

Comparing the Cost of Email Systems

An Osterman Research White Paper

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Why You Should Read This White Paper

E-mail is critical to the job performance and productivity of individuals who use a computer for a living. As a result, e-mail is critical to the success of organizations that employ people who use any sort of computing platform to do their work.

However, deploying and maintaining an e-mail system is not a trivial expense. Depending on an organization's specific requirements, the number of e-mail users it supports, the geographic distribution of its employees and other factors, e-mail systems can cost anywhere from US\$15 to \$50 per seat per month, and can be much more in some cases. Further complicating the problem is that e-mail costs are not as predictable as many decision makers would like them to be—a power outage, the outbreak of a new worm or the loss of key personnel can all drive up the cost of e-mail unexpectedly.

Because the labor required to manage the infrastructure and users accounts for up to two-thirds of the total cost of an e-mail system, and because labor costs continue to increase, organizations that are seeking to reduce the cost of e-mail should first try to reduce the amount of IT labor required to manage the system.

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Another key cost component is system downtime. Downtime is a so-called “soft” cost—organizations pay for downtime in lost employee productivity and missed opportunities rather than paying a direct cost of some sort. Consequently, many IT and business decision makers do not consider the cost of downtime when evaluating their current or new messaging systems.

WHAT IF YOU DON'T KNOW THE COST OF E-MAIL?

On one level, an organization's inability to accurately estimate the cost of providing e-mail services is not critical, since e-mail has become something of a utility and is absolutely critical to the operation of the enterprise. Even if e-mail costs were significantly higher, demand for its functionality would continue to keep use at very high levels in most organizations.

That said, an inability to accurately estimate the cost of providing e-mail services is a significant problem: when corporate decision makers evaluate the cost of their current or prospective messaging capabilities, they are making decisions without as much information as they need.

ABOUT THIS WHITE PAPER

Novell commissioned this white paper, but did not commission the survey data presented herein. Instead, Osterman Research conducted independent research (most of it conducted before Novell commissioned this white paper) to understand the cost of ownership for

various e-mail systems. We present the results of that research, as well as our analysis of what we think it means for organizations that are considering whether or not they should retain their current e-mail environment or deploy a new one.

AN IMPORTANT NOTE

History has shown that analyst firms that directly compare the cost of ownership for competing systems can sometimes create controversy—we anticipate that this white paper might do just that. However, Osterman Research wants to make two things absolutely clear:

- This white paper presents the results of independent research; the data collection or presentation was not designed to favor one vendor or another.
- All of the e-mail systems discussed in this white paper are leading systems from reputable vendors, and all provide excellent functionality and a robust roadmap for the future of their respective systems. This white paper does not take a position for or against any particular platform; our goal is simply to present research results and let the reader determine how best to interpret the data and apply it to their own environment.

We invite readers who might disagree with our calculations or conclusions to contact us directly—we look forward to discussing our methodology and conclusions.

What Does E-Mail Really Cost?

E-MAIL IS CRITICAL, BUT IT IS NOT CHEAP

It goes without saying that e-mail is a business-critical application, the most important communications tool employed by most users, and the primary file transport mechanism in most organizations. For example:

- Users spend an average of 152 minutes on a typical workday working in their e-mail client; based on an average workday of nine hours and nine minutes, working in e-mail represents 28 percent of the time spent by the average e-mail user on a typical workday.
- The average e-mail user in a small organization (up to 1,000 employees) sends and receives 124 e-mails each day, while the average user in a large organization receives 149 e-mails each day.
- 74 percent of the outgoing communications produced by the typical e-mail user are sent through e-mail.
- 35 percent of e-mail users consider e-mail to be important in helping them get their work done, while another 58 percent consider it to be critical.

In short, e-mail is absolutely vital in helping employees get their work done, and it is critical to organizations of all sizes.

E-mail represents a significant proportion of most organizations' IT budgets. E-mail systems consist of multiple servers, software, storage systems, security appliances, load balancers, tape or disk backup systems, and other hardware and software elements. Add to this the cost of maintenance contracts, consultants and a variety of other services designed to maintain the reliability and performance of the system. As policy management, archiving, encryption, data leak protection and other capabilities assume greater importance over time, the e-mail infrastructure in most organizations will continue to get more complex and more expensive.

