Isode

# R2.0 Icon-Topo Evaluation Guide

How to create an outline Icon-Topo evaluation environment.

# Contents

Contents ..... 2
Introduction ..... 4
Objectives ..... 5
Environment Overview ..... 6
Initial Instructions ..... 8
Preparing the Server Environment ..... 9
  Naming the Servers ..... 9
  Install the Isode Software ..... 10
Create HFAP-ONE ..... 11
  Install the Isode Software ..... 11
  Activating the Isode Products ..... 11
  Enable the DSA for Multimaster operation ..... 11
Create FAREP-ONE ..... 14
  Naming the Server ..... 14
  Install the Isode Software ..... 14
  Activating the Isode Products ..... 14
  Create the DSA ..... 14
  Create the Messaging Configuration ..... 22
  Enable DNS Lookup for Internet Email ..... 27
  Allow SMTP Relay ..... 28
  Configure Icon Topo Server ..... 29
    Create the Topo Database ..... 29
    Configure the Topo Service ..... 31
    Populate Topo Database ..... 33
    Modify Freeze Time for Demonstrative Purposes ..... 42
    Configure the Topo Update Service ..... 43
  Configure FTBE ..... 44
    Configure Cobalt ..... 44
    Configure M-Switch ..... 46
    Configure Sodium Sync ..... 48
Complete HFAP ONE Configuration ..... 56
  Rename the S5066 Server ..... 56
  Configure the Icon-Topo Update Service ..... 57
Create HFAP-TWO ..... 59
  Naming the Server ..... 59
  Install the Isode Software ..... 59
  Activating the Isode Products ..... 59
  Create the DSA ..... 59
  Create the Messaging Configuration ..... 66
  Rename the S5066 Server ..... 69
  Configure the Icon-Topo Update Service ..... 70
Create MU-ONE ..... 72
  Install the Isode Software ..... 72
  Activating the Isode Products ..... 72
  Rename the S5066 Server ..... 72
  Configure the Icon-Topo Server ..... 73

Configure FTBE ..... 77
Configure Cobalt ..... 77
Configure M-Switch ..... 79
Configure Sodium Sync ..... 81
Configure Switch for Harrier mmhs traffic separation ..... 87
Configure Harrier ..... 88
Create STRATEGIC-ONE ..... 89
Naming the Server ..... 89
Activating the Isode Products ..... 89
Create the DSA ..... 89
Create the Messaging Configuration ..... 90
Configure External Connections to field.net ..... 90
Populate Recipient Information ..... 95
Configure the local mailboxes and remote users ..... 97
Configure a Profiler Rule ..... 97
Configure the Profiler Channel ..... 97
Configure Switch For Harrier ..... 97
Configure Harrier ..... 100
Configure Icon-5066 ..... 101
Demonstrate the System ..... 103
Send an Internet Message while in port ..... 103
Send a Military Message while in port ..... 104
Change Icon-Topo Configuration So Not in Port ..... 107
Send an Internet Message while not in port ..... 107
Send a Military Message while not in port ..... 109
MU ONE Moves Towards HFAP TWO from HPAP ONE ..... 112

# Introduction

This guide details the process to create an environment that demonstrates dynamic routing manipulation by the Icon-Topo services. The guide draws on material in the M-Switch Gateway Evaluation Guide, the M-Switch User Server Evaluation guide and the Icon-5066 Evaluation guide. Additional/related products in the Isode product set are :

- 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 Gateway (Email Messaging for low-bandwidth and/or high-latency networks)
- M-Switch User Server (Email Messaging with options for low-bandwidth and/or high-latency networks)
- Harrier (web based email client)
- Icon-5066 (Stanag 5066 server)
- M-Vault (X500 Directory)

Isode 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 Activations that support TLS to certain geographic regions. This guide is written with the assumption that the reader is not a member of those regions and by default, we will provide a product activation that supports TLS. For customers whose region we have no current export control arrangement, further configuration information may be required and provided separately.*

---

# Objectives

By the end of this guide you will have:

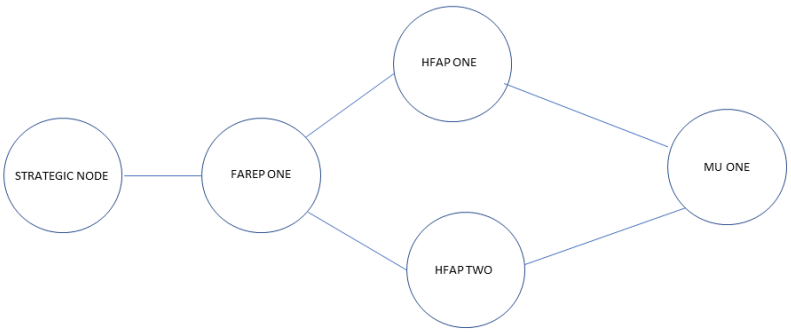
1. Created a Primary HFAP
2. Created a MU
3. Created a FAREP
4. Created a Second HFAP
5. Configured Icon Topo to provide routing
6. Created a Strategic Node
7. Demonstrated a change of dynamic Routing

You'll use the M-Vault console, MConsole, Topo and Cobalt to configure this. M-Vault console is Isode's directory configuration tool. Cobalt is Isode's system configuration tool.

# Environment Overview

The following diagram show the high-level overview of what you will be building.

*High Level System Overview*




By following this guide, a demonstrative environment can be generated including the following characteristics:

Military and commercial messages may be sent from the Strategic node to the Mobile unit via the current dynamic route generated by icon-Topo – initially directly as if in port and then via HFAP ONE or HFAP TWO under Topo control.

Topo configuration may be changed via a server at FAREP ONE.

Topo configuration may additionally be read via a server at MU ONE.

User and configuration information may be generated and modified using a Cobalt server at HFAP ONE.

Certificates may be generated using a CA at HFAP ONE.

User and configuration information may be read using a Cobalt server at MU ONE.

Strategic Node will have it's own directory, Harrier instance, and local configuration information managed by a local Cobalt server.

The M-Vault directories at FAREP ONE, HFAP ONE and HFAP TWO will be configured in a multimaster configuration.

MU ONE will have it's own M-Vault directory and CA. Topo configuration at MU-ONE will be synchronized with the multimaster member at FAREP ONE using Sodium Sync with the changes being distributed via FTBE. (File transfer by email) to MU ONE.

# 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.

# Initial Instructions

This guide will draw on the following additional evaluation guides:

R19.0 M-Switch Gateway Evaluation Guide

R19.0 M-Switch User Server Evaluation Guide

Icon-5066 R3.1 Evaluation Guide

Harrier 4.1 Evaluation Guide

For convenience, passwords are assumed to be “Secret1+”

In Linux environments it is assumed all actions are executed as root

# Preparing the Server Environment

The environment will consist of 5 virtual machines.

They will be referred to as:

STRATEGIC ONE

FAREP ONE

HFAP ONE

HFAP TWO

MU ONE

## Naming the Servers

Configure the machine names and dns suffixes using the data in the following table:

| Machine Name | DNS Suffix |
|---|---|
| STRATEGIC-ONE | HEADQUARTERS.NET |
| FAREP-ONE | HEADQUARTERS.NET |
| HFAP-ONE | HEADQUARTERS.NET |
| HFAP-TWO | HEADQUARTERS.NET |
| MU-ONE | FIELD.NET |

## Install the Isode Software

Follow the instructions in the release notes for the appropriate platform for the products.

This guide was generated using these releases. Install the software on each machine according to the matrix:

| Cross Indicates product should be installed on that server | STRATEGIC-ONE | FAREP-ONE | HFAP-ONE | HFAP-TWO | MU-ONE |
|---|---|---|---|---|---|
| MAS 1.1v1 | x | x | x | x | x |
| Cobalt 1.5v3 | x | | x | | x |
| M-Vault 19.0v21 | x | x | x | x | x |
| M-Switch 19.0v21 | x | x | x | x | x |
| M-Box 19.0v21 | x | | | | x |
| Icon-Topo 2.0v3 | | x | x | x | x |
| Icon-5066 3.1v3 | | | x | x | x |
| Harrier 4.1v0 | x | | | | x |

Remember to install an appropriate java runtime engine before installation (refer to product release notes for supported versions) and in a Windows environment the visual c++ redistributable package. In a Windows 2025 environment, please also install the “WMIC” optional feature.

Please use a supported web browser as documented in the product release notes.

# Create HFAP-ONE

Follow the instructions in the "R19.0 M-Switch Gateway Evaluation Guide" to create HFAP-ONE.

Start at the top of the guide, work to the bottom of the guide but be aware of these changes.

## Install the Isode Software

Additionally install the products:

Icon-Topo 2.0v3

Icon-5066 Icon-5066 3.1v3

## Activating the Isode Products

When activating the products in "Reference" type "R19.0 M-Switch Gateway Evaluation for Icon-Topo"

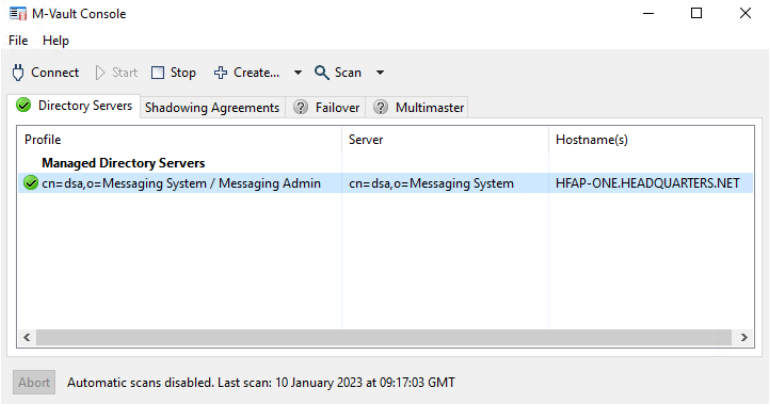
When writing to support for a product activation, ask for M-Vault, M-Switch Gateway (Options: Market type Military, X400 Messaging Protocols, ACP127 Channels, ACP127 Broadcast, ACP142), Cobalt, Icon-5066 (Options: direct-modem) and Icon-Topo (Options: Update Server), for an R19.0 M-Switch Gateway Evaluation with Icon-Topo.

## Enable the DSA for Multimaster operation

After completing the section "Create the Messaging Configuration", enable the DSA for Multimaster operation as follows :

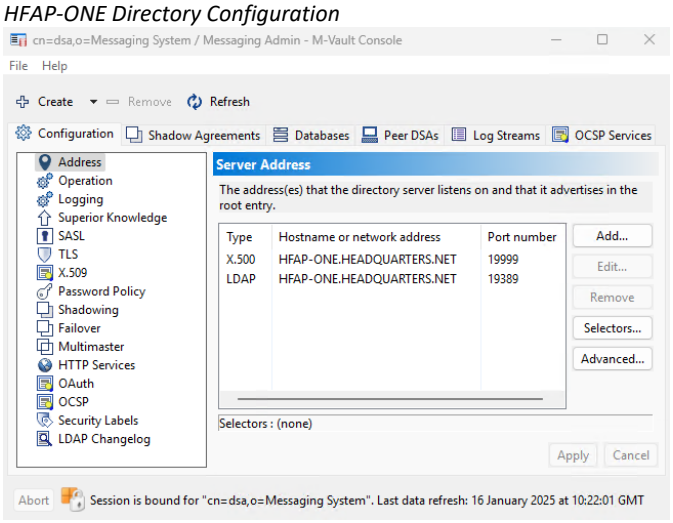
From the Windows Start menu, open "M-Vault console" and provide the password "Secret1+"

*M-Vault Console on HFAP ONE*



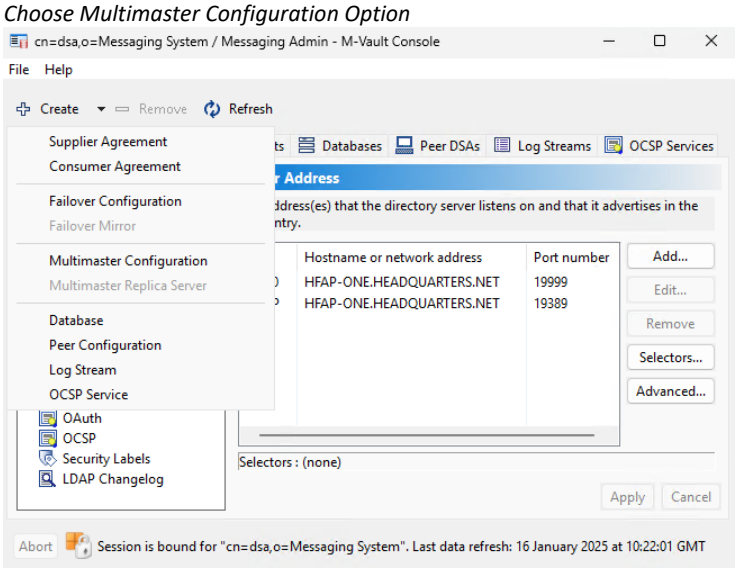

Double Click on the "Managed Directory server"

