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Moving to "the Cloud": Best Practices for Migrating from Novell GroupWise to Microsoft Exchange Online Standard

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CONTENTS

INTRODUCTION

Hosted e-mail services are an increasingly attractive alternative to on-premises e-mail platforms, offering reduced costs, increased protection from outside threats, and enhanced operational efficiency. This technical brief discusses how Quest Software can ensure a fast and seamless migration from Novell GroupWise to Microsoft's hosted offering, Microsoft Exchange Online.

THE APPEAL OF "THE CLOUD"

More and more organizations are considering a hosted e-mail solution ("the cloud") as an alternative to their current environments. In fact, Osterman Research forecasts that the market for hosted e-mail will increase significantly over the next several years, from 10% of all corporate mailboxes among mid-sized and large organizations in North America in 2008 to 22% by 2011. There are numerous options for hosted e-mail in the market today, including Microsoft's Business Productivity Online Suite (BPOS).

Hosted e-mail solutions are gaining ground for a number of reasons. The first is cost. Most IT departments spend at least 50% of their budget on salaries, and up to 70% of IT staff time is spent on maintenance, according to the Gartner Group. In-house IT specialists might cost companies US $100 per month per employee for IT management. A hosted service, on the other hand, may charge only half that amount for a suite of managed file and print services, e-mail, and a document portal, along with 24x7 monitoring and higher uptime than many companies can achieve with on-premises staff and systems.

In fact, the first wave of Exchange Online adopters has consisted primarily of small- to medium-sized organizations running disparate e-mail platforms such as Novell GroupWise. The primary driver for these GroupWise organizations is to rid themselves of the licensing and administrative costs of managing e-mail on-premises.

In addition to reduced costs, hosted e-mail also promises increased protection from outside threats, faster deployment (in the case of a migration), and enhanced operational efficiency. Hosted e-mail also reduces the burden on IT administrators, allowing them to focus on more strategic initiatives that provide more value to the organization.

CHOOSING THE RIGHT MIGRATION PARTNER

Migrating to the cloud is a daunting task, but it can be a very manageable project if the proper steps are taken. One of those steps is working with a company with the necessary experience and expertise in the market.

Quest's track record for helping customers migrate to and manage on-premises Exchange speaks for itself. Quest has migrated nearly 20 million users to Exchange, including 5 million Novell GroupWise and Lotus Notes users, and has managed 32 million mailboxes on Exchange. Its global presence is unmatched: 65 offices in 28 countries, eight global support offices, and 24/7 call centers around the world that speak 12 different languages.

Quest also features a worldwide partner enablement program, consisting of 335 certified and experienced partners who are ready to sell, deliver and support Quest products. Quest values these system integrator partners; they provide customers with a local presence, and their experience enables them to assist with migrations to BPOS.

Quest's broad and deep portfolio of solution offerings, expertise, global reach, and strong Microsoft partnership make it the industry leader in Novell GroupWise-to-Microsoft migration. Quest is uniquely positioned to provide Microsoft and its customers the best and most comprehensive solution for migrating from an on-premises Novell GroupWise environment to Microsoft's Business Productivity Online Suite.

CHOOSING A HOSTED E-MAIL SOLUTION: MICROSOFT BUSINESS PRODUCTIVITY ONLINE SUITE

The Business Productivity Online Suite is a set of Microsoft hosted messaging and collaboration solutions that includes Microsoft Exchange Online, Microsoft SharePoint Online, Microsoft Office Live Meeting, and Microsoft Office Communications Online. These online services are designed to give organizations streamlined communication with high availability, comprehensive security, and simplified IT management.

When a company subscribes to one or more of the services, it connects to the rich interactivity of on-premises client and server applications with the flexibility and scalability of Web-based services.

