



## AutoPort for Messaging Servers

<b>Who</b>	<b>Date</b>	<b>Description</b>
BD	9-Jul-02	Draft
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## **Background**

Transferring user accounts from one Internet Messaging platform (the source) to another (the destination) is a difficult task because:

- A list of the accounts on the source server may not be available.
- Folder contents may need to be converted from one proprietary format to another.
- Passwords are often encrypted.
- Third party decryption or analysis of file formats may lead to claims of copyright or IPR infringement by the Source Server Vendor.

The usual solution is to re-issue passwords to all account holders and switch over the server at a given time and date. If the attempt to transfer the server proves to be more complicated than expected, the whole organisation can be without email until the process is completed.

## Summary

Autoport describes how mail accounts (including all folders and their contents) may be ported from one proprietary server to another without the need to make any changes to the Source Server. For those holding accounts, the benefits include:

- No need to have an extended period when access to email is barred.
- No need to reveal or change their password.
- No need to change the configuration of mail clients.

For administrators, the benefits include:

- Complete automation of the transfer process including folder contents.
- No need to contact all users in order to change their passwords.
- No changes are required to the Source Server.
- The transfer process can identify unused or special accounts for potential disposal and updates.

The transfer process will work with any Internet Standards compliant messaging server as the Source Server.

**Detail description**

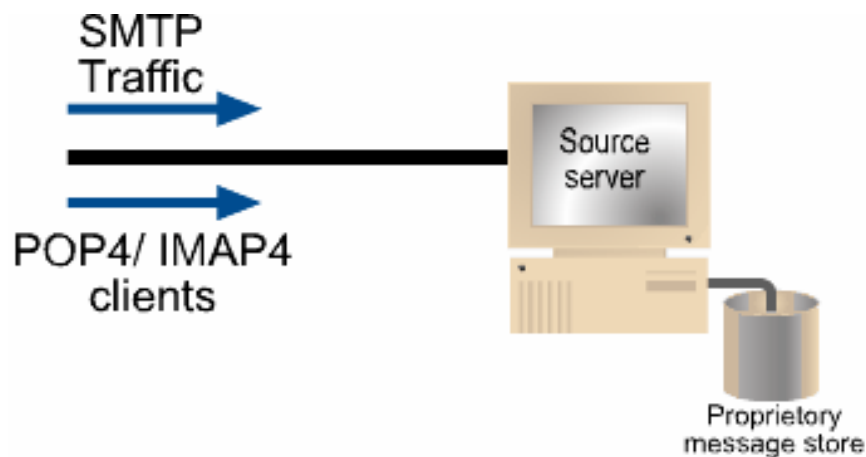
There are three phases to transferring the accounts from the Source to Destination Server – Preparation, Account Transfer and Retiring the Source Server. The Account Transfer phase would last several weeks to ensure that all accounts are transferred successfully (this time would cover the period that employees may be on holiday/vacation).

**Terms:**

<b>Term</b>	<b>Description</b>
Source server	This is the old messaging server that is to be replaced.
Destination server	This is the new messaging server.

**Phase 1 - Preparation**

The Source server is typically providing email to people via the Internet (See figure 1)



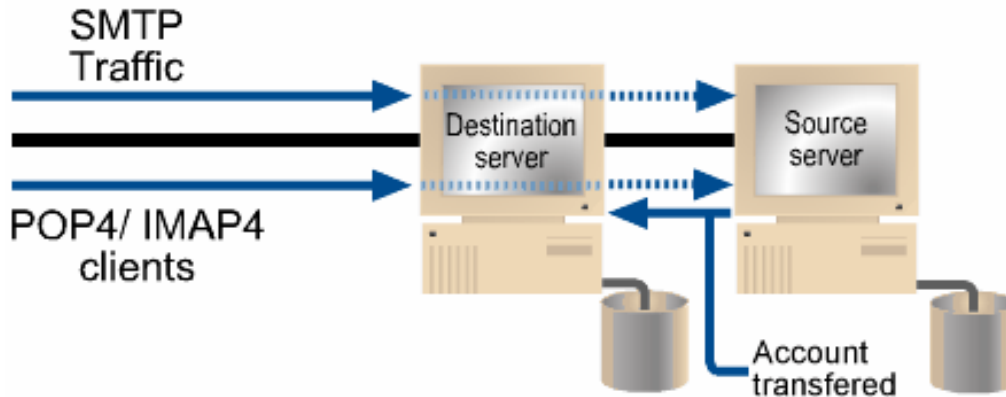
**Figure 1: Standard Internet Mail Solution**

The Destination Server is prepared (off the network) by having the new messaging server software installed, setting it up for porting and giving it the same IP address as the Source Server. In setting up for porting, the Destination server is configured to “proxy” or “transfer” all POP3, SMTP and IMAP4 connections through to the Source server (which will later be moved to a new IP address).

**Phase 2 – Account Transfer**

To begin the porting process, the Source server is taken off line and given the new IP address. The Destination server is connected to the same network (preferably on the same LAN segment) as the Source Server and the Source

Server restarted. Users can continue to collect and send email in the usual way as illustrated in figure 2.



**Figure 2: Account transfer process**

When a user logs in to the Destination Server for the first time, it collects the account information (e.g. user name and password). As soon as the Destination Server has the account information it logs on to the Source and initiates the transfer of information. During this transfer, the user will perceive a slight delay (although this is unlikely to be large due to the proximity of the two servers).