*HFAP-ONE Directory Configuration*



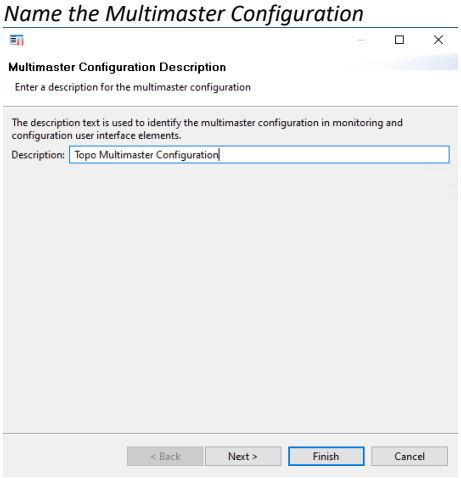

From the “Create” menu Select “Multimaster Configuration”

*Choose Multimaster Configuration Option*



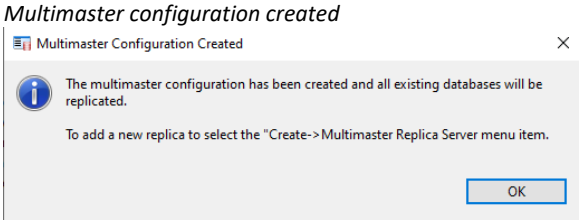

Give the Configuration a Name and press “Next >”

*Name the Multimaster Configuration*




Press “Finish”

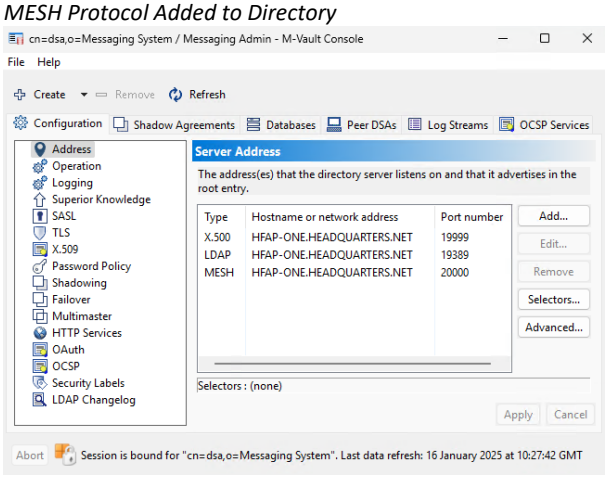
*Multimaster configuration created*




Press “OK”

Note that the protocol “MESH” has been added to the HFAP-ONE directory.

*MESH Protocol Added to Directory*




Close M-Vault Console

Continue through the gateway evaluation guide but stop after completing the section “**Modify the MTA Name for P1 Connections**”

Start following the gateway evaluation guide from the section

“**Configure the ACP127 Channel**”

BUT …

Do not follow the section “**Configure the External ACP127 Station**”

Do not follow the section “**Configure the External ACP142 MTAs**”

Do not follow the section “**Configure the External ACP142/mule MTA**”

When enabling services in the section “**Complete the Service Configuration**” leave the “Isode M-Switch ACP127 Server” disabled.

Do not follow the section “**Configure the Routing Nexus**”

Do not follow the section “**Configure the Routing**”

Do not follow the section “**Test Message Routing**”

# Create FAREP-ONE

We will use the "R19.0 M-Switch Gateway Evaluation Guide" as a template to create FAREP-ONE.

Start at the top of the guide, work to the bottom of the guide but be aware of these changes.

## Naming the Server

Make the machine name "FAREP-ONE"

## Install the Isode Software

Additionally install the product :

Icon-Topo 2.0v3

## Activating the Isode Products

When activating the products in "Reference" type "R19.0 M-Switch Gateway Evaluation for Icon-Topo"

When writing to support for a Product activation, ask for M-Vault, M-Switch Gateway (Options: Market type Military, X400 Messaging Protocols, FTBE), Sodium Sync and Topo (Options: Configuration Server, Update Server) for an "R19.0 M-Switch Gateway Evaluation with Icon-Topo".

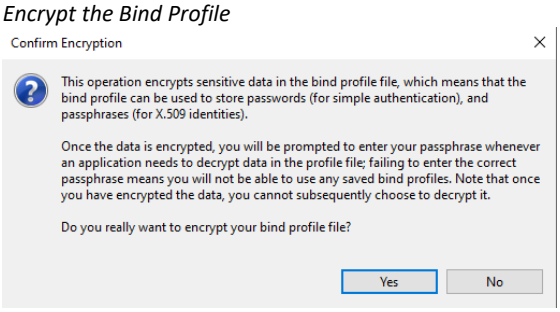
Ignore the section "**Encrypt the Bind Profile**"

## Create the DSA

In a topo environment, the farep and hfap's share the same directory database via the method of using a Multimaster dsa. The initial population of the directory is on HFAP-ONE. Subsequent servers in this guide will be multimastered alongside that dsa. So ignore the sections "Encrypt the Bind Profile" and "Create DSA" in the Gateway evaluation guide and substitute with the following:

From the Windows start menu open "M-Vault Console"

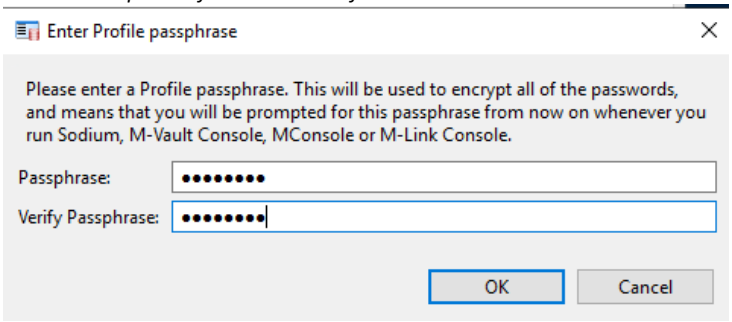
*Encrypt the Bind Profile*




Click "Yes".

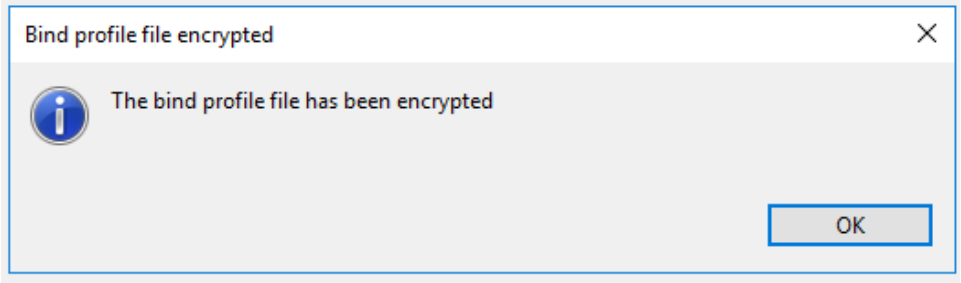
Enter and verify the password "Secret1+"

*Enter a Passphrase for the Bind Profile*




Click “OK”.

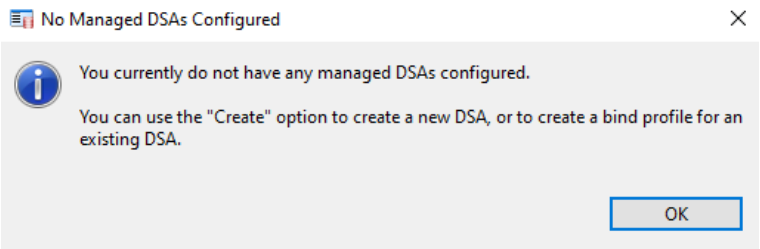
*Bind Profile encryption confirmation*




Click “OK” and you will be presented with the M-Console “Welcome” screen.

On the following Warning:

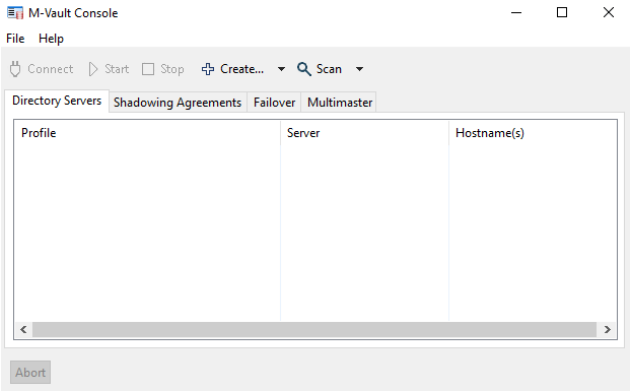
*No managed DSA’s configured*




Click “OK”

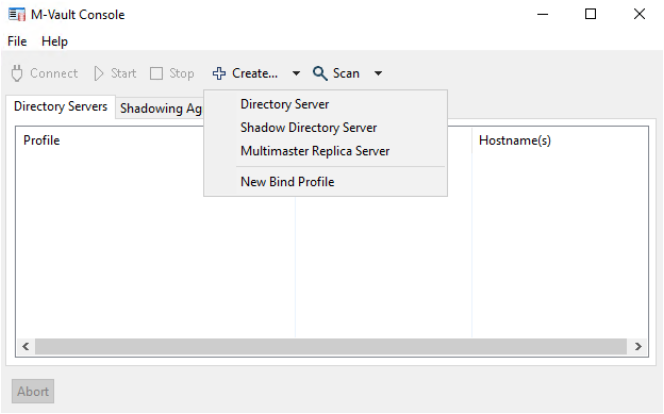
You will be presented with the following GUI

*Empty M-Vault console*



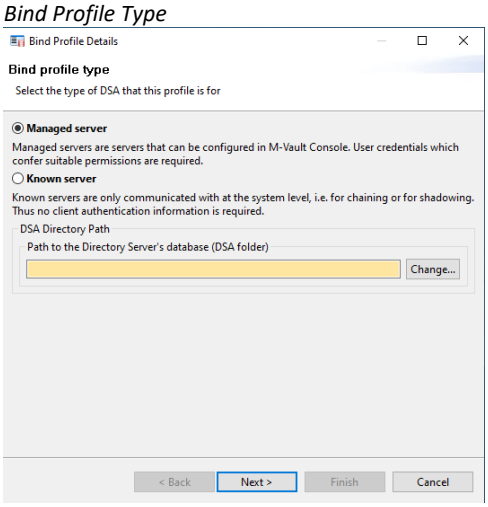
Select “Create” and then from the menu presented “New Bind Profile”

*M-Vault Console New Bind Profile*



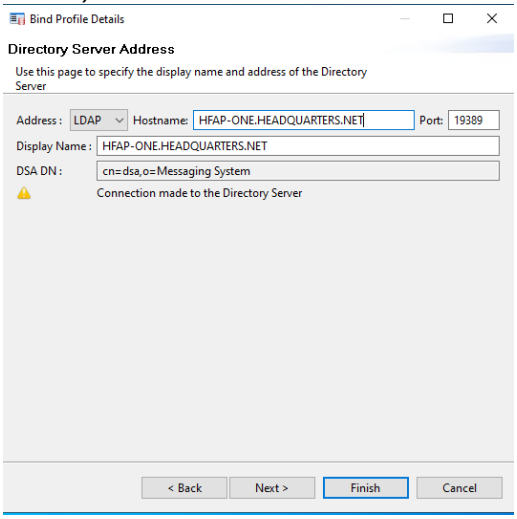

On “Bind Profile Type” press “Next >”

*Bind Profile Type*




On “Directory Server Address”

*Directory Server Address*

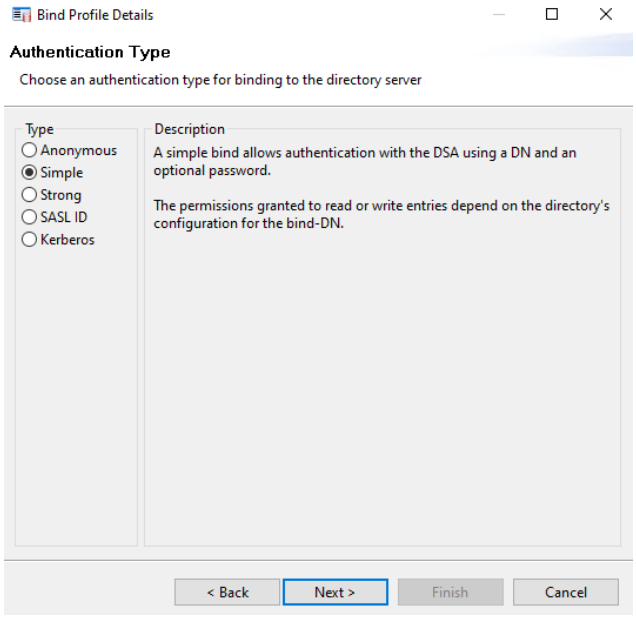


Select “LDAP” from the “Address” dropdown.