Microsoft Exchange Online: Standard Edition and Dedicated Edition

Microsoft Exchange Online is the Microsoft hosted enterprise messaging service based on Microsoft Exchange Server 2007. Exchange Online leverages geographically dispersed data centers protected by multiple layers of security and operational best practices-all while providing 99.9% uptime. Exchange Online helps simplify IT management by removing customers' need to deploy, configure, monitor, and update or upgrade an e-mail solution on-premises. Microsoft also handles setup, provisioning, ongoing maintenance, and upgrades of your Exchange Server Infrastructure.

Microsoft has two versions of Exchange Online, and it's important to understand the difference between the two:

- With the **Exchange Online Standard edition**, often referred to as multi-tenant or shared, multiple customers share one hosted e-mail and collaboration environment. At this point in time, this offering has a soft limit of 10,000 mailboxes. However, this soft limit may increase in the near future. Also, each user mailbox has a size quota.

- With the **Exchange Online Dedicated edition**, each customer has its own dedicated hosted e-mail and collaboration environment. This service is for organizations with more than 10,000 users – again, not a hard count.

This technical brief will focus on how to migrate to Exchange Online Standard using Quest tools.
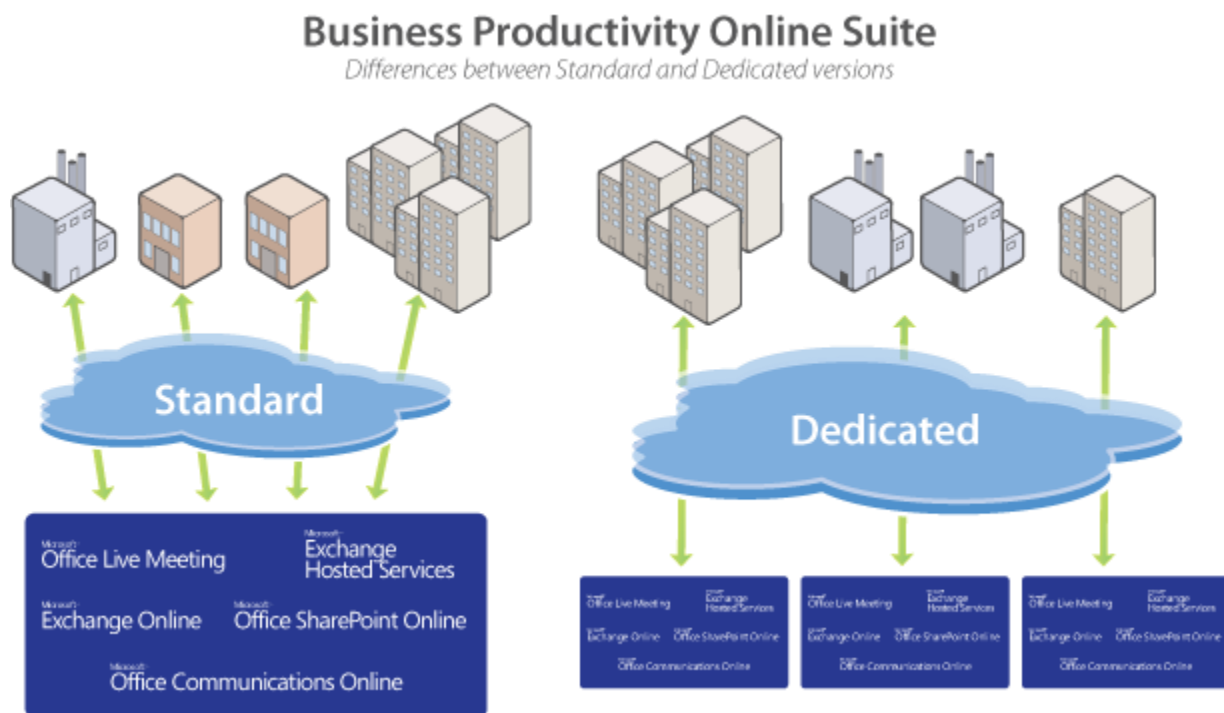
MIGRATING TO EXCHANGE ONLINE – STANDARD EDITION

Quest Solutions

Quest offers two solutions that work together to ensure the success of your migration from Novell GroupWise to Exchange Online Standard: GroupWise Migrator for Exchange and Archive Manager.

