



# Migration Technical Guide

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## **Documentation**

OneNet Hosted Exchange



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## Introduction

This document is designed to provide the technical steps required to migrate an existing email environment to OneNet Hosted Exchange. It is important that this document is read and understood to ensure a smooth transition.

### Target Audience

This document is designed for either in-house IT staff or 3rd party IT support partners with a medium level of technical expertise. A general technical understanding of email, DNS and Microsoft Windows Operating Systems is required at a minimum.

### Section Overview

#### Migration Planning

Details the initial migration planning stage including required documentation, definition of migration timeframe and scope as well as determining site prerequisites.

#### Client Site Preparation

Outlines client configuration and data export and transport procedures.

#### Domain Migration

Deals with the DNS (Domain Name) migration options available and how they relate to the email migration process.

#### Data Migration

Provides explanation of the steps and time frames required for data migration and cut-over as well as a suggested migration plan template.

#### Testing and Migration sign-off

General overview of the key tests post migration to ensure the Hosted Exchange and mail flow is correctly configured. Also covers the sign-off document which is required by OneNet post migration.

## Migration Planning

The key to your successful Hosted Exchange migration is a combination of sufficient preparation and planning, clear communication with end-users and a general understanding of the Hosted Exchange solution.

Optionally, you can also have a member the OneNet Professional Services team review your migration plan to ensure minimal disruption to end-users and a streamlined and trouble free migration.

**Pre-Migration Planning Form**

Client Technical Contact	
Primary Technical Contact	
Phone Number (Direct)	
Phone Number (Mobile)	
Email address	
Client Environment	
Number of Hosted Mailboxes	
Device operating system(s) <i>For Example: Windows XP SP2</i>	
Mobile devices <i>For Example: BlackBerry 4.1.1, Windows phone 6, iPhone 5S, S5 Android 4.4</i>	
Current Email provider	
Current email platform(s) <i>For Example: Microsoft Exchange 2003, Lotus Notes, POP</i>	
Current Mail client(s) <i>For Example: Microsoft Outlook®, Mozilla Thunderbird</i>	
Other Mail enabled device(s) <i>For Example: Fax machine, Scanner, Security system</i>	
Site Connectivity	
Internet Connection Type & Plan <i>For Example: Broadband "Go Express"</i>	
Internet Service Provider <i>For Example: Telecom Xtra, Slingshot</i>	
Bandwidth allocation <i>For Example: Max /128</i>	
Estimated Bandwidth per user	
Domain Names	
Domain names (email)	

## Client Site Preparation

This section covers the different methods for exporting mail data from your existing email environment.

### Mail Data Export

This guide covers export options for an existing Microsoft Exchange environment and standard Microsoft Outlook mail data stored PST format.

<p><b>Microsoft Exchange</b></p>	<p>If you are currently using a Microsoft Exchange environment, we recommend that you export mail data directly to PST files. These PST files can then be transported to OneNet and imported into your Hosted Exchange environment, or imported directly into your new Outlook profile locally. Exporting mail to PST can be accomplished numerous ways, depending on the version of Microsoft Exchange Server you are running:</p> <p><b>Microsoft Exchange 2010, Microsoft Exchange 2013</b> This can be accomplished via the PowerShell cmdlet New-MailboxExportRequest. Information can be found at the below URL: <a href="http://technet.microsoft.com/en-us/library/ff607299(v=exchg.150).aspx">http://technet.microsoft.com/en-us/library/ff607299(v=exchg.150).aspx</a></p> <p><b>Microsoft Exchange 2003, Microsoft Exchange 2007</b> This can be accomplished via the Microsoft Exchange Server Mailbox Merge Wizard (ExMerge). EXMerge can be downloaded at the below URL: <a href="http://www.microsoft.com/en-us/download/2743">http://www.microsoft.com/en-us/download/2743</a></p> <p>Detailed instructions for using the tool can be found at the below URL: <a href="http://support.microsoft.com/kb/174197">http://support.microsoft.com/kb/174197</a></p>
<p><b>Microsoft Outlook (97/XP/2000/2003/2007/2010/2013)</b></p>	<p>If you are using Microsoft Outlook (e.g. you don't have administrative control of Exchange, or are using a POP provider), you can export mail history directly from Outlook to PST file. These files can then be transported to OneNet and imported into your Hosted Exchange environment or imported directly into your new Outlook profile.</p> <p>Detailed instructions for exporting email can be found at the below URL: <a href="http://kb.onenet.co.nz/?View=entry&amp;EntryID=43">http://kb.onenet.co.nz/?View=entry&amp;EntryID=43</a></p>