In “Hostname” type “HFAP-ONE.HEADQUARTERS.NET”

Press “Next >”

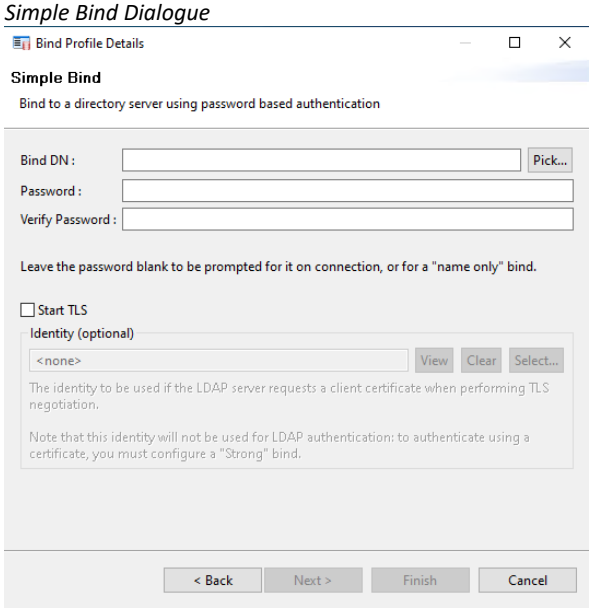
*Select Bind Profile Authentication type*




On “Authentication Type” select “Simple” and Press “Next >”

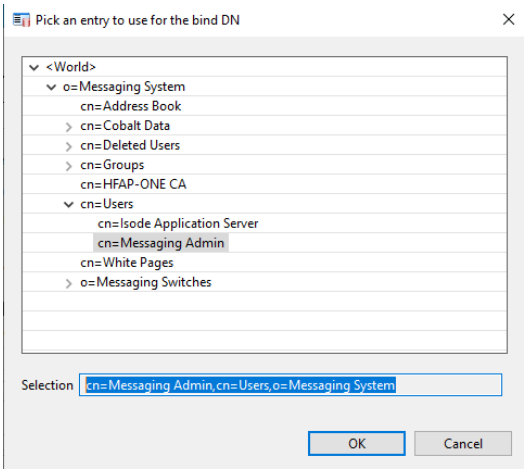
The “Simple Bind” dialogue will be presented

*Simple Bind Dialogue*




Press “Pick” and browse to “cn=Messaging Admin,cn=Users,o=Messaging System”

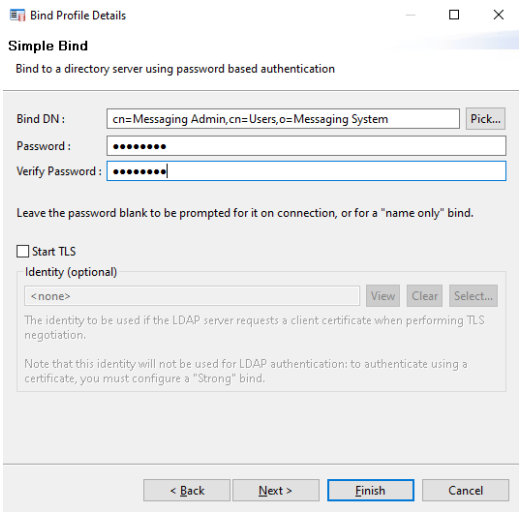
*Pick Bind DN*




Press “OK”

In “Password” and “Verify Password” type “Secret1+”

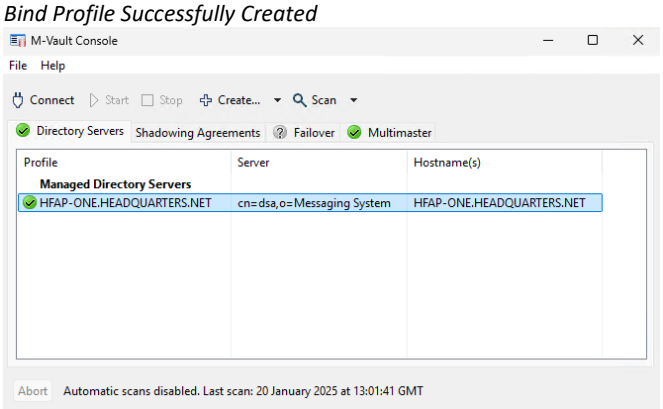
*Provide Bind Password*




Press “Finish”

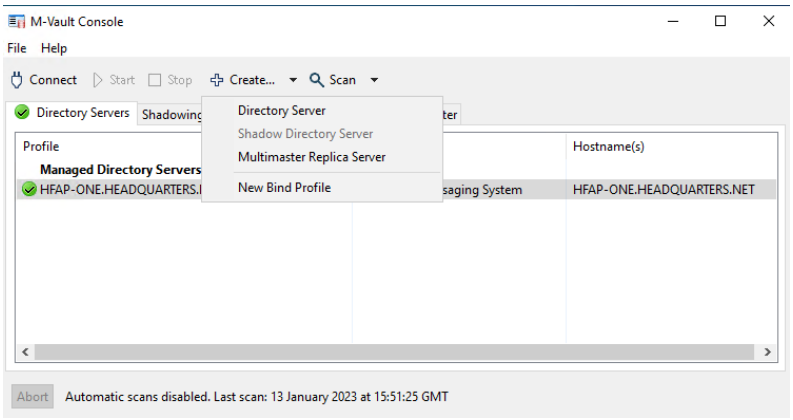
An Active Bind Profile to HFAP-ONE should be shown in M-Vault Console

*Bind Profile Successfully Created*



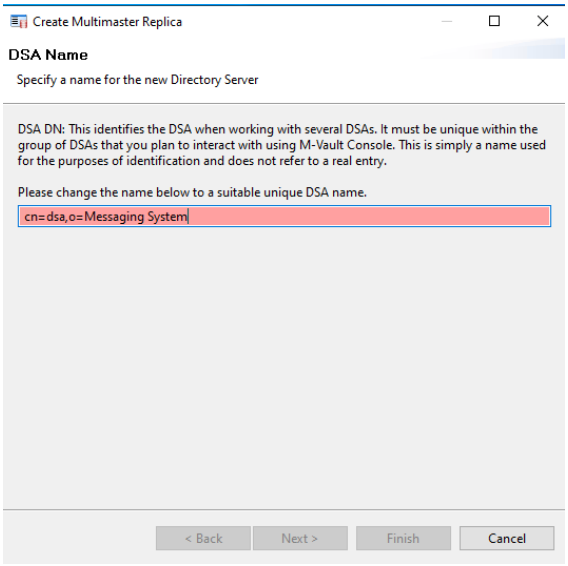

Select “Create” and then from the dropdown menu “Multimaster Replica Server”

*M-Vault console create menu*



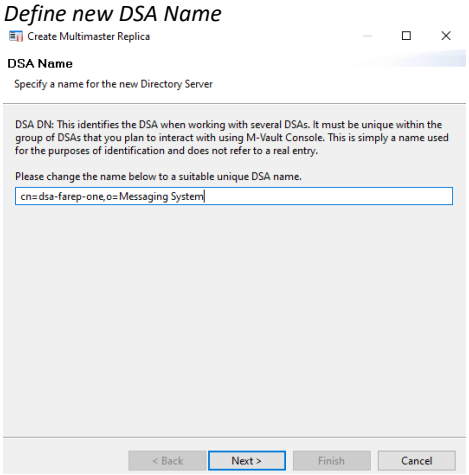

You will be presented with this dialogue:

*Provide DSA Name*



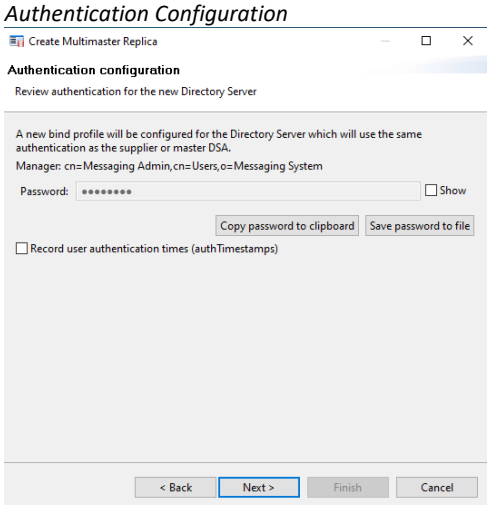

Change “cn=dsa” to” cn=dsa-farep-one”

*Define new DSA Name*



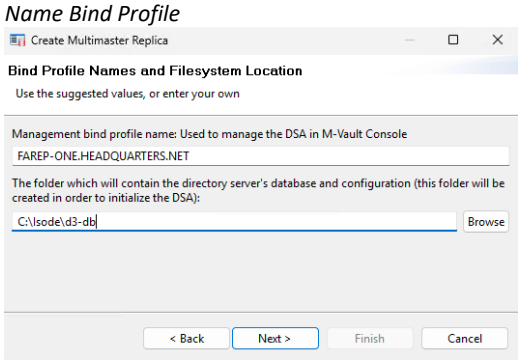

Press ”Next >”

*Authentication Configuration*




On “Authentication configuration” press “Next >”

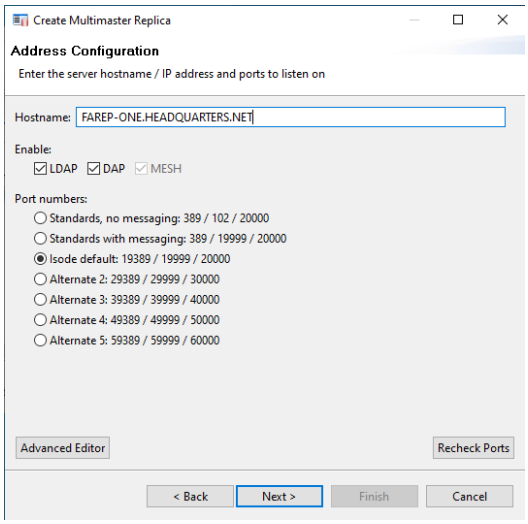
*Name Bind Profile*




Change “Management Bind Profile Name” to “FAREP-ONE.HEADQUARTERS.NET”

Press “Next >”

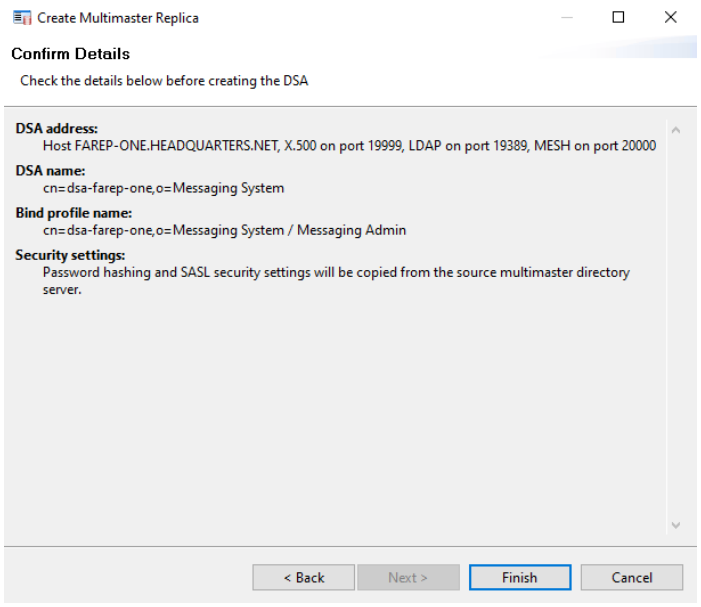
*DSA Hostname*




In “Hostname” type “FAREP-ONE.HEADQUARTERS.NET”

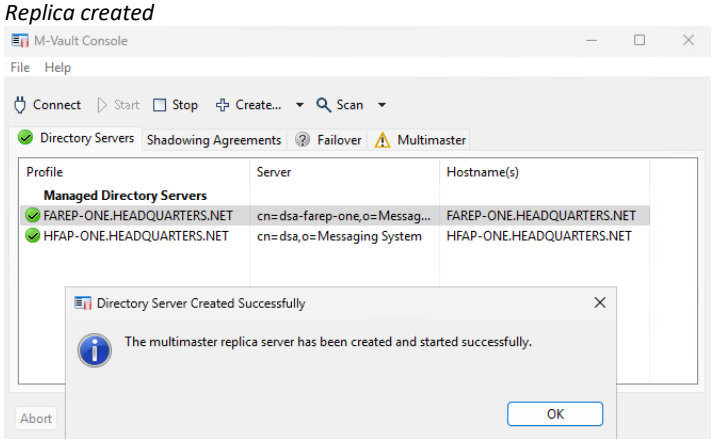
Press “Next >”

*Confirm Details*



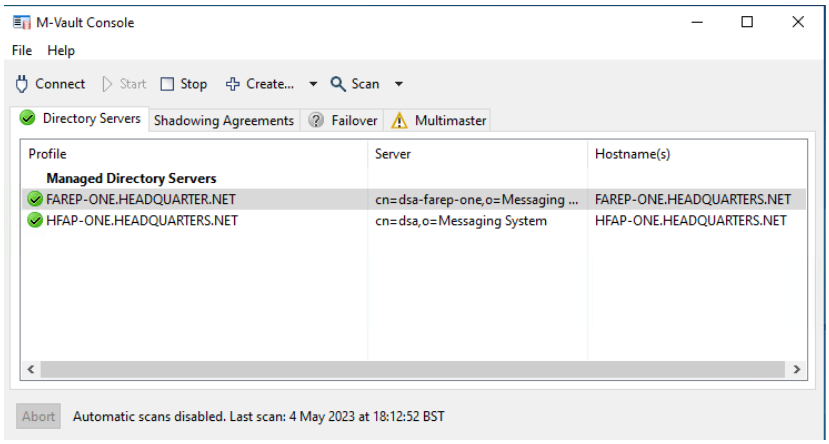

On “Confirm Details” press “Finish”

*Replica created*




On “Directory Server Created Successfully” press “OK”

*Two directories available*



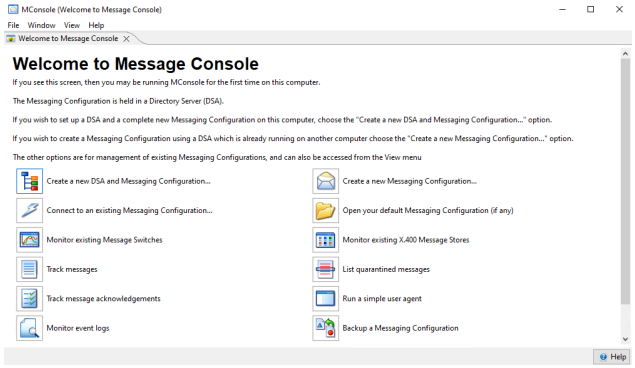

That completes the configuration of the FARE-ONE dsa.