GroupWise Migrator for Exchange

Quest GroupWise Migrator for Exchange provides an efficient, cost-effective migration from GroupWise to Exchange and Exchange Online Standard. It migrates users' e-mail, calendars, tasks, personal address books, and frequent contacts to the users' new mailboxes in the Exchange or Exchange Online environment. GroupWise Migrator simplifies administration and reduces costs by automating manual migration tasks and simultaneously migrating multiple users across multiple migration machines. All data is migrated to the cloud without end user involvement, which reduces the need for help desk calls.

Archive Manager

Before migrating to Exchange Online, you can use Quest Archive Manager to reduce the amount of GroupWise data that needs to be migrated to the cloud. This will shorten the time required to complete the migration, reducing overall project costs.

Migration Process and Best Practices

Overview

During a migration to Exchange Online Standard, GroupWise Migrator for Exchange migrates the GroupWise directory to an on-premises Active Directory. Once that migration is complete, native tools are used to synchronize the on-premises Active Directory to the hosted Active Directory. GroupWise Migrator for Exchange will then directly migrate GroupWise e-mail, calendars, tasks, personal address books, and frequent contacts to Exchange Online Standard.
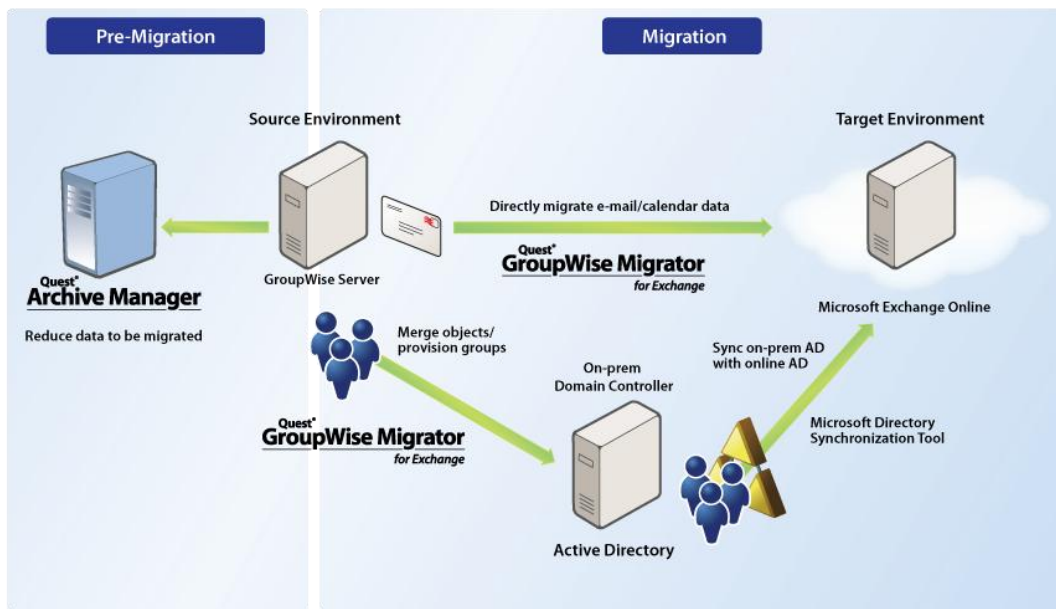
A GroupWise-to-Exchange Online Standard migration is essentially a GroupWise-to-Exchange on-premises migration. However, it requires some special planning and preparation, and some procedural detours compared to migrating to a local Exchange environment. This section explains these differences and some best practices for migrating to Exchange Online Standard.

