

Setting up an SMTP Email System

Using Isode's M-Switch SMTP (MTA) and M-Box (message store) to set up an SMTP email system for local message exchange and connection to external SMTP systems.

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Introduction

This guide is intended for R18 of Isode products and details the process for creating an Internet based messaging system using Isode's M-Switch SMTP and M-Box products. 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)
- Isode Harrier (web-based email client)

You will test the system by sending email messages using Isode's Harrier Web email client (refer to the "Harrier Evaluation Guide" for this part of the evaluation).

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 SMTP server with the message configuration held in a Directory Server (Isode's M-Vault LDAP Directory)
2. Created two internet users/mailboxes in an M-Box message store
3. Exchanged messages between these two users with the Harrier Web email client (the Harrier Evaluation Guide will be required).
4. Created a connection to an external SMTP 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 domain name "headquarters.net" to refer to the system being created here and "field.net" to refer to the external SMTP server required for steps 4 and 5. For "field.net" 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.

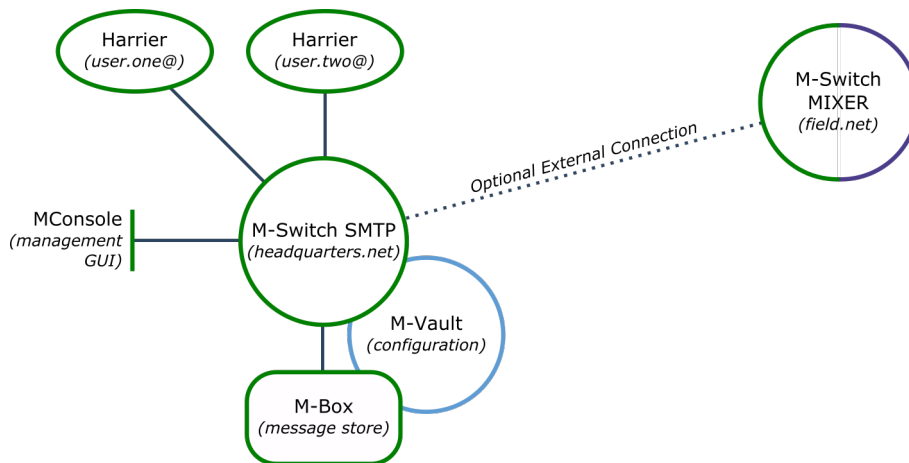


Figure 1: An Internet based messaging system using Isode's M-Switch SMTP and M-Box products.

For the purposes of this evaluation we have assumed this is a "clean" installation of M-Switch SMTP 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.

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 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 Evaluation page (www.isode.com/evaluate/evaluate-email.html). The downloads page will give installation instructions specific to your platform.

Isode Harrier Evaluation Guide

For testing your configured system that you will build following this guide, you will require the Harrier Evaluation Guide, which describes the setup and use of Harrier, Isode’s browser-based email client.

That evaluation guide is available www.isode.com/evaluate/evaluate-email.html.

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 SMTP Server Details

The optional 4th and 5th objectives in this guide assume that you already have access to an external SMTP 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.



Figure 2: Bind Profile Creation

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.

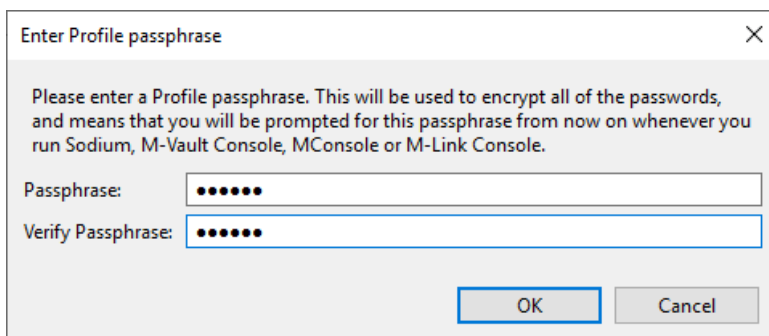


Figure 3: Enter Bind Profile Passphrase

Creating a new Directory Server

In the **Welcome to Message Console** screen (Figure 4) select the “Create a new DSA and Messaging Configuration” option, click **[OK]** and then provide an Initial Directory User Name (Figure 5). This can be any name, this guide uses “Messaging Admin”.

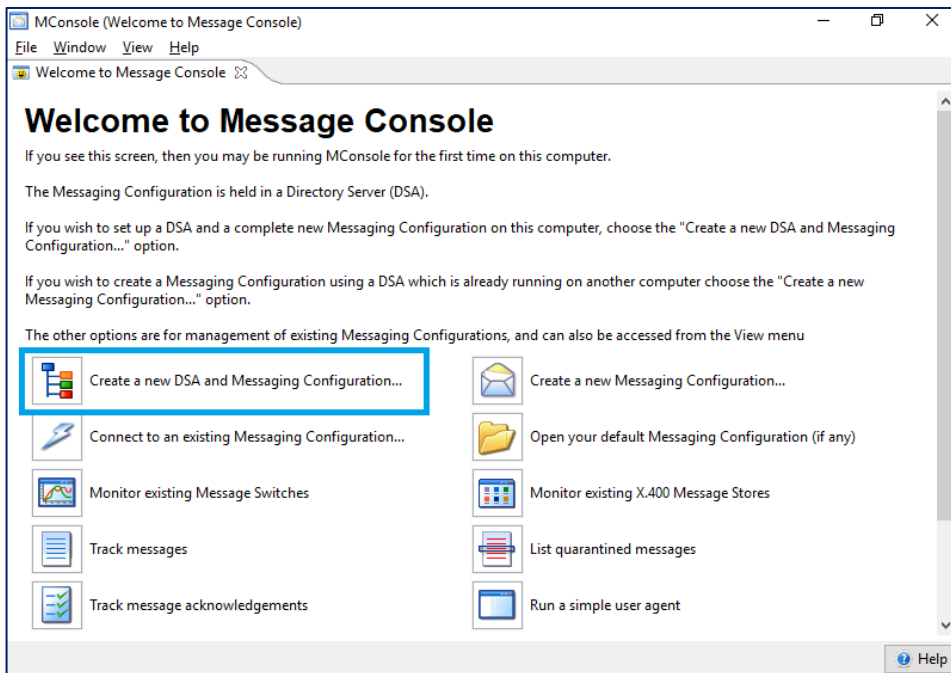


Figure 4: MConsole Welcome Screen

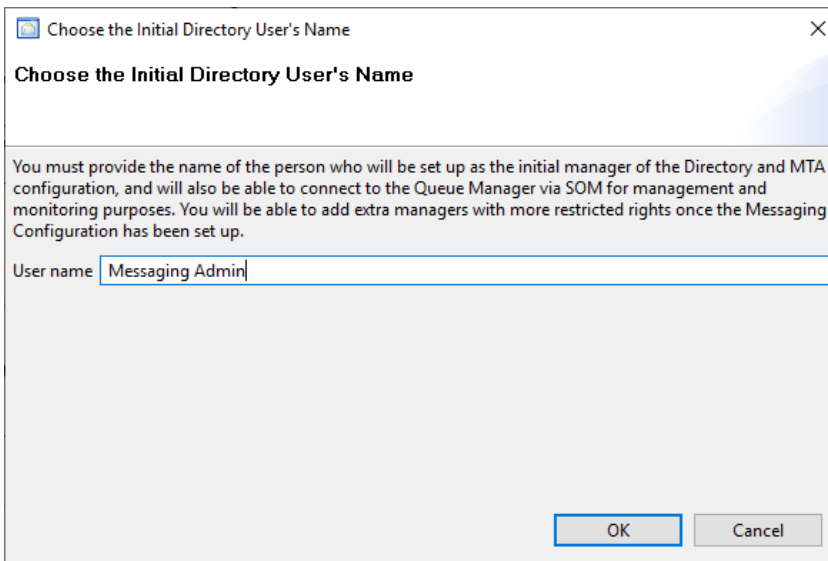


Figure 5: Choose the Initial Directory User's Name

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=Headquarters`.

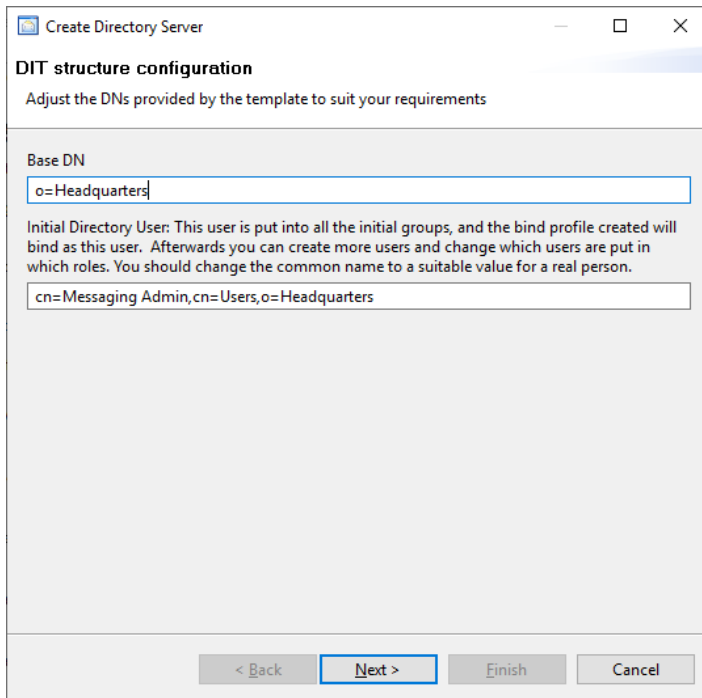


Figure 6: DIT Structure Configuration

In the Password Configuration screen, set a password for the Messaging Admin user and then click [Next].

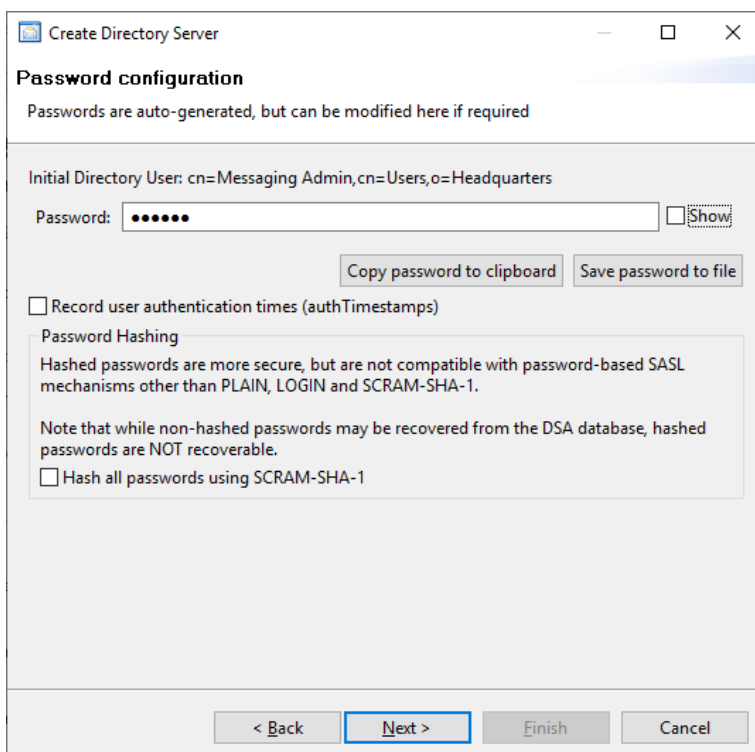


Figure 7: Password Configuration

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 7) and the DSA will be created and started.

