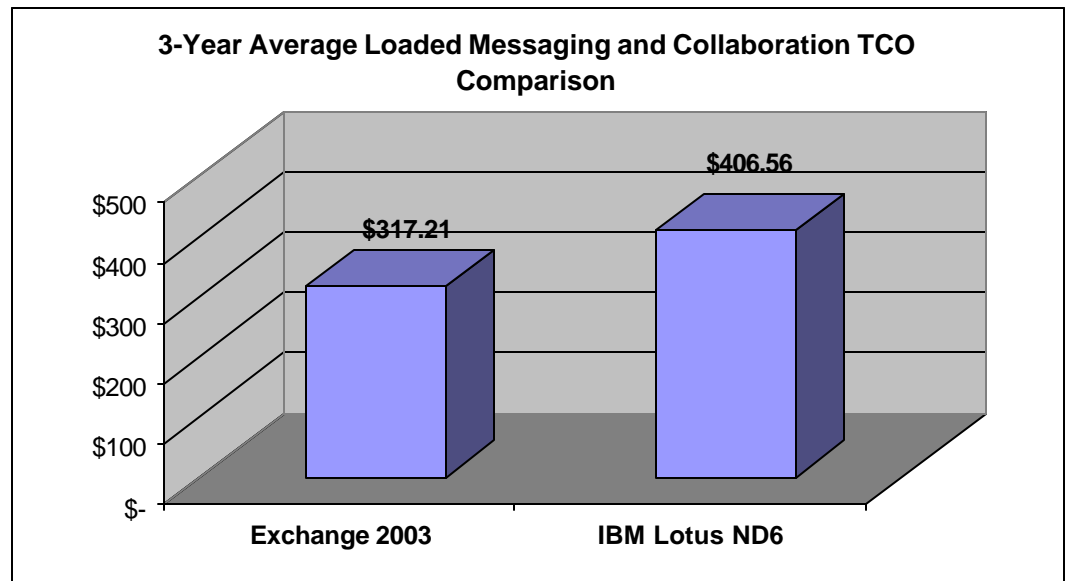


Figure 15: 3-Year Average Loaded Messaging and Collaboration TCO per User/Year Comparison between Exchange 2003 and IBM Lotus ND6

7.0 Anti-Virus, Anti-Spam and Instant Messaging Use

Antivirus Software

Anti-virus software in use is with Exchange 2003 customers from McAfee and Trend Micro. On average it took 1 hour to install anti-virus software on a new server for the first time, and 1.3 hours a week to administer it.

Anti-Spam Software

Anti-spam software in use is Exchange 2003 customers from Trend Micro. On average it took 1 hour to install anti-virus software on a new server for the first time, and 0.1 hours a week to administer it.

Instant Messaging Software

Instant messaging software, if in use with Exchange 2003 customers, is from Microsoft's Live Communications Server, and runs on an average of 1 instant messaging server. On average it took 1 hour to install instant messaging software on a new server for the first time, and 0.5 hours a week to administer it as it is part of the Exchange 2003 software.

Microsoft Exchange 2003	
Anti-Virus	
Products in use	McAfee and Trend Micro
Avg. time to install (in hours)	1.0
Avg. hours/week to administer	1.3
Anti-spam	
Products in use	Trend Micro
Avg. time to install (in hours)	1.0
Avg. hours/week to administer	0.1
Instant Messaging Software	
What product	Microsoft Live Communications Server
# Dedicated IM Servers	1.0
# Person Mos. To customize look & feel	0.0
# Person Hrs To install SW on new server	1.0
# Person Hrs/Wk to administer	0.5

Table 13: Microsoft Exchange 2003 Summary of Anti-Virus, Anti-Spam and Instant Messaging Software

8.0 Conclusions

It is clear from the results of this TCO study that Microsoft Exchange 2003 offers significant cost of ownership benefits over IBM Lotus Software Notes/Domino 6 (ND6). There are cost reductions in a number of areas, such as Downtime and Training. Evidently, Microsoft has taken great care and paid heed to customer needs and requests to come up with a far more cost-effective messaging environment.

In comparison to IBM Lotus ND6 measured in the March 2003 TCO study, Microsoft Exchange 2003 has a Messaging and Collaboration TCO cost of \$107.02, followed by IBM Lotus ND6 with \$150.55.

In terms of 3-Year Average Loaded Messaging TCO, Microsoft Exchange 2003 is at \$317.21, followed by IBM Lotus ND6 with \$406.56.

9.0 Appendix A

**Microsoft Exchange 2003
Total Cost of Ownership Survey**

Site Profile:

Company Name _____
Respondent's Name _____
Address _____
City _____ **State** _____ **Zip** _____
Phone Number _____
Email _____
Number of Employees: _____
Industry: _____

A. ENVIRONMENT

1. How many email users there in your organization? _____
 - a) Of these, how many are on:

	<u>Number of Users</u>
i. Microsoft Exchange 5.5	_____
ii. Microsoft Exchange 2003	_____

2. How many **Microsoft Exchange 2003 servers** are there in your organization?

3. What is the Production Server Configuration for **Microsoft Exchange 2003**?
 - a) Hardware Server Model _____ Version _____
 - b) Software O/S _____ Version _____
 - c) Are you using clustered servers? _____ Yes _____ No
 - i. If yes, how many servers are there in a cluster? _____
 - ii. Of these, how many servers in the cluster are active? _____
 - iii. How many servers in the cluster are passive? (i.e. meaning they only act as "spare tires" in the event of a failure) _____

4. What is the average maximum number of users per **Microsoft Exchange 2003** server in your organization? _____

5. What is the total number of **Full-Time Messaging Administrators** in your organization? _____
 - a) Of these, how many are responsible for **Microsoft Exchange 2003**? _____
 - b) What percentage (%) of their time is spent on **Microsoft Exchange 2003**?