The cost of hardware represents only a relatively small part of the overall cost of deploying and managing an email system over a normal three-year lifecycle.

LABOR IS THE LARGEST E-MAIL-RELATED EXPENSE

Despite the significant cost of the hardware and software necessary to deploy and maintain e-mail functionality, labor is by far the most significant expense in maintaining an e-mail system. The full-time equivalent (FTE) IT staff that are necessary to maintain the system typically represent one-half to three-quarters of the total lifecycle cost of an e-mail system, although this can vary based on a number of factors.

There are several key inferences that can be drawn from this:

- Despite the concerns that many have about the requirement for 64-bit hardware in some e-mail systems, the cost of hardware represents only a relatively small part of the overall cost of deploying and managing an e-mail system over a normal three-year lifecycle. In other words, an organization can purchase very high-end hardware for its e-mail servers and yet make relatively little impact on the overall cost of their e-mail infrastructure.
- E-mail systems should be chosen with the cost of labor as a top-of-mind issue. While the cost of labor may be more difficult to quantify and, hence, not a key factor for some decision makers, it should be considered.
- The cost of downtime for an e-mail system should also be considered, in part because of its impact on overall labor costs. For example, e-mail downtime requires IT staff to detect, diagnose and remediate, which drives up labor costs. More importantly, however, e-mail downtime typically results in reduced end user productivity. Because the typical e-mail user is about 25 percent less productive during periods of e-mail downtime, and because a downtime incident can potentially impact thousands of users, even short periods of downtime can impose a significant cost—albeit a soft cost that is more difficult to quantify.

MIGRATING E-MAIL SYSTEMS CAN BE EXPENSIVE

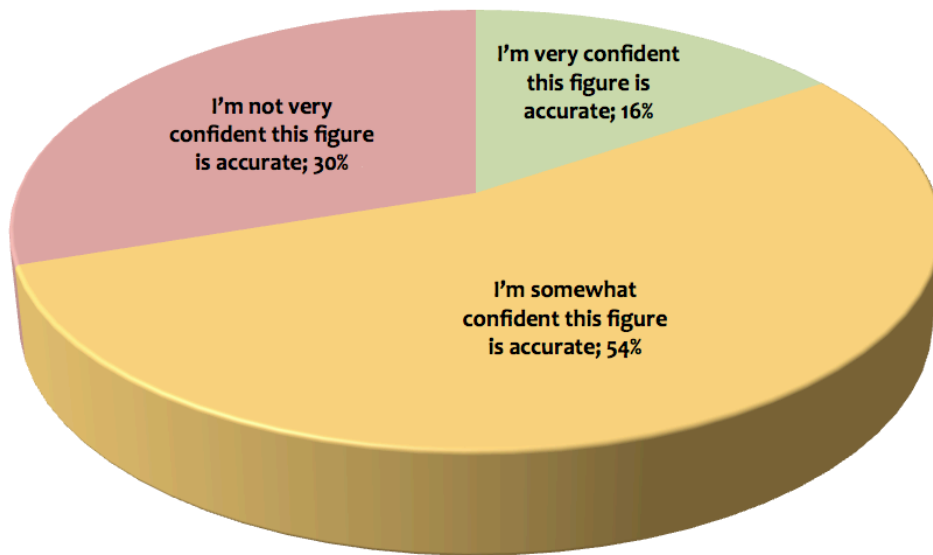
Another potentially significant expense is migrating from one e-mail system to another. While many decision makers are eager to migrate to another system, they should take into

account the significant initial expense involved in doing so, as well as the ongoing costs that they might incur.

DO YOU KNOW WHAT E-MAIL COSTS?

One of the interesting issues that Osterman Research has uncovered in various surveys is that many decision makers underestimate the cost of deploying and managing their e-mail infrastructure, and also that the vast majority of decision makers are not confident in their ability to estimate these costs, as shown in the following figure.