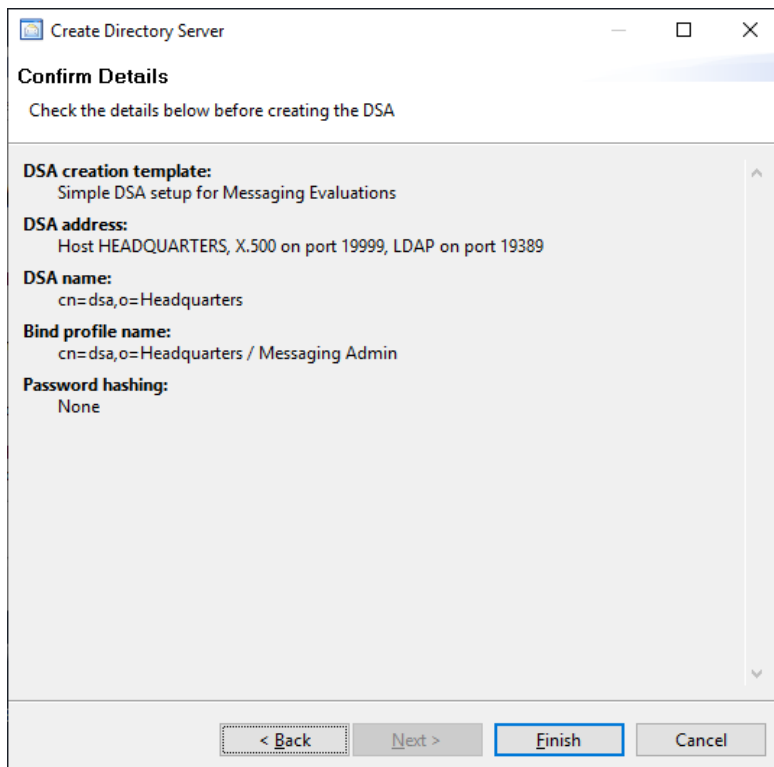


Figure 8: Confirm Details

Create a New Messaging Configuration

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

Highlight the “o=Headquarters” entry (Figure 9), click [Next] and then select “SMTP (M-Switch SMTP)” when prompted for a messaging configuration type (Figure 10).

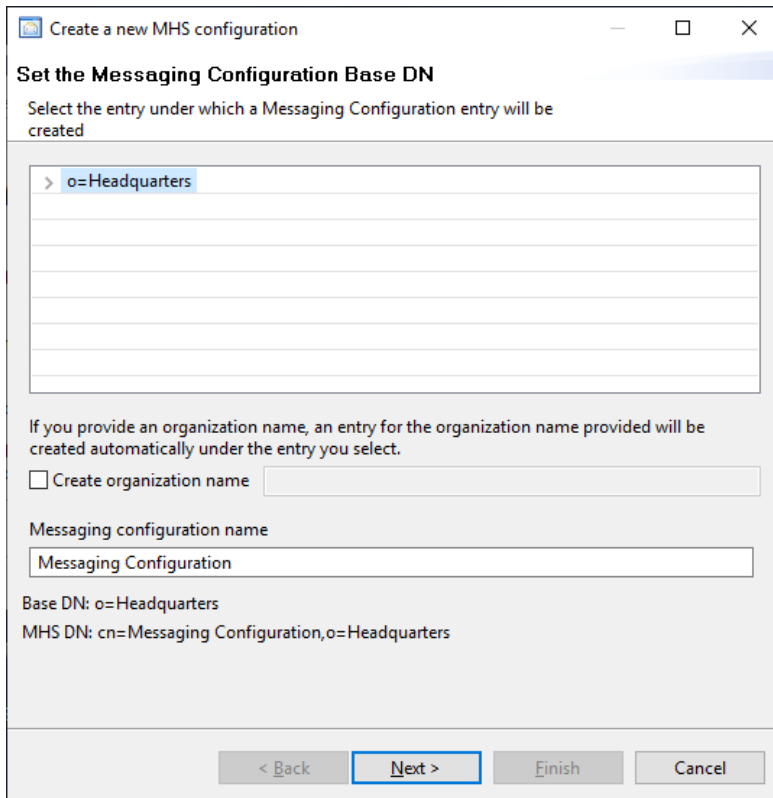


Figure 9: Create a New MMHS Configuration

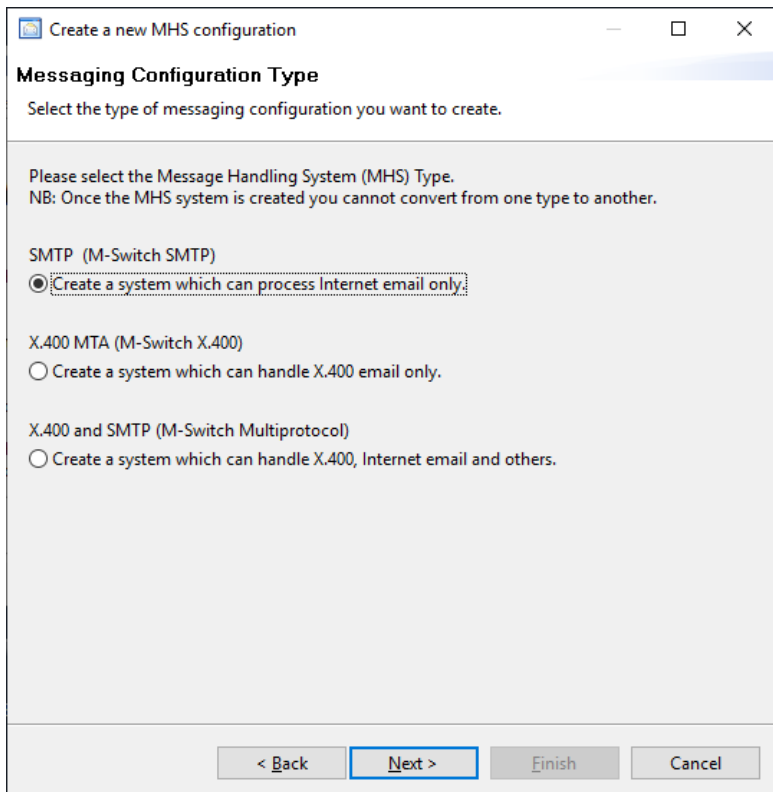


Figure 10: Select Messaging Configuration Type

Click **[Next]** and MConsole will prompt for a Market Segment choice (choose General Purpose), in the next screen accept the default for the fully qualified hostname and click **[Next]** again.

You'll now be asked (Figure 11) to enter an email address domain, in this guide we'll use "headquarters.net". You should also tick the option to create an Internet Message Store (M-Box). Unless you have DNS set up for this domain, select "Don't use DNS".

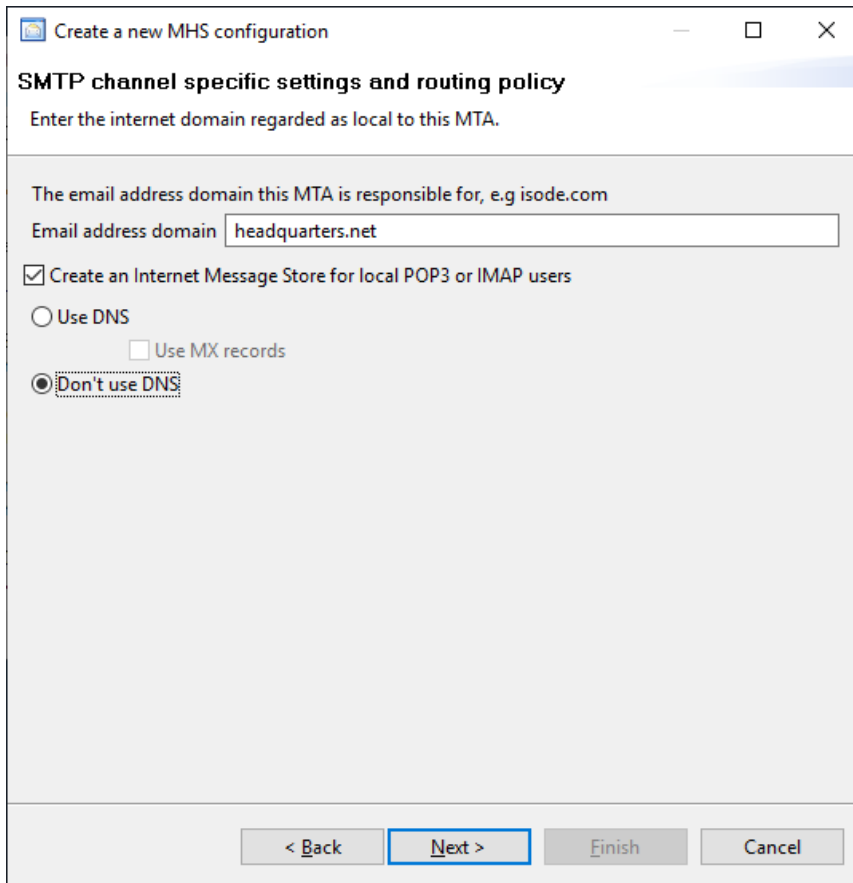


Figure 11 shows a dialog box titled "Create a new MHS configuration" with the sub-header "SMTP channel specific settings and routing policy". The main instruction is "Enter the internet domain regarded as local to this MTA." Below this, a text box labeled "Email address domain" contains the text "headquarters.net". There are three radio button options: "Create an Internet Message Store for local POP3 or IMAP users" (checked), "Use DNS" (unchecked), and "Don't use DNS" (checked). There are also two unchecked checkboxes: "Use MX records" and "Use MX records". At the bottom, there are four buttons: "< Back", "Next >", "Finish", and "Cancel".

Figure 11: Channel Specific Settings and Routing

In the next two screens (**Administrator Authentication Details** and **Anti-Virus Configuration**) accept the presented defaults and click [Next] through both to arrive at the **Harrier Web Server Configuration** screen (Figure 12).

Tick the "User Harrier Web mail service" option, the SSL support should be set to "off".

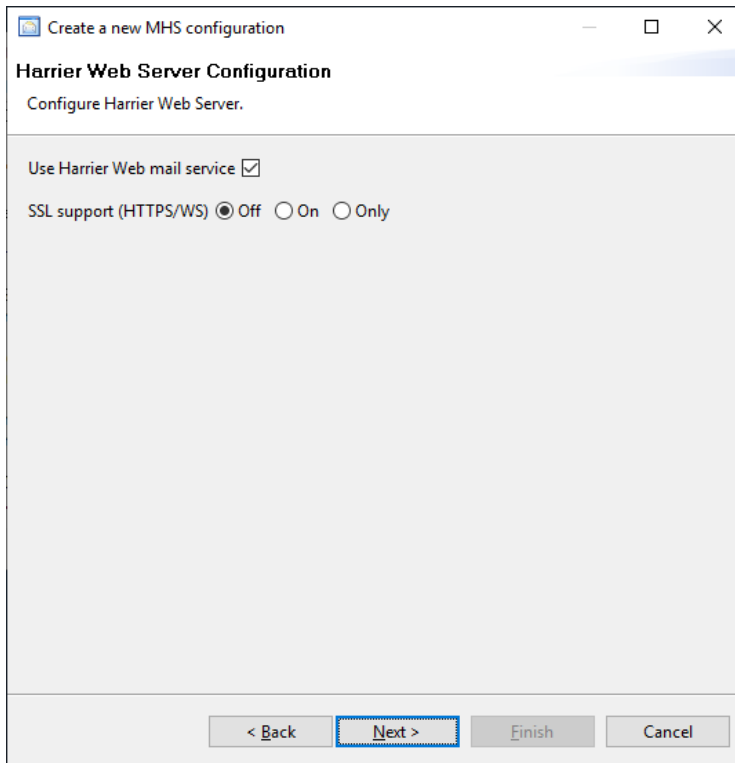


Figure 12: Harrier Web Server Configuration

Click **[Next]** and accept the defaults on the Service File Creation screen (Figure 13) and then click **[Finish]**.

