Isode

Setting up an X.400 Email System

Using Isode's M-Switch X.400 (MTA), M-Store (message store) and Xuxa (X.400 test email client) products to set up an X.400 email system for local message exchange and connection to external X.400 systems.

Isode

Contents

Introduction

This guide details the process for creating an X.400 based messaging systems using Isode's M-Switch X.400 and M-Store products. You'll test the system using Isode's Xuxa test/demo user agent. M-Switch SMTP is one of a family of email messaging products which comprises:

- M-Switch SMTP (SMTP Message Transfer Agent)
- M-Box (POP/IMAP Message Store)
- M-Switch X.400 (X.400 Message Transfer Agent)
- M-Store (X.400 Message Store)
- M-Switch MIXER (message gateway providing conversion between X.400 and Internet email according to the MIXER specifications)
- M-Switch Constrained Networks (Email Messaging for low-bandwidth and/or high-latency networks)
- Harrier Web (web based email client)

M-Switch products are widely deployed in the Government, Military, Intelligence, Civil Aviation and EDI markets.

> *Use of TLS: Due to UK Export Controls we are unable to provide Evaluation Licenses to certain Geographic regions that would allow the use of TLS so this guide will not configure any TLS. Should you wish to use TLS please contact your Account Manager and if you are located in an approved region we can provide a license (MAC Address of Server required) and additional instructions for configuring TLS.*

Objectives

By the end of this guide you will have:

1. Created an M-Switch X.400 server with the message configuration held in a Directory Server (Isode's M-Vault LDAP Directory)
2. Created two X.400 users/mailboxes in an M-Store message store
3. Exchanged messages between these two users with the Xuxa test/demo user agent
4. Created a connection to an external X.400 server (optional)
5. Sent a message to a remote user using that connection (optional)

You'll use the MConsole (Message Console) management GUI to set up your system. MConsole is Isode's central tool for messaging system Configuration and Operational management for both Internet and X.400 Messaging deployments.

This guide uses the address space "*/P=Local/A=Field/C=GB/*" to refer to the system being created here and "*/P=Local/A=Headquarters/C=GB/*" to refer to the external X.400 server required for steps 4 and 5. For ""*/P=Local/A=Headquarters/C=GB/*" this guide uses the M-Switch MIXER instance set up in the "Isode M-Switch MIXER" evaluation guide.

The diagram which follows shows the main elements of the system.
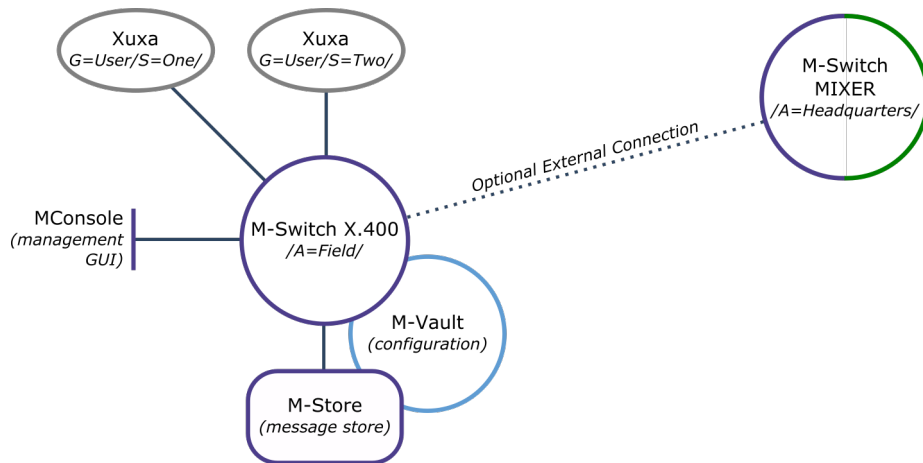
For the purposes of this evaluation we have assumed this is a "clean" installation of M-Switch X.400 on to a physical or virtual machine. If you have previously installed an M-Switch product on the hardware or VM you are using for this evaluation, please make sure you have completely uninstalled that version before proceeding.

Using Isode Support

You will be given access to Isode support resources when carrying out your evaluation. Any queries you have during your evaluation should be sent to *support@isode.com*. Please note that access to the Self-Service Portal for web-based ticket submission and tracking is not available to evaluators.

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Preparation

You should visit *www.isode.com/products/supported-platforms.html* to discover which operating systems are supported for Isode evaluations. Please note that in addition to the server platforms listed, we support the use of Isode servers on Windows 8, Windows 8.1 and Windows 10 for simple evaluations and demonstrations.

Isode Products

Product downloads are held in a password-protected section of the Isode website. If you have not already done so you should apply for a username/password by filling in the form located at *www.isode.com/evaluate/evalrequest.html*.

Products can be obtained by clicking on the links in the "Download Links" section of the Directory evaluation page (*www.isode.com/evaluate/evaluate-email.html*). The downloads page will give installation instructions specific to your platform.

Product Activation Key

Isode server products require a valid Product Activation Key from Isode before they will run correctly. Keys are issued by Isode Customer Services. If you haven't already been sent a Key when requesting access to the evaluation files, please send a message to request one to *support@isode.com* remembering to specify which Isode server products you need a Key for.

By default, the file you receive needs to be placed in *\Isode\etc* (Windows) or */etc/isode/* (Linux), renamed as 'license.dat'. You may have chosen an alternative installation directory when installing the software, in which case you will have to place the license file there.

External X.400 Server Details

The optional 4th and 5th objectives in this guide assume that you already have access to an external X.400 server, which this installation will exchange messages with. This may be a system you have previously configured or it may be a system you have set up as part of the Isode "M-Switch MIXER" evaluation.

In either case, if you wish to complete these optional objectives, ensure you have the connection details of that external system.

Create a Messaging Configuration using MConsole

In this section you'll use MConsole to create a Directory Server to hold the messaging system configuration.

Starting MConsole

In Windows locate the MConsole program icon and select it. On Linux execute the following command:

```
% /opt/isode/bin/mconsole
```

When MConsole starts, click on [**Yes**] when asked to confirm the encryption of your bind profile. Enter a Profile Passphrase when promoted (making a note of this), click on [**OK**] to submit and [**OK**] again when the encryption confirmation is displayed.

Image 1: Enter Bind Profile Passphrase
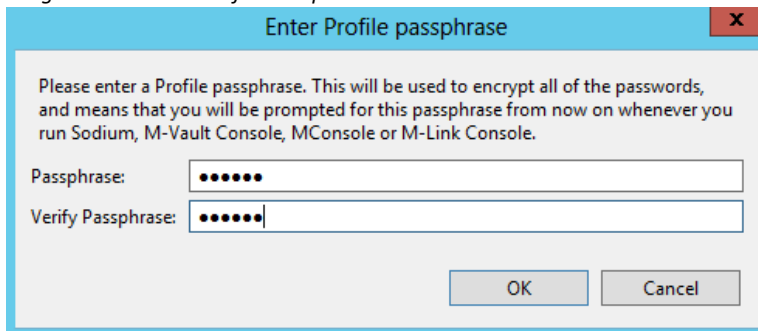
Creating a new Directory Server

In the **Welcome to Message Console** screen (Image 2) select the "Create a new DSA and Messaging Configuration" option, click [**OK**] and then provide an Initial Directory User Name (Image 3). This can be any name, this guide uses "Messaging Admin".
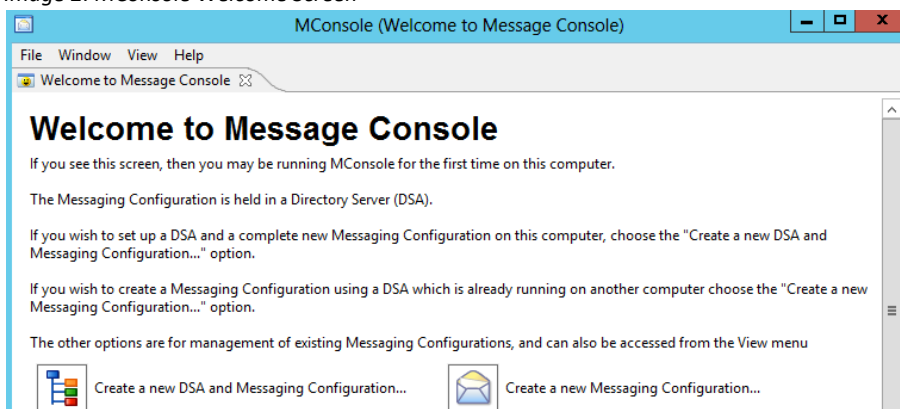
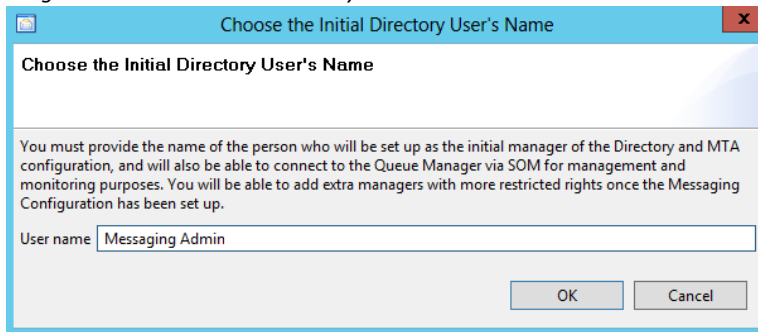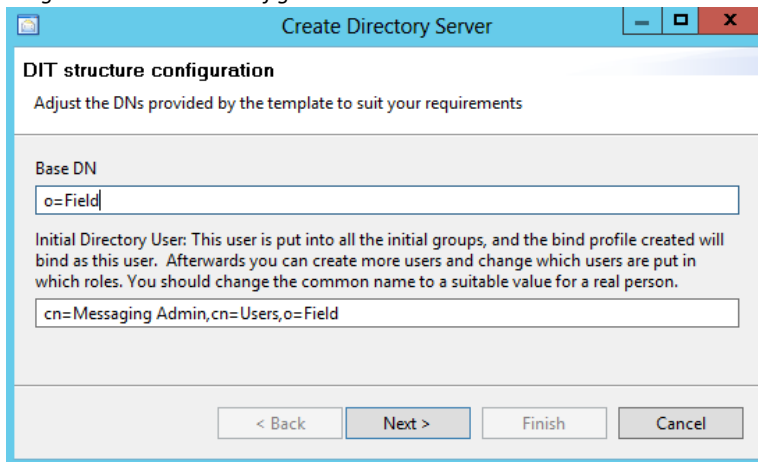*Image 2: MConsole Welcome Screen*
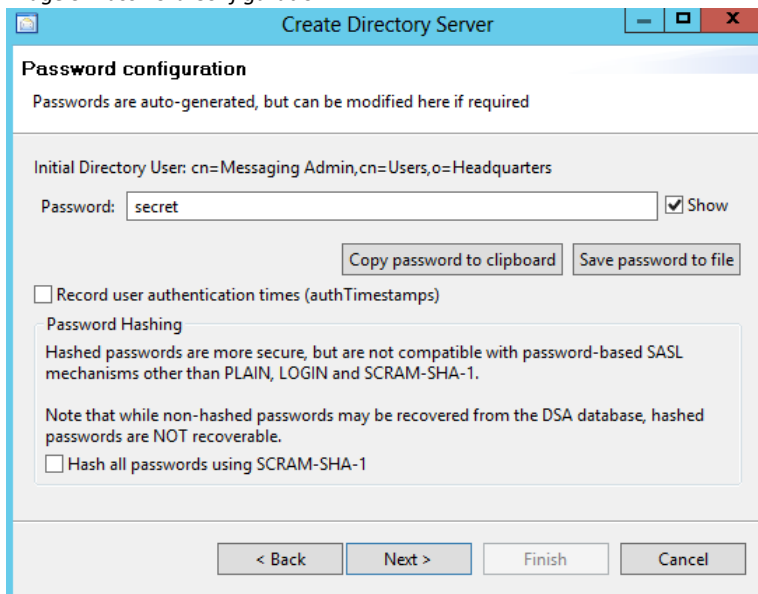
Image 3: Choose the Initial Directory User's Name