The GroupWise-to-Exchange Online Standard migration process can be broken down into four stages:

Stage 1: Pre-migration Preparation

This stage involves the following steps:

1. Verify system requirements

2. Prepare Exchange Online components and install software

3. Create administrative accounts

4. Request administrative permissions

5. Verify current domain

6. Create administrator profile in Exchange Online

7. Configure migration settings

Stage 2: Provision Active Directory in the Cloud

This stage involves the following steps:

1. Migrate GroupWise directory and prepare user-list data files

2. Provision the on-premises Active Directory

3. Synchronize the on-premises Active Directory with AD in the cloud

4. Enable AD accounts in the cloud

Stage 3: Perform the Migration

This stage involves the following steps:

1. Prepare user groups

2. Migrate mailbox data

3. Provide end users with access to the migrated mailboxes

Stage 4: Post-Migration Issues and Clean-up

This stage involves the following steps:

1. Remind users to reset alarms for their repeating appointments

2. If you no longer need mail-forwarding between Exchange and GroupWise, verify the GroupWise server is inactive

Stage 1: Pre-Migration Preparation

Step 1: Verify System Requirements

At the end of the migration, your organization will be served by the remote Exchange Online Standard and Active Directory environments, but during the migration you will temporarily need a local on-premises AD to facilitate directory synchronizations, and a local Exchange server to validate address stamping and do group provisioning. The local AD and Exchange servers can reside on the same machine, but in any case, they must conform to the GME system requirements.

Step 2: Prepare Exchange Online Components and Install Software

When you first order Exchange Online Standard services, Microsoft gives you a specified domain called a MODRD (Microsoft Online Direct Routing Domain) that will later be used as your forwarding address.

Microsoft has a set of tools that you will need to use in order to successfully migrate from a source environment to Exchange Online Standard. These tools include:

- **Microsoft Online Services Directory Synchronization Tool** – This tool synchronizes users from an on-premises Active Directory to the hosted Active Directory. It does not have the ability to filter which users it synchronizes, so it synchronizes all users from the local AD, including any

legacy users. Therefore, it is a best practice to clean up any unnecessary objects that you do not want to synchronize up to the cloud. You will have more control of what users and groups are provisioned in the cloud, which is especially important when migrating to the Standard offering, which hosts up to about 10,000 users.

- **Single Sign-On Application** – This program enables your users to log into the Exchange Online environment with minimal difficulty. When a user first logs into his or her new Exchange Online account, this tool creates a mail profile that can connect to the online environment. Through this application, the user can open the local Outlook client or use Outlook Anywhere to view e-mail. During migrations, Quest uses this application to create an RPC or HTTP migration administrative profile, but is not a requirement.

- **Microsoft Online Services Administration Center** – This is the web interface that allows administrators to enable users and give them mailboxes, adjust mailbox limitations, set up administrative accounts, verify domains, and log support tickets regarding BPOS concerns.

If the administrator's GME migration workstation is a Windows Server 2003 box running SP2, the Directory Synchronization tool can reside there. If the migration machine is run on an XP platform, then the Directory Synchronization tool must reside on a separate workstation. The other two Exchange Online tools should be installed on the appropriate machines.

Step 3: Create Administrative Accounts

Create these necessary administrative accounts:

- An administrative account in Exchange Online that is enabled with a mailbox (such as migration@BPOS.domain)
- An administrative account within the on-premises Active Directory that has the appropriate rights for object manipulation.