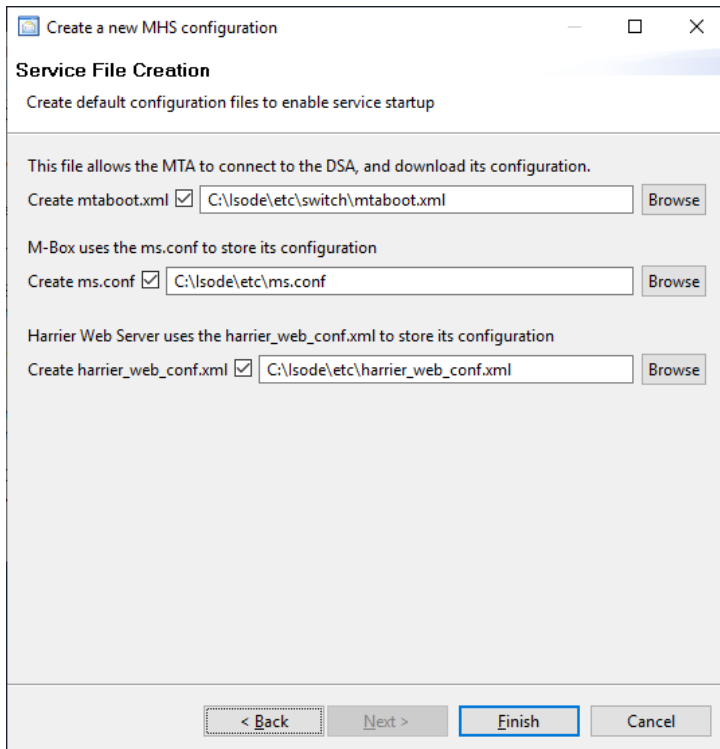


Figure 13: Service File Creation

In the Create Isode Services screen, ensure that M-Switch, M-Box and Harrier Web Server services are selected (Figure 14) and then click **[Finish]** to be dropped back into the main MConsole screen.

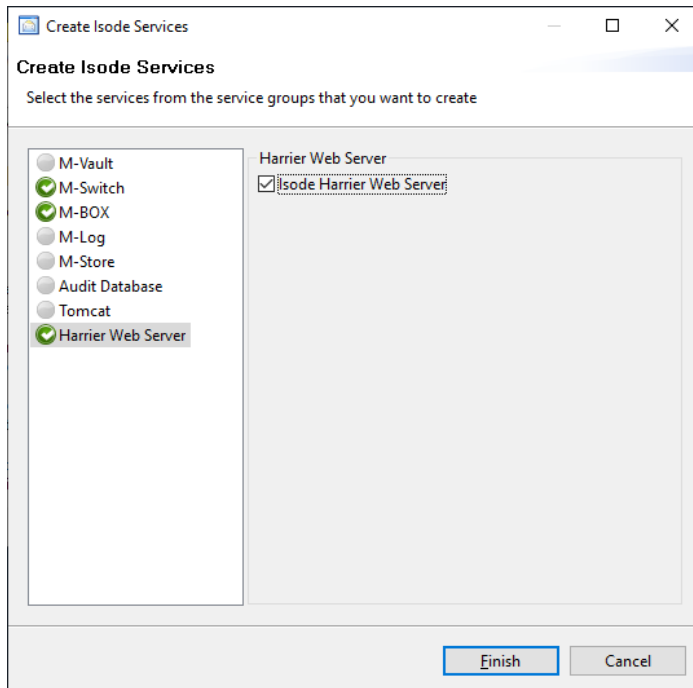


Figure 14: Create Isode Services

The "smtp-auth" channel by default does not allow connections from IP Addresses with invalid hostnames. In some situations, this can cause problems with the Isode Harrier Web Mail Servers so it is best to enable this before proceeding.

Expand your Message Transfer Agents (HEADQUARTERS in this example), highlight the "smtp-auth" channel and select the "Program" Tab. Set "Allow IP addresses with invalid hostnames" to **Yes** (bottom of Figure 15).

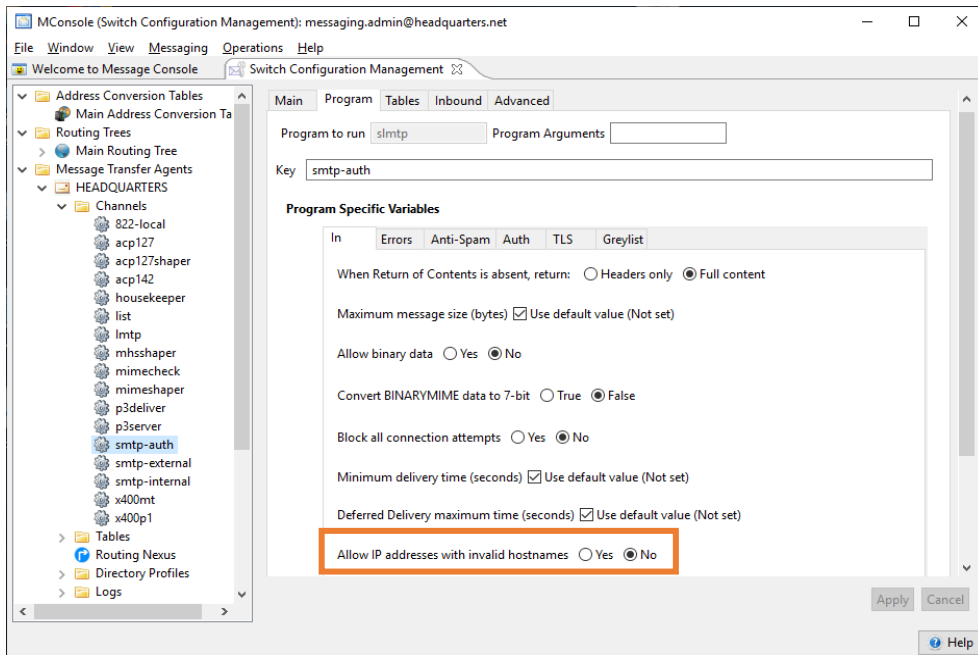


Figure 15: Allow IP addresses with invalid hostnames

Click **[Apply]** and ignore the warning message that appears.

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 15, you can close the Service Configuration GUI.

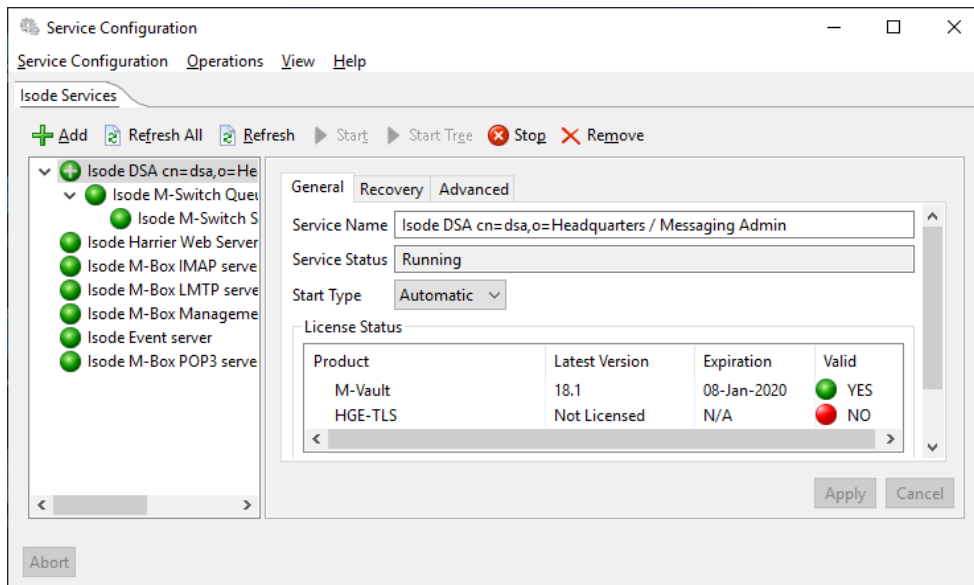


Figure 16: Service Configuration

On Linux execute the following commands:

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

# /etc/init.d/mbox start

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

Now return to MConsole and select “View > Live Operations > Switch Operations”. Dismiss the Error dialog boxes and right-click on the MTA with the Red “X” next to it (HEADQUARTERS in this example – Figure 17) and select “Modify”.

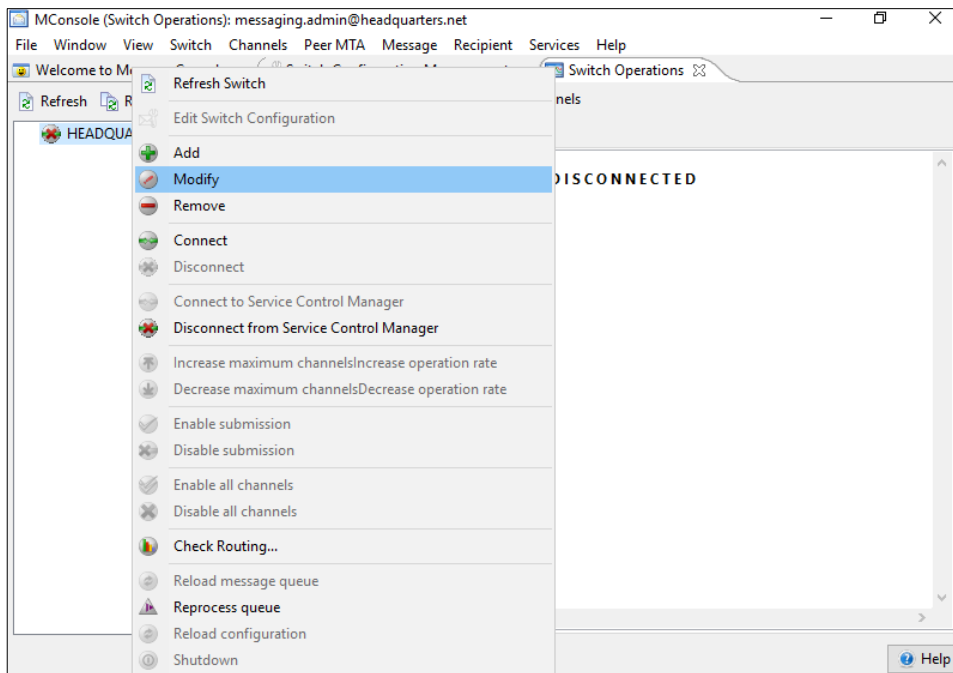


Figure 17: Modify Message Switch

In the **Edit Message Switch** screen (Figure 18), change the password to the one you created for the Initial Directory User “Messaging Admin” and click [OK].

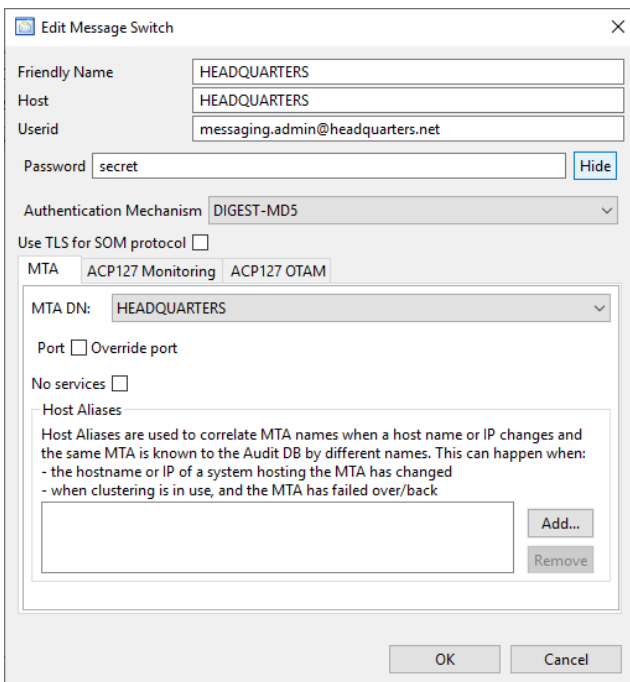


Figure 18: Edit Message Switch

Back in the main MConsole screen (Figure 19), the MTA should now connect automatically. If it does not connect, right-click on the MTA again and select “Connect”.

