Trends in Virtualization and Microsoft Exchange Server 2010

**EXECUTIVE SUMMARY**

IT spending is rebounding from last year’s recession, thanks to aging infrastructure equipment and new versions of Microsoft Windows and Exchange Server. Companies are still concerned, however, about competition, costs, and compliance. Because of these factors, they’re seeking investments that increase agility and productivity while reducing expenses.

A recent survey commissioned by Ziff Davis Enterprise (ZDE) and NetApp shows that virtualization technology is taking hold among respondents; companies are leveraging virtualization in test/development, database applications, collaboration systems, proprietary tools, and others. As it spreads and gains traction in an organization, virtualization is extended to more mission-critical applications, including messaging platforms like Microsoft Exchange Server.

Most companies are planning to upgrade to Exchange Server 2010 within a year, on average, and to virtualize the environment when they do. They cite improved disaster recovery (DR), lowered operating costs, and improved consolidation as the primary benefits, and reduced performance and integration issues as the primary challenges.

NetApp, with its comprehensive portfolio of enterprise IT management and storage solutions, is uniquely suited to helping organizations address these challenges and manage their migration to a virtualized Exchange Server 2010 infrastructure.

**INTRODUCTION: TIME TO REFRESH**

The financial crisis of 2008 and the ensuing recession caused many companies to slash budgets and put most infrastructure investments on hold. As a result, servers and other data center equipment are nearing the end of their useful lifecycle—usually four or five years—and the operating systems and applications they’re running are also showing some age.

By extending the useful life of their computing equipment, companies have been able to avoid the cost of upgrading, but the systems are not necessarily up to the task of supporting today’s more demanding business applications.

Meanwhile, the economy seems to be improving. Analysts agree that IT spending will rise in 2010; they differ only in predicting the rate of growth:

- Forrester Research expects IT spending in the United States to be 9.9 percent more than in 2009, and that the global IT market will grow by 7.8 percent to more than $2.4 trillion.¹
- In figures released May 24, IDC estimated that worldwide IT spending will grow 3.8 percent this year, to $1.47 trillion.²
- Gartner reported in January that worldwide IT spending will go up 4.6 percent in 2010, returning the market to 2008 levels.³

Primary drivers for this new wave of IT investment are increasing efficiency and productivity. To achieve these objectives, enterprises are expanding their investment in the powerful capabilities of virtualization technology and addressing needed technology refreshes that they have deferred during uncertain economic times. For example, firms are now beginning to actively deploy updated technology such as the Microsoft Windows 7 PC operating system and updated enterprise applications such as Microsoft Exchange Server 2010.

81% of companies surveyed are planning to upgrade to Exchange Server 2010 within 1-2 years.

According to research firm The Radicati Group, Microsoft Exchange Server will have a worldwide installed base of 301 million mailboxes in 2010, and is expected to reach 470 million by 2014. This represents an average annual growth rate of 12 percent. In this period, deployments of Exchange Server 2010, which launched in November 2009, are expected to expand rapidly so that by 2014, the new version will account for 57 percent of total Exchange deployments.⁴

Phasing in new software and migrating to new servers and platforms presents a prime opportunity to leverage virtualization technology holistically. Virtualization helps companies consolidate equipment, in-

¹ eWEEK, “IT Spending to Rise in 2010, Forrester Says,” July 22, 2010
² eWEEK, “IT Spending Recovers After Recession, IDC Says,” May 25, 2010
³ eWEEK, “IT Spending in 2010 to Grow 4.6 Percent: Gartner,” January 21, 2010
⁴ The Radicati Group, “Microsoft Exchange Server and Outlook Market Analysis, 2010-2014,” April 2010
crease efficiency, and reduce operational costs, and many plan to adopt it in the coming months as they phase in new OS and server software.

EMERGING TRENDS

The rosy predictions around IT spending don’t extend to all tech-related economic indicators. For instance, hiring among IT professionals has remained relatively flat since last year, and companies are still worried about the future. A BDO Seidman report released in May listed competition, innovation/speed to market, economic conditions, and regulatory compliance as the main concerns among the vast majority—90 percent or more—of businesses surveyed. These factors are top-of-mind among today’s organizations, as they vie for market share and customers in an increasingly competitive and fast-paced global environment.