**Confidence in Decision Makers' and Influencers'
Ability to Estimate Messaging Costs**



In good economic times, there is a less critical need to be able to accurately estimate the costs of critical infrastructure elements like e-mail. In poor economic times, however, decision makers become more acutely aware of the need to cut costs, and e-mail services are by no means immune from these types of financial considerations. As a result, many decision makers are considering ways in which they can cut e-mail-related costs, including the use of hosted and managed services, migrating to messaging systems that offer lower licensing costs, and so forth. Key in this decision process, however, is the ability to know what e-mail *really* costs.

Comparing the Cost of Leading E-Mail Systems

SURVEY DATA AND METHODOLOGY

Osterman Research conducted two surveys among users of various messaging systems. Results from a total of 132 surveys were completed during November–December 2008 and also during April 2009, with members of the Osterman Research Survey Panel and other opt-in contacts available to Osterman Research. The goal of this research, in part, was to determine two things:

- How many users can be supported per FTE administrator?
- How many minutes of unplanned downtime are experienced in each environment during a typical month?

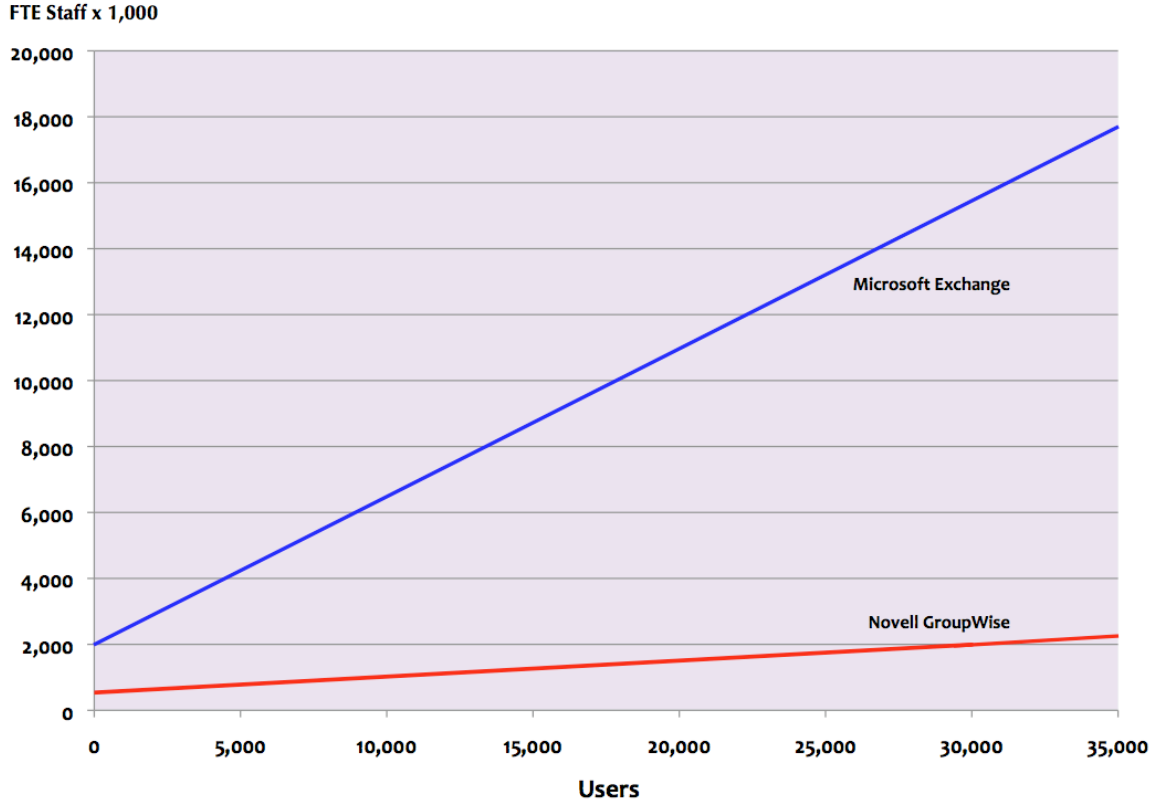
Our research findings are shown in the following table and figure.