You now need to choose a top level Directory Server DN for your installation, this can be any o="any name", it defaults to "o=messaging". This guide uses "o=Field". Click [**Next**].

Image 4: DIT Structure Configuration

In the Password Configuration screen, set a password and then click [**Next**].

Image 5: Password Configuration

In the next two screens **Bind Profile Names and Filesystem Location** and **Address Configuration**, use the suggested values and click [**Next**] through both screens before reaching the **Confirm Details** screen.

Click on [**Finish**] here (Image 6) and the DSA will be created and started.

Image 6: Confirm Details
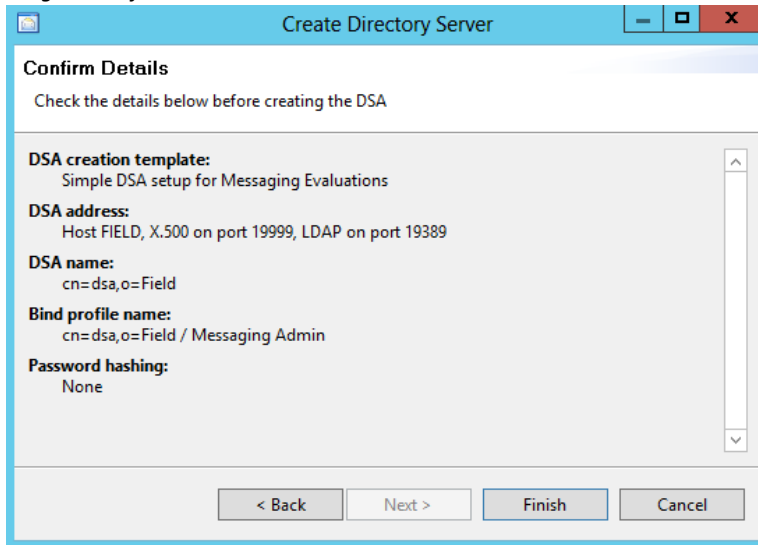
Create a New Messaging Configuration

After the creation of the DSA, MConsole will prompt you to create a new messaging configuration.

Highlight the "o=Field" entry, click [**Next**] and then select "X.400 MTA (M-Switch X.400)" when prompted for a messaging configuration type.

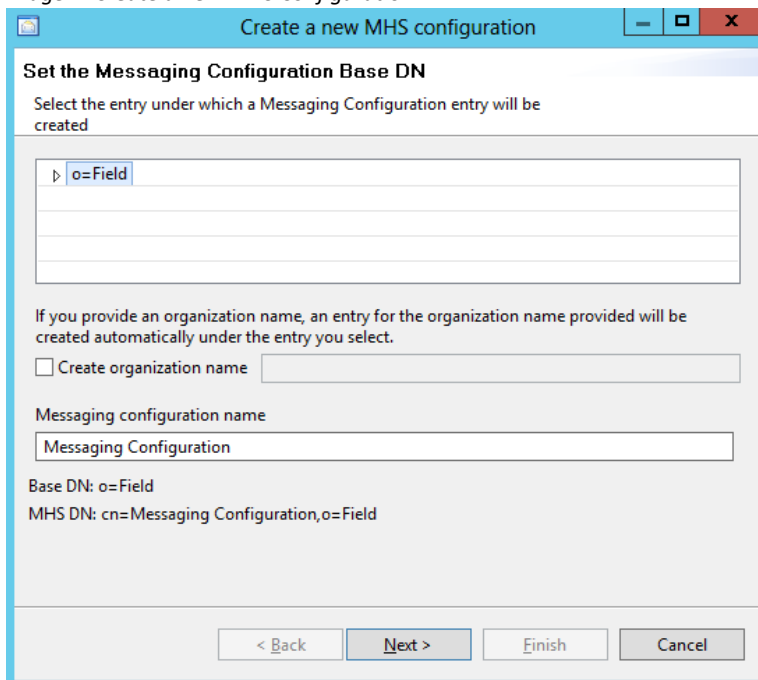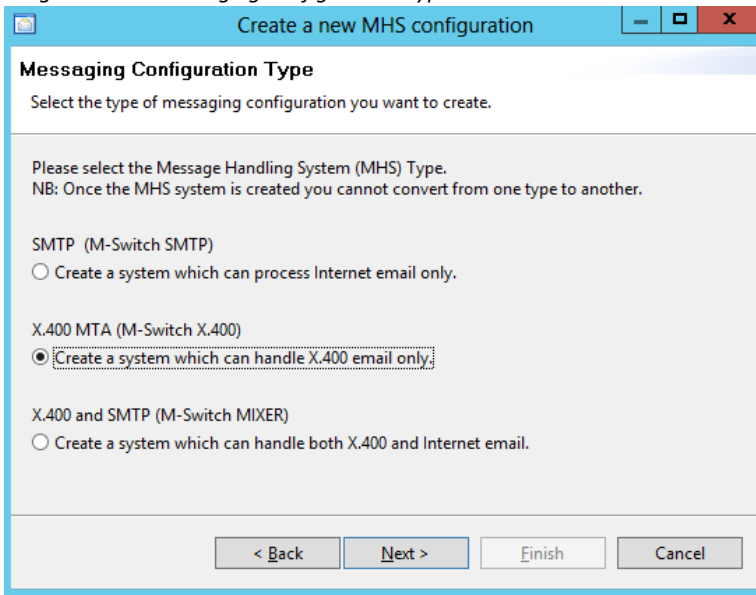*Image 7: Create a new MHS Configuration*

Image 8: Select Messaging Configuration Type

Click [**Next**] and MConsole will prompt for a Market Segment choice (choose General Purpose), in the next two screens accept the defaults for the **Hostname** (Image 9) and **Administrator authentication details** (Image 10) clicking [**Next**] through both of these screens.

Image 9: Hostname
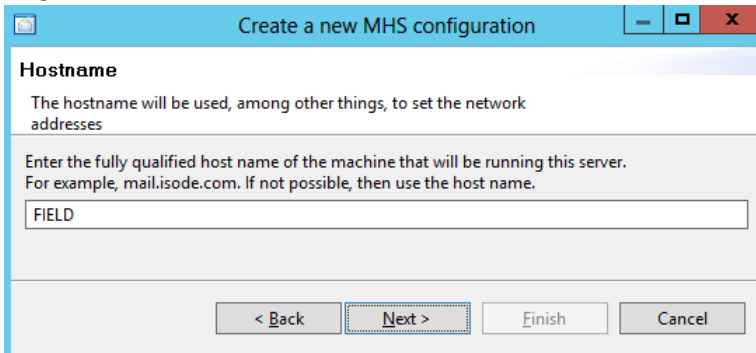
Image 10: Administrator Authentication Details

In the **X.400 Configuration** screen (Image 11), enter your Local X.400 Address Space (in this guide we are using /P=Local/A=Field/C=GB/).

You will also want to create an X.400 Message Store (M-Store) so tick the "Create and X.400 Message Store for local P7 users" radio button before clicking on [**Next**].

Image 11: X.400 Configuration

Accept the defaults on the **Service File Creation** screen and then click [**Finish**].

Image 12: Service File Creation
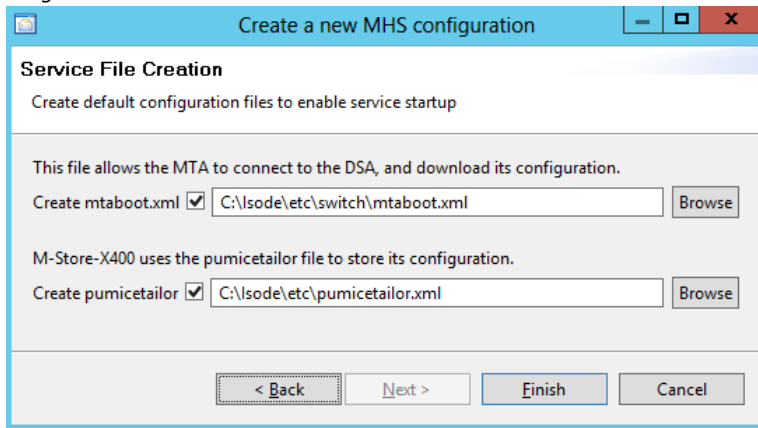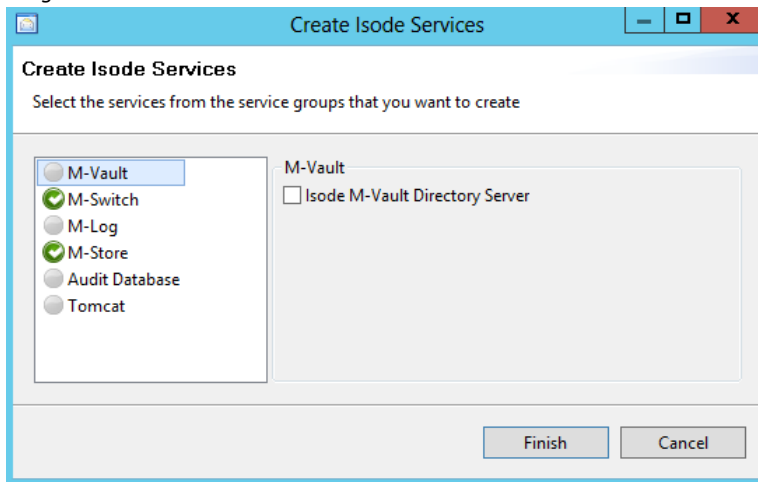
```
┌─────────────────────────────────────────────────────────────────┐
│ ▣          Create a new MHS configuration          [—] [□] [ X ]  │
├─────────────────────────────────────────────────────────────────┤
│  Service File Creation                                            │
│  Create default configuration files to enable service startup     │
│                                                                   │
│  ┌───────────────────────────────────────────────────────────┐   │
│  │ This file allows the MTA to connect to the DSA, and download its configuration. │
│  │ Create mtaboot.xml ☑  C:\Isode\etc\switch\mtaboot.xml   [Browse]│
│  │                                                           │   │
│  │ M-Store-X400 uses the pumicetailor file to store its configuration. │
│  │ Create pumicetailor ☑  C:\Isode\etc\pumicetailor.xml    [Browse]│
│  └───────────────────────────────────────────────────────────┘   │
│                                                                   │
│            [ < Back ]   [ Next > ]   [ Finish ]   [ Cancel ]      │
└─────────────────────────────────────────────────────────────────┘
```