75% of respondents use virtualization for test/dev servers.

61% use virtualization for database applications.

What emerges from these reports is that companies need to invest in new technology and refresh their aging equipment, but they must spend judiciously, focusing strategically on purchases that will increase efficiency and agility, reduce costs, and improve compliance.

To find out how organizations are approaching this challenge, and how quickly or slowly they’re moving, Ziff Davis Enterprise (ZDE) and NetApp commissioned a survey on virtualization and Exchange 2010 initiatives. The survey was fielded by market research firm IDE Associates between June and July 2010. The 156 respondents cited that they were involved in new technology and refresh their aging equipment, but they must spend judiciously, focusing strategically on purchases that will increase efficiency and agility, reduce costs, and improve compliance.

55% of companies surveyed have virtualized a third or more of their IT infrastructure.

In this white paper, we’ll review the results of the survey and discuss ways that NetApp can help companies extend the benefits of virtualization to their Exchange 2010 and other mission-critical application deployments.

RESEARCH RESULTS: VIRTUALIZATION OVERALL

Virtualization is rapidly gaining popularity, but among the respondents to the ZDE survey, most are still in the adoption phase (see Figure 1). Twenty-six percent have more than half their infrastructure virtualized, with another 29 percent falling between 31 and 50 percent. The remaining respondents are rolling the technology out in parts of their data center—usually starting with test and development applications (see Figure 2).

Three-quarters of respondents use virtual servers for testing and development. The flexibility and rapid deployment features of virtual servers lend themselves immediately to test/dev scenarios, where new servers have to be provisioned and decommissioned quickly. Production-level

5 Enterprise TechBrief, “IT Staffing Cuts in 2010 Mirror 2009, Study Says,” June 24, 2010
6 eWEEK, “Tech Companies Are Full of Worry in 2010,” June 30, 2010
applications, however, are usually not ported to virtual machines (VMs) in the initial stages of a rollout. Companies are concerned about mission-critical apps having enough processing and storage resources, and the impression that physical servers are more ‘solid’ and reliable remains.

That said, many of the respondents are using virtualization to run other business applications, as illustrated in FIGURE 2. Large-scale databases benefit from virtual server technology because they can be replicated across redundant systems for failover protection. Collaboration/content management systems and proprietary applications tied for third place, with just over half the respondents reporting that they are run on virtual servers.

RESEARCH RESULTS: MICROSOFT EXCHANGE SERVER

In order to qualify for the ZDE survey, respondents needed to be running Exchange Server for e-mail and messaging. As illustrated in FIGURE 3, more than half of the respondents are running Exchange Server 2007, but a significant number—nearly 40 percent—are still running Exchange Server 2003. Only 6 percent reported that they use Exchange Server 2010, but that number is going to rise significantly over the next year, as shown in FIGURE 4.

Around 45 percent of respondents plan on upgrading to Exchange Server 2010 within the year, and another one-third are planning to upgrade within two years. The perceived benefits and challenges of this upgrade, and the infrastructure changes it may necessitate, form the remainder of the survey results.

Among the current Exchange deployments in respondent companies, 40 percent are running on virtual servers, while 60 percent are hosting their environments physically. This mix is also expected to change as Exchange 2010 takes hold. When asked the likelihood of their organizations virtualizing their Exchange Server environment as part of, or in conjunction with, the migration to Exchange Server 2010, fully 60 percent reported that they are very or somewhat likely to virtualize.

As previously mentioned, upgrading to new software often requires upgrading hardware as well. The majority of survey respondents believe that it is necessary or desirable to upgrade the server and storage infrastructure and overhaul IT processes in order to take full advantage of virtualization. Looking at this from the inverse perspective, virtualization enables companies to leverage their new hardware investment most effectively, consolidate infrastructure, and streamline their IT operations.