## Create the Messaging Configuration

Follow this section rather than the section with the same name in the Gateway Evaluation guide.

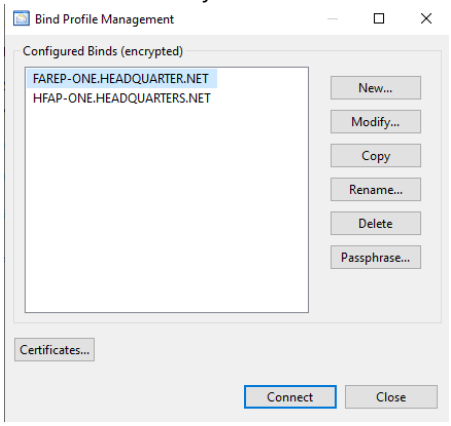
From the windows start menu select “MConsole” and provide the Bind Profile password.

*Mconsole welcome view*




Select “Create a New Messaging Configuration …”

*Select Local Bind Profile*

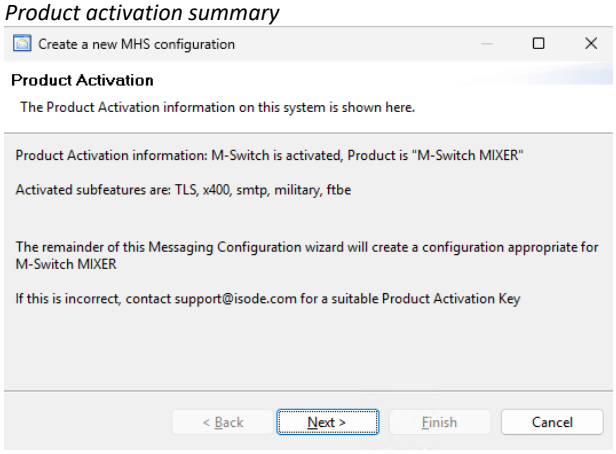



Ensure the bind profile for “FAREP-ONE.HEADQUARTERS.NET” is selected

Press “Connect”

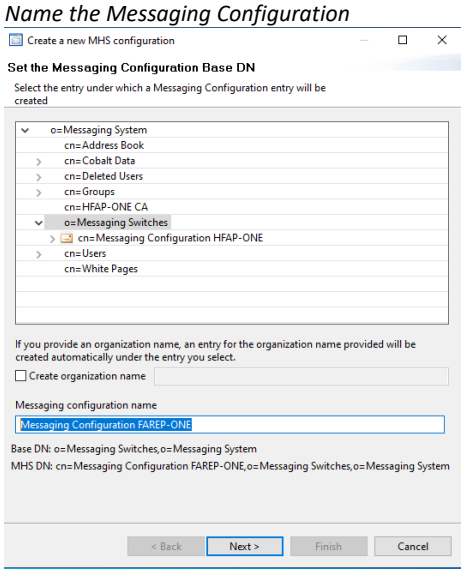
A summary of options activated in the product will be provided.

*Product activation summary*




Press “Next >”

*Name the Messaging Configuration*




Browse to and Select “Messaging Switches”

Ensure the “Messaging Configuration Name is” “Messaging Configuration FAREP-ONE”

Press “Next >”

Continue with the rest of the section in “**Create the messaging configuration**” in the gateway evaluation guide from the bitmap “Provide hostname”

BUT …

- On “Provide Hostname” enter “FAREP-ONE.HEADQUARTERS.NET”
- On “smtp channel specific settings” make the “email address domain” “farep-one.headquarters.net”
- On “Selected SASL ID” ensure that the selected ID is exactly the same – “messaging.admin@hfap-one.headquarters.net”.
- On “X400 Configuration” make the X400 Address Profile “C=GB/ADMD=FAREP-ONE/PRMD=S4406/”

Follow “Configure Switch Operations View” without modification.

Follow “Modify the MTA Name for P1 Connections”

BUT …

- Change the “MTA Name” to “FAREP-ONE
- Change the “Request MTA Name” to “FAREP-ONE”
- Change “Response MTA Name” to “FAREP-ONE”

Follow “Configure External Connections to Headquarters.net”

BUT …

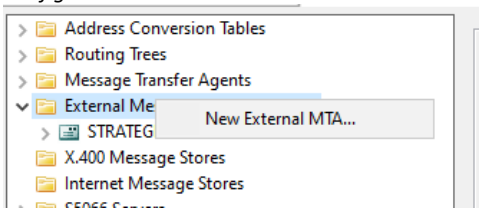
- Enter the “Directory Name” as “STRATEGIC-ONE”
- In “Destination” type “strategic-one.headquarters.net”.

Then add an X400 connection to STRATEGIC ONE.

This ensures that Military messages will be transported from MU-ONE to STRATEGIC-ONE using X400.

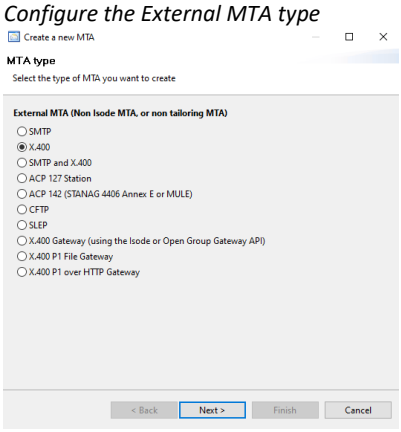
Right Click on “External Message Transfer Agents”

*Configure the External MTA*




Select “New External MTA…”

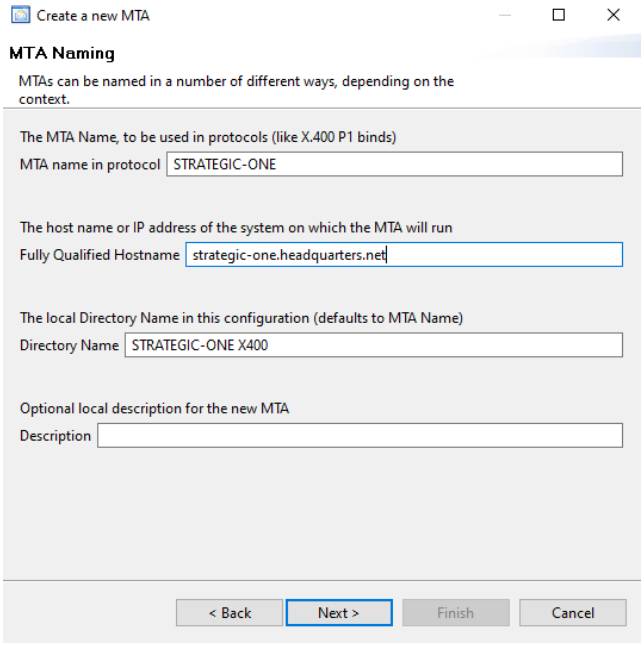
*Configure the External MTA type*




Select “X400”

Click “Next>”.

*Name the External MTA*



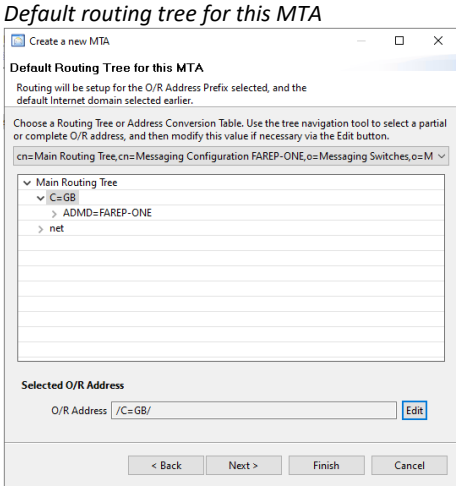

Enter the “MTA name in protocol” as “STRATEGIC-ONE”

In “Fully Qualified Hostname” type “strategic-one.headquarters.net”.

In “Directory Name” type “STRATEGIC-ONE X400”

Click “Next >”

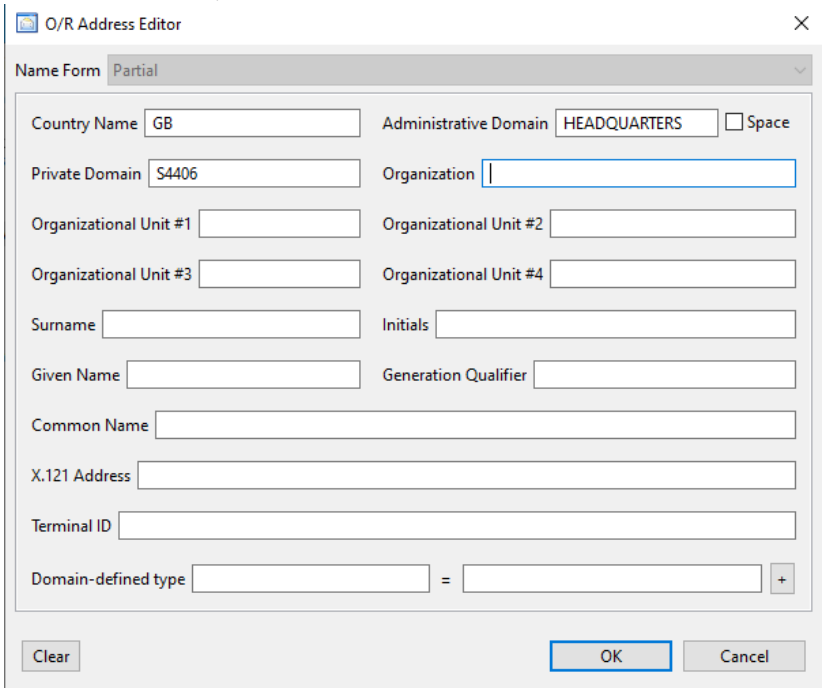
*Default routing tree for this MTA*




Select “C=GB” in the “Default Routing Tree for this MTA”

Press “Edit”

*X400 Route to HEADQUARTERS*

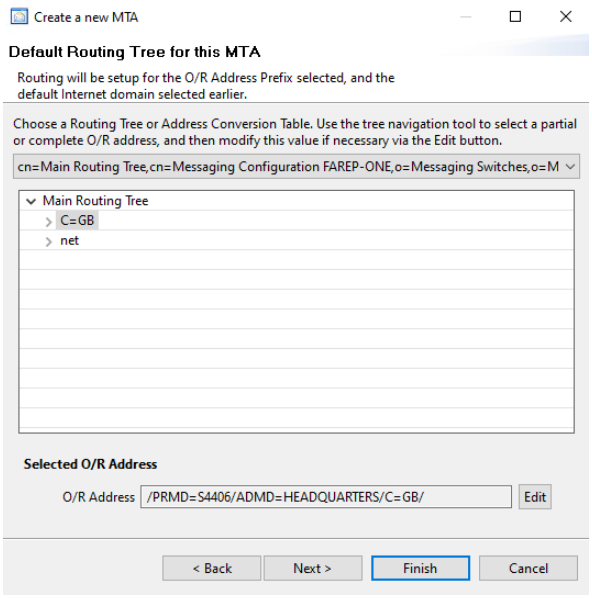



In “Administrative Domain” type “HEADQUARTERS”

In “Private Domain” type “S4406”

Press “OK”

*Default route selected*

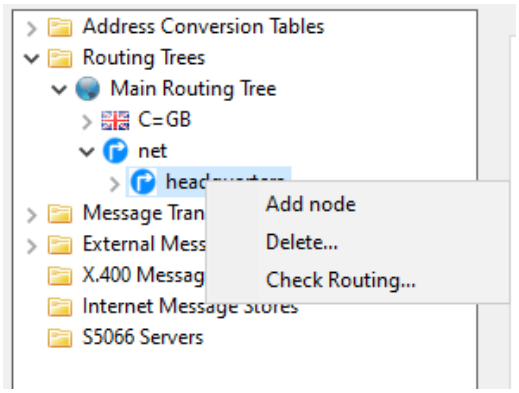



Click “Finish”

Select the node “headquarters” in the routing tree.

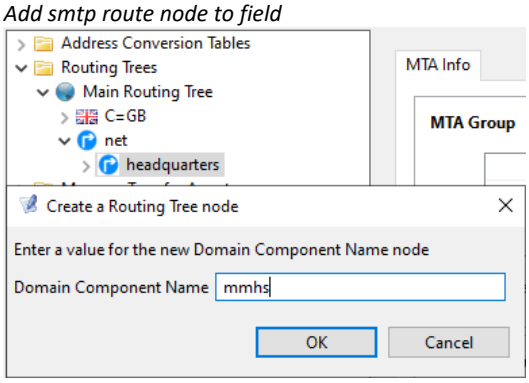
Right click.