In the Create Isode Services screen, ensure that M-Switch and M-Store services are selected (Image 13) and then click [**Finish**] to be dropped back into the main MConsole screen.

Image 13: Create Isode Services

```
┌─────────────────────────────────────────────────────────────────┐
│ ▣            Create Isode Services              [—] [□] [ X ]     │
├─────────────────────────────────────────────────────────────────┤
│  Create Isode Services                                            │
│  Select the services from the service groups that you want to create │
│                                                                   │
│  ┌──────────────────┐   ┌ M-Vault ─────────────────────────────┐ │
│  │ ⚪ M-Vault        │   │  ☐ Isode M-Vault Directory Server    │ │
│  │ ✅ M-Switch       │   │                                      │ │
│  │ ⚪ M-Log          │   │                                      │ │
│  │ ✅ M-Store        │   │                                      │ │
│  │ ⚪ Audit Database │   │                                      │ │
│  │ ⚪ Tomcat         │   │                                      │ │
│  └──────────────────┘   └──────────────────────────────────────┘ │
│                                                                   │
│                            [ Finish ]   [ Cancel ]                │
└─────────────────────────────────────────────────────────────────┘
```

Start and Connect to Services

You should now start the services for the installed products. On Windows select the "Isode Service Configuration Tool".

In the Service Configuration GUI, ensure that all services are set to a Start Type of "Automatic". Then select "Start All" from the Operations menu. Once your service configuration matches that in Image 14, you can close the service configuration GUI.
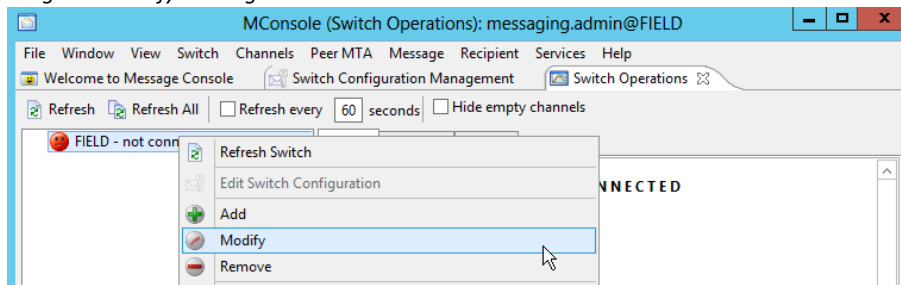
Image 14: Service Configuration
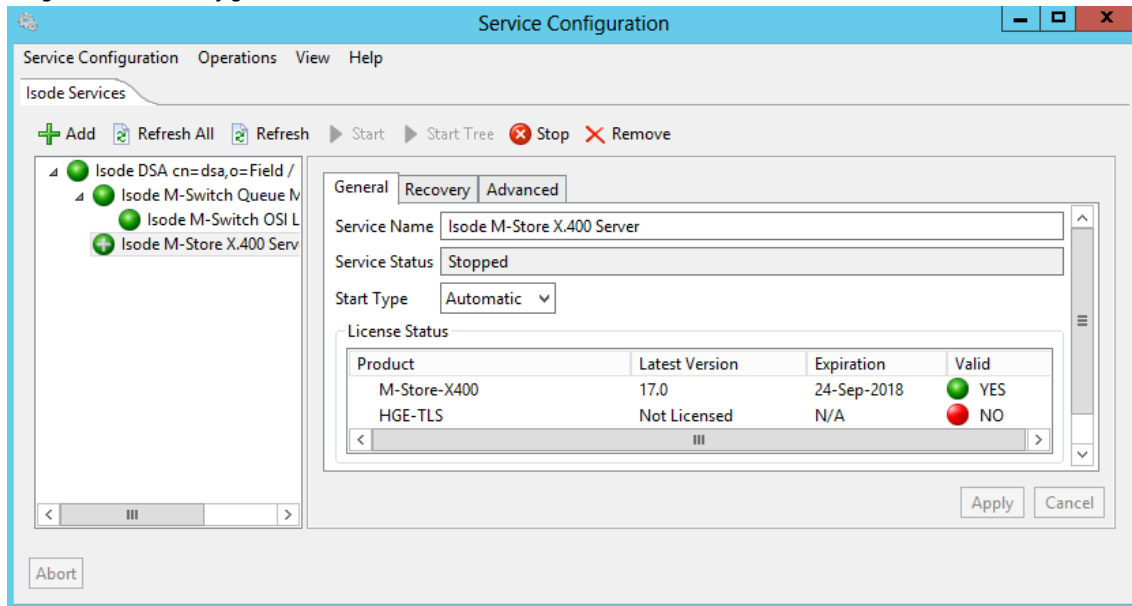
On Linux execute the following commands:

```
# /etc/init.d/pp start
```

Now return to MConsole and select "View > Live Operations > Switch Operations". Dismiss the Error dialog box and right-click on the MTA with the Red "X" next to it (FIELD in this example) and select "Modify".

Image 15: Modify Message Switch

In the **Edit Message Switch** screen, change the password to the one you created for the Initial Directory User "Messaging Admin" and click [**OK**].

![Isode]

Image 16: Edit Message Switch

Edit Message Switch

Friendly Name: FIELD
Host: FIELD
Userid: messaging.admin@FIELD
Password: ●●●●●● [Show]

Authentication Mechanism: DIGEST-MD5

MTA | ACP127 Monitoring | ACP127 OTAM

Port ☐ Override port

No services ☐

Host Aliases

Host Aliases are used to correlate MTA names when a host name or IP changes and the same MTA is known to the Audit DB by different names. This can happen when:
- the hostname or IP of a system hosting the MTA has changed
- when clustering is in use, and the MTA has failed over/back

[Add...]
[Remove]

[OK] [Cancel]

Back in the main MConsole screen, right-click on the MTA again and select "Connect".

Image 17: MTA Connected

MConsole (Switch Operations): messaging.admin@FIELD

File Window View Switch Channels Peer MTA Message Recipient Services Help

Welcome to Message Console | Switch Configuration Management | Switch Operations ✕

Refresh | Refresh All | ☐ Refresh every [60] seconds | ☐ Hide empty channels

FIELD (messaging.admin@FIELD): 0

Report | Properties | Services

MESSAGE SWITCH

GENERAL

* Hostname: **FIELD**
* QMGR status: **Up**
* Running since: **2018-07-10 10:54:53 (Local time)**
* Running since: **2018-07-10 10:54:53 (MTA time)**
* Time running: **5 minutes, 46 seconds**
* OS type: **windows**
* Queue filesystem free space: 75%
* Archive filesytem free space: 75%
* Logging filesytem free space: 75%
* Last management operation: **rereadQueue**
* Time of last management operation: **2018-07-10 10:54:55**

MESSAGE STATUS

* Total volume: **0 KB**
* Total messages: **0**
* Held messages: **0**

[Help]

Create X.400 Mailboxes

In MConsole, select "View > Configuration > X.400 Mailbox Management" and Expand the "Main Routing Tree" to your X.400 Address Space *(/P=Local/A=Field/C=GB/)*. Then click on the **Add P7 Mailbox** button.

Image 18: Add P7 Mailbox
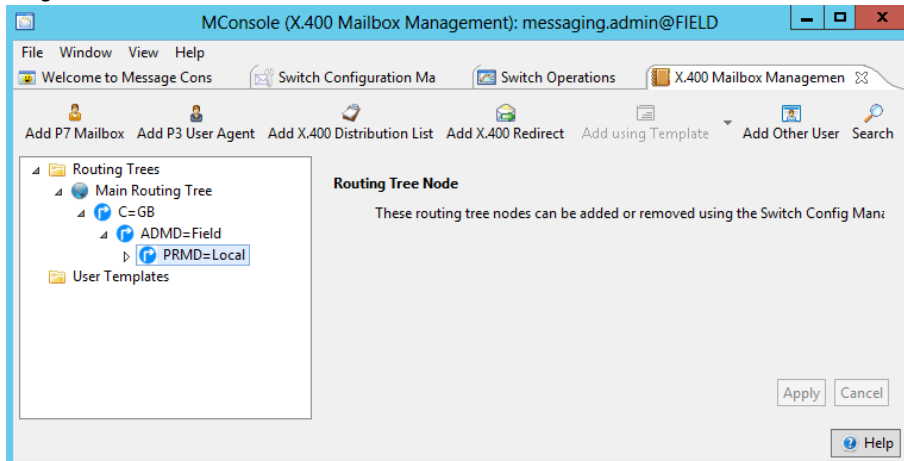
In the screens that follow:

- Choose the Address Form of "Personal Name" (Image 19)

- Insert a Surname and Given Name (Image 20)

- Confirm the O/R address (Image 21)

- Ensure that a new White Pages entry is created for the User (Image 22)