Step 4: Request Administrative Permissions
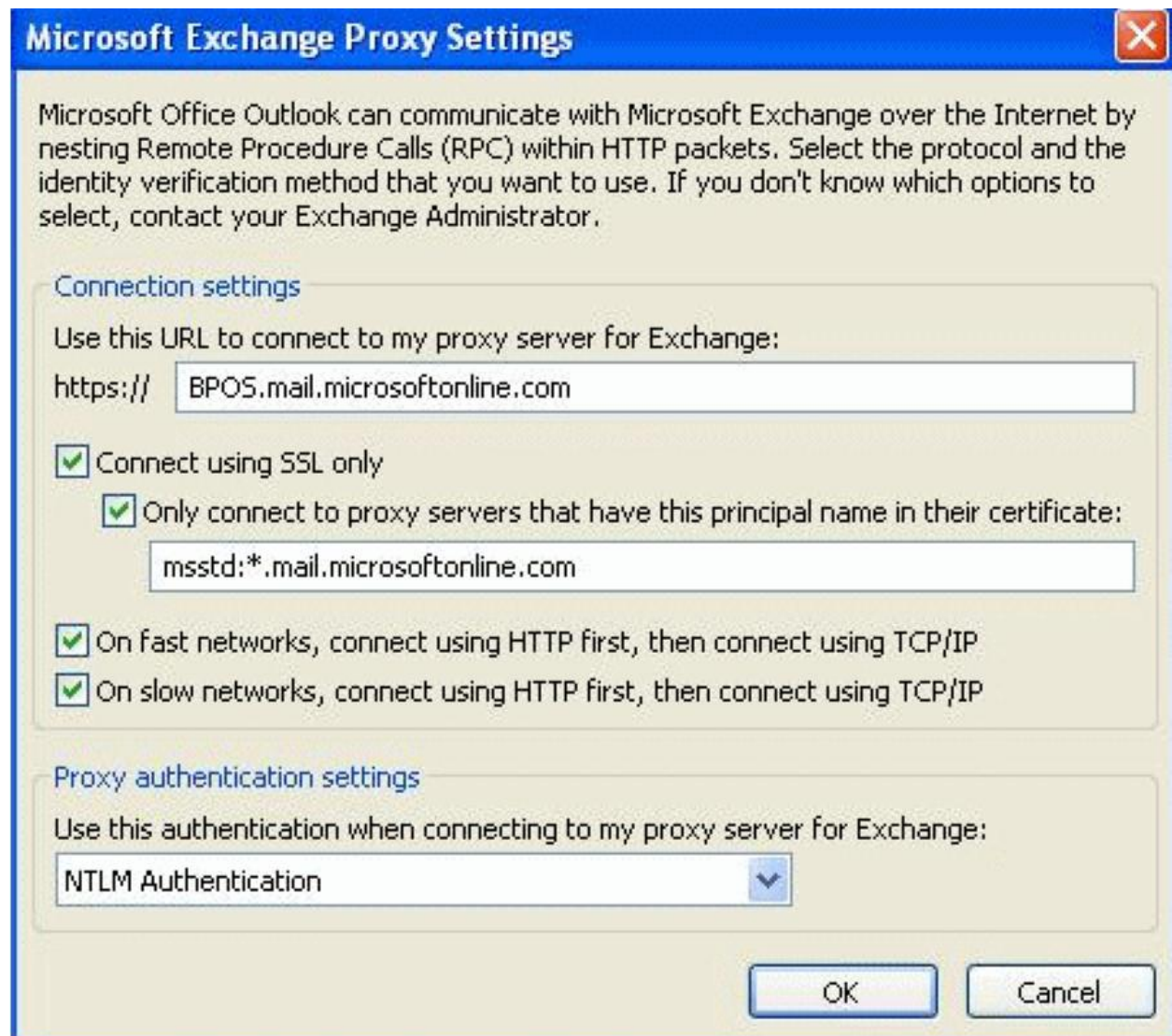
Enter a support ticket from within the Microsoft Online Services Administration Center web site to request Receive-As rights for the administrative group in Exchange Online. These rights are needed by GroupWise Migrator for Exchange to perform the migration of data into the destination mailboxes. These rights are not normally active, but are required for migration. The ticket should be resolved in about one day, and will be posted in an e-mail back to you, as well as listed in the Support area of the Administration Center.