Research Results

ALL RESULTS	GroupWise	Exchange	Domino
Mean users	4,427	13,869	28,077
Median users	1,000	1,300	13,815
Mean users supported per FTE	20,832	1,631	2,681
Median users supported per FTE	3,000	854	2,301
Mean minutes of downtime per month	8	41	124
Median minutes of downtime per month	0	10	13
ORGANIZATIONS WITH 1,000+ USERS	GroupWise	Exchange	Domino
Mean users	7,958	21,836	32,034
Median users	3,700	4,000	18,415
Mean users supported per FTE	37,313	2,379	3,037
Median users supported per FTE	10,000	1,625	2,779
Mean minutes of downtime per month	10	26	141
Median minutes of downtime per month	0	10	15
ORGANIZATIONS WITH UP TO 5,000 USERS	GroupWise	Exchange	Domino ¹
Mean users	1,207	1,286	-
Median users	613	900	-
Mean users supported per FTE	21,157	1,007	-
Median users supported per FTE	1,785	500	-
Mean minutes of downtime per month	5	46	-
Median minutes of downtime per month	0	10	-

¹ Insufficient survey results were collected for smaller Notes/Domino-enabled organizations

FTE Staff Required by Users Supported Linear Trendlines



WHAT THIS TOLD US

The results we obtained in this research are consistent with many other Osterman Research survey results: GroupWise tends to be used by smaller organizations (with some notable exceptions), Notes/Domino tends to be used by much larger organizations (again, with exceptions), while Exchange tends to be used by a much broader range of organizations.

Further, the figure above shows that, in general, GroupWise requires a lower level of IT support per 1,000 users than many other leading e-mail systems. Certainly, there will be variations based on a variety of factors, including the geographic distribution of users supported by an e-mail system, the number of servers employed, etc., but our research shows that IT requirements for GroupWise are generally lower than for the competitors we studied.

CALCULATING TOTAL COST OF OWNERSHIP

The results used in the analysis below were not selected according to any particular criteria, nor were they “high-graded” so that a particular slant on the data could be obtained. Instead, we used every survey in which respondents provided complete answers to our questions.

Further, it is important to note that we have not focused on all of the costs of deploying each e-mail system, since we chose to focus on the differential costs between the systems. For

example, we did not include the cost of the antivirus spam servers, appliances or third-party services, since these will be similar across all of the platforms and are not truly a direct cost of the e-mail platform itself.

**Basic Assumptions Used
in the Cost Analysis**

Assumption	Value
Fully burdened annual salary, IT admin	\$80,000
Annual wage growth, IT and non-IT	5.0%
Mean hourly labor cost, non-IT, year 1	\$28.47
Mean hourly labor cost, non-IT, year 2	\$30.29
Mean hourly labor cost, non-IT, year 3	\$31.80

SMALL ORGANIZATIONS

As shown in the following table, we have assumed a simple, 100-seat deployment for GroupWise and Exchange built on Windows Server 2008. Note that we did not compare Notes/Domino in this analysis based on the lack of sufficient research data to support any meaningful conclusions about the total cost of ownership for the platform.