### **Download Outlook 2010/2013 or Microsoft Outlook 2011 (for Mac OS X)**

A single user license of Microsoft Outlook for Windows, or Microsoft Outlook 2011 (Mac users) is included with every Hosted Exchange mailbox. To download a copy, click "Outlook" from the "Exchange" menu in the OneNet Control Panel.

The license keys are also provided under the download link.

#### **Important Note:**

The license for these products is only valid for the period in which the user is subscribed to OneNet Hosted Exchange.

#### **Software Disclaimer**

*OneNet is not responsible for the consequences of software installation on client devices. We strongly recommend reviewing the software vendor's installation notes prior to installation. It is recommended to perform a full system backup before installation of any software products. It is recommended to run up-to-date Anti-Virus software on client devices. For an optimal end user experience, we recommend a broadband connection be used at a minimum. OneNet is not responsible for any excessive data usage charges. Please note that especially during the initial upload period there may be a significant increase in utilization across your internet link.*

#### **Email Client Configuration**

Depending on your migration plan, the Microsoft Outlook clients can be configured before or as part of the migration.

## Client System Requirements

Before installing the Microsoft Outlook client software, please ensure the device meets the recommended system requirements. In particular for PC clients please ensure:

### Microsoft Outlook 2010

Microsoft Windows XP Service Pack 3 or higher

### Microsoft Outlook 2013

Microsoft Windows 7 or higher

*\*Note: Microsoft Windows XP is no officially longer supported by Microsoft.*

Please ensure you install and maintain the latest Microsoft updates for your PC including updates for Office 2010/2013. The can be achieved through Windows Updates.

It is important to note that the autodiscover functionality requires additional DNS zone records. The autodiscover functionality allows email clients, including Microsoft Outlook, to automatically configure themselves, and is required for normal operation. For further information please visit [http://technet.microsoft.com/en-us/library/jj591328\(v=exchq.141\).aspx](http://technet.microsoft.com/en-us/library/jj591328(v=exchq.141).aspx).

Please refer to the Domain migration section for specific configuration details. If this zone has not yet been configured, you can still configure a Microsoft Outlook client by following our online knowledgebase articles.

### Important Note:

The autodiscover DNS record is required for Microsoft Outlook and mobile devices to function correctly.

If an internal DNS server is authoritative for the same domain (e.g. split DNS, or Active Directory domain is the same as external email domain), the records will need to be setup so that the client can resolve autodiscover/OWA CNAME records.

## Outlook Mail Profile

To avoid possible conflicts with existing mail profiles, we strongly recommend creating a new Outlook Profile, rather than modifying an existing mail profile. Instructions for creating a new mail profile are included in the installation instructions in this section.

## Exchange Cached Mode

It is important to ensure that the Microsoft Outlook client is configured in "Cached Exchange Mode". This option creates a local cached mail file and ensures an optimal user experience.

## Initial Mail Sync

During the initial import of your old mail into your new mailbox, data will be transferred across your Internet pipe to our Mail Servers. The amount of data transferred will depend on the size of the data you wish to import. You should ensure you have enough bandwidth on your Internet connection to handle this initial download/upload which is recommended to be done after hours to ensure minimal disruption. Also confirm whether a data cap exists on your plan and what the penalties are if this cap is exceeded. Some ISPs will charge clients extra while others may be reduced to dial-up speed.