Step 5: Verify Current Domain

Administrators should verify their organization's current domain in the Microsoft Online Services Administration Center, under Domains. Type the domain name and set it as an external relay, and then follow the steps of the verification wizard. The wizard will ask you to add two CNAME records to your domain host. The domain will not be verified and usable until it is recognized through this process.

Step 6: Create an Administrator Profile in Exchange Online

On the migration machine, create an Outlook profile to be configured for RPC over HTTP under the Control Panel | Mail. The Exchange credentials entered here are for the administrative account that was created in Exchange Online. Note that if the administrator user name is a fully qualified SMTP address, there is no need to enter the administrator user domain.

- Under **Connection settings**, fill in the proxy server settings provided for the Exchange Online Standard servers.
- Check **Connect using SSL only**.
- Check **Only connect to proxy servers that have this principal name in their certificate**, and fill the associated text box with the information provided by Microsoft.
- Check both **On fast networks** and **On slow networks**.
- Verify that the **Proxy authentication settings** method is set to **NTLM Authentication**.

Step 7: Configure Migration Settings

When using GroupWise Migrator for Exchange to create user objects in the on-premises Active Directory, use a text editor to open GME's **adobjmerge.ini file** and add (or edit) these settings:

```
[Active Directory]
SetUserAccountControl=1
UserAccountControl=512
ProvisionUsers=1
UserContainer=<NameOfOUContainer>
```

The **UserContainer=** parameter specifies the relative domain name of the container where the AD Object Merge Tool will create a new object when it finds none to correspond with a user in the user-list file. For example, you could specify: UserContainer=OU=Users. The container you specify must already exist.

Stage 2: Provision Active Directory

Step 1: Export GME Directory Data and Prepare User-List Data Files

Run the GroupWise Migrator for Exchange Directory Exporter to populate the user-list data files with users that will be synchronized into Exchange Online Standard. The directory exporter will create the UsersToMigrate.csv and UsersToMerge.csv files. You should review the UsersToMerge.csv and modify it to eliminate any objects you do not want to be added to Active Directory.

Step 2: Provision the On-Premises Active Directory

Step 2a. Merge Objects and Create Missing Objects

Run GME's AD Object Merge Tool on the UsersToMerge.csv file. This app will create a new user object in the AD staging server for any object in the user list that does not already exist in AD. If the app finds an existing object in AD that corresponds to an object in the user list, it stamps the AD object with the appropriate mail address. Note that a new object created by the app is not activated, and does not need to be mailbox enabled.

Step 2b. Provision GroupWise Groups in AD

Use GME's Admin-Driven Batch Migrator to provision groups in the on-premises Active Directory.

Step 3: Synchronize the On-Premises AD with the Hosted AD

If the on-premises Active Directory includes any objects that are not wanted in the hosted Active Directory server, you can remove them now. Then run the Microsoft Directory Synchronization tool to copy user objects from the on-premises Active Directory to the hosted Active Directory in the cloud.

Step 4: Enable Accounts in the Hosted Active Directory

GroupWise Migrator for Exchange is unable to automatically batch-enable accounts in the hosted AD due to permissions issues that, at least in the current release, are inherent in dealing with Exchange Online Standard. Therefore, administrators have to manually enable all users in the hosted Active Directory, assign temporary passwords, and then notify users of their passwords, as follows:

4a. Log in to the Microsoft Online Services Administration Center with the administrator account. Click on the **Users** tab and then on the **User List** link. On the left side of the tab, there should be links for:

> All Enabled Users
> Administrators
> Disabled Accounts
> Never signed in

4b. Check the boxes corresponding to the users you want to enable, and then activate user accounts by clicking on the named link to the right. The program will then guide you through several steps for each user to create the user mailbox and set a temporary password.

4c. Users should then have active mailboxes to which mail can be migrated. Remember to send all users their temporary passwords.

Stage 3: Perform the Migration

Step 1: Prepare User Groups for Migration

Prepare a user-list.csv file to define the subset group you intend to migrate.