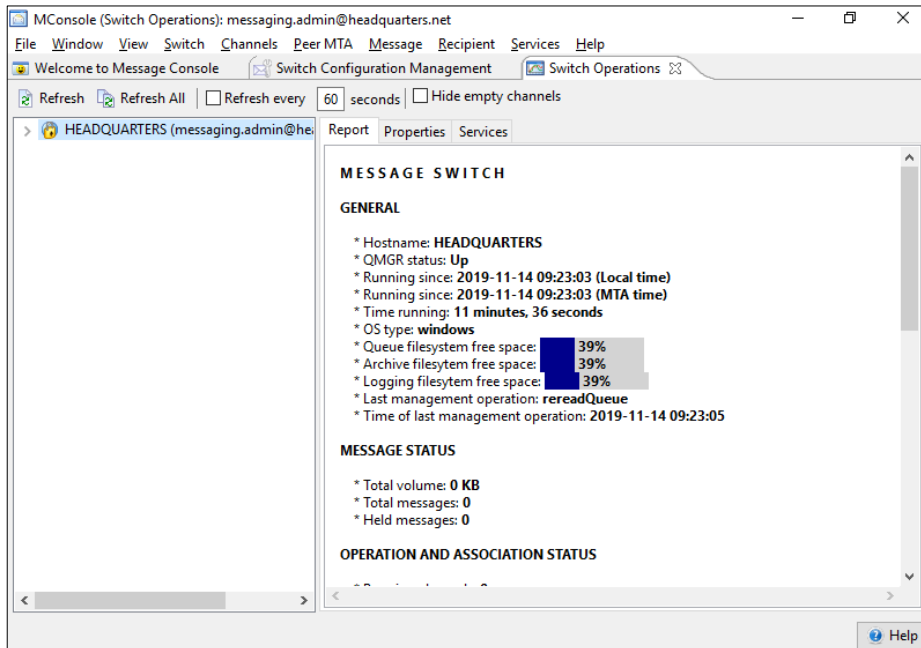
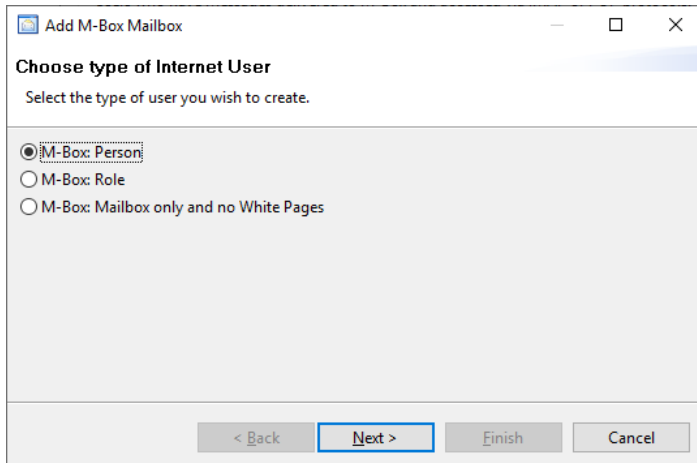


Figure 19: Connect

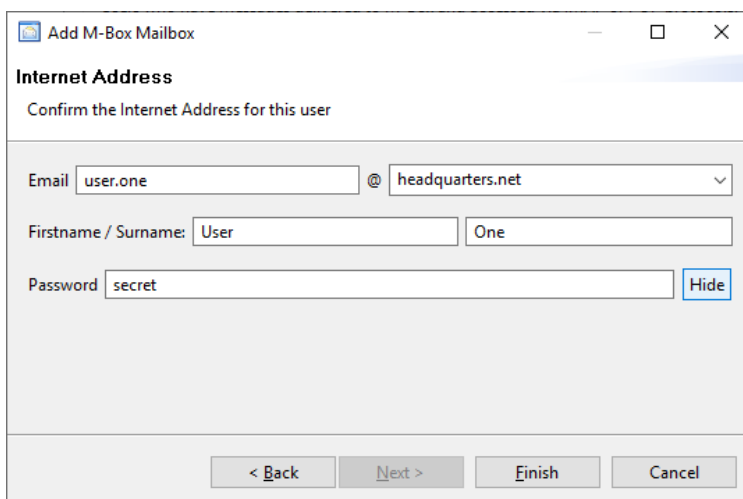
Create Local Internet Users

In MConsole, select “View > Configuration > Internet Mailbox Management” and click on the Add MBox User button. In the screens that follow, select the M-Box: Person radio button (Figure 20) and then assign that person an email address of “user.one@headquarters.net” (Figure 21).



The screenshot shows a dialog box titled "Add M-Box Mailbox" with a close button (X) in the top right corner. The main heading is "Choose type of Internet User" with the instruction "Select the type of user you wish to create." Below this, there are three radio button options: "M-Box: Person" (which is selected), "M-Box: Role", and "M-Box: Mailbox only and no White Pages". At the bottom of the dialog, there are four buttons: "< Back", "Next >" (highlighted with a blue border), "Finish", and "Cancel".

Figure 20: Choose User Type



The screenshot shows the same dialog box, now on the "Internet Address" screen. The instruction is "Confirm the Internet Address for this user". The "Email" field is split into two parts: a text input containing "user.one" and a dropdown menu containing "headquarters.net". Below this, the "Firstname / Surname" field is split into two text inputs: "User" and "One". The "Password" field is a text input containing "secret" with a "Hide" button to its right. At the bottom, there are four buttons: "< Back", "Next >" (disabled), "Finish", and "Cancel".

Figure 21: Confirm Internet Address

Click on [**Finish**] and then repeat this process for an additional user “user.two”. After adding both users, MConsole should display them as in Figure 22.

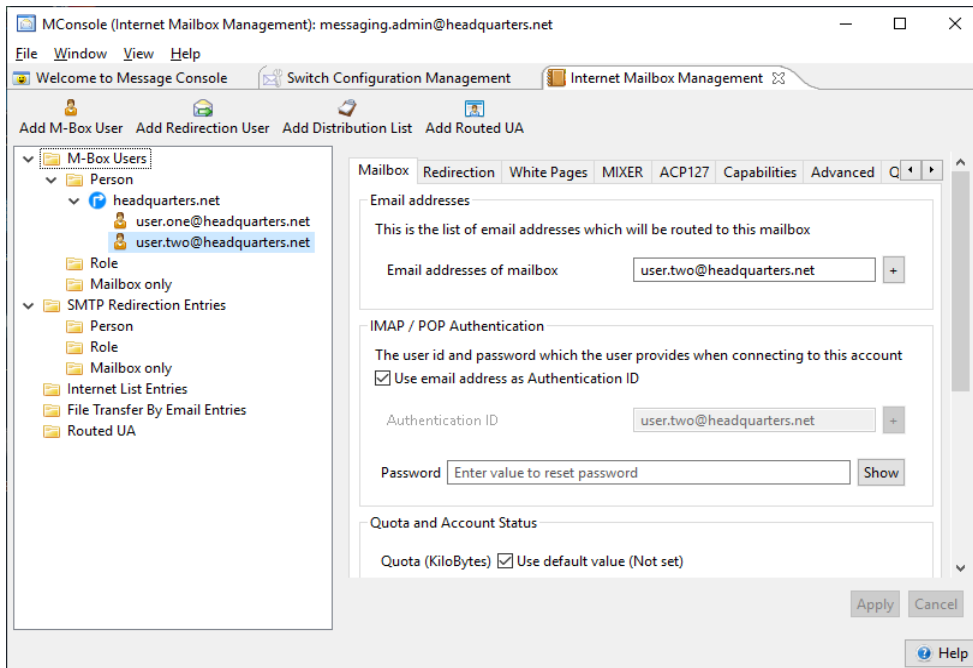


Figure 22: Users Added

Testing with an Email Client

You can test exchanging messages between your two users using any email client (remembering to alter DNS records so that your client(s) recognize the 'headquarters.net' domain name).

We would recommend using Isode's Harrier browser-based email client. Harrier is capable of being used as a military messaging client as well as a standard internet mail client.

An evaluation guide, showing you how to set up Harrier is available from www.isode.com/evaluate/evaluate-email.html.

Connect to External SMTP Systems & Testing using MConsole

You have successfully set up an SMTP 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 SMTP 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.

There are three scenarios for connecting to an external SMTP system:

1. There is DNS in place for the external Internet domain(s)
2. There is no DNS in place and all Internet addresses for the domain go to the same server
3. There is no DNS in place and all Internet addresses for the domain go to different servers

For scenario 1, there is no work needed and mail should be routed according to DNS. The configuration for scenarios 2 & 3 are the same and are as follows.

Core Configuration (Scenarios 2 & 3)

Within MConsole, select the Switch Configuration Management view, select the HEADQUARTERS MTA and the Lookup tab (Figure 23).

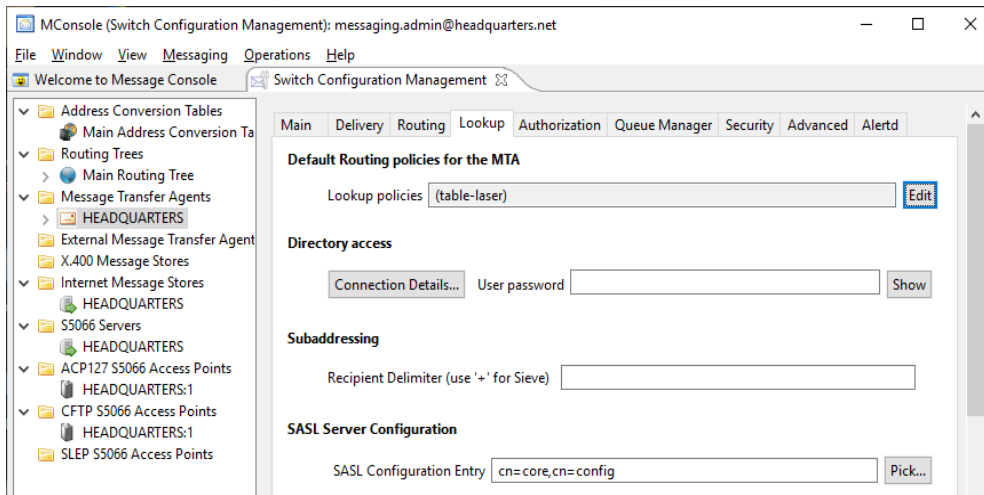


Figure 23: Switch Configuration Management

Click on **[Edit]** next to the “Lookup policies” field and then click on **[Add]** to create a new lookup policy.

In the **New lookup policy item** screen (Figure 24), select “ds” from the dropdown and click **[OK]**.