Shared mailboxes, calendars and public folders should also be synchronized after hours and need to be taken into account when determining the total size of data to be imported.

## Installation Instructions

There are OneNet specific Knowledge Base articles to assist in the configuration of email clients.

**Microsoft Outlook 2013/2010 Setup Instructions** (using autodiscover functionality)

<http://kb.onenet.co.nz/?View=entry&EntryID=96>

**Configuring Outlook 2011 for Mac OS X** (using autodiscover functionality)

<http://kb.onenet.co.nz/?View=entry&EntryID=101>

## Firewall Settings

You will need ports TCP/443 and TCP/80 allowed outbound through your firewall in order for Hosted Exchange to work.

## Domain Migration

The process for migrating Domain Names into your OneNet Hosted Exchange environment is both conceptually and technically the most challenging. There are a number of different options available for Domain Name hosting, billing and migration. Before embarking on the migration process, it is important to provide some background terminology on the Domain Name system (DNS).

### Terminology

**Domain Name:** A domain name is a meaningful and easy-to-remember "handle" for an Internet address. Domain names can be purchased from Domain Registrars. An example of a domain name is onenet.co.nz

Domain names are used to give businesses a web presence. In particular, you can associate your company email with a domain name.

**Domain Registrar:** A Domain Registrar is a company who sells domain names. OneNet is a Domain Registrar.

**Name Servers:** Name servers host DNS zones for a particular Domain Name. OneNet operates a number of public Name Servers.

**DNS Zone Records:** DNS Zone Records are prefixes that can be used with your domain name. The most common zone record is "www" allowing [www.yourdomain.com](http://www.yourdomain.com) to point to your website host.

**MX Record:** A "MX" or "Mail Exchange" record is a special type of DNS zone record reserved specifically for email delivery. An "MX" record will point to the mail servers which host a company's email. Part of the domain migration process is to change the MX record to point to the OneNet mail servers.

**Propagation:** The DNS system uses caching to minimize load on public Domain Name servers. Propagation is the process of DNS changes being reflected on all public DNS servers' caches.

**CNAME Record:** A CNAME record or Canonical name record is an alias of one name to another: the DNS lookup will continue by retrying the lookup with the new name.

**SPF Record:** Sender Policy Framework (SPF) is an email validation system designed to prevent email spam by detecting email spoofing, a common vulnerability, by verifying sender IP addresses. SPF allows administrators to specify which hosts are allowed to send mail from a given domain by creating a specific SPF record (or TXT record) in the Domain Name System (DNS). Mail exchangers use the DNS to check that mail from a given domain is being sent by a host sanctioned by that domain's administrators.

### Migration Options

The most difficult part of the Domain Name migration is deciding **exactly** what you want to migrate. The below diagram outlines the various options. These options are not mutually exclusive.

It is important to note that a Domain Name can only be used with a single mail provider.

#### Point MX record to OneNet Mail servers

- This must be done regardless of DNS hosting configuration.
- This ensures mail from your domain name is delivered to the OneNet mail servers.

#### Transfer Domain Name to OneNet

- OneNet hosts all DNS zones for your Domain Name on the OneNet public Name Servers
- OneNet will manage and bill you annually for your Domain Name

#### Register new Domain Name

- Register a new Domain Name through OneNet

**Point MX record to OneNet Mail Servers**

To make this change, you will need to contact the organization responsible for hosting your DNS Zones. If you are unsure who this is, use a tool such as [www.dnsstuff.com](http://www.dnsstuff.com) and perform a “whois” search.

Often, large ISP’s have an integrated DNS and email environment which can cause migration challenges. **Make sure** you advise them exactly what you are doing, and ask if there will be any implications with your existing email accounts. Typically, ISPs need to remove the existing POP accounts for mail delivery when any MX record changes are made.

**Transfer Doman Name to be hosted by OneNet Name Servers**

Transferring your domain name to OneNet’s Name servers allows you to manage your DNS zone records through our Control Panel. It is also advantageous should we need to troubleshoot DNS related issues as well as ensure that additional DNS zone records are configured correctly. Before transferring your Domain Name to the OneNet Name Servers, it is important to get a copy of your zone files and replicate these on the OneNet Name Servers (via the OneNet Control Panel).