**Three-Year TCO for
a 100-Seat Deployment**

HARDWARE	GroupWise on Windows	GroupWise on Linux	Exchange
E-mail server (Dell PowerEdge T510)	\$2,378	\$2,378	\$2,378
Three-year 24x7 support, four-hour response	\$2,199	\$2,199	\$2,199
SOFTWARE	GroupWise on Windows	GroupWise on Linux	Exchange
Server software	\$0	\$0	\$699
Client access licenses, 100	\$14,300	\$14,300	\$6,700
Software maintenance for 100 clients	\$9,700	\$9,700	\$10,500
Windows Server 2008 or SUSE Linux Enterprise Server	\$3,699	\$4,050	\$3,699
Server OS software client access licenses or equivalent, additional 75 (Windows only)	\$2,996	\$0	\$2,996
Clients, 100	\$0	\$0	\$10,000
LABOR	GroupWise on Windows	GroupWise on Linux	Exchange
Full-time equivalent IT admins	0.1	0.1	0.4
IT admin cost (Year 1)	\$8,000	\$8,000	\$32,000
IT admin cost (Year 2)	\$8,400	\$8,400	\$33,600
IT admin cost (Year 3)	\$8,820	\$8,820	\$35,280
DOWNTIME	GroupWise on Windows	GroupWise on Linux	Exchange
Unplanned downtime, minutes per month	5	5	30
Employee productivity loss during downtime	25%	25%	25%
Cost of downtime (Year 1)	\$712	\$712	\$4,271
Cost of downtime (Year 2)	\$757	\$757	\$4,544
Cost of downtime (Year 3)	\$795	\$795	\$4,770
TOTAL THREE-YEAR TCO	\$62,756	\$60,111	\$153,636
TOTAL THREE-YEAR TCO PER USER	\$628	\$601	\$1,536
TOTAL ANNUAL COST PER USER	\$209	\$200	\$512
TOTAL MONTHLY COST PER USER	\$17.43	\$16.70	\$42.68

As shown above, the cost of IT labor represents 48 percent of the total, three-year cost of ownership for GroupWise, whereas labor represents 70 percent of the cost of ownership for Exchange.

MID-SIZED AND LARGE ORGANIZATIONS

For a larger deployment of 1,000 seats, we have assumed a somewhat more complex environment:

- **GroupWise**
We have assumed that the Post Office and eDirectory server roles are deployed on two servers.

Comparing the Cost of Email Systems

- Exchange**
 We have assumed the use of four server roles: Client Access, Mailbox, Hub Transport and Active Directory. We have not included the Unified Messaging or Edge Transport server roles in this analysis, since we are comparing just e-mail functionality.
- Domino**
 We have assumed the use of IBM Lotus Domino Express, which combines the server and client licensing costs into a single, per-user fee.

**Three-Year TCO for
a 1,000-Seat Deployment**

HARDWARE	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
E-mail server (Dell PowerEdge T510)	\$4,756	\$4,756	\$9,512	\$4,756
Three-year 24x7 support, four-hour response	\$4,398	\$4,398	\$8,796	\$4,398
SOFTWARE	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Server software	\$0	\$0	\$15,996	\$0
Client access licenses, 1,000	\$143,000	\$143,000	\$67,000	\$112,000
Software maintenance, 1,000	\$97,000	\$97,000	\$105,000	\$40,320
Windows Server 2008 or SUSE Linux Enterprise Server	\$7,398	\$9,100	\$14,796	\$7,398
Server OS software client access licenses or equivalent, additional 975 (Windows only)	\$38,951	\$0	\$38,951	\$38,951
Clients, 1,000	\$0	\$0	\$100,000	\$109,000
LABOR	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Full-time equivalent IT admins	0.4	0.4	2.0	2.0
IT admin cost (Year 1)	\$32,000	\$32,000	\$160,000	\$160,000
IT admin cost (Year 2)	\$33,600	\$33,600	\$168,000	\$168,000
IT admin cost (Year 3)	\$35,280	\$35,280	\$176,400	\$176,400
DOWNTIME	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Unplanned downtime, minutes per month	5	5	45	30
Employee productivity loss during downtime	25%	25%	25%	25%
Cost of downtime (Year 1)	\$7,118	\$7,118	\$64,058	\$42,705
Cost of downtime (Year 2)	\$7,573	\$7,573	\$68,153	\$45,435
Cost of downtime (Year 3)	\$7,950	\$7,950	\$71,550	\$47,700
TOTAL THREE-YEAR TCO	\$419,024	\$381,775	\$1,068,212	\$957,063
TOTAL THREE-YEAR TCO PER USER	\$419	\$382	\$1,068	\$957
TOTAL ANNUAL COST PER USER	\$140	\$127	\$356	\$319
TOTAL MONTHLY COST PER USER	\$11.64	\$10.60	\$29.67	\$26.59

The distribution of costs for the major cost elements for each platform is summarized in the following tables.