*Add node*




Select “Add node”

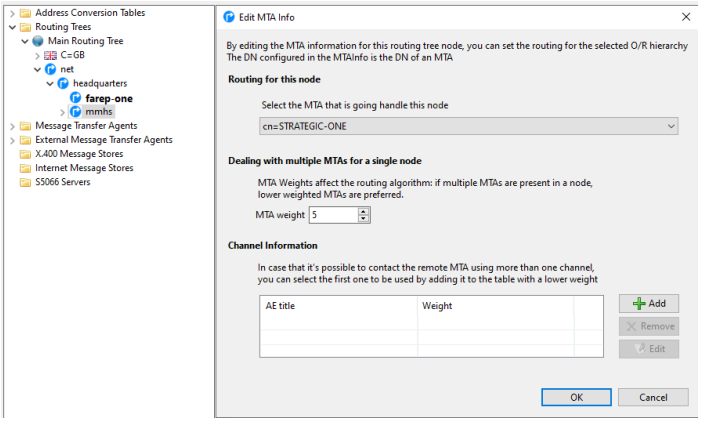
*Add smtp route node to field*




In “Create a Routing tree node” type “mmhs”.

Press “OK”

*Associate Remote MTA With Node*




In “MTA Group” press “Add”

In the dropdown select “cn=STRATEGIC-ONE”

Press “OK”

Press “Apply”

Follow the last few steps again to associate the node “headquarters” with the MTA “cn=STRATEGIC-ONE”.

Do not implement any further steps in the gateway evaluation guide beyond this point.

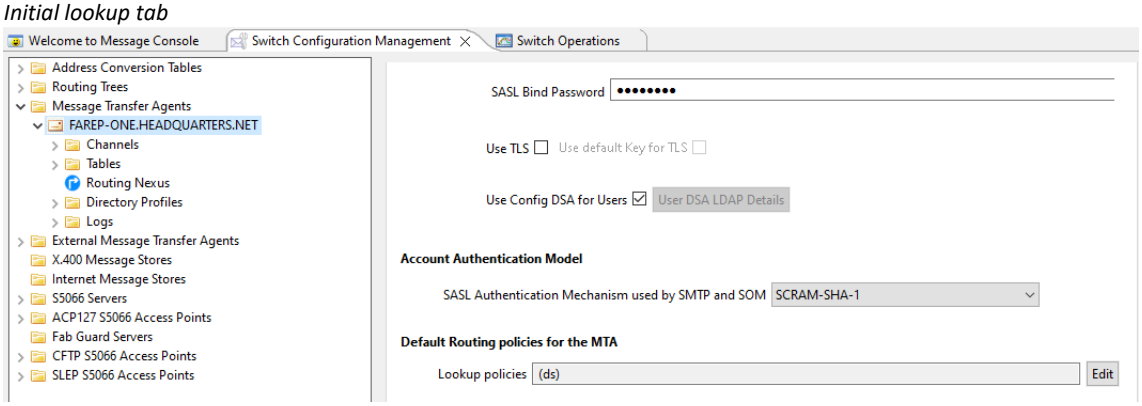
## Enable DNS Lookup for Internet Email

This allows the FAREP to route external smtp email.

In “Mconsole” select the local switch object (FAREP-ONE.HEADQUARTERS.NET)

Choose “Lookup” tab.

*Initial lookup tab*

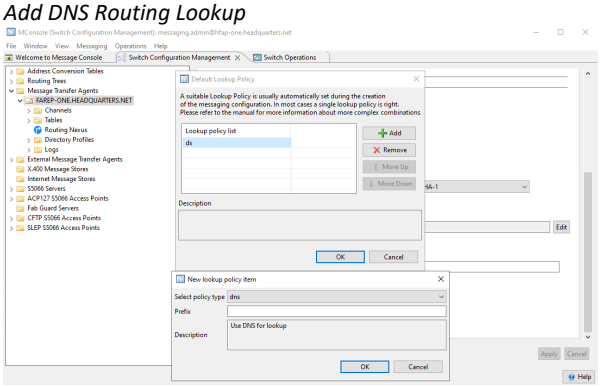



To the right of “Lookup Policies” press “Edit”

Press “Add”

In “Select Policy type” in dropdown select “dns”

*Add DNS Routing Lookup*

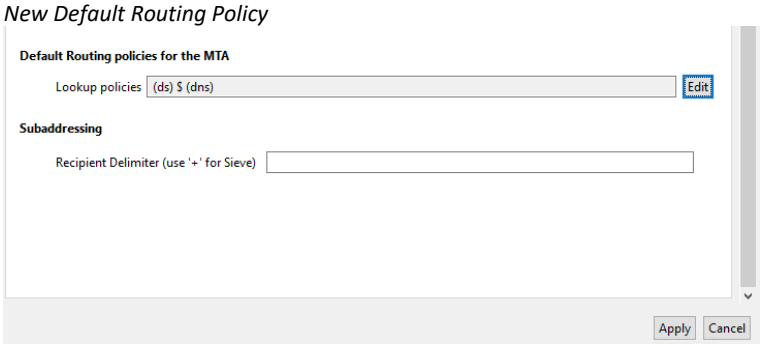


Press “OK”

On “Default Lookup Policy” press “OK”

This will result in the following routing policy:

*New Default Routing Policy*



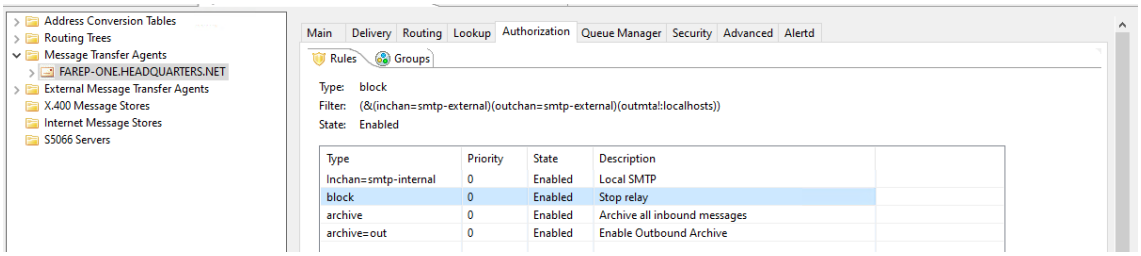

Press “Apply”

## Allow SMTP Relay

By default, M-Switch is configured with an authorization rule that will block relay of smtp messages. To allow internet messages to flow from STRATEGIC-ONE through FAREP-ONE to MU-ONE, that rule should be disabled as follows:

On the switch “FAREP-ONE.HEADQUARTERS.NET” choose the “Authorization” tab.

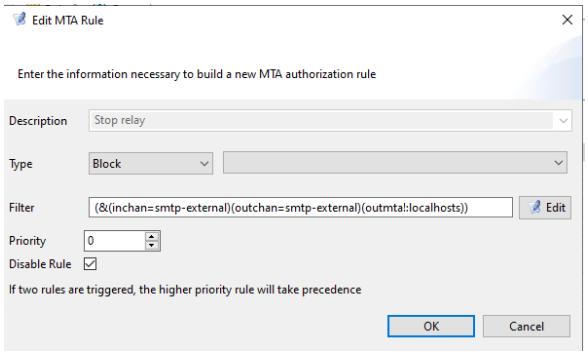
*Authorization tab*




Select the rule “Stop Relay”

Press “Edit”

*Disable rule*




Check “Disable Rule”

Press “OK”

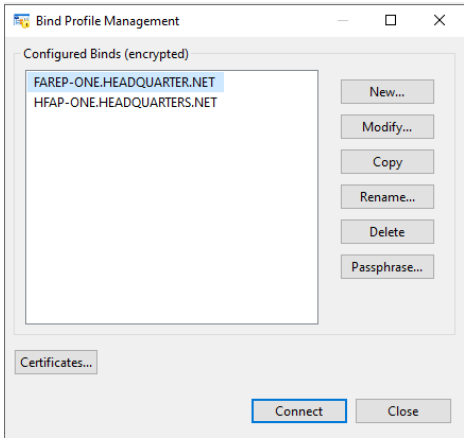
Press “Apply”

## Configure Icon Topo Server

### Create the Topo Database

Open “Sodium” from the “Windows Start menu” and provide the bind profile password.

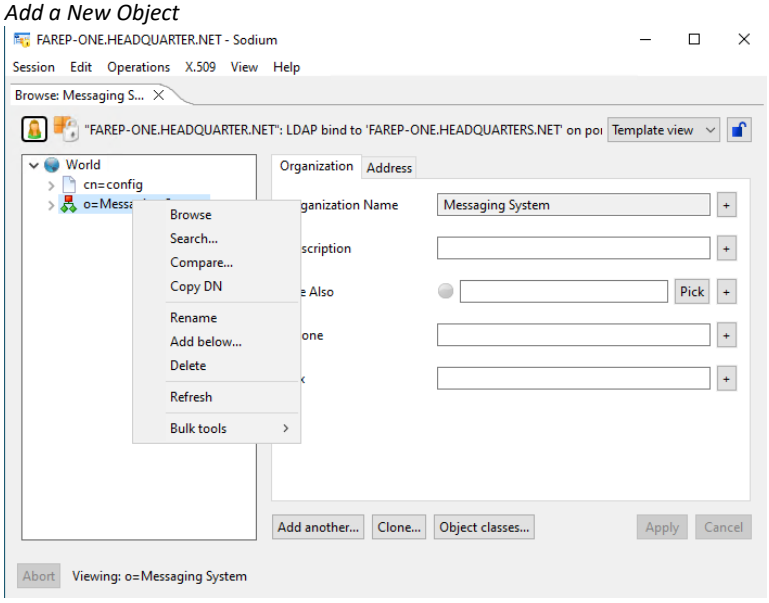
*Connect to FAREP-ONE dsa*




Connect to the local DSA on FAREP-ONE

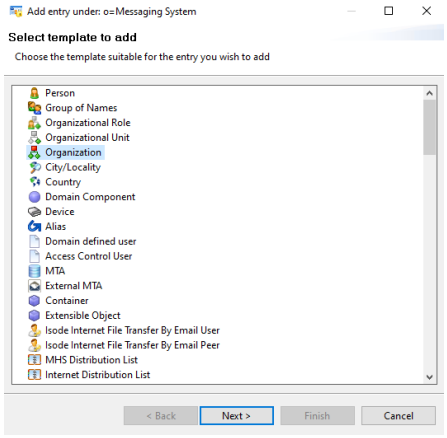
In the left-hand pane, browse to and select the object “o=Messaging System”

*Add a New Object*




Right click and from the context menu choose “Add Below...”

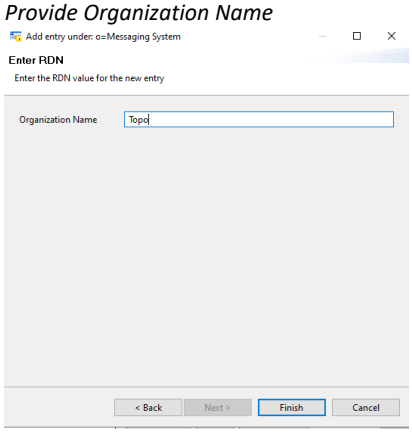
*Select Organization template*




Select the template “Organisation” and Press “Next >”

On “Select optional parts”, leave the defaults and Press “Next >”

*Provide Organization Name*



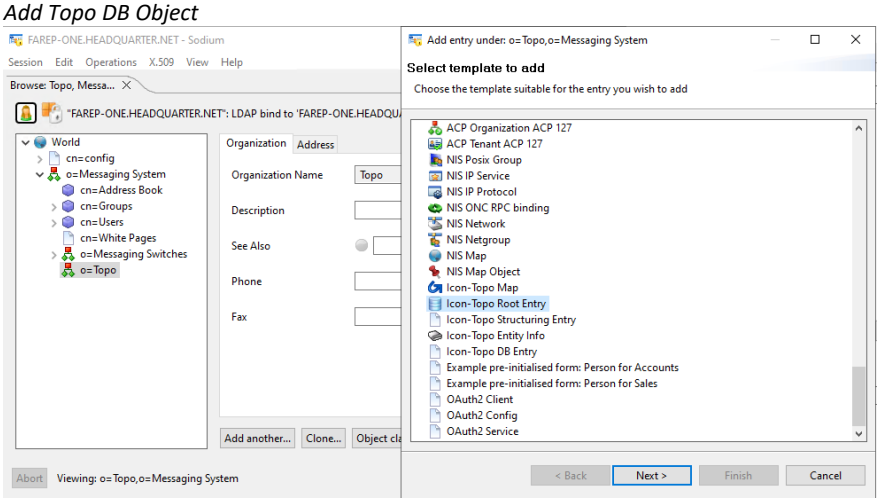

In “Organisation Name” enter “Topo”

Press “Finish”

Press “Add”

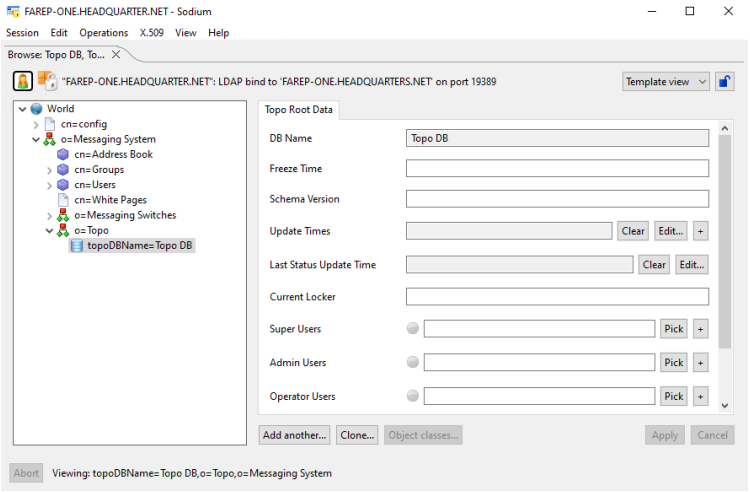
The organization “Topo” will be added:

*Add Topo DB Object*




Repeat the above steps to create an object “Topo DB” of object Class “Icon-Topo Root Entry” under the object “o=Topo,o=Messaging system”

*TopoDB object added*




## Configure the Topo Service

In the folder “C:\Isode\etc\topo” create the file “topoboot.xml”

Using a text editor, populate it with the following text:

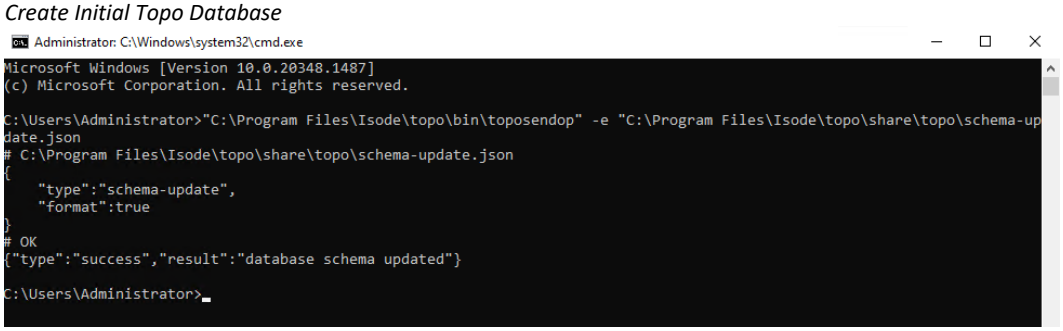
*Topoboot.xml contents*

```
<topoboot>
<db-dsa>
<ldaphost>ldap://localhost:19389/</ldaphost>
<root>topoDBName=Topo DB,o=Topo,o=Messaging System</root>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password servpass:encrypt="true">Secret1+</password>
<saslmech>SCRAM-SHA-1</saslmech>
</db-dsa>
</topoboot>
```

From a windows command prompt run

```
"C:\Program Files\Isode\topo\bin\toposendop" -e "C:\Program
Files\Isode\topo\share\topo\schema-update.json"
```

*Create Initial Topo Database*




Ensure a "Success" result was received.

Use the "Isode Service Configuration Tool" to change the "Icon-Topo Configuration Service" "start type" to "Automatic"

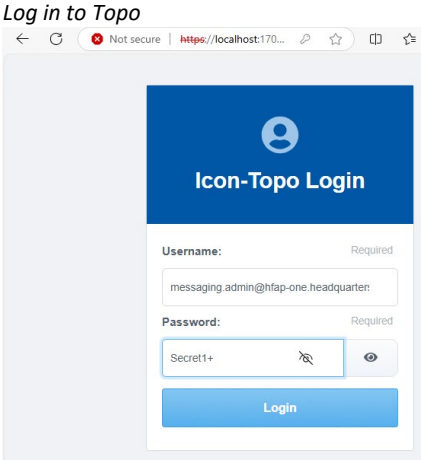
Start the "Icon-Topo Configuration Service"

## Populate Topo Database

Open a browser and navigate to “https://localhost:17000”

The browser will provide a security warning. Choose an option to override the warning.

*Log in to Topo*

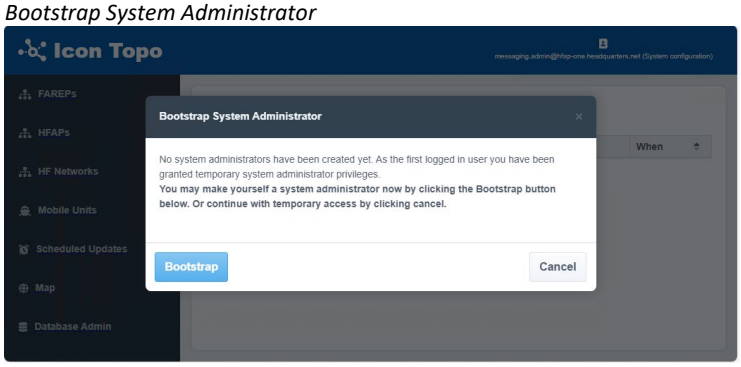



Enter username “messaging.admin@hfap-one.headquarters.net”

Enter password “Secret1+”

Press “Login”

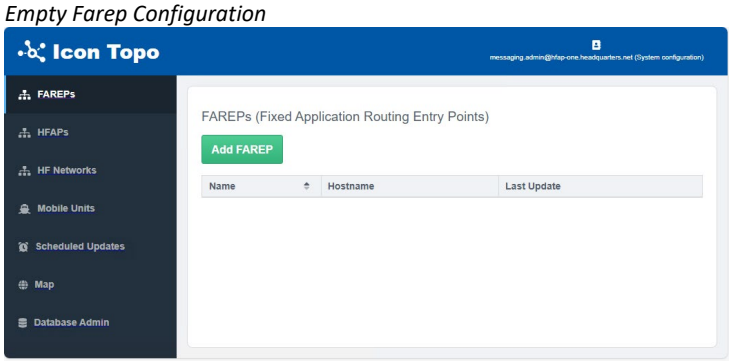
*Bootstrap System Administrator*




Press “Bootstrap”

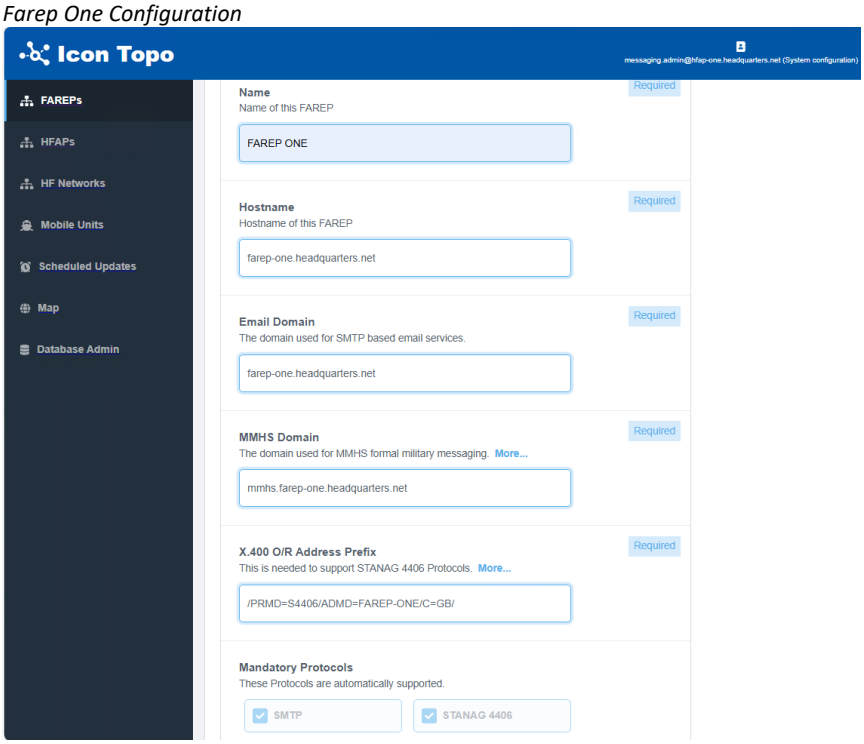
In the left-hand pane, select “FAREPs”

*Empty Farep Configuration*




Press “Add FAREP”

*Farep One Configuration*




Provide the following information:

Name: FAREP ONE

Hostname: farep-one.headquarters.net

Email Domain: farep-one.headquarters.net

MMHS Domain: mmhs.farep-one.headquarters.net

X.400 O/R Address Prefix: /PRMD=S4406/ADMD=FAREP-ONE/C=GB/

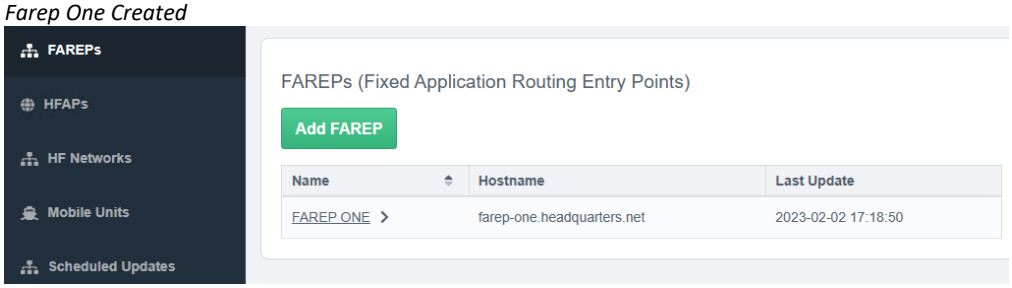
Press “Submit”

You should receive a Green “Success” pop up.

Select “FAREPs”

FAREP ONE has been created

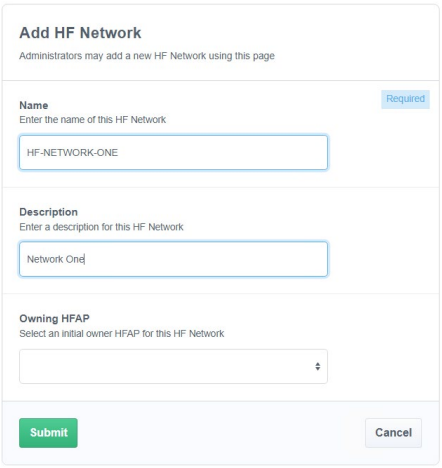
*Farep One Created*




Select “HF Networks” in the left-hand pane.

Press “Add HF Network”

*Add HF Network*




Provide the following information:

Name: HF-NETWORK-ONE

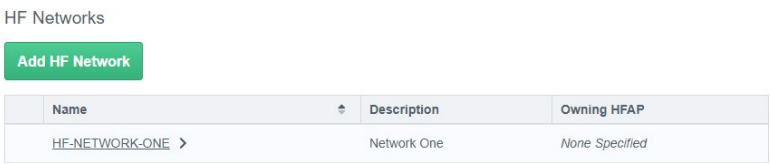
Description: Network One

Press “Submit”

You will be shown a green “Success” pop up.

Select “HF Networks”

*HF Network Created*

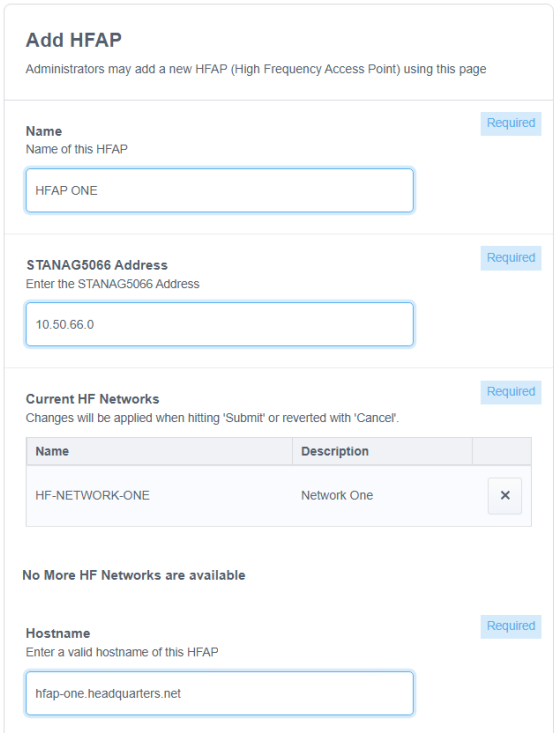



HF-NETWORK-ONE has been created.

Press “HFAPs” in the Left Hand Pane

Press “Add HFAP”

*Configure HFAP*




Provide the following information:

Name: HFAP ONE

STANAG5066 Address: 10.50.66.0

Hostname: hfap-one.headquarters.net

Email Domain: hfap-one.headquarters.net

MMHS Domain: mmhs.hfap-one.headquarters.net

X.400 O/R Address Prefix: /PRMD=S4406/ADMD=HFAP-ONE-ONE/C=GB/

In the dropdown for “Add an HF Network” select “HF-NETWORK-ONE”

Press “Submit”

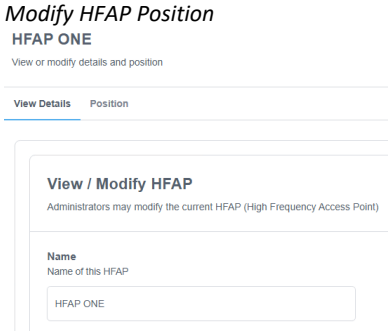
You should be presented with a green “Success” pop up.

Select “HFAPs” in the left-hand pane.

Select “HFAP ONE”

Note a new tab “Position” appears

*Modify HFAP Position*



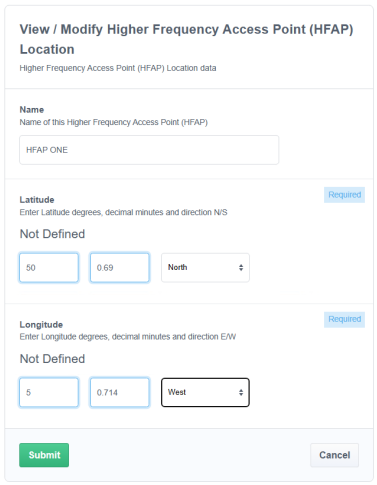

Select the “position” tab.