Image 19: Choose Address Form
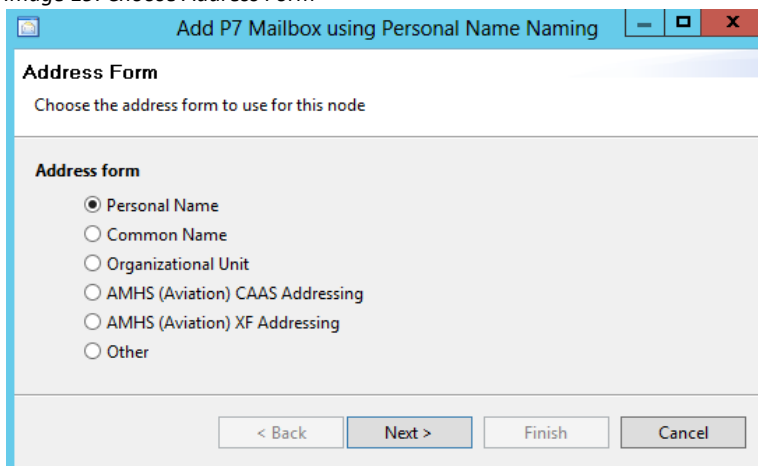
Image 20: Set Surname and Given Name

Add P7 Mailbox using Personal Name Naming

Node name (Personal Name Addressing)
Enter the Personal Name for this node

Surname	One
Given name	User
Initials	
Generation Qualifier	

[< Back] [Next >] [Finish] [Cancel]

Image 21: Confirm O/R Address

Add P7 Mailbox using Personal Name Naming

O/R Address
Confirm the chosen O/R Address for this node

O/R Address /G=User/S=One/PRMD=Local/ADMD=Field/C=GB/   [Edit]

[< Back] [Next >] [Finish] [Cancel]

Image 22: Create a new White Pages Entry

Add P7 Mailbox using Personal Name Naming

White Pages (Address Book) Entry
Configure a White Pages entry for this address

○ Do not set up a White Pages entry
◉ Create new White Pages entry

Directory Root
Select where in the DIT the White Pages entry will be created

Directory | cn=White Pages,o=Field | [Pick]

Common Name	User One
Initials	
Surname	One
Given name	User

○ Amend existing White Pages entry

Directory Entry
Select the existing Directory entry to amend

Directory Entry | cn=White Pages,o=Field | [Pick]

Advanced White Pages values can be set within the White Pages tab in X.400 Mailbox Management

[< Back] [Next >] [Finish] [Cancel]

You should additionally:

- Confirm the MTA and Message Store Details (Image 23)

- Set passwords for P7 Message Store and P3 Access (Image 24)

Image 23: Confirm MTA and Message Store Details
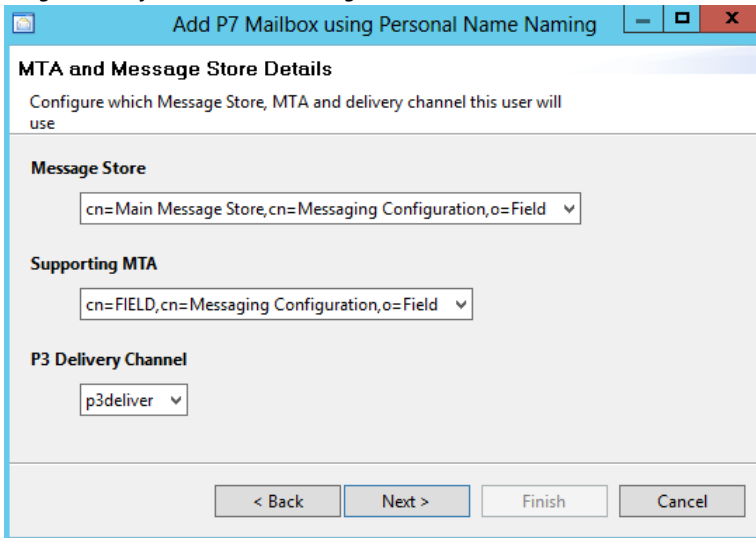
Image 24: Set Password
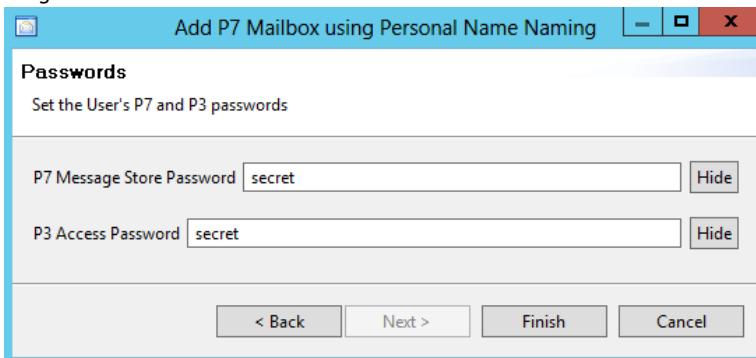
Click on [**Finish**] and then repeat this process for an "user.two". After adding both users, MConsole should display them as in Image 25.

Image 25: Users Added
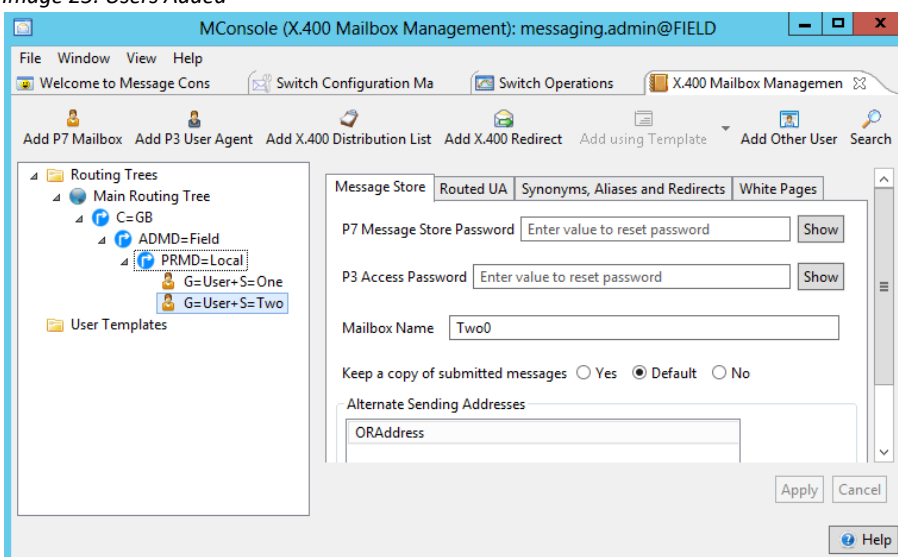
Testing with the Xuxa Demonstration User Agent

We're now going to use the Xuxa demonstration user agent (installed earlier with M-Switch) to test local messaging between the two users.

Xuxa can only be connected to one account at a time, but can have several accounts configured, and one of them is always the default account.

We're going to log on as User One, making that the default account. We'll then configure a second account, User Two, before exchanging messages between the two accounts to test the X.400 MTA.

To start Xuxa on Windows, locate the Xuxa program icon. On Linux execute the following command:

```
% /opt/isode/bin/xuxa
```

After the introductory splash screen, in the White Pages Browser (Image 26) select User One, click [**OK**].

Image 26: White Pages Browser
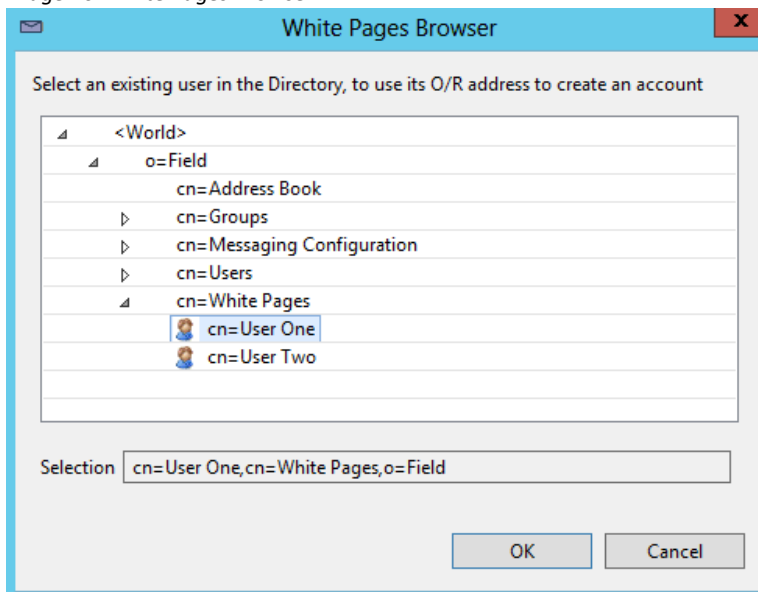
now enter the password set in the previous section and click [**OK**] again to log in to Xuxa as this user. You'll be dropped into the main Xuxa GUI (Image 27) showing that you have successfully connected to the User One mailbox.

Image 27: Connected as User One
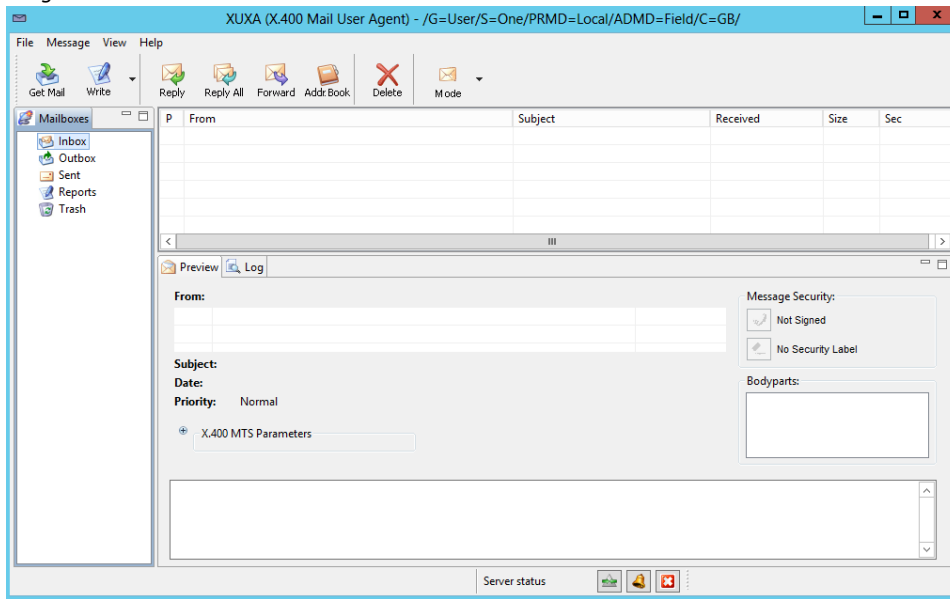
We're now going to configure the User Two account. Select "File > Preferences" from the Xuxa menu, highlight the Xuxa Accounts option and click on [**Copy**] to configure a new account using User One as a template.