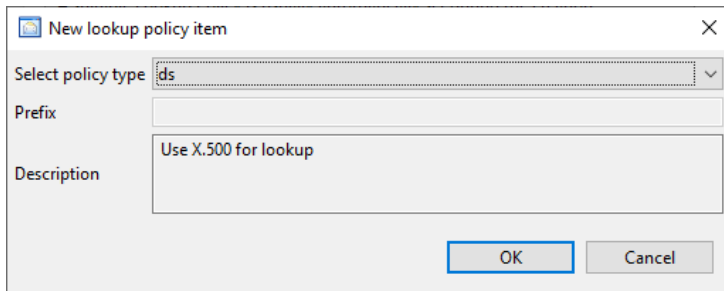


Figure 24: Lookup Policies

Now highlight the new lookup policy and use the **[Move Up]** button to raise it to the top of the policy list (Figure 25).

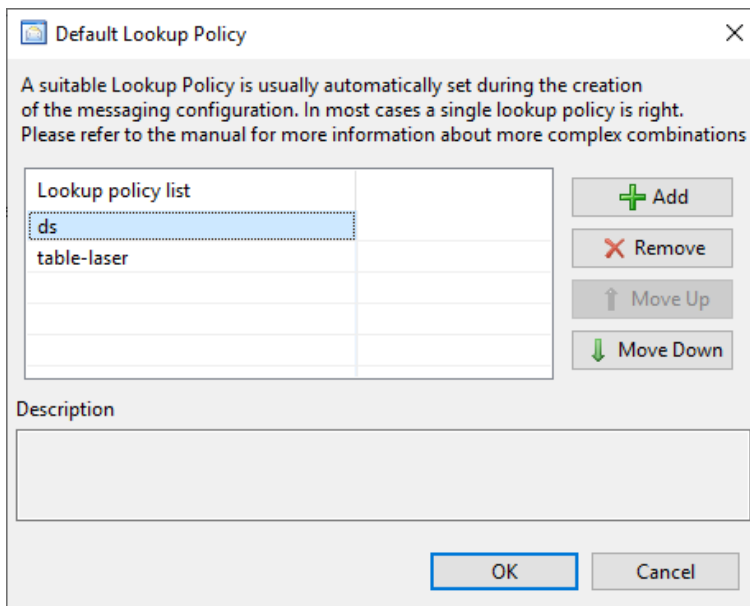


Figure 25: Set Default Lookup Policy

Now click **[OK]** to return to the Switch Configuration Management screen and click on **[Apply]** to commit this change.

From the **Switch Configuration Management** view in MConsole (Figure 26) right-click on the "Main Routing Tree" and select "Add Nodes".

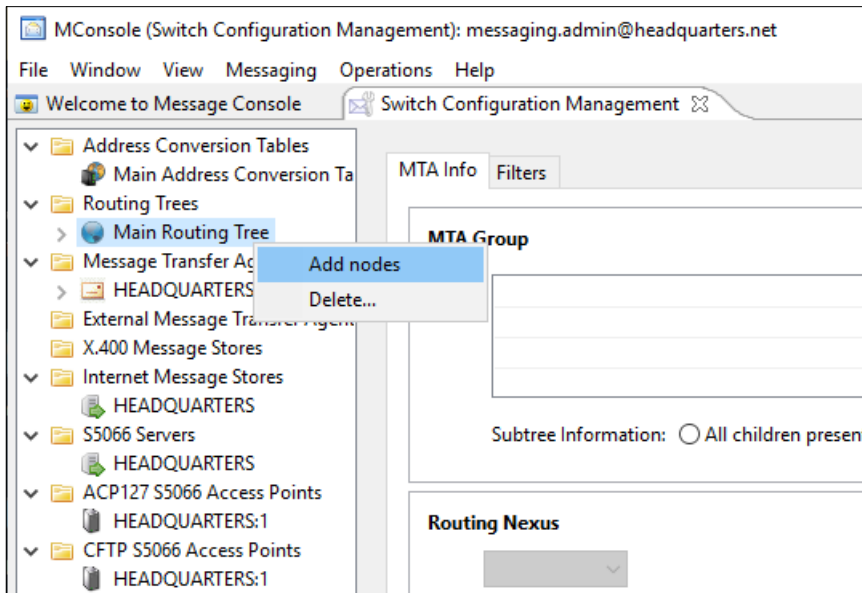


Figure 26: Create New Routing Tree Nodes

Make sure the “Create Routing Tree entries representing an Internet domain” option is selected in the **Names and Domains** screen (Figure 27) and click [Next].

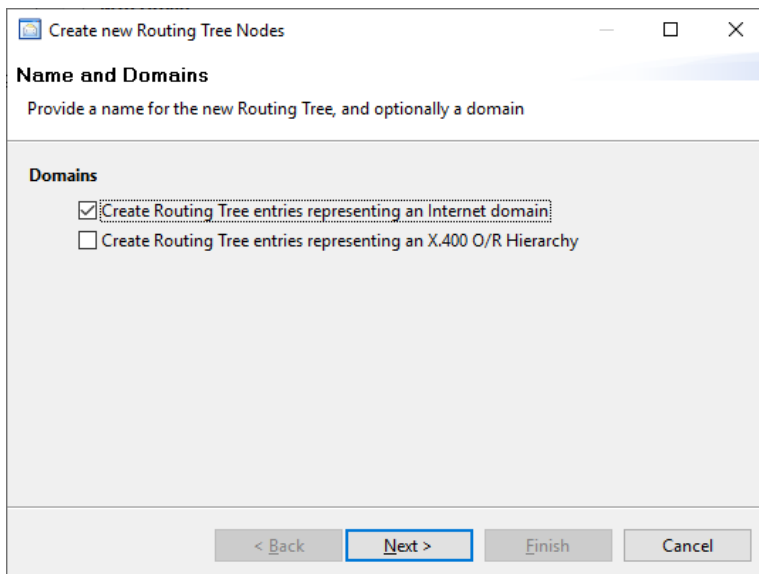


Figure 27: Domain Type for the New Routing Tree Node

In the **Internet Mail Domain** screen (Figure 28) enter “field.net” as the remote Internet Mail Domain.

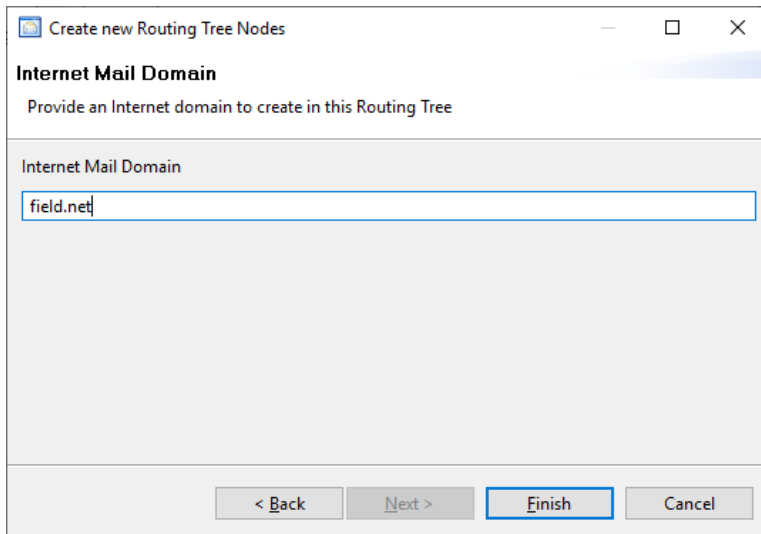


Figure 28: Internet Mail Domain

Click **[Finish]** to return to the main MConsole screen where you'll now see the new Field.net node in the main routing tree (Figure 29).

In the Message Transfer Agents part of this same screen, expand your HEADQUARTERS MTA and the Tables sub-entry, select "domain" and click **[Add]**.

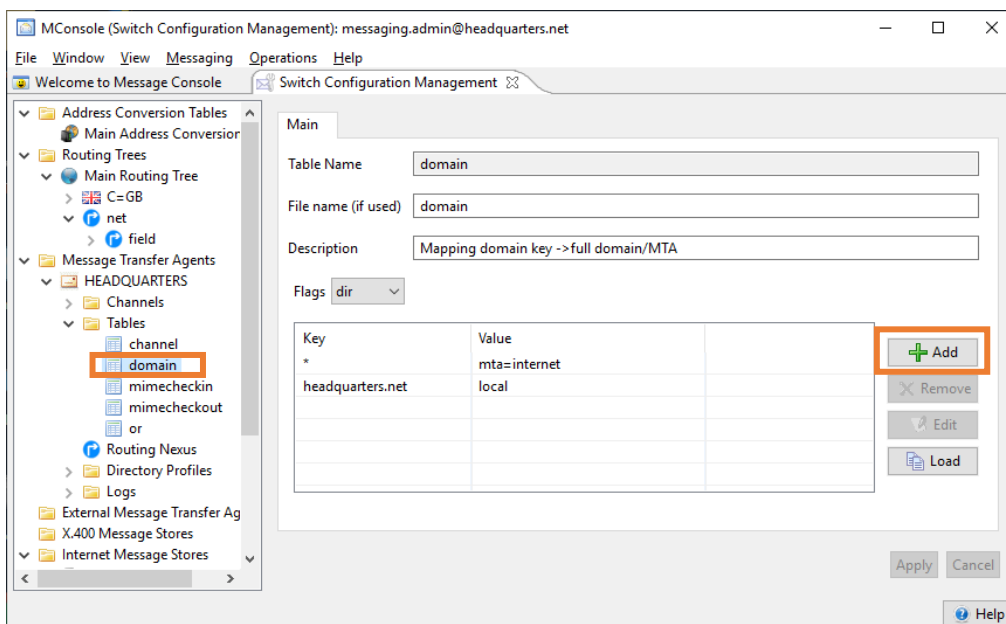


Figure 29: New Domain

In the Add a table entry screen, enter the external internet domain for the Key and "local" for the Value (Figure 30) and click **[OK]**.

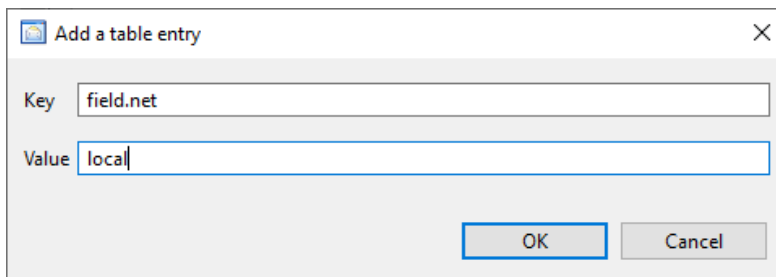


Figure 30: Add a table entry

Back in the main MConsole screen, right-click on “External Message Transfer Agents” and select “New External MTA” (Figure 31).

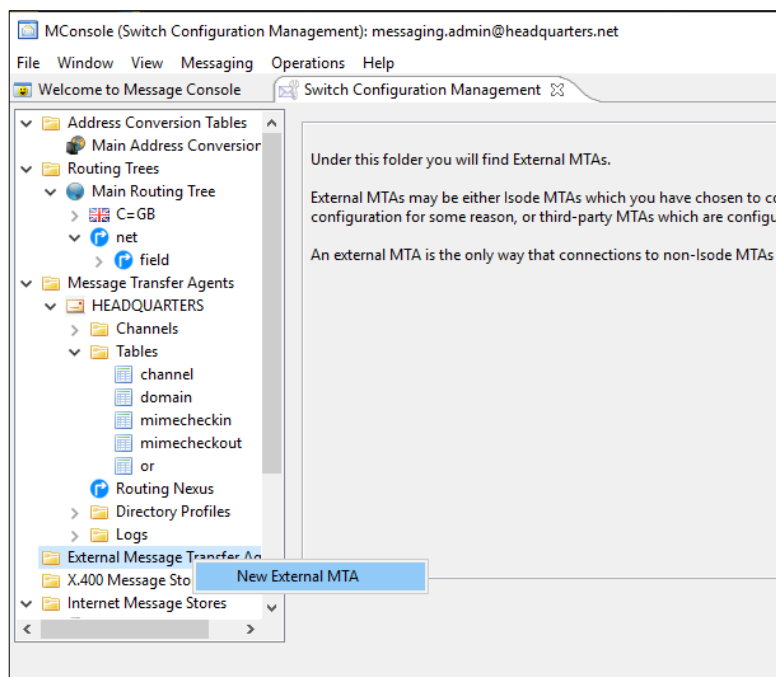


Figure 31: New External MTA

In the MTA Type screen, check the “SMTP” radio button and click [Next].