Enter the position Information:

Latitude: 50 degrees, 0.69 minutes North

Longitude: 5 degrees, 0.714 minutes West

*Define HFAP Location*




Press “Submit”

You should be presented with a green “Success” pop up.

Repeat the above steps to create the second HFAP using the following data:

Name: HFAP TWO

STANAG5066 Address: 10.50.66.2

HF Network: HF-NETWORK-ONE

Hostname: hfap-two.headquarters.net

Email Domain: hfap-two.headquarters.net

MMHS Domain: mmhs.hfap-two.headquarters.net

X.400 O/R Address Prefix: /PRMD=S4406/ADMD=HFAP-TWO/C=GB/

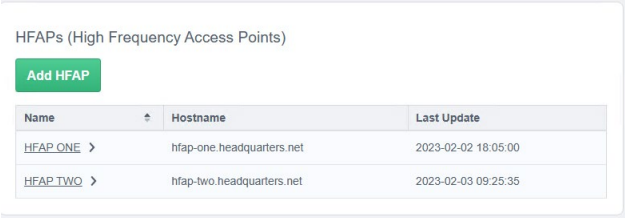
Latitude: 47 degrees, 0.651 minutes North

Longitude: 52 degrees, 0.753 minutes West

Press “HFAPs” in the left-hand pane.

Two HFAPS should be available:

*HPAPs Created*

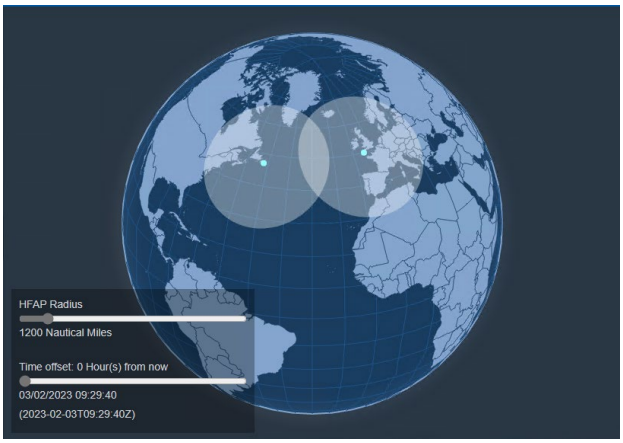



Select “Map” in the left-hand pane.

*Initial map*


Drag the “HFAP Radius” to be 1200 nautical miles.

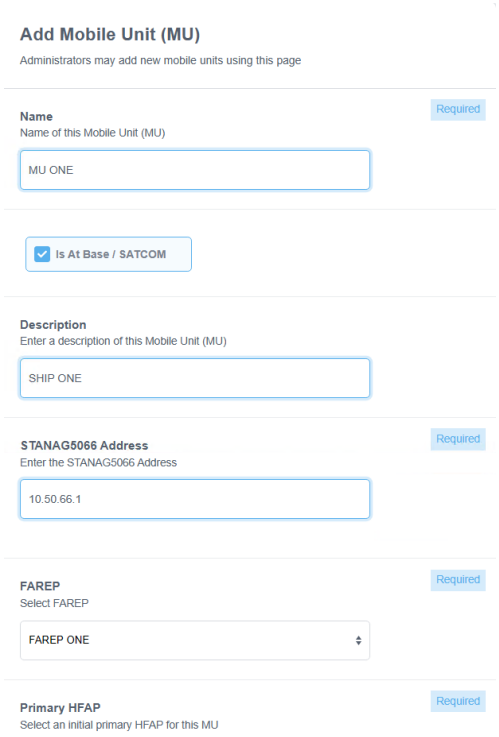
*HPAP Radius 1200 nautical Miles*




Select “Mobile Units” in the left-hand pane.

Press “Add MU”

*Add Mobile Unit*




In “Name” type “MU ONE”

Check “Is at Base/SATCOM”

In Description type “SHIP ONE”

In STANAG5066 Address type “10.50.66.1”

In “FAREP” select “FAREP ONE” from the dropdown.

In “Primary HFAP” select “HFAP ONE” from the dropdown.

Select the “Associated HFAPs” “HFAP ONE” and “HFAP TWO”

In email domain type “field.net”

In “MMHS Domain” type “mmhs.field.net”

In “X400 O/R Address Prefix type “/PRMD=S4406/ADMD=FIELD/C=GB”

In “Base address” type “mu-one.field.net”

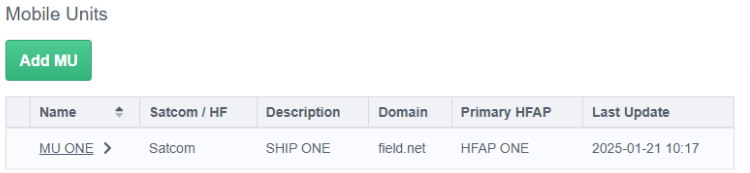
Press “Submit”

You should be presented with a green “Success” pop up.

Select “Mobile Units” in the left-hand pane.

Note that new MU is populated:

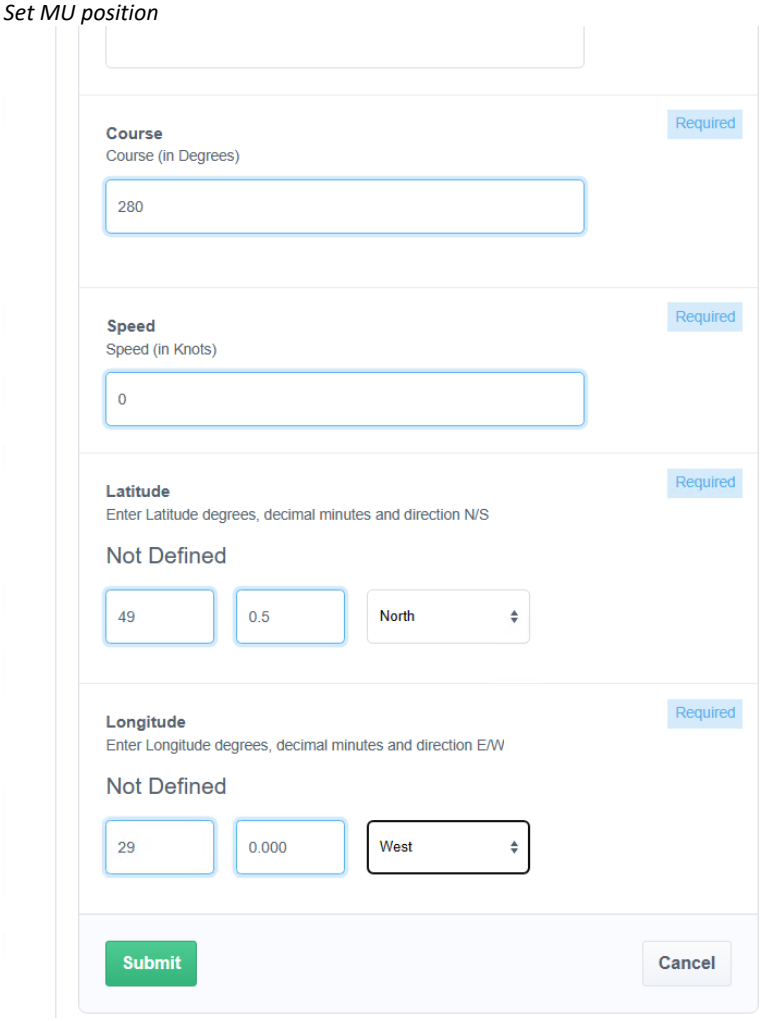
*MU Added*




Select “MU ONE”

Select the “Position” tab.

*Set MU position*




In “Course” type “280”

In “Speed” type “0”

In “Latitude” type “49 degrees 0.5 Seconds North”

In “Longitude” type “29 degrees 0 Seconds West”

Press “Submit”

You should be presented with a green “Success” pop up.

Select “Map”

Note that the MU appears in the map within the arc of both HFAPs

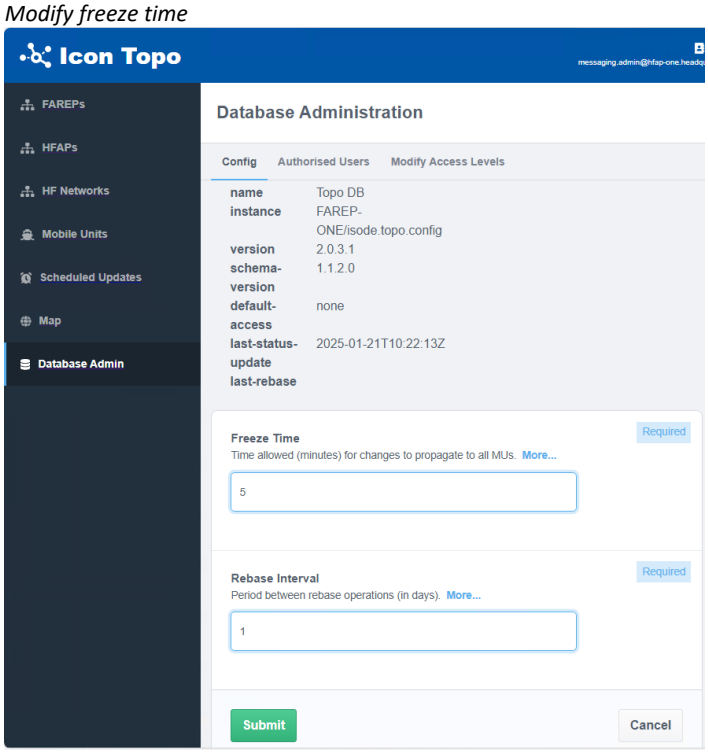
*Map With MU*

### Modify Freeze Time for Demonstrative Purposes

The time difference between when changes are defined and applied can be changed to 5 minutes for demonstrative purposes by following these steps.

Select “Database Admin” in the left-hand pane.

*Modify freeze time*




Press “Submit”

You should be presented with a green “Success” pop up.

### Configure the Topo Update Service

Ensure “MConsole” is closed.

Stop the “Icon-Topo Configuration Service”

Edit the file C:\Isode\etc\topo\topoboot.xml”

Add the “Update” section so the file looks like this:

*TopBoot With Update Service Configuration*

```
<topoboot>
<db-dsa>
<ldaphost>ldap://localhost:19389/</ldaphost>
<root>topoDBName=Topo DB,o=Topo,o=Messaging System</root>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password servpass:encrypt="true">Secret1+</password>
<saslmech>SCRAM-SHA-1</saslmech>
</db-dsa>
<update>
<type>farep</type>
<!-- NB this value must match the FAREP name in the Topo configuration -->
<name>FAREP ONE</name>
<switch>
<!-- NB this value must match the MTA DN in mconsole -->
<mtadname>cn=FAREP-ONE.HEADQUARTERS.NET,cn=Messaging Configuration
FAREP-ONE,o=Messaging Switches,o=Messaging System</mtadname>
<ldaphost>ldap://localhost:19389/</ldaphost>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password>Secret1+</password>
<qmgrhost>farep-one.headquarters.net</qmgrhost>
<qmgruser>messaging.admin@hfap-one.headquarters.net</qmgruser>
<password>Secret1+</password>
<qmgrmech>SCRAM-SHA-1</qmgrmech>
</switch>
</update>
</topoboot>
```

Start the “Icon-Topo Configuration Service”

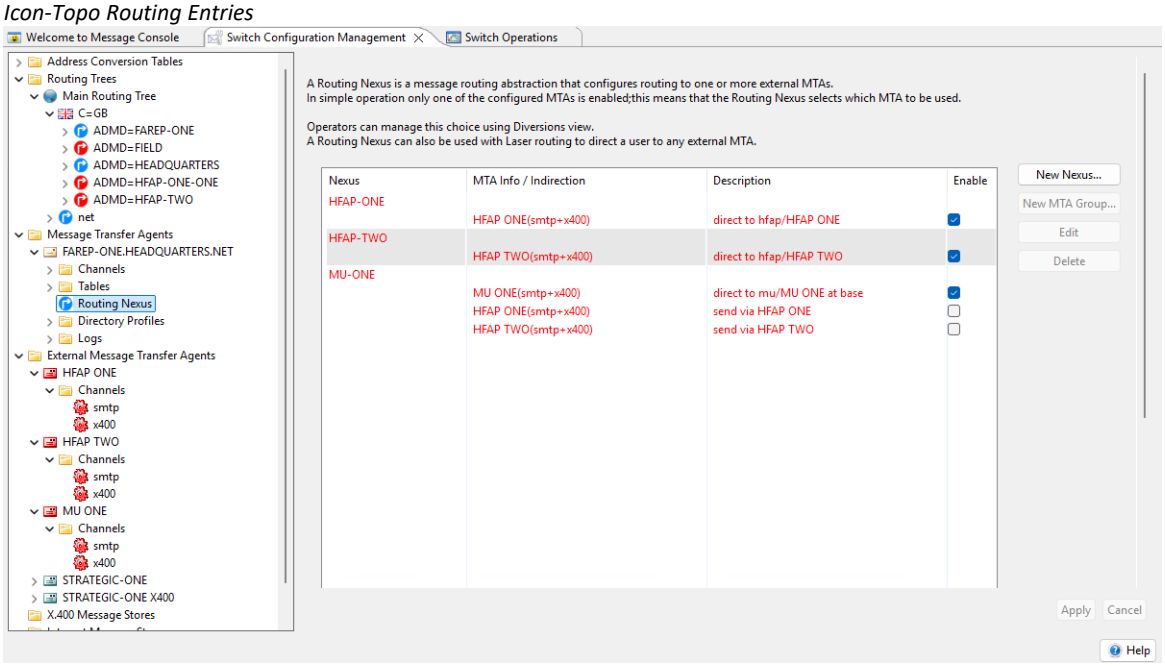
Change the “Start type” of the “Icon Topo Update Service” to “Automatic”

Start the “Icon-Topo Update Service”

Open “MConsole”

Note the additional Red coloured configuration items which have been added by Icon- Topo.