60% of companies not already using virtualization are planning to phase it in for their Exchange Server 2010 upgrade.

In fact, when respondents were asked about the anticipated benefits of virtualizing their Exchange Server environments, improved disaster recovery (DR) was the most popular answer, at about 44 percent. As mentioned, virtualized servers are easy to replicate and migrate across physical servers, so a virtual Exchange server that goes down can be restored automatically—often transparently to end-users—by activating a ‘clean’ instance of the same server. In a competitive environment where 24/7 uptime is expected and business interruptions of any significant length cannot be tolerated, it’s not surprising that this is a compelling feature of virtualized Exchange environments.

Among the other benefits cited are lowered operating costs (43 percent) and improved consolidation (41 percent), as virtualiza-
tion enables numerous server instances to run on single hardware units. Increased capacity and availability were also chosen by more than a quarter of respondents.

When asked what challenges they faced or expect to face in virtualizing Exchange environments, respondents cited reduced system speed and performance (37 percent) and difficulty integrating data and systems (34 percent). Difficulty with provisioning storage for the new environment (28 percent) and problems with regulatory compliance (26 percent) rounded out the top concerns.

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<th>Top BENEFITS of virtualized Exchange environments</th>
<th>Top CHALLENGES of virtualized Exchange environments</th>
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<tr>
<td>• Improved disaster recovery</td>
<td>• Reduced system speed/performance</td>
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<td>• Lower operating costs</td>
<td>• Data systems integration issues</td>
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<td>• Greater level of server consolidation</td>
<td>• Tougher storage provisioning for virtual machines</td>
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Addressing these challenges effectively is a matter of smart and strategic planning. Choosing powerful servers and versatile networking and storage equipment will ensure that systems perform as well as—and likely better than—the previous Exchange deployment. Keeping the environment well managed, tightly protected, and closely monitored ensures that any pertinent government and industry regulations are followed.

With a comprehensive virtualization and storage management scheme in place, companies can overcome these challenges and reap all the operational benefits of running Exchange Server 2010 in a virtual environment.

**NETAPP AS YOUR TECHNOLOGY PARTNER**

As the survey results show, most companies are planning to migrate to Exchange Server 2010 and to incorporate virtualization into that migration, if they haven’t already. NetApp has the storage and data management expertise to help companies of any size manage a virtualization upgrade and Exchange Server 2010 migration.

NetApp specializes in IT management and storage solutions for business applications. With NetApp's help, you can extend the benefits of virtualization to your new Exchange Server 2010 environment and enjoy enhanced DR, higher availability, lower costs, and increased resource utilization.

NetApp solutions uniquely complement the benefits of VMware virtualization software. NetApp eliminates key storage and data protection challenges associated with server virtualization, so you can transform your data center into a pool of server, network, and storage resources. This unique approach to storage for VMware environments delivers instantaneous backup and recovery, automation of the most labor-intensive data management tasks, the ability to provision storage as fast as VMs, and data deduplication across primary, backup, DR, and archival storage.

NetApp storage is easily scalable, so when you need to add capacity or user mailboxes, the process is seamless, with minimal disruption to users. Backup and recovery can be automated and set to 'kick in' immediately upon detection of a malfunction, saving time and headache for IT administrators.

NetApp storage solutions for Exchange Server are tightly integrated with Microsoft technology, so you can deploy them with confidence. When you want to maximize the benefits of virtualized Exchange Server 2010, NetApp is the right choice.

**CONCLUSION**

Microsoft Exchange Server is the dominant messaging platform available today, and its 2010 release is an important upgrade for companies that want to remain productive and competitive as the global economy improves.

The ZDE survey results show that the vast majority of respondents plan to upgrade to Exchange Server 2010 within the next year or two, and that virtualization will play a significant role in these deployments. They are planning to overhaul their IT infrastructures and processes in order to best leverage the benefits of virtualization, which include high availability and reduced costs.

When you're planning an Exchange Server 2010 migration, NetApp's powerful management and storage solutions make the process smooth and worry-free.