Distribution of Costs for a 100-Seat Deployment

100 USERS	GroupWise on Windows	GroupWise on Linux	Exchange
Hardware	7%	8%	3%
Software	49%	45%	23%
Labor	40%	43%	66%
Downtime	4%	4%	9%

Distribution of Costs for a 1,000-Seat Deployment

1,000 USERS	GroupWise on Windows	GroupWise on Linux	Exchange	Domino
Hardware	2%	2%	2%	1%
Software	68%	65%	32%	32%
Labor	24%	27%	47%	53%
Downtime	5%	6%	19%	14%

Quotes from Novell GroupWise Customers

The following are data and quotes taken directly from Osterman Research surveys of Novell GroupWise customers:

- Department in a US state with 350 users**
 “[Management of GroupWise] is a small part of my many duties. GroupWise is near maintenance free. Running on SUSE Linux Enterprise Server 10 I never have to touch it. Makes life and my job easy as well as making my CIO happy!”
- US university with approximately 5,000 total users**
 “There are two of us who work on GroupWise, but we spend maybe a combined 1–2 hours a week working on it on a bad week. Most weeks we don't do anything but an occasional check to ensure everything's OK—it is! Blackberry Enterprise Server (BES), on the other hand, takes many hours (maybe 12) a week to keep our 30 or so users going and add new users—it's complex! We haven't had any unplanned downtime in years, and planned downtime is maybe an hour once or twice a year.”
- US county government with 4,763 mailboxes**
 “We have one FTE for GroupWise. That's me. Although it could be argued that I only spend 60 percent of my time on GroupWise (including BlackBerry and anti-spam), and 40 percent of my time on e-discovery and implementing a new e-mail archive server.

Downtime depends on if you count GroupWise WebAccess. Without counting WebAccess, total unplanned downtime of the post offices is in the ‘under five minutes per month’ range. If you count WebAccess, then downtime jumps to 30 minutes per month. Our WebAccess is a lightly used ‘client’ though, and not a back-end server. Only 20–30 people use WebAccess, so it may or may not matter.”

- **US university with 28,000 active mailboxes**

“We have a team of five who share all our duties, managing roughly 300 servers. Of those servers, 35 are the production GroupWise system. I would estimate our time involvement across all of us to be maybe 0.5 (1/2) FTE.”

- **US construction company with 225 users**

“We used to have a part-time person, but... their position was eliminated a couple months ago. Now we just have two of us that work on the system whenever we need to. We spend no more than five hours a week working on the e-mail system. So, very low overhead to manage it. It is hard to pinpoint [our downtime], but it is less than 15 minutes a month of unplanned downtime. Most of it is the occasional time to reboot the server and most users don't even notice it.”

- **Department in a US state with 3,700 users**

“We have about 200 internal users and about 3,500 external users. I am the GroupWise administrator and although I am full time, I only spend about 15 minutes per week on GroupWise, and that is only due to user requests (DL change, etc). As far as maintenance, GroupWise does it automatically, so really the only time I am in the GW management tool is for user changes. I cannot remember having any unplanned downtime.”

- **University in Australasia with approximately 3,700 mailboxes**

“We do not have any staff devoted to looking after our GroupWise system! We have about three people who can look after it if required, but they have other tasks as well. We might spend a total of two hours a week on it if we were unlucky—and that could be split between those three people. I'm

“We have about 200 internal users and about 3,500 external users. I am the GroupWise administrator and although I am full time, I only spend about 15 minutes per week on GroupWise.”

not including normal administrative tasks in this time—user moves, account creations, etc.—as this is done by the service desk, nor do I know how much time our desktop support staff spend with client-related issues either. All I see is what either of the two previous groups can't deal with and any configuration or service functionality problems. My guess says [downtime] probably averages less than 30 minutes a month.”