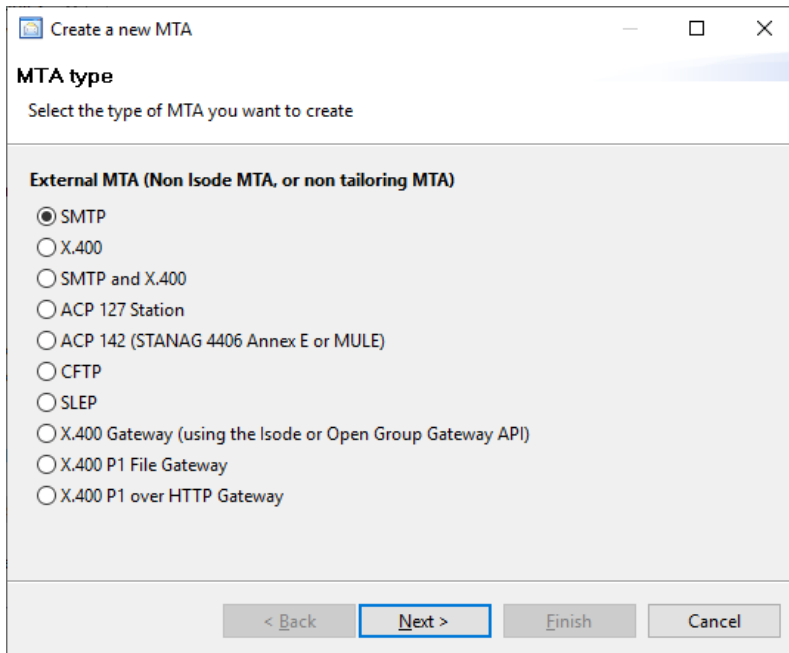


Figure 32: Create External MTA

In the MTA Naming screen (Figure 33) enter the "Directory Name", this can be free text that is helpful for you to remember what the MTA is. For the "Destination" either enter the hostname or IP Address of the SMTP Server.

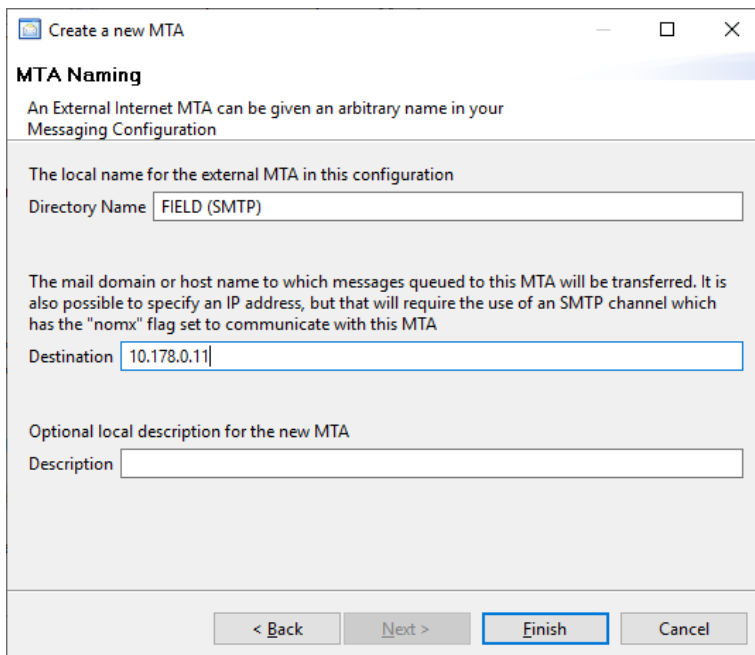


Figure 33: MTA Naming

Now click [**Finish**] to return to the main MConsole screen where the new External MTA will be shown (Figure 34).

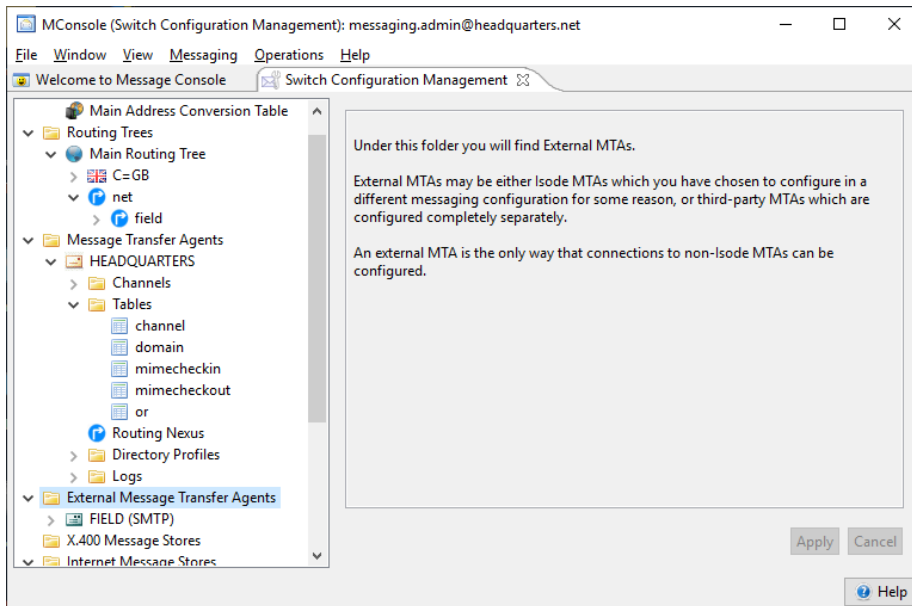


Figure 34: New External MTA

Additional Configuration (Scenario 2 Only)

Follow these additional instructions if there is no DNS in place and all Internet addresses for the domain go to the same server.

In MConsole select the external internet domain (field.net here) from the main routing tree and click **[Add]** next to the MTA Group (Figure 35).

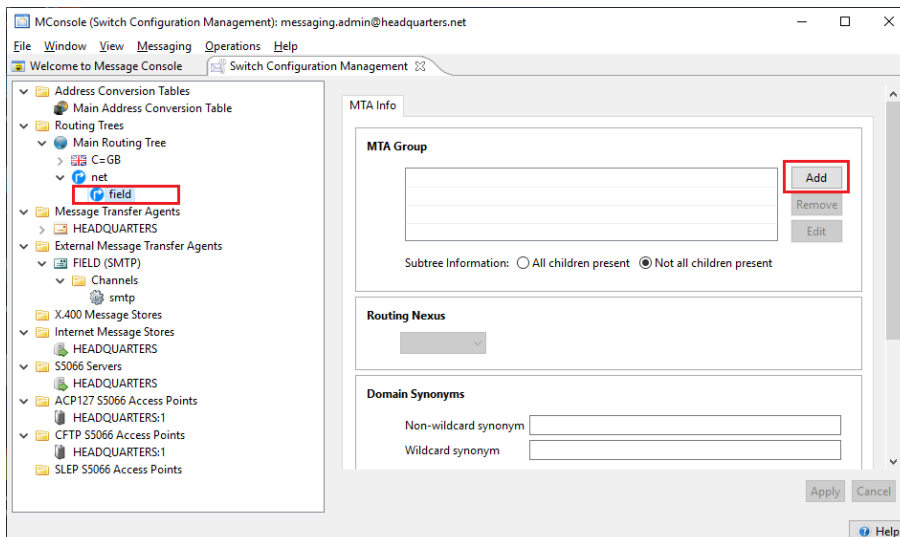


Figure 35: Add MTA Info

In the Edit MTA Info screen (Figure 36), select the MTA you have just created from the dropdown list and click **[OK]**.

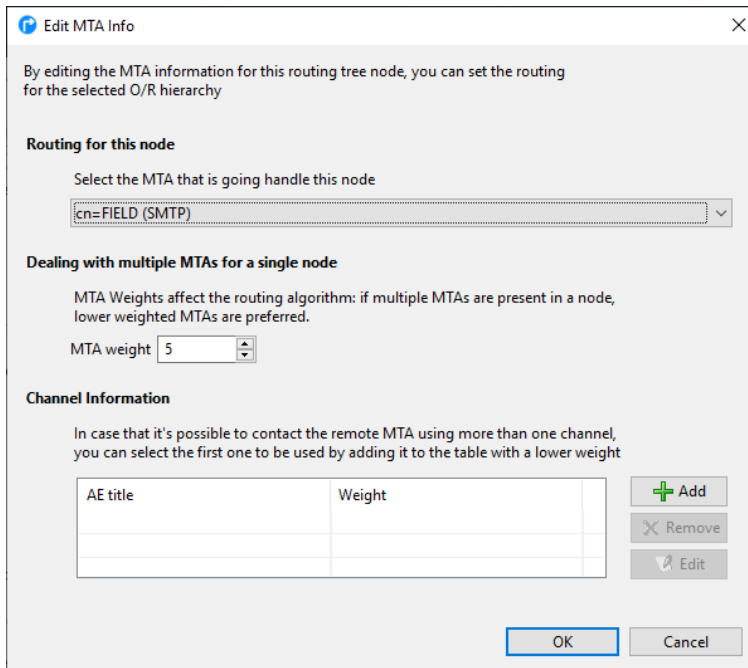


Figure 36: Edit MTA Info

Back in the main MConsole screen (Figure 37), click on [Apply].

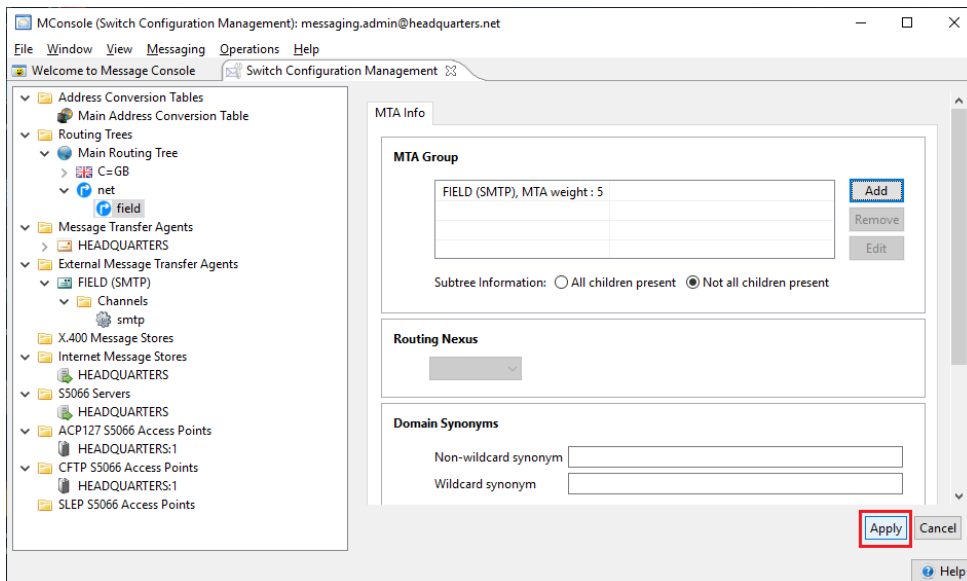


Figure 37: Apple MTA Info

You now need to check the Routing, so select “Check Address Routing” from the Messaging menu in MConsole (Figure 38).