*Icon-Topo Routing Entries*




## Configure FTBE

Create the folder “c:\ftbe”

### Configure Cobalt

Open a browser and browse to “https://hfap-one.headquarters.net:8001”

Override browser warnings about connections that aren’t private.

Log in as “cobalt.admin@hfap-one.headquarters.net”

Select “Cobalt Administrator”

Add the domain “farep-one.headquarters.net”. The domain does not need to support Military Messaging.

For the domain “farep-one.headquarters.net” ensure only the feature “FTBE Users”

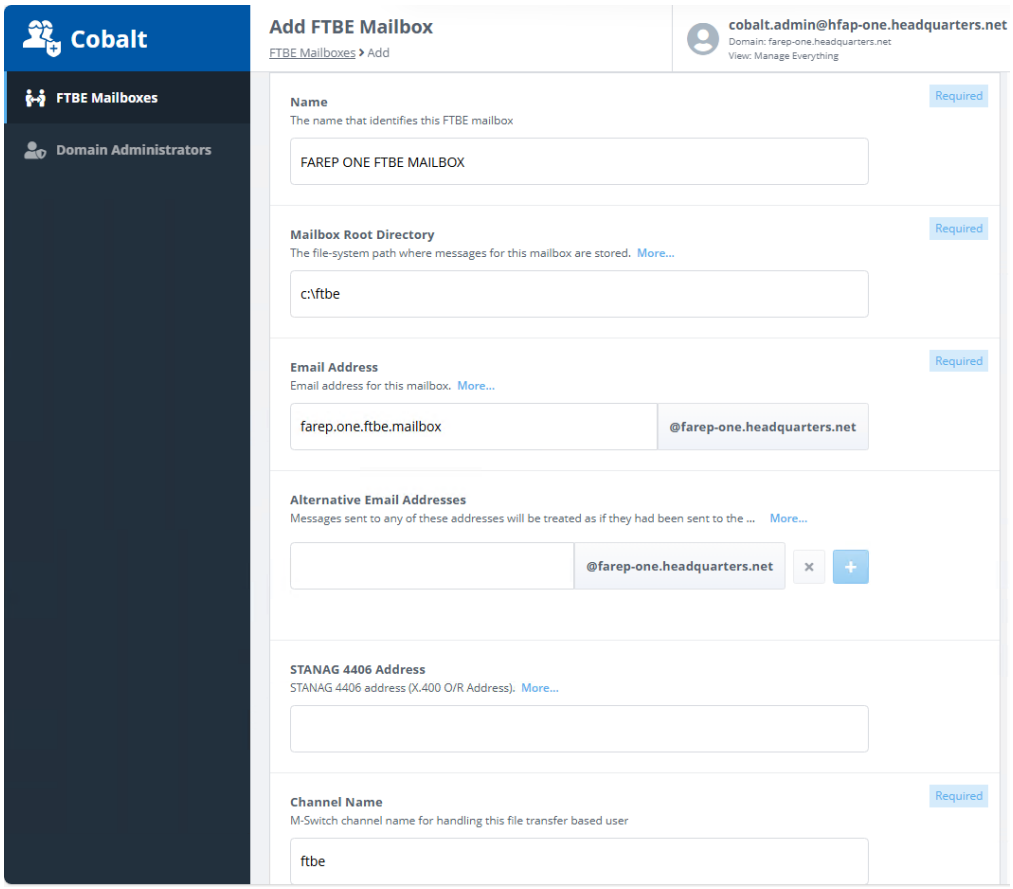
is enabled.

Ensure the user “cobalt.admin@hfap-one.headquarters.net” can “Manage Everything” in the domain “farep-one.headquarters.net”

Switch view to the domain “farep-one.headquarters.net”

Press “+” in “FTBE Mailboxes”

*Add FTBE Mailbox*

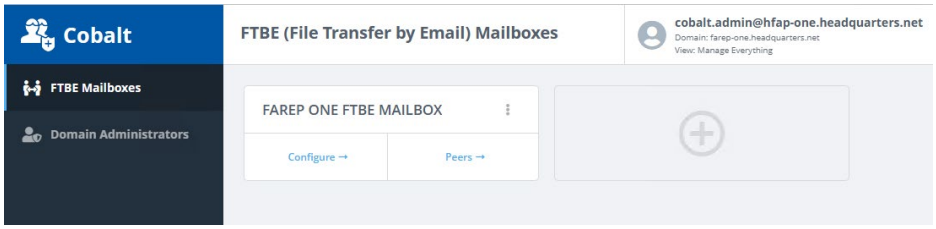



In “Name” type “FAREP ONE FTBE MAILBOX”

In “Mailbox root Directory” type “c:\ftbe”

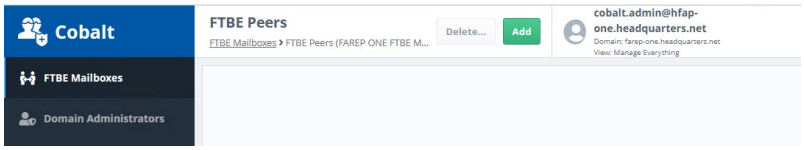
Press “Add”

*FTBE Mailbox Created*



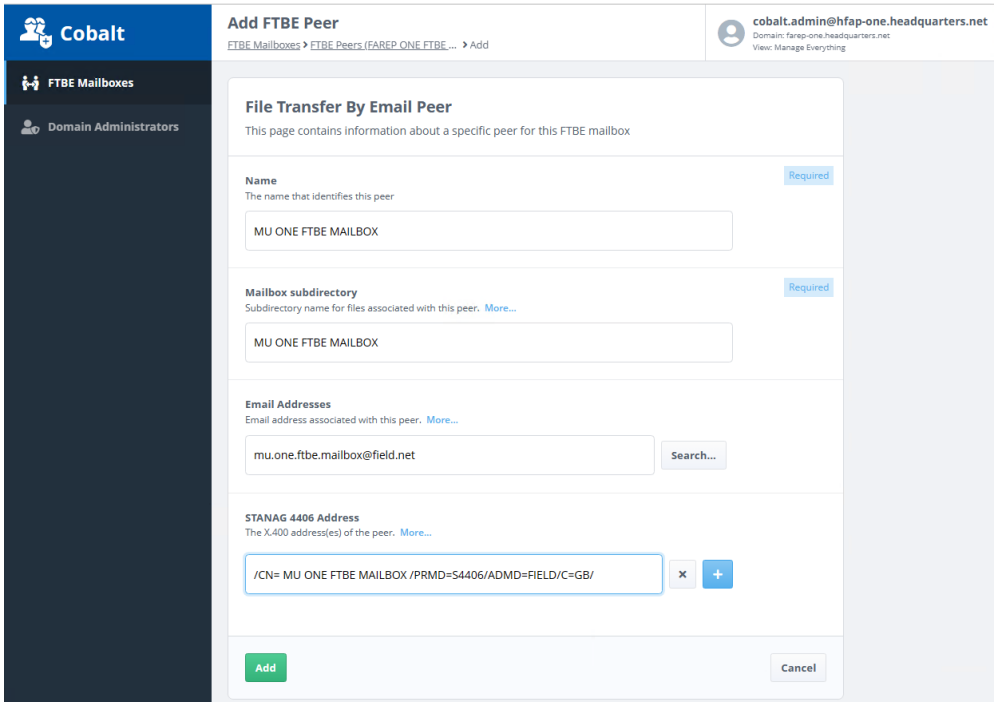

Press “Peers”

*FTBE Peers*




Press “Add”

*Add FTBE Peer*



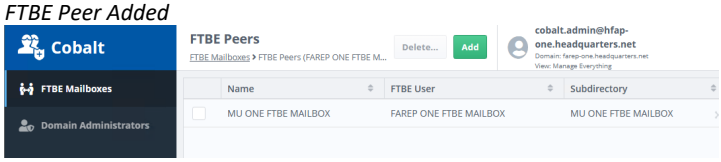

In “Name” type “MU ONE FTBE MAILBOX”

In “Email Address” type “mu.one.ftbe.mailbox@field.net”

In “STANAG 4406 Address” type “/CN= MU ONE FTBE MAILBOX /PRMD=S4406/ADMD=FIELD/C=GB/”

Press “Add”

*FTBE Peer Added*

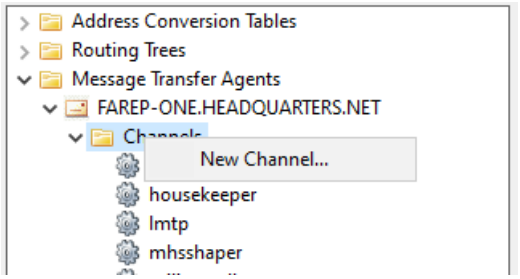



## Configure M-Switch

Open MConsole

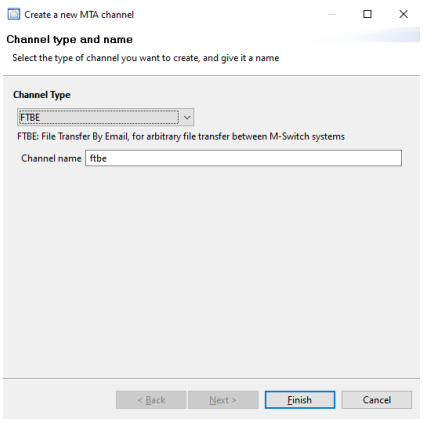
Right Click on “Channels”

*New channel*




Select “New Channel”

*New FTBE Channel*




From the dropdown choose “ftbe” and press “Finish”

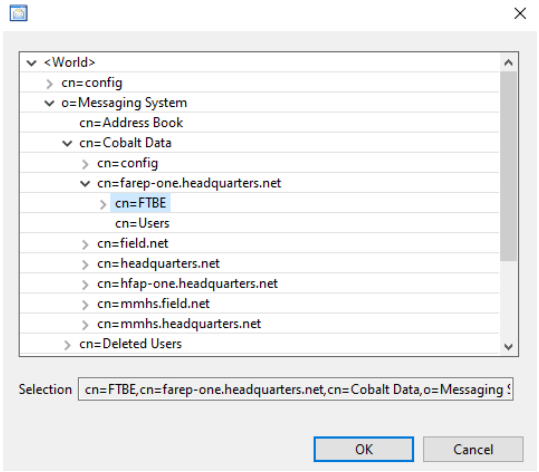
Select the “Program” tab.

In “Mailbox prefix” type “c:\ftbe”

Uncheck “Use the top of the directory tree”

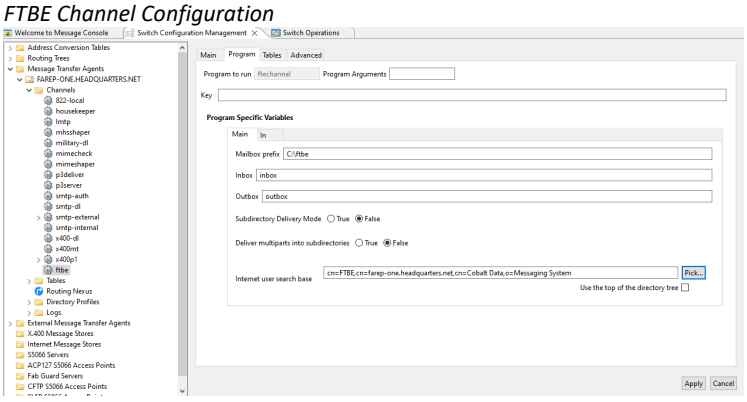
Press “Pick” and browse to “cn=FTBE,cn=farep-one.headquarters.net,cn=Cobalt Data,o=Messaging System”

*Pick FTBE Directory Location*




Press “OK”

*FTBE Channel Configuration*

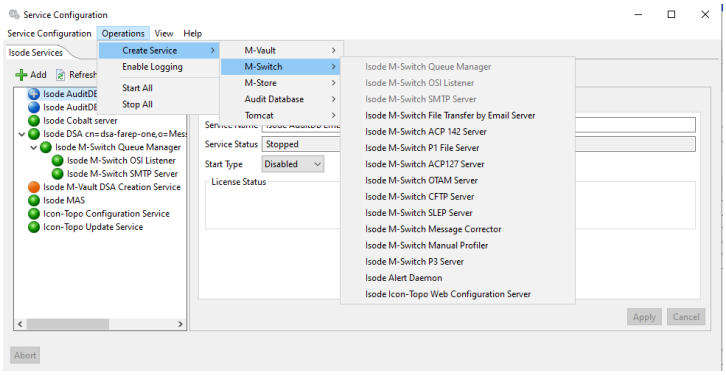



Press “Apply”

Open the “Isode Services Configuration Tool” from the Windows Start menu.

Create the M-Switch Service “Isode M-Switch File Transfer by Email Server”

*Add FTBE Service*




On “Set Service Details” Select “Start Type” “Automatic”

Press “Finish”

Start the New Service.