Image 28: Configuring User Two
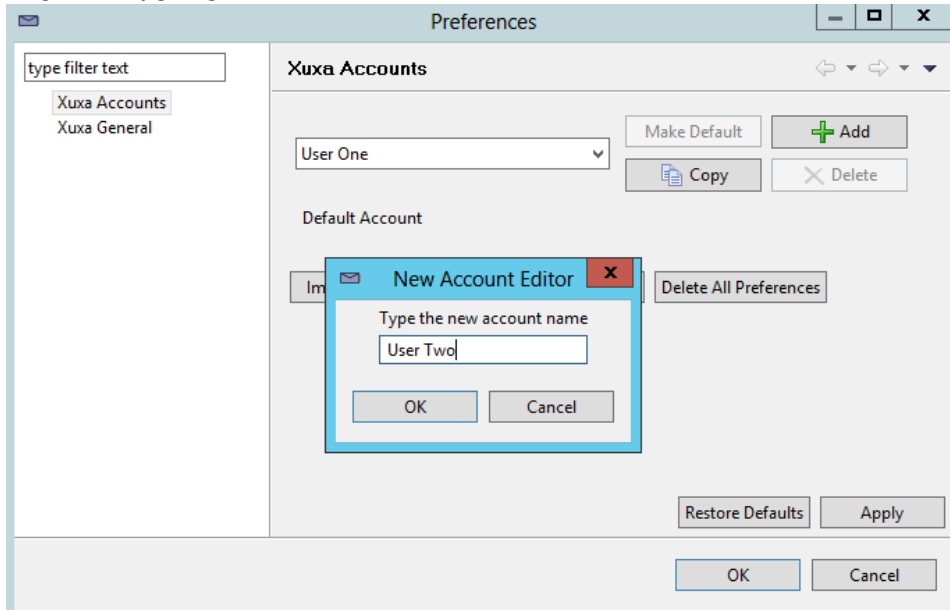
When prompted give the new account a name of "User Two" and click [**OK**]. In the **Preferences** screen (**P7 Message Store**), as shown in Image 29, make the following changes:

- Change the **Message Store User (O/R)** field value to match that of User Two (*/G=User/S=Two/PRMD=Local/ADMD=Field/C=GB/*)

- Change the **Message Store User Password** field value to match the password you set for User Two

- Change the **Message Store User DN** field to match that of User Two (*cn=User Two, cn=White Pages,o=Field)*

Click [**Apply**], then [**Bind to the Message Store**], then [**OK**].

Image 29: User Two Preferences
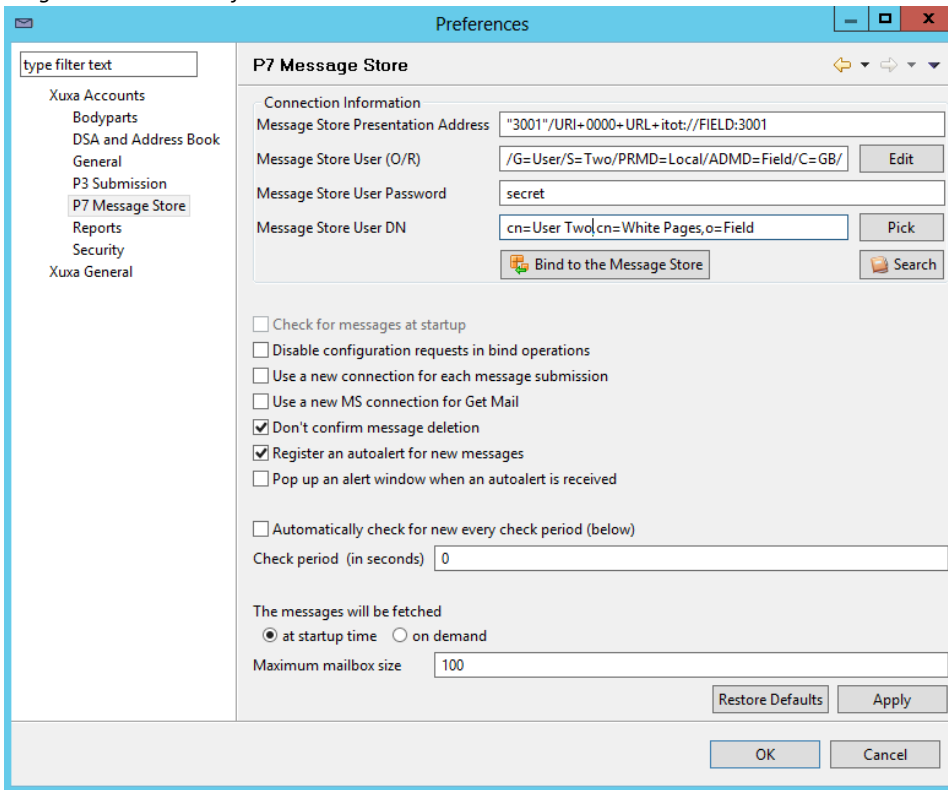
You'll be dropped again, into the main Xuxa GUI this time showing that you have successfully connected to the User Two mailbox.

Sending a Test Message between Users

Now that both User accounts have been configured within Xuxa, you can send a test message, in this case from User Two to User One. Click on [**Write**] to bring up a new message screen (Image 30).

Image 30: Composing a New Message - 1
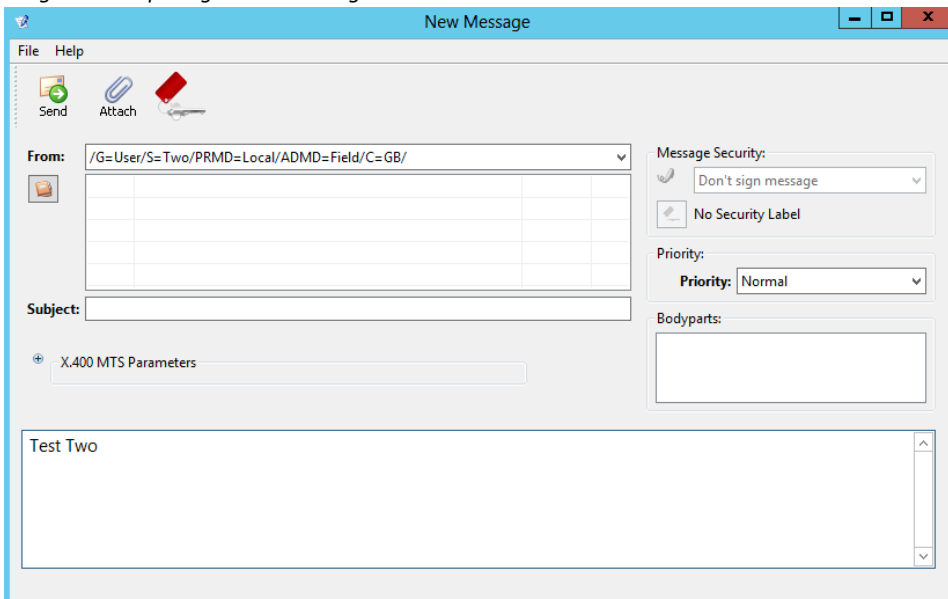
Now click on the Address Book icon (below "From" in Image 30), select User One from the list

available addresses and click on [**To**] to add that address to the list of recipients.

Image 31: Selecting a Recipient from the Address Book
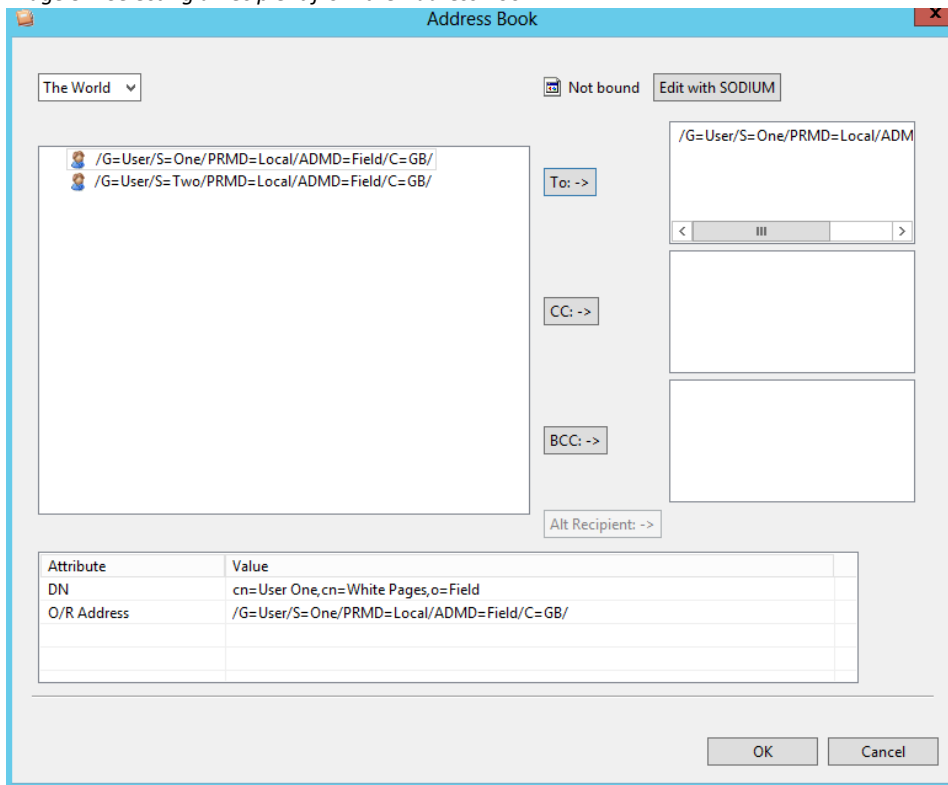
Click on [**OK**] to return to the message composition screen and add a Title and Message Content (Image 32) before clicking [**Send**].