Summary

E-mail is critical to virtually any organization and, like a utility, it must operate as close to 100 percent of the time as possible. Deploying and managing e-mail systems is expensive, even in the best of circumstances, but there are significant differences in the cost of messaging systems, driven largely by differences in the amount of IT labor required to manage the them. Independent research conducted by Osterman Research has demonstrated that Novell GroupWise offers a lower cost of ownership compared to other leading systems, due primarily to the relatively small investments required by IT staff to maintain the system. GroupWise also enjoys little downtime in most cases, further reducing its cost of ownership.

About Novell GroupWise

Novell GroupWise is a comprehensive collaboration platform that combines e-mail, instant messaging, calendaring, contact management, task management and Web 2.0 tools into a coordinated platform. GroupWise permits users to create personalized dashboards for various projects, team roles or activities. Supported GroupWise clients run on Windows XP, Windows Vista, Mac or Linux platforms; and can be accessed via the Web using Internet Explorer, Firefox or Safari. The GroupWise product family also includes a mobile server that runs on either Windows or Linux.

GroupWise runs on multiple server platforms, including Windows Server 2003 or 2008, Novell Open Enterprise Server (NetWare or Linux versions), Novell Open Enterprise Server 2 (NetWare or Linux versions), NetWare 6.5 or SUSE Linux Enterprise Server 10. It supports Novell eDirectory and runs on either 32-bit or 64-bit server platforms.

More information is available at <http://www.novell.com/products/groupwise/>.

Appendix – Survey Data

Survey Data Generated by Osterman Research

Novell GroupWise		Microsoft Exchange		Lotus Domino	
Users	FTE Staff	Users	FTE Staff	Users	FTE Staff
27,537	1.0	100,000	38.0	152,100	80.0
23,676	1.0	72,000	35.0	80,000	15.0
17,000	1.0	21,000	6.0	70,000	12.0
13,000	1.0	15,000	3.0	29,100	8.0
13,000	3.0	12,800	1.5	23,400	3.0
10,047	1.0	12,000	13.0	21,850	5.0
8,000	0.5	12,000	4.0	20,000	7.0
6,500	2.0	7,500	4.0	16,830	5.0
6,000	3.0	7,000	1.0	10,800	4.0
5,600	0.1	7,000	5.0	6,650	8.0
5,000	0.1	6,500	50.0	6,000	40.0
3,810	0.6	6,500	4.0	5,300	3.0
3,700	0.0	6,200	3.0	5,000	4.0
3,700	0.1	6,000	4.0	1,440	2.0
3,600	1.0	5,500	5.0	400	2.0
3,500	0.2	5,000	4.0	360	2.0
3,300	0.3	4,500	1.5		
3,200	1.0	4,000	2.0		
2,800	1.0	4,000	2.0		
1,500	0.4	4,000	1.5		
1,500	1.0	3,500	1.5		
1,300	1.0	2,500	0.3		
1,300	0.1	2,500	3.0		
1,200	1.0	2,500	1.0		
1,000	1.0	2,400	1.0		
1,000	0.8	2,100	3.0		
1,000	0.1	1,500	8.0		
850	1.0	1,500	2.0		
800	0.5	1,500	1.0		
800	0.3	1,100	4.0		
650	0.3	1,000	4.0		
575	0.1	1,000	1.0		
550	0.3	1,000	1.0		
500	0.5	1,000	2.0		
450	0.8	1,000	1.5		
450	0.5	1,000	2.0		
450	0.5	1,000	1.5		
427	0.1	900	2.0		
350	0.3	800	2.0		
250	0.1	750	1.0		
225	0.1	700	10.0		
200	5.0	700	3.0		
185	0.3	500	0.5		

Survey Data Generated by Osterman Research
(concluded)

Novell GroupWise		Microsoft Exchange	
Users	FTE Staff	Users	FTE Staff
177	0.1	400	1.0
70	0.0	400	1.0
70	0.1	300	1.0
65	0.2	300	4.0
50	1.0	290	1.0
50	0.1	289	1.5
45	1.0	250	0.3
30	0.0	250	2.0
10	0.1	225	2.0
		210	1.0
		200	2.0
		200	2.0
		175	0.2
		125	0.5
		115	1.0
		112	0.2
		100	0.3

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