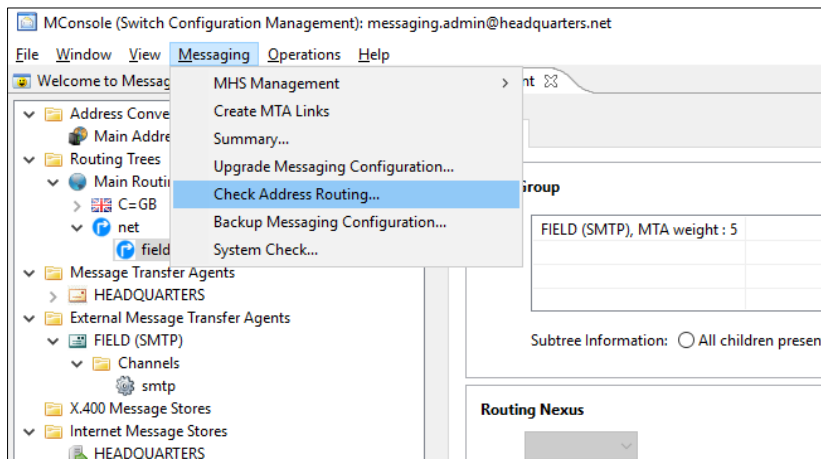


Figure 38: Check Address Routing

In the **Test email address routing screen** (Figure 39), enter an Internet address for the remote domain and click [**Check Address**]. This should respond with the hostname or IP Address you entered for your Remote SMTP Server.

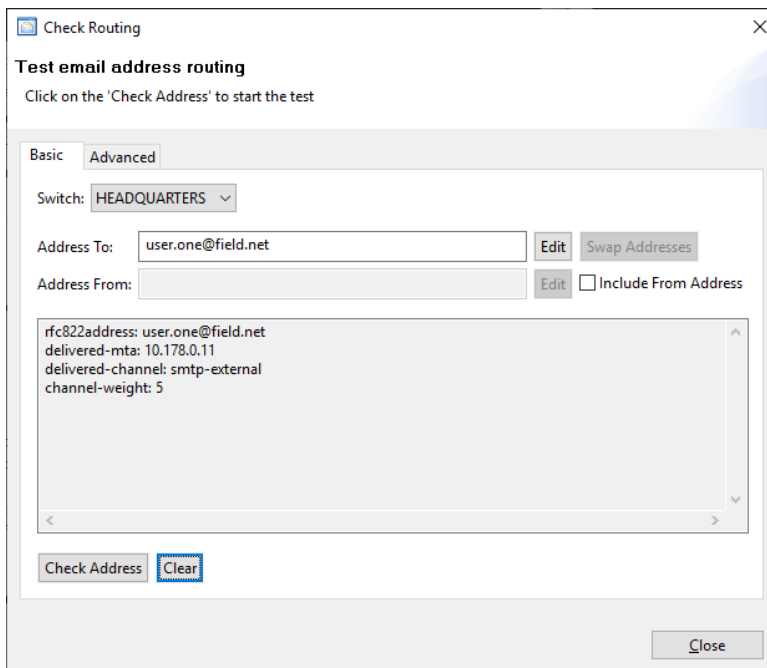


Figure 39: Test email address routing

Additional Configuration (Scenario 3 Only)

Following the instructions in Images 35-37, create a 2nd External MTA in the same way as you created the original “FIELD (SMTP)” MTA.

Call this new MTA “FIELD2 (SMTP)”. Note that we have used 10.178.0.12 as the IP Address and that “FIELD (SMTP)” was 10.178.0.11.

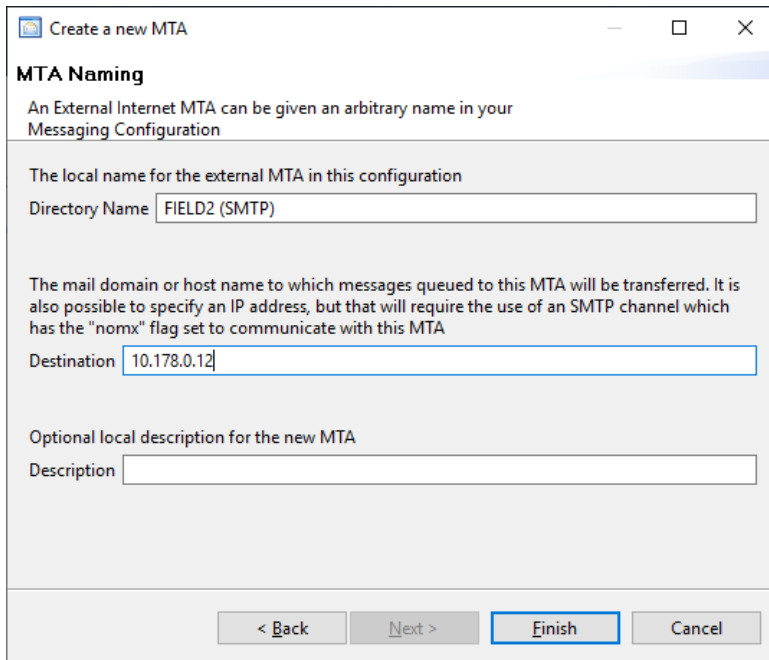


Figure 40: MTA 2 Naming

Click on **[Finish]** to commit this change and then select the External Internet Domain (field.net in the example) from the "Main Routing Tree" (Figure 41) and select **[Add]** next to the MTA Group.

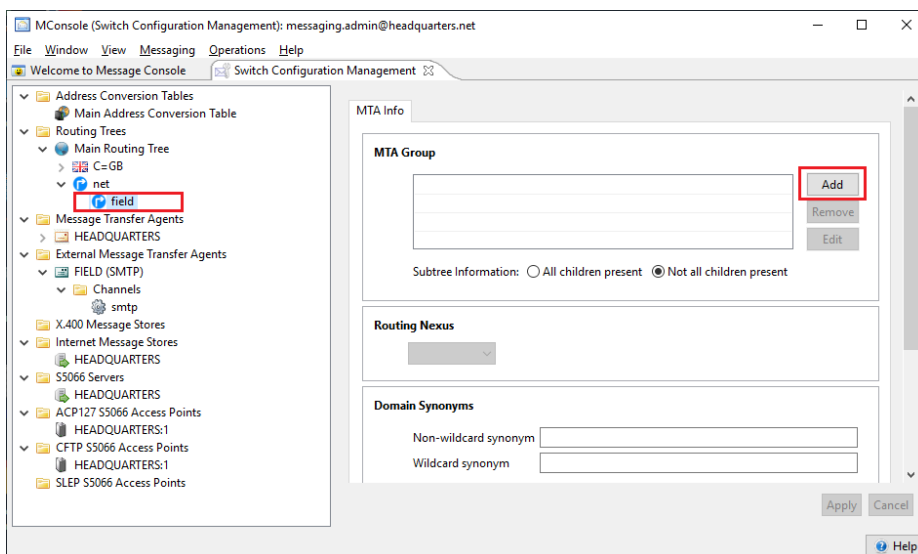


Figure 41: Add MTA Group

Select Your Local MTA (HEADQUARTERS in this example) from the "Select the MTA that is going to handle this node" drop down (Figure 42) and click **[OK]**.

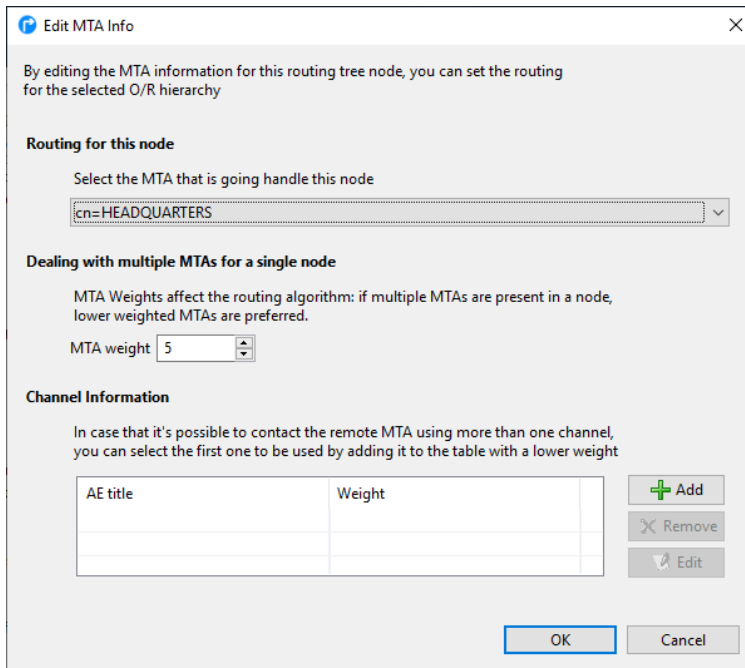


Figure 42: Edit MTA2 Info

Back in the main MConsole screen (Figure 43), click on **[Apply]**.

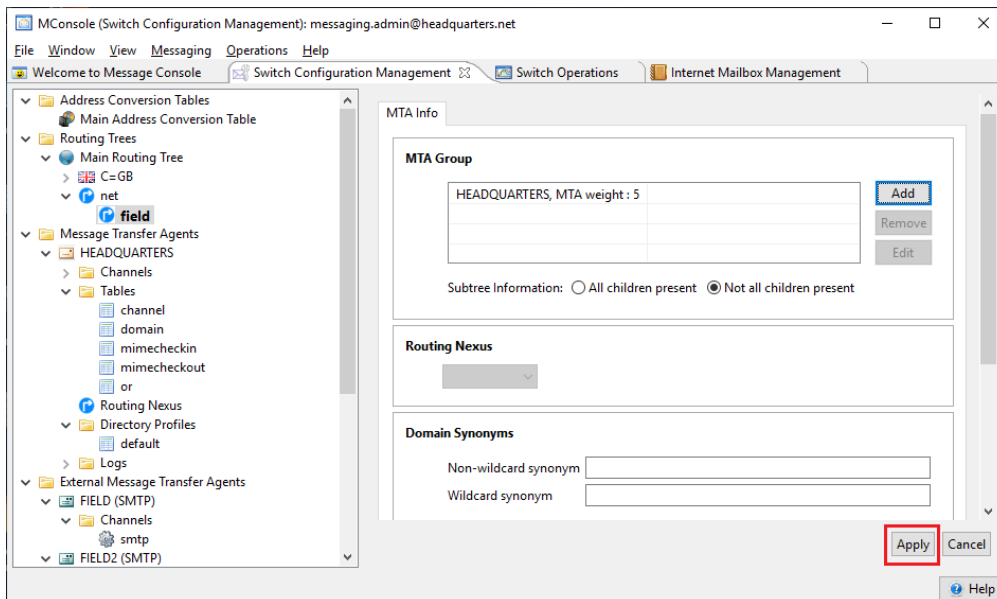


Figure 43: Apply MTA2 Info

Now select the **Internet Mailbox Management** view (Figure 44) and click on **[Add Routed UA]**.