Image 32: Composing a New Message – 2
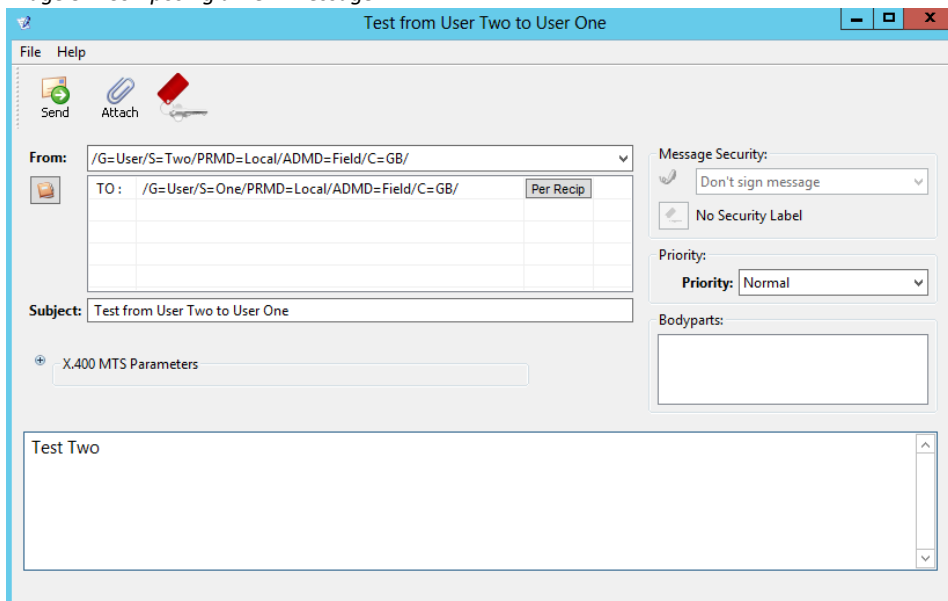
If you now click [Get Mail] in the User Two mailbox screen (Image 33), you'll see that a Delivery Report has been generated for User Two, confirming that the message has been successfully delivered to User One.

Image 33: Delivery Report
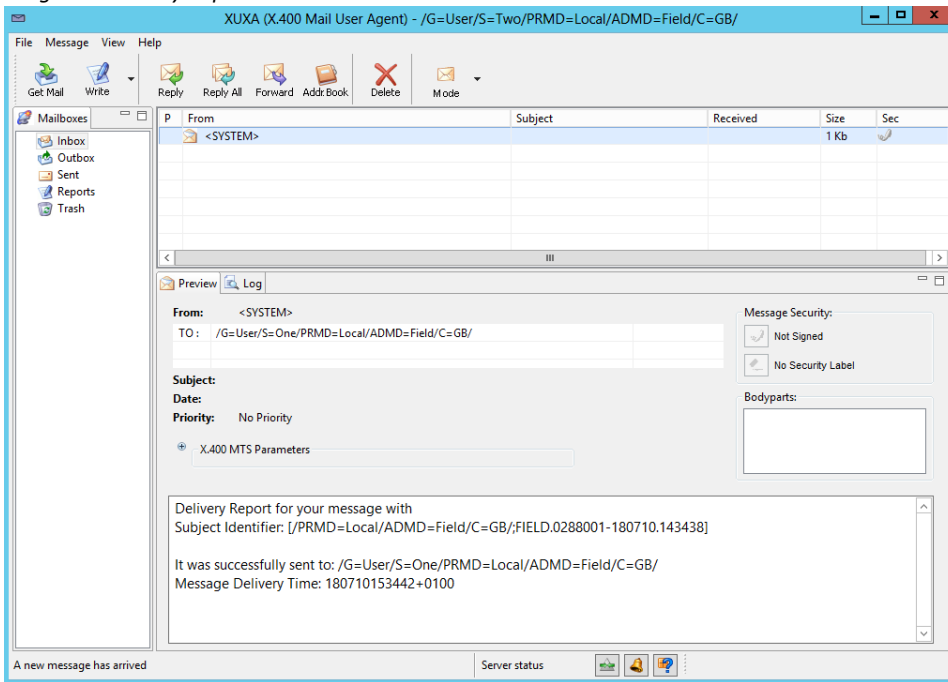
You can switch back to viewing the User One mailbox (File > Preferences, then select User One and click [**Apply**]) to view the received message from the perspective of the User One account.

Connect to an External X.400 System

You have successfully set up an X.400 system for exchange of local messages, in the following (optional) parts of this document you'll be guided through the process of connecting your system to an external X.400 system.

For the purposes of this guide we have assumed that the external system is that which is set up as part of the "Setting up an SMTP/X.400 MIXER Gateway" guide. If you are connecting to a different system, please substitute connection details as appropriate.

Create Remote User White Pages Entry using Sodium

Xuxa does not support the "Free Typing" of recipient addresses, so in order to prepare Xuxa for sending messages to Remote User(s) you will need to add "White Pages" entries, for those users, using the Isode Directory Data entry tool "Sodium".

To start Sodium on Windows locate the Sodium program Icon and select it.

To start Sodium on Linux run the following command

```
# /opt/isode/bin/sodium
```

When Sodium starts you'll be required to enter your Profile passphrase (which is the same as you used for MConsole) and then click [**Connect**] in the **Bind Profile Management** screen.

In the main Sodium interface, expand the Directory Information Tree (DIT) until you find the existing white pages entries for your two existing users. The right-click on "cn=White Pages" and select "add Below" (Image 34).

Image 34: Adding White Pages Entries
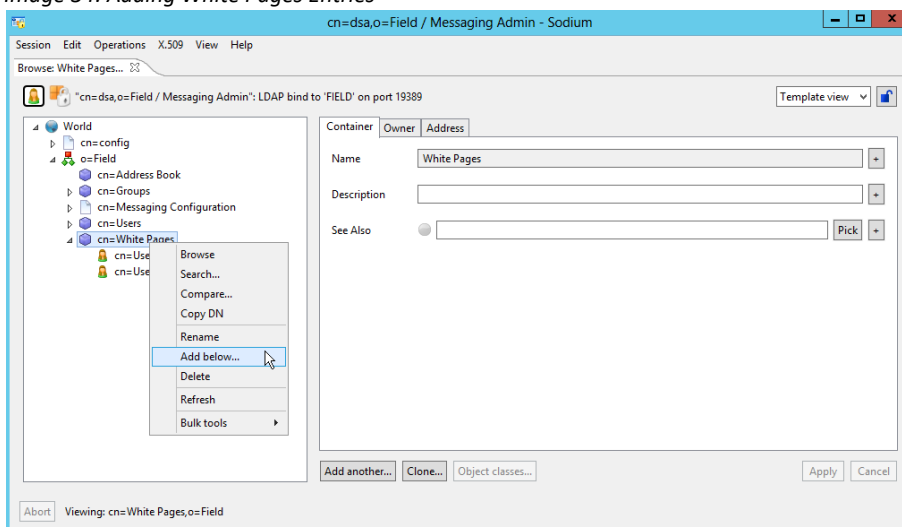
In the **Select template to add** screen, choose "Person" and click [**Next**].

In the **Select optional parts** screen, tick "X.400 Messaging" and click [**Next**].

In the **Enter RDN** screen (Image 35), enter a description for this user before clicking [**Finish**].

Image 35: Enter RDN of new entry
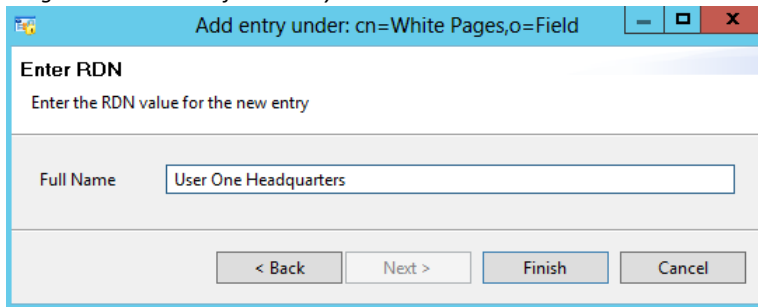
Back in the main Sodium GUI, enter a surname for this new entry ("Headquarters" has been used in Image 36) and then in the **Messaging Tab**, (Image 33) click on [**Edit**] next to the OR Address field (Image 37).
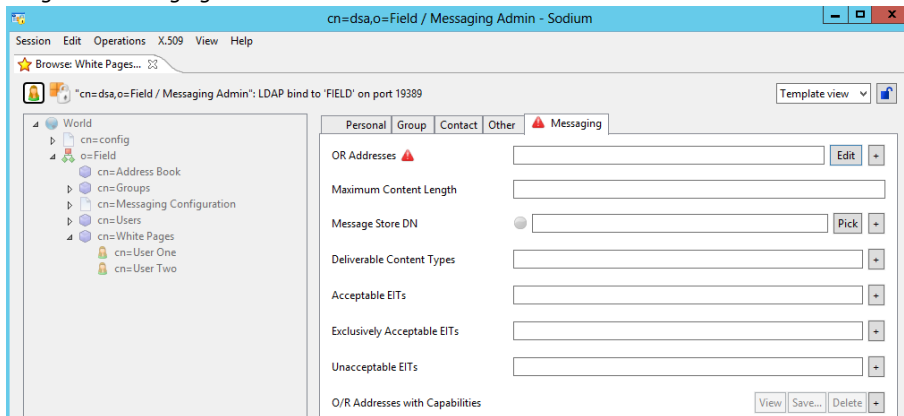
Image 36: Add Surname
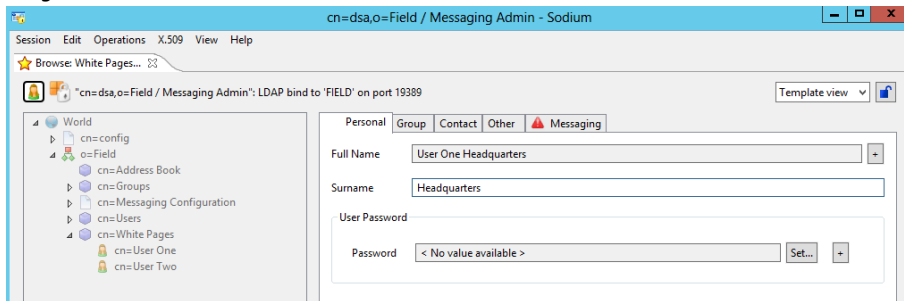
Image 37: Messaging

In the **O/R Address Editor** field (Image 38), enter the O/R address of the user on the remote system, then click [**OK**] to return to the main Sodium screen and [**Add**] to finish adding this user to the white pages (Image 39).