Subsequent log-on's by the user are handled by the Destination Server directly.

Over a period of time (the duration of which is defined by the server administrator responsible for the portation process) all live accounts will have been transferred automatically to the Destination server without any interruption of service to the User. After this specified period, the administrator can retire the Source server secure in the knowledge that all live accounts are on the Destination Server.

To show how this works in more detail, we need to examine the Internet Messaging Protocols.

#### Post Office Protocol v3 - POP3

This protocol is defined by Internet Standard RFC1939 and defines how mail clients collect email from a messaging server. When a POP3 client connects to the Destination Server, the server checks to see if the account is being managed locally. If the account is local, it must have been transferred previously so the Destination Server handles the account without reference to the Source.

If the account is not held on the Destination Server, there are two strategies for transferring folder information. In the first strategy the Destination Server, it will automatically log in to the Source Server and act as a “proxy” feeding all communications between the client and Source Server. As far as the client and Source servers are concerned, they are still communicating with each other. The Destination Server will keep a copy of the user name and password, encrypt them and note that the transfer operation needs to take place.

The second strategy involves the Destination Server connecting to the Source Server and logging on with the user name and password. A transfer of all folder information is immediately started (while the client is waiting). Once the information has been transferred the Destination Server manages the account locally.

#### IMAP4

This protocol is defined by Internet Standard RFC2060 and defines how mail clients collect email from a messaging server. The procedure for managing IMAP4 connections is exactly the same as for POP3 connections.

#### The Simple Mail Transfer Protocol: SMTP

SMTP manages email messages arriving at the server. When the Destination Server is first installed, it acts as a “pass through” server delivering all email to the Source Server. As soon as a user logs in through POP3 or IMAP4 and an account is transferred to the Destination Server, all future email for that account is delivered locally. Over a period of time the number of messages forwarded to the Source Server will decrease as more and more accounts are transferred.

#### The Transfer Process

The transfer process could take place at two different times (depending upon the chosen strategy) but the process is the same in both cases.

The Destination Server creates a local account for the user and marks it as “not in service”. If the account owner attempts to log into the account they will be told the server is currently busy and that they should try later. Likewise, any email for that account will be held off by responding with a “retry later” command.

The Destination Server logs into the IMAP4 service of Source Server with the user name and password of the account to be transferred. Using the IMAP4 protocol, the Destination Server enumerates all the folders on the Source Server and copies each folder and its contents (including any additional message information, e.g. draft messages, etc.).

If the Source Server does not support the IMAP4 protocol, the Destination Server may connect to the Source Server using POP3 and transfer the InBox.

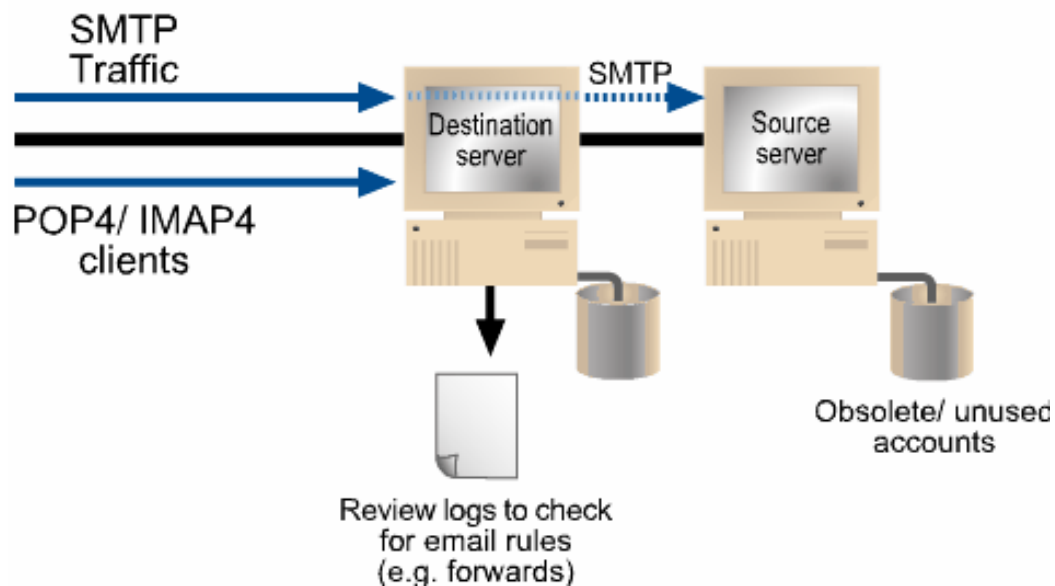
When all the folders have been transferred, the Destination Server logs off from the Source Server and marks the local account as “in service”. Any future attempts by the account owner to read email will now be serviced by the Destination Server. Email for the account can now be delivered.

The transfer process is largely transparent to the user because:

- The transfer time is likely to be small since the folders are transferred between two machines on a high bandwidth link.
- The transfer may take place after a user has just finished checking their email. This means that there is usually a period of time for the account to be transferred when the user is no longer accessing their email.

### **Phase 3: Retiring Source Server**

After a period of time (e.g. a month) the server administrator may determine that it is time to retire the Source Server. Some special mail routing rules (e.g. forwards, auto-responders, etc.) and accounts that have not been accessed will not be transferred automatically. By reviewing the log of messages (see Figure 3) that are still being forwarded to the Source Server, these special rules can be identified and appropriate action taken.



**Figure 3: Review logs for special mail rules**