Transferring your Domain Name to OneNet also provides you with a single point of contact for managing your messaging environment. OneNet will manage and bill you directly for your Domain Name subscription. There can often be issues transferring your Domain Name away from your ISP if they also host your current email. Often, changing Name Server providers automatically removes associated POP accounts. Again, ensure you communicate exactly what you are doing and ask if there are any implications for your existing mail accounts.

**DNS Zone Records**

The below DNS zones must be configured regardless of DNS hosting configuration

Name	Record Type	Data
<b>autodiscover.yourcompany.com</b>	CNAME	autodiscoverredirect.onenet.co.nz
<b>owa.yourcompany.com</b>	CNAME	owaredirect.onenet.co.nz
<b>yourcompany.com</b>	MX	mx1.onenet.co.nz

*\*where yourcompany.com is your Domain Name*

**Important Note:**

The autodiscover DNS record is required for Outlook clients and mobile devices to function correctly.



### 3<sup>rd</sup> Party DNS Provider

If you do not use the OneNet Name Servers, the domain **must** be configured as disabled **within the OneNet Control Panel**. This is due to the integrated nature of the OneNet Exchange and DNS environments. This can be performed by the OneNet Service Desk.

### SPF Records

There is no explicit requirement to use SPF and maintain SPF records. If your domain name currently has SPF DNS records, it is very important that these are updated or removed as appropriate, with your move to OneNet. Please check your SPF (and other TXT) records for your domain name.

You can include OneNet's mail servers in your SPF records with the "include:spf.onenet.co.nz", e.g. if you are only sending email via OneNet's servers your SPF (TXT) records might look like this

**v=spf1 include:spf.onenet.co.nz ~all**

During the migration period you should **add** OneNet's servers to your existing SPF record to ensure there is no interruption to mail flow. To assist with SPF record syntax, an online wizard is available at <http://www.microsoft.com/mscorp/safety/content/technologies/senderid/wizard/>

### TTL/DNS Propagation

A key consideration when making DNS configuration changes is to ensure minimal impact to users. Planning for DNS propagation is a key factor in this. Every DNS zone record has a TTL or "Time to Live" metric. This metric contains a number of minutes that a DNS server can hold or "cache" a zone record before it needs to communicate with the authoritative Name Server. The longer the TTL value, the longer the process of DNS propagation will take. When making DNS changes, we request setting a low TTL value (perhaps 1 hour) to ensure that the DNS change is quickly propagated. It is important to revert the TTL to its original value post configuration change to minimise load on the DNS servers.

## Data Migration

The process for migrating mail messages and history into your Hosted Exchange environment should be seen as independent from any DNS (domain name) migration, although the timing of both need to be carefully considered.

### Import options

There are three options available for data migration.

If you intend to use OneNet Professional Services to import mail, you will need to complete a PST import form at least three days prior to PST delivery.

#### Import via Microsoft Outlook® Client

- No charge associated with import
- Potentially slow upload via client ISP
- Limited Outlook functionality during initial upload
- Significant Impact on internet link (uploading mail history)

#### Provide PST to OneNet Professional Services

- Optimal for time critical migrations
- Per user import charge
- Can provide to OneNet via FTP or courier
- Significant impact on internet link (downloading mail history)

#### Do not import, retain archived email locally

- No data migration required
- No charge
- User can only access mail history locally