Image 38: O/R Address Editor
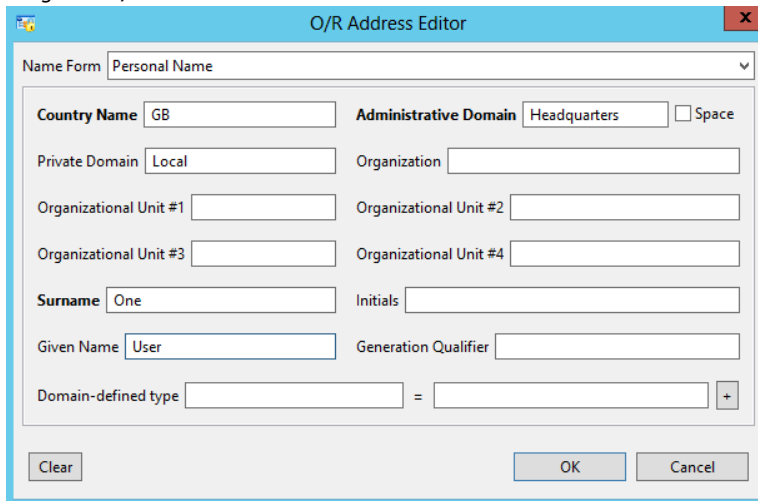
Image 39: User Added
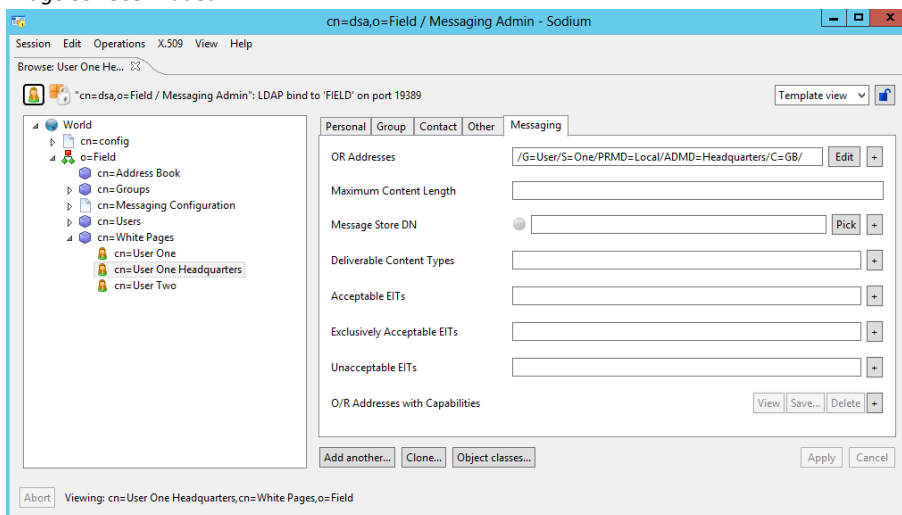
Create a Connection to an External X.400 MTA & Testing using MConsole

First you need to add a Routing Tree entry for the Address Space of the External X.400 MTA, in this example this will be *"/P=Local/A=Headquarters/C=GB/"*.

From the **Switch Configuration Management** view in MConsole right-click on the "Main Routing Tree" and select "Add Nodes".

Image 40: MConsole – Create new Routing Tree Nodes
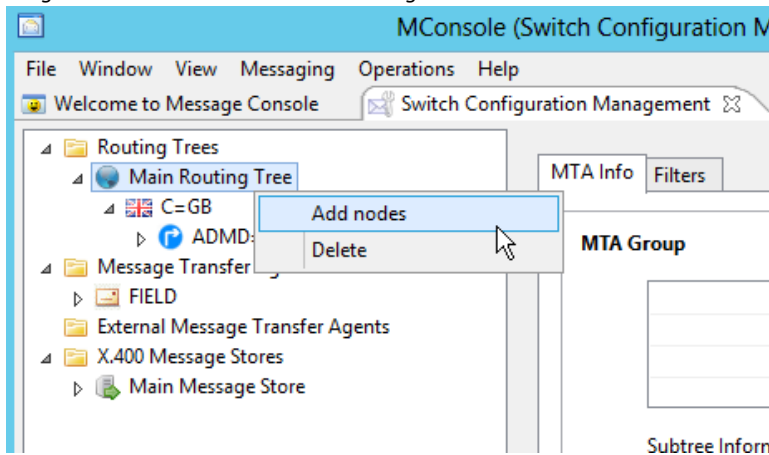
Click [**Next**] through the Names and Domains screen and enter the details for the External MTA's X.400 Address space in the **O/R address hierarchy** screen (Image 41) and click [**Finish**].

Image 41: Create New Routing Tree nodes – O/R address hierarchy
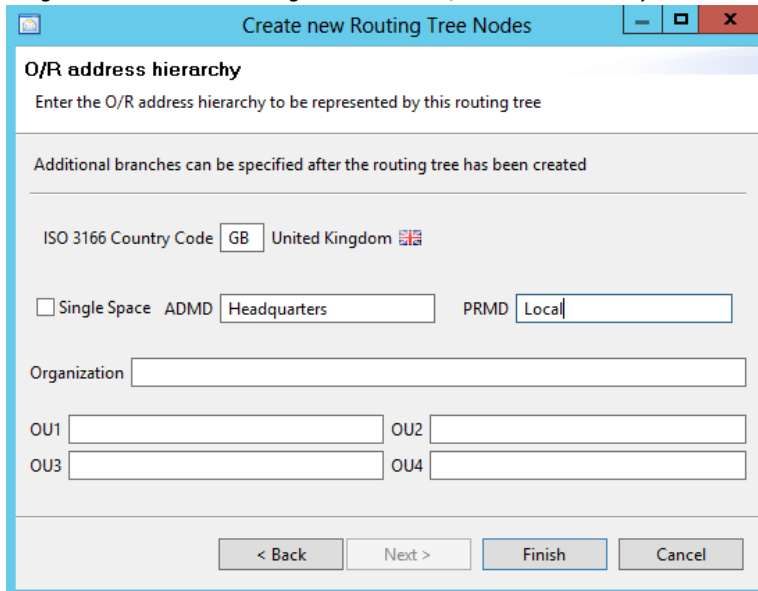
You should now be able to see the new Headquarters node in the main routing tree (Image 42).

Now right-click on "External Message Transfer Agents" and select "New External MTA".

Image 42: New Routing Tree Node
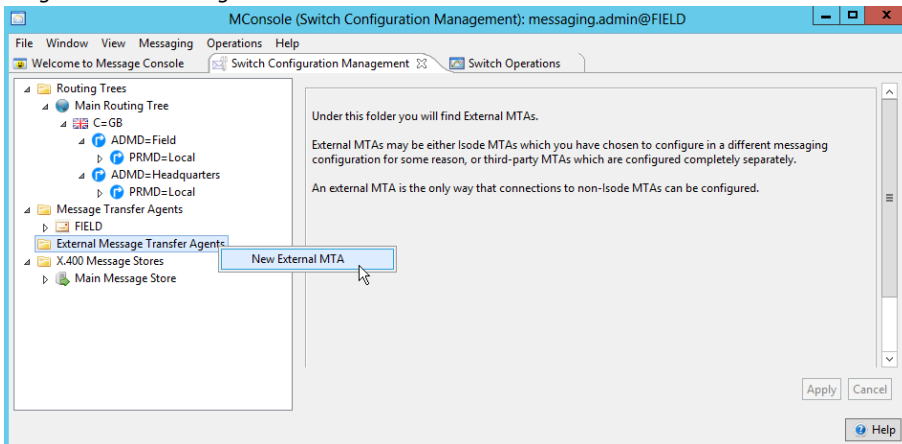
In the **MTA type** screen, select the "External X.400 MTA" radio button and click [**Next**].

In the **MTA Naming** screen (Image 43) enter the "MTA Name" of your External MTA and either the "Fully Qualified Hostname" or the IP Address of the External MTA. The "Directory Name" is free text and should be a name that is helpful for you to remember what the MTA is.

Image 43: MTA Naming
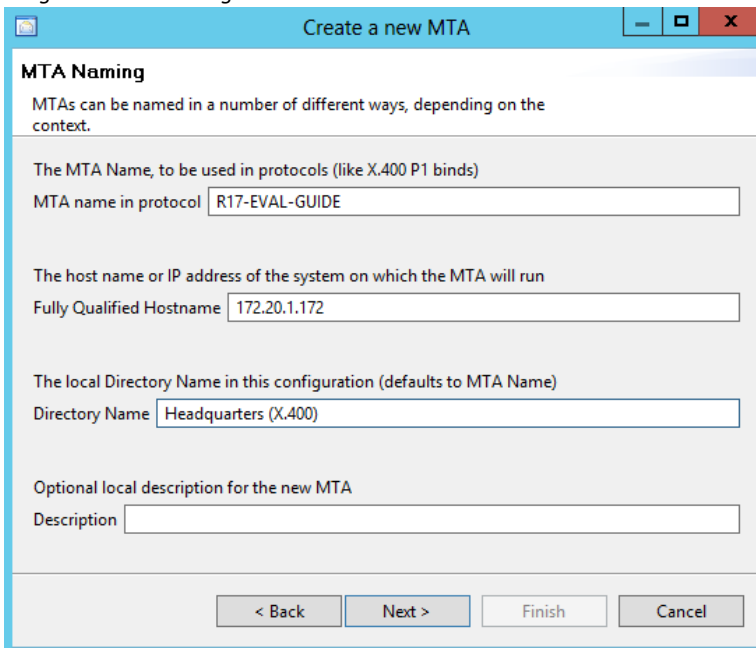
Click [**Next**] and in the Default O/R address prefix for the MTA screen, select the part of the routing tree you created earlier (PRMD=Local).

Image 44: Default O/R address prefix
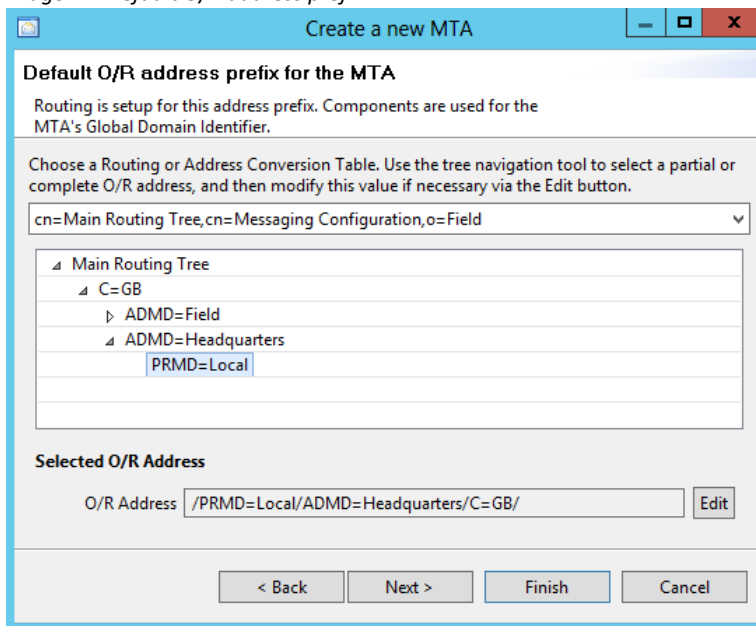
Click [**Next**] and enter the MTA Name and Password of your external MTA.