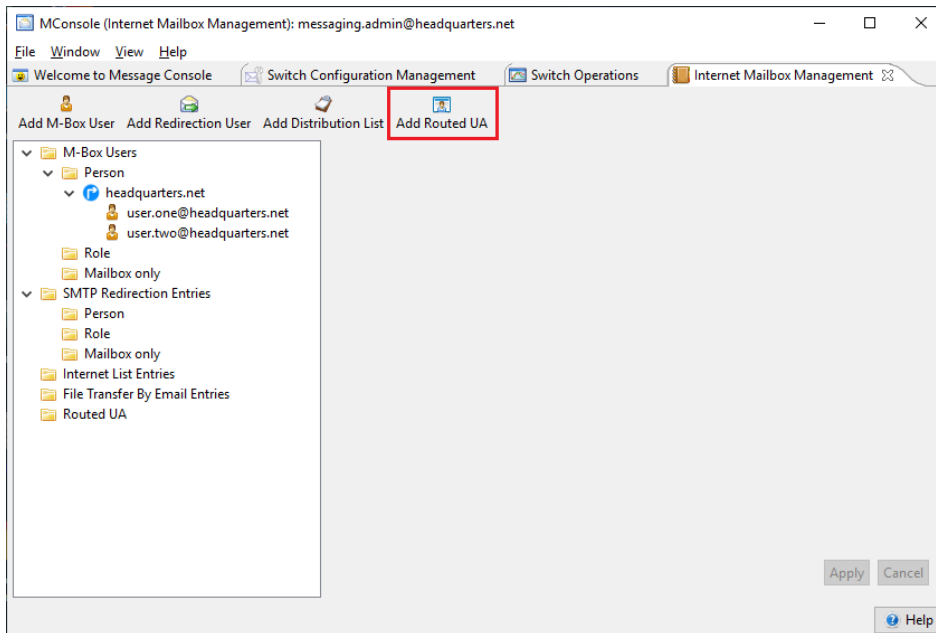


Figure 44: Internet Mailbox Management View

In the **Internet Address and domain** screen (Figure 45), enter the Address for an Internet User at the "FIELD (SMTP)" Server and the IP Address (or hostname) for the "Mail ..".

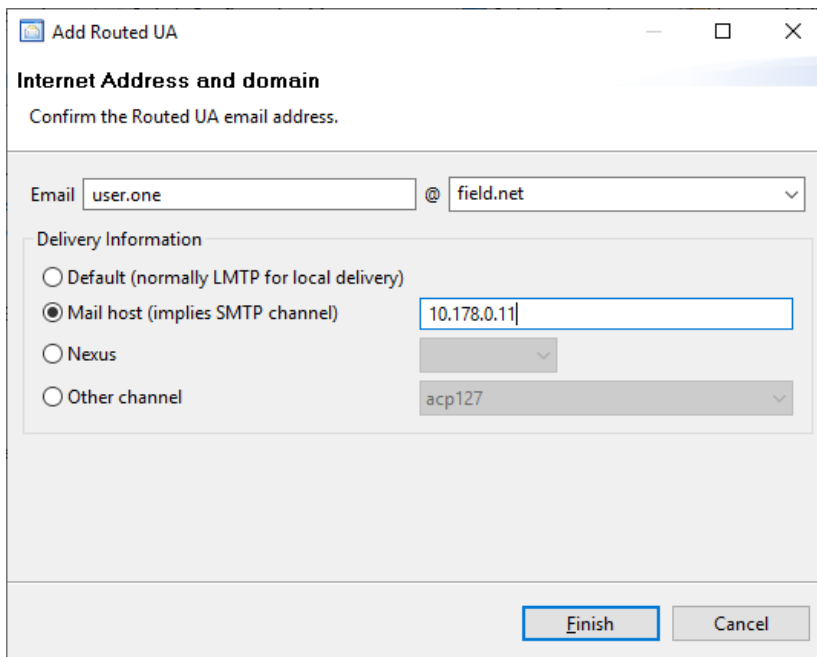


Figure 45: Add Routed UA

Click [**Finish**] and ignore the “Missing Entry in DSA” warning.

You now need to check the Routing, so expand the “Routed UA” tree, right-click on *user.one@field.net* and select “Check Routing” (Figure 46).

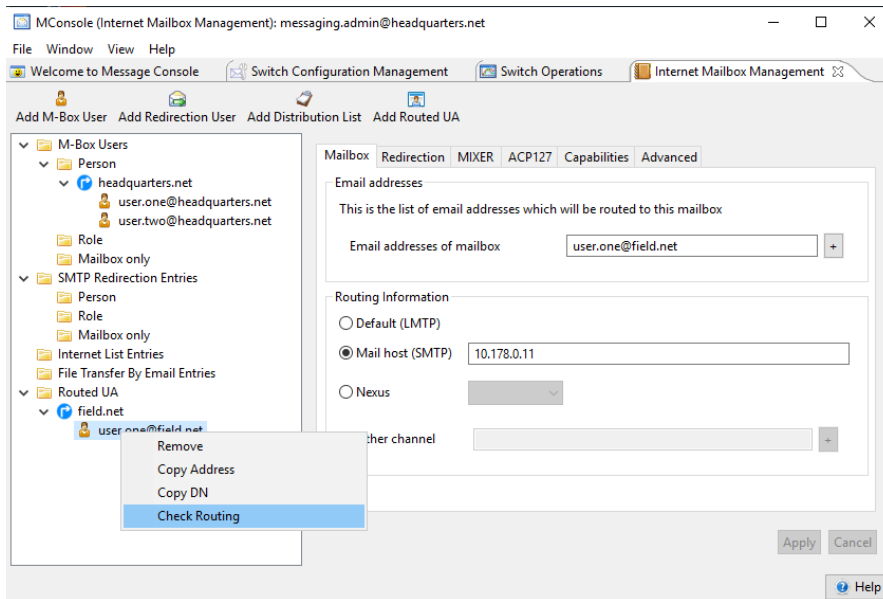


Figure 46: Check Routing for a User

In the Test email address routing screen (Figure 47) click on **[Check Address]**.

You will see that the “delivered-mta” value in the results has the IP Address value that was assigned to “FIELD (SMTP)”.

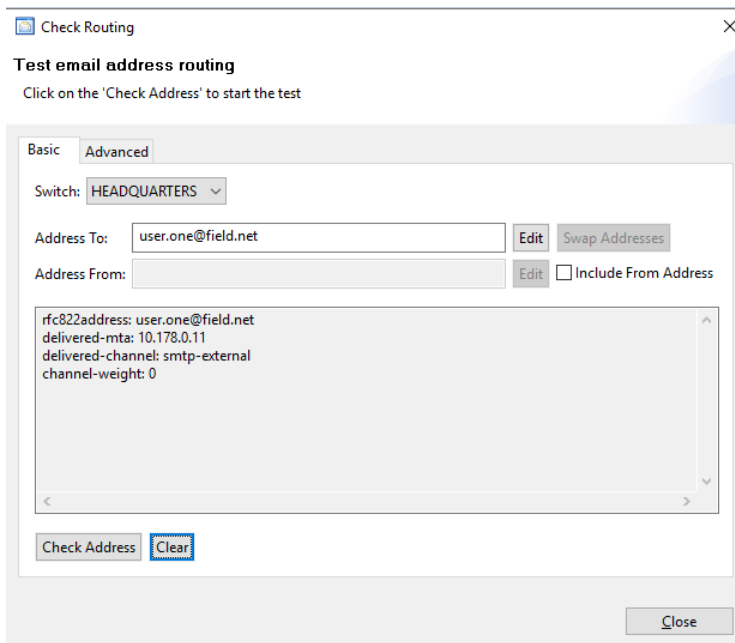


Figure 47: Check Address Routing

Click **[Close]**.

You can repeat this process for an Internet Address on the “FIELD₂ (SMTP)” server.

Go back to the Internet Mailbox Management view and click **[Add Routed UA]**.

In the **Internet Address and domain** screen (Figure 48), enter the Address for another Internet User, this time using the IP Address (or hostname) for the “FIELD₂ (SMTP)” server.

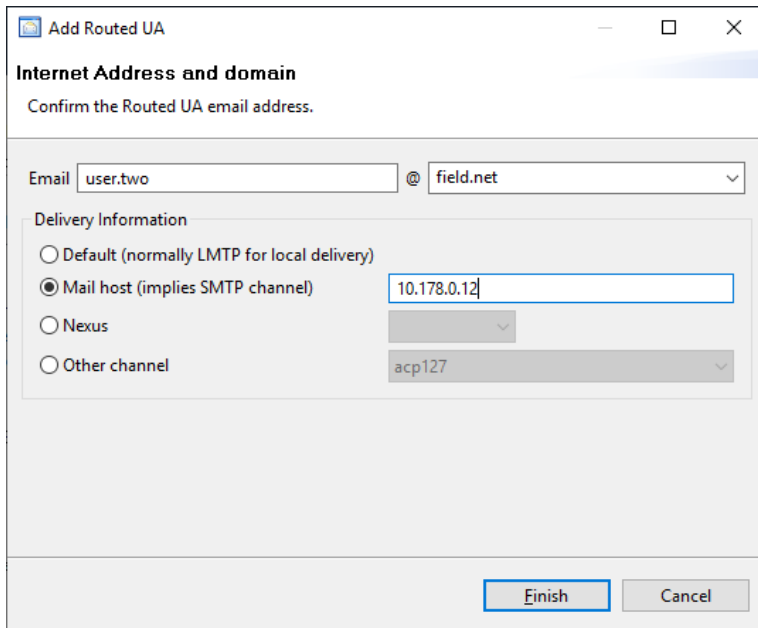


Figure 48: User Two - Internet Address and domain

Click **[Finish]** and then check the routing as before (Figure 49).

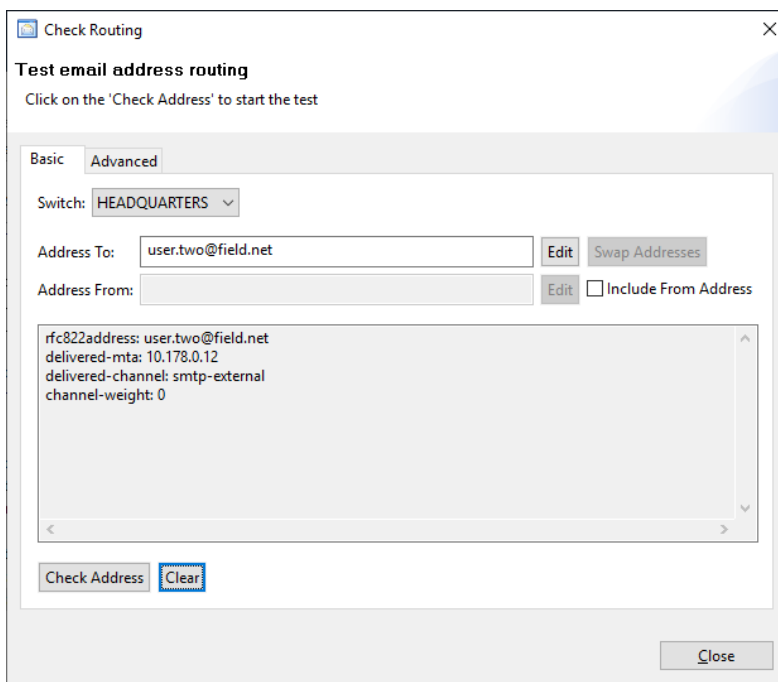


Figure 49: Check Address Routing

This time you will see that the “delivered-mta” value in the results has the IP Address value that was assigned to “FIELD2 (SMTP)”.

Testing External Connections using the Harrier Web Email Client

You can also test the connection by sending an email to the remote user. Provided that you have configured your hosts properly as explained in this guide, you will be able to send email messages to remote users using Isode’s Harrier Email Client. For instructions on sending and receiving email messages using Isode Harrier, refer to the Harrier Evaluation Guide.

What Next?

More information on M-Switch SMTP, 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-smtp.html.

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

- M-Box: www.isode.com/products/m-box.html
- Harrier: www.isode.com/products/harrier.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 (this guide)
- Setting up an X.400 Email System
- Setting up an SMTP/X.400 MIXER Gateway
- Email for Constrained Network Environments
- Harrier Evaluation Guide

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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