## Timing Considerations

Timing is an important factor in any mail migration project

**A standard mail migration should follow the below steps**

Step	Migration Stage
Identify DNS Host provider and domains included in migration. Verify you have administrative permissions to make DNS zone changes	<b>Planning</b>
Confirm Internet plan details	<b>Planning</b>
Prepare list of all users and email aliases	<b>Planning</b>
Complete "MailMarshal Provisioning Form" to allow OneNet Anti-Spam gateway to accept messages address to your domains	<b>Planning</b>
Add domain names to OneNet Control Panel	<b>Cut-Over</b>
Setup Mailboxes and alias details in the control panel	<b>Cut-Over/Planning</b>
Configure outlook with their new account settings. During this period they should test that there are no issues sending and receiving mail from their account	<b>Cut-Over</b>
Reconfigure MX record to resolve to mxa.onenet.co.nz	<b>Cut-Over</b>
Perform mail delivery tests from migrated domains	<b>Testing</b>
Import mail via Microsoft Outlook client or transfer to OneNet for import by Professional Services team	<b>Cut-Over</b>

## Known Issues to be Aware of

Depending on your current mail setup, there are a number of issues to be aware of during migration. An example of some of the common issues are outlined below:

### If migrating from an Exchange or Hosted Exchange Environment

- There is a known Microsoft issue when migrating mail from one Exchange Server into another where reoccurring calendar appointments created pre-migration are unable to be amended or deleted afterwards. The workaround for this is to delete these reoccurring appointments before the migration then set them up again afterwards.
- If using EXMERGE to create your .PST files, please note that the process will only work for mailboxes under 2GB. Mailboxes over this limit will need to be exported some other way. For a list of further EXMERGE limitations and considerations, please consult the EXMERGE technical guide available at <http://support.microsoft.com/kb/174197>.
- Another known Microsoft issue that affects those who are migrating from an Exchange server and exporting their existing mail to .PST files, is that users will be unable to reply to messages from internal recipients sent pre-migration. This is because these addresses reference X400 email addresses from the old Exchange Server. Users are therefore advised not to reply to these types of messages, but instead delete and re-enter the recipient email address or create them new.
- The above issue will also affect users who use Outlook's automatic completion cache to email previously used recipients. These are stored in the .NK2 file and will occur if this file from their old Exchange profile is copied over to their new profile. The workaround for this issue is to either not copy the existing .NK2 file from their old profile or delete all internal recipient email address entries from the cache. The latter can be done by using the arrows on your keyboard to select the problem email address as it appears from the cache, then hit the 'Delete' key.

### If wanting to set up automatic forwarding of mail from other mail providers to your OneNet mailbox

OneNet automatically whitelists recipients that you've sent email to from our Hosted Exchange environment, which means that these addresses are exempt from some anti-spam rules. Other mail providers however that are configured to automatically forward mail to your OneNet mailbox may also bypass these rules if the other mail provider re-stamps the message's headers with the email address hosted by them. So for example, mail sent from [spam@asdfasdfs.com](mailto:spam@asdfasdfs.com) to [user@domain.com](mailto:user@domain.com) may get the message's headers re-stamped so that when OneNet receives the



message it appears as if sent from [user@domain.com](mailto:user@domain.com). The workaround for this issue is to either not configure automatic forwarding on accounts from other mail providers, or to not email your address hosted by your other email provider from your OneNet mailbox.

### **If using Entourage as an email client**

If you have a web site set up on your domain that uses SSL (e.g. <https://mydomain.co.nz>) that doesn't use a trusted SSL certificate, you will receive an error message saying so when you open Entourage. This behaviour is by design. Please consult the Microsoft whitepaper [http://technet.microsoft.com/en-us/library/bb332063\(EXCHG.80\).aspx](http://technet.microsoft.com/en-us/library/bb332063(EXCHG.80).aspx) for further information. As the same error message is thrown up when accessing the web site, you will need to resolve the issue on the web server if you wish to remove the error in Entourage.

### **PST file limitations**

Not all data is preserved when exporting to a PST file, even if you configure the export feature to export all the folders and subfolders. Amongst others, the following data gets lost during an export:

- custom forms
- custom views
- Wizard Rules
- folder properties like Auto-Archive settings

You may need to implement various workarounds or use 3<sup>rd</sup> party tools to overcome these limitations.

### **Issues that can interfere with the initial mail synchronization process**

- Make sure your device is configured to not go into hibernation or standby mode during the initial synchronization process.
- If using Entourage, turn off junk email and configure the client not to display error messages. These settings can be turned back on afterwards.