Image 45: Remote X.400 MTA Auth Details
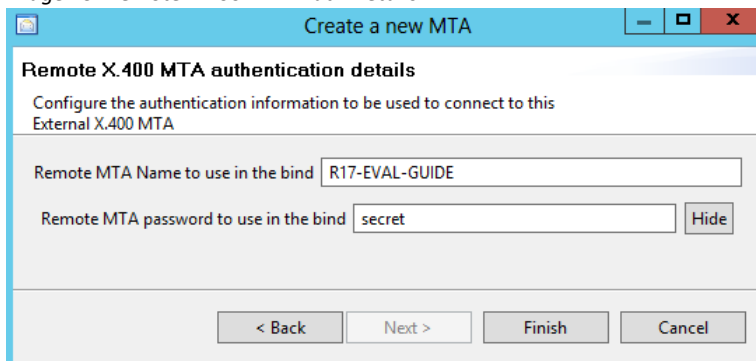
Now click [**Finish**] to return to the main MConsole interface where you will now be able to see the external MTA you have created (under External Message Transfer Agents in Image 46).

Now expand your MTA (FIELD), select the **x400p1** channel and the "Auth" tab and, in turn, click on the [**Edit**] buttons next to "Initiator RTS Credentials" and "Responder RTS Credentials".

Image 46: Authentication Requirements
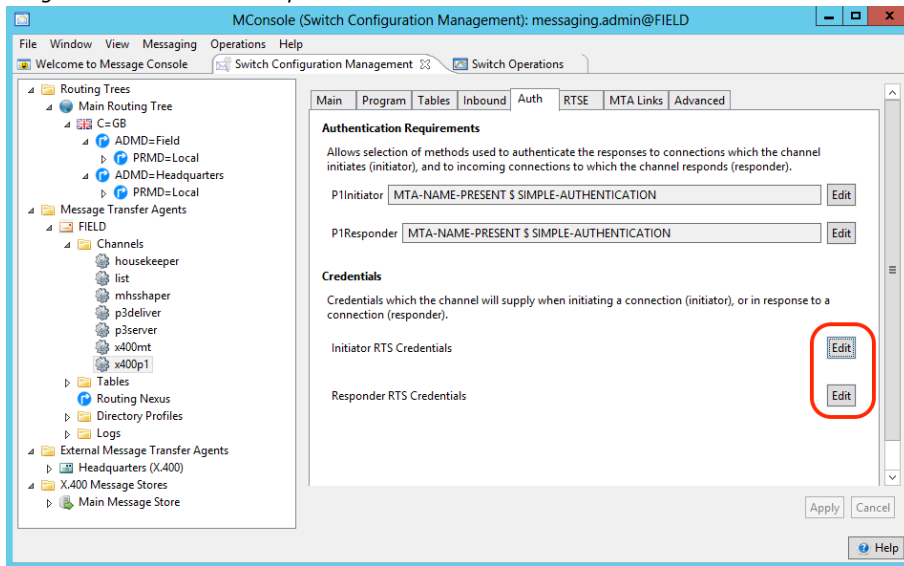
For both of these you'll need to enter the MTA Name and MTA Password of your local MTA, in Image 47 the Initiator Credentials are shown, the Responder Credentials screen (not shown) should have the same values.
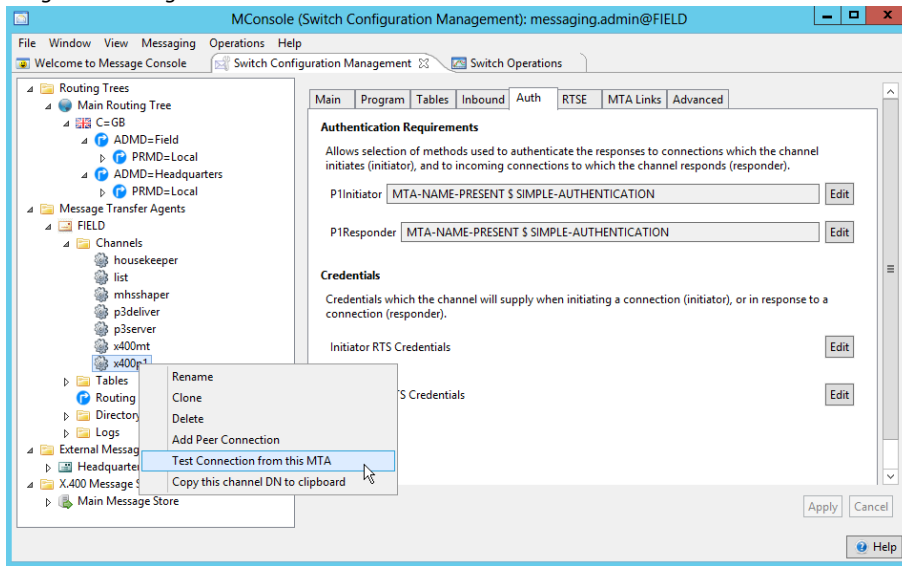
Image 47: Initiator RTS Credentials
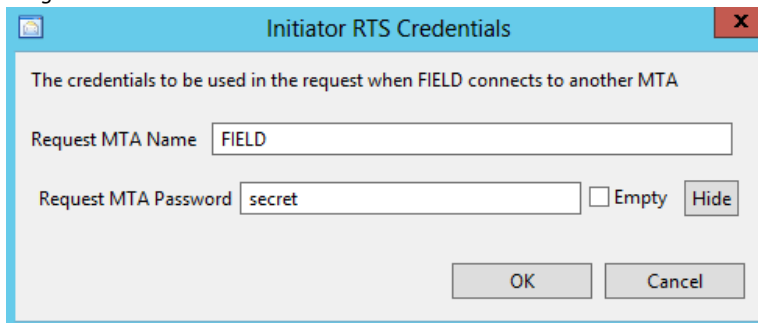
After filling in both Initiator and Responder credentials, click on [**Apply**] in the **Auth** tab of MConsole to commit these changes.
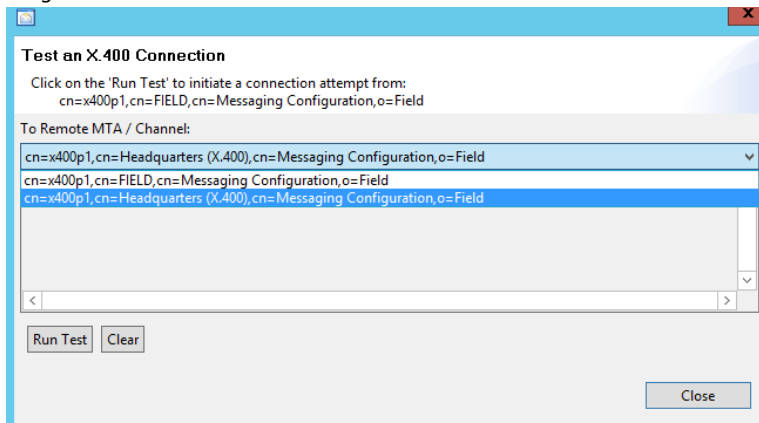
You can now test this connection by right-clicking on the **x400p1** channel and selecting "Test Connection from this MTA".

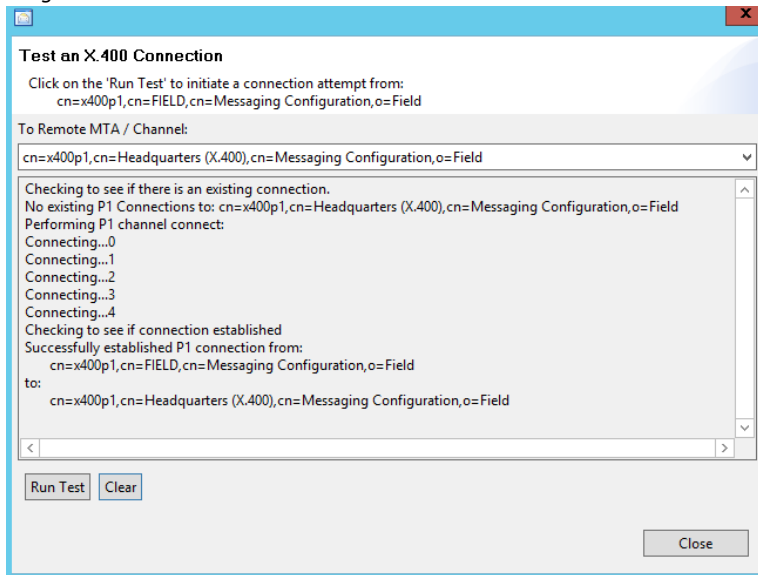*Image 48: Testing the Connection*

Select the newly created MTA from the drop-down list and click [**Run Test**] as in Image 49.

Image 49: Run MTA Connection Test

If you have followed the instruction carefully, you'll see a successful test result (Image 50).

Image 50: Test Result

Testing External Connections using the Xuxa Demonstration Agent

You can also test the connection by sending an email to the remote user, following the instructions in the section **Testing with the Xuxa Demonstration Agent** and selecting the remote user, who should now appear in the white pages, as a recipient.

What Next?

More information on M-Switch X.400, which can be deployed as a gateway/backbone or as an MTA to support local users, can be found on the Isode website at *www.isode.com/products/m-switch-x400.html*.

Information on the other Isode product used in this evaluation can also be found at:

- M-Store: www.isode.com/products/m-store.html

- Detailed configuration and operational information on all variations of M-Switch can be found in the three Administration Guides available for this product.

1. M-Switch Admin Guide

2. M-Switch Advanced Admin Guide

3. M-Switch Operators Guide

All of these documents, together with Admin Guides for all other Isode products can be found on the Isode website at *www.isode.com/support/help.html*.

Other Evaluations

This guide is one of four relating to Isode's email messaging products:

- Setting up an SMTP Email System

- Setting up an X.400 Email System (this guide)

- Setting up an SMTP/X.400 MIXER Gateway

- Email for Constrained Network Environments

Information on all of these evaluations can be found at *www.isode.com/evaluate/evaluate-email.html*. For email evaluations outside of the scope of these guides, please contact us.

Whitepapers

Isode regularly publishes whitepapers on technical and market topics related to its products. A full list of these can be found at *www.isode.com/whitepapers/*.

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