Step 2: Migrate Mailbox Data

Run the GroupWise Migrator for Exchange Admin-Driven Batch Migrator to migrate user mailbox data, including all e-mail, calendars, tasks, personal address books, and frequent contacts directly from GroupWise source mailboxes to the corresponding Exchange Online Standard mailboxes.

Step 3: Provide End Users Access to Migrated Mailboxes

Once you have finished the migration steps, the mail will migrate directly from GroupWise to Exchange Online Standard. Users can check their mail by using the Single Sign-On application and opening their local Outlook, or by using Outlook's Webmail.

Stage 4: Post-Migration Issues and Clean-Up

After the last user has been migrated, take the following steps:

1. **Remind users to reset alarms for their repeating appointments.** Alarm settings for repeating appointments do not migrate if the first appointment in the series pre-dates the migration. The appointments themselves do migrate, but users have to reset their alarms.

2. **If you no longer need mail-forwarding between Exchange and GroupWise, verify the GroupWise server is inactive.** Make sure that the GroupWise server is no longer receiving or processing mail traffic.

A GroupWise-to-Exchange Online Standard migration using GroupWise Migrator for Exchange does not introduce any additional post-migration issues or clean-up steps beyond the typical process of migrating to a local Exchange environment.

Post-Migration Management

Due to the restrictions on administrator permissions in Exchange Online Standard, you cannot utilize Quest's Exchange management solutions (such as Archive Manager, MessageStats, Policy Authority for Unified Communications, Recovery Manager for Exchange, and Spotlight on Messaging).

However, Exchange Online is intended to offer high availability, 24x7 monitoring, simplified IT management, and comprehensive security.

CONCLUSION

This technical brief discussed the various drivers for organizations moving to a hosted, cloud-based e-mail platform, and introduced Microsoft's Business Productivity Online Suite (BPOS) as an attractive option in the market. It also offered best practices and detailed steps for migrating from Novell GroupWise to Microsoft Exchange Online using Quest GroupWise Migrator for Exchange. With proven migration solutions, expertise, global reach, and a strong Microsoft partnership, Quest Software is uniquely positioned to provide Microsoft and its customers the best and most comprehensive solution for migrating from an on-premises Novell GroupWise environment to Microsoft's Business Productivity Online Suite.

ABOUT THE AUTHORS

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Keith Ridings, Product Manager for Quest Software, specializes in Novell GroupWise and Lotus Notes migration and coexistence solutions to the Exchange Server/Exchange Online platform. Ridings presented "Migration to Microsoft Online Services from Exchange and Non-Microsoft Platforms" at Microsoft Tech•Ed 2009 with Microsoft Senior Program Manager Erik Ashby. He also co-authored the Quest white paper, "Avoid the Top 10 Exchange Migration Headaches". Previously, Ridings served as senior architect with Quest, delivering migration solutions and strategies to the enterprise. Before joining Quest, Ridings served as a network engineer for a large legal firm where he was responsible for the messaging environment and messaging applications.

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ABOUT QUEST SOLUTIONS FOR MIGRATING TO MICROSOFT'S BUSINESS PRODUCTIVITY ONLINE SUITE

Quest's BPOS solutions provide efficient, cost-effective migration of legacy e-mail, calendars, tasks, and personal address books to Exchange Online, including content from Novell GroupWise and Lotus Notes. They also simplify the migration and reorganization of file shares and public folders, as well as Notes, QuickPlace/QuickR, Domino.doc and SharePoint 2003/2007 application content to SharePoint Online. Quest solutions also provide storage and archiving capabilities prior to a migration, as well as pre-migration assessments of Notes, Exchange, BlackBerry, Windows Mobile and other messaging components and environments. For more information about Quest's migration solutions for Microsoft Business Productivity Online Suite, visit www.quest.com/bpos. For more information about GroupWise Migrator for Exchange, visit www.quest.com/groupwise-migrator-for-exchange.