## Checklists

### Things to make users aware of when using their new system

- They will need to enter in a username and password every time they open their email client.
- If they were previously using Microsoft Exchange, they will not be able to reply to old emails.
- If a user's old contacts cache (in Outlook this cache is saved as an .NK2 file) is not copied over to their new profile, you will need to inform them that any contacts only present within this file will be lost.
- The URL for Outlook Web Access is <http://owa.onenet.co.nz>. The Control Panel also creates an owa.companyname.com record if the domain is hosted with us.
- Advise users of the information that will be lost from their old system where appropriate (e.g. rules, custom forms, custom views etc.).
- How users should log any issues they may have (i.e. with a designated system administrator or with OneNet directly).
- Passwords need to be complex.
- Spam can be managed via the Spam Manager web portal. This portal can be accessed by logging into <http://spam.onenet.co.nz> with the user's username and password. Please refer to the knowledge base article <http://kb.onenet.co.nz/?View=entry&EntryID=74> on how to use Spam Manager.

### How to confirm all mail has synchronized between OneNet's mail servers and the user's local PC/Mac

- Restart your local mail client and confirm all folders display as being up to date. To do this in Outlook, select the folder and make sure 'This folder is up to date' displays at the bottom right of the screen. In Entourage, confirm that the blue and white striped progress bar does not appear at the bottom right of the screen.
- Compare the size of the user's local mailbox to the size of the mailbox on the server which can be determined through the Control Panel. Some discrepancy in size is expected, but the gap in figures should not vary too greatly. In Outlook you can also right click on the mailbox and select properties and see the folder size locally and on the server. If you have any concerns, a server view of the user's mailbox is displayed by logging into <http://owa.onenet.co.nz>.
- Ensure shared mailboxes, calendars and public folders are also checked using the above method.

## Glossary

**CNAME Record:** A CNAME record or Canonical name record is an alias of one name to another: the DNS lookup will continue by retrying the lookup with the new name

**DNS Zone Records:** DNS Zone Records are prefixes that can be used with your domain name. The most common zone record is "www" allowing [www.yourdomain.com](http://www.yourdomain.com) to point to your website host.

**DNS (Domain Name System):** A system for converting host names and domain names into IP addresses on the Internet or on local networks that use the TCP/IP protocol.

**Domain Name:** A domain name is a meaningful and easy-to-remember "handle" for an Internet address. Domain names can be purchased from Domain Registrars. An example of a domain name is onenet.co.nz. Domain names are used to give businesses a web presence. In particular, you can associate your company email with a domain name.

**Domain Registrar:** A Domain Registrar is a company who sells domain names. The domain registrar is not necessarily the same as the provider providing name hosting services.

**Hosted Organizations:** A group of Active Directory users, contacts and groups. All accounts within one organization are located in the same Organizational Unit and are not visible to members of other organizations.

**MX Record:** A "MX" or "Mail Exchange" record is a special type of DNS zone record reserved specifically for email delivery. An "MX" record will point to the mail servers which host a company's email. Part of the domain migration process is to change the MX record to point to the OneNet mail servers.

**Name Servers:** Name servers host DNS zones for a particular Domain Name. OneNet operates a number of public Name Servers.

**OneNet Control Panel:** Web based administration portal for OneNet Hosted Exchange clients (<http://controlpanel.onenet.co.nz>)

**Propagation:** The DNS system uses caching to minimize load on public Domain Name servers. Propagation is the process of DNS changes being reflected on all public DNS servers' caches.

**SPF Record:** Sender Policy Framework (SPF) is an email validation system designed to prevent email spam by detecting email spoofing, a common vulnerability, by verifying sender IP addresses. SPF allows administrators to specify which hosts are allowed to send mail from a given domain by creating a specific SPF record (or TXT record) in the Domain Name System (DNS). Mail exchangers use the DNS to check that mail from a given domain is being sent by a host sanctioned by that domain's administrators.