6. What is the total number of **Part-Time Messaging Administrators** in your organization? _____
 - a) Of these, how many are responsible for **Microsoft Exchange 2003**? _____
 - b) What percentage (%) of their time is spent on **Microsoft Exchange 2003**? _____

7. What is the total number of **Help-Desk Staff** in your organization? _____
 - a) Of these, how many are responsible for **Microsoft Exchange 2003**? _____
 - b) What percentage (%) of their time is spent on **Microsoft Exchange 2003**? _____

8. How many Internet Gateway servers are used with **Microsoft Exchange 2003**? _____

9. What is the percentage of users who connect remotely on **Microsoft Exchange 2003**? _____

10. What messaging-related security products are in use with **Microsoft Exchange 2003**? _____

11. What types of desktop clients are used in your organization with **Microsoft Exchange 2003**? (i.e. Web mail, Outlook etc.) Please specify client type and % used by users in your organization.
 - a) Client Type 1 _____ % Used _____
 - b) Client Type 2 _____ % Used _____
 - c) Client Type 3 _____ % Used _____

B. ADMINISTRATION

*Please answer the following questions only for **Microsoft Exchange 2003**.*

Please give total time per week in hours for ALL administrators

12. How many hours are spent during an average week on the following tasks:
 - a) Adding/deleting users _____
 - b) Managing distribution lists _____
 - c) Managing access controls _____
 - d) Managing user passwords _____
 - e) Performing backups/restores _____
 - f) Administering web-mail access _____
 - g) Administering rich clients _____
 - h) Administering security features _____
 - i) Administering rules and filters _____

- j) Directory Management _____
- k) Administration of remote access clients _____
- l) Managing messaging-based applications _____
- m) End-user support issues _____
- n) Adding/deleting vacation messages or other tasks for end users _____
- o) Administration of anti-virus controls _____
- p) Administration of anti-spam controls _____

C. MIGRATION AND UPGRADES

Please answer the following questions only for Microsoft Exchange 2003.

- 13. How many administrator hours were spent per year to migrate to **Microsoft Exchange 2003**? (both hardware and software)? _____
- 14. How many administrator hours are spent per year on **Microsoft Exchange 2003** minor upgrades (both hardware and software)? _____

D. PLATFORM COSTS

- 15. Share of Desktop Computing Platform in conjunction with **Microsoft Exchange 2003**:

 - a) What is the estimated total cost per **Microsoft Exchange 2003** user of their desktop computing platform, including: PCs, LAN/WAN, systems, storage hardware, OS and support and administration etc. Cost \$: _____
 - b) What % of that can be attributed to messaging and collaboration? _____

- 16. Share of Server Computing Platform in conjunction with **Microsoft Exchange 2003**:

 - a) What is the estimated total cost per **Microsoft Exchange 2003** user of their server computing platform, including: Servers, LAN/WAN, systems, storage hardware, OS and support and administration etc. Cost \$: _____
 - b) What % of that can be attributed to messaging and collaboration? _____

E. STORAGE COSTS

- 17. Storage costs in conjunction with **Microsoft Exchange 2003**:
 - a) How much storage in MBs is normally allocated per **Microsoft Exchange 2003** user? _____
 - b) What is your estimated cost per MB? _____

F. DOWNTIME

*Please answer the following questions only for **Microsoft Exchange 2003**.*

18. What is the number of hours of *un-scheduled* downtime of **Microsoft Exchange 2003** per month? _____
19. What is the number of hours of *scheduled* downtime of **Microsoft Exchange 2003** per month? _____

G. TRAINING

*Please answer the following questions only for **Microsoft Exchange 2003**.*

20. How many total hours were spent on **Microsoft Exchange 2003** administrator training per year? _____
21. How many hours were spent on **Microsoft Exchange 2003** help desk training per year? _____

I. APPLICATIONS & THIRD PARTY SOFTWARE

(Note: these questions are being included for general information purpose only, the information collected will not be included in the TCO numbers for messaging and collaboration.)

*Please answer the following questions **only** in conjunction with **Microsoft Exchange 2003**.*

Anti-Virus Software

- a) What product do you use? _____
- b) How many person/hours are required to install Virus software on a new Messaging Server? _____
- c) How many person/hours are required to administer Virus software on a weekly basis? _____

Anti-Spam Software

- a) What product do you use? _____
- b) How many person/hours are required to install Anti-spam software on a new Messaging Server? _____
- c) How many person/hours are required to administer Anti-spam software on a weekly basis? _____

Instant Messaging Software

- a) What Instant Messaging product do you use? _____
- b) How many dedicated Instant Messaging servers are in use within your service?

- c) How many person months were required to customize the look and feel of the Instant Messaging software? _____
- d) How many person/hours are required to install Instant Messaging software on a new server? _____
- e) How many person/hours are required to administer Instant Messaging software on a weekly basis? _____