ABOUT QUEST SOFTWARE, INC.

Quest Software, Inc., a leading enterprise systems management vendor, delivers innovative products that help organizations get more performance and productivity from their applications, databases, Windows infrastructure and virtual environments. Through a deep expertise in IT operations and a continued focus on what works best, Quest helps more than 100,000 customers worldwide meet higher expectations for enterprise IT. Quest also provides customers with client management through its ScriptLogic subsidiary and server virtualization management through its Vizioncore subsidiary. Quest Software can be found in offices around the globe and at www.quest.com.

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From SupportLink, you can do the following:

- Quickly find thousands of solutions (Knowledgebase articles/documents).
- Download patches and upgrades.
- Seek help from a Support engineer.
- Log and update your case, and check its status.

View the **Global Support Guide** for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at: http://support.quest.com/pdfs/Global Support Guide.pdf

APPENDIX: DIFFERENCES BETWEEN ON-PREMISES MIGRATION AND CLOUD MIGRATION

As described above, migrating from Novell GroupWise to Microsoft Exchange Online Standard is a similar process to an on-premises migration. However, there are some differences and limitations to aware of.

The table below highlights the key differences and limitations between migrating on-premises and to Exchange Online Standard.

Migrating to Exchange On-Premises	Migrating to Exchange Online Standard
MAPI connections are used when migrating to Exchange on-premises.	The Exchange Online Standard environment is accessible only through RPC over HTTP at this time. Therefore, the migration account must be set up and validated with the hosted Exchange prior to migration.
Microsoft Connector can be used to create contacts, maintain free/busy status updates, and keep objects synchronized between the source and target environments.	Connector cannot speak freely with the hosted environment in order to provide free/busy and directory synchronization. In a migration to the cloud, GroupWise Migrator for Exchange will be used to create the user objects in the on-premises Active Directory. Those objects will then be synchronized to the hosted AD using the Directory Synchronization Tool. GME is able to create mail-disabled users in the specified OU in the on-premises Active Directory if you add a series of settings to the GME INI.
Standard migrations using GroupWise Migrator for Exchange require three types of machines: **Source** – GroupWise server • **Migration server** – with GME • **Target** – Exchange 2003 or 2007	Migrations to Exchange Online Standard using GroupWise Migrator for Exchange may use five or more machines: • **Source** – GroupWise server • **Migration server** – with GME • **On-premises AD** –where all provisioning and synchronization occurs (Optional) • **Target** – Exchange Online Standard • **Directory Synchronization Tool** – This tool must be run on a Server 2003 SP2 operating system. If the migration machine is running this operating system, then this can be installed on that system.
GroupWise Migrator for Exchange is able to	Due to the permissions granted by Microsoft

call to the administrative account with permissions that allow for modifications to Active Directory. This allows administrators to provision users and groups, add mail routing, and merge contacts to user objects.	in the cloud, migrations to Exchange Online Standard do not allow permission to modify Active Directory objects. Instead, GME does any provisioning or account creation in the on-premises Active Directory. Once those AD changes are made, the Microsoft Directory Synchronization tool adds those objects to the Exchange Online Standard environment.
GME is able to automate the mailbox-enabling through collections.	Exchange Online Standard migrations do not allow permission to mailbox-enable through GroupWise Migrator for Exchange. Instead, the Directory Synchronization tool uploads user objects to Exchange Online Standard as disabled users. Then the migration administrator must go into the Microsoft Online Services Administration Center and manually check the objects that to be activated. This action allows the defining of the mailbox size and passwords as well as the user permissions. This is the primary reason that a clean AD environment will make migrations smoother, as it will reduce the number of unintended users that would have to be sifted through during user enabling.
GroupWise Migrator for Exchange is very scalable; administrators have the ability to migrate multiple users across multiple migration machines simultaneously.	The speed of data transfer is governed by the throughput of the link to Exchange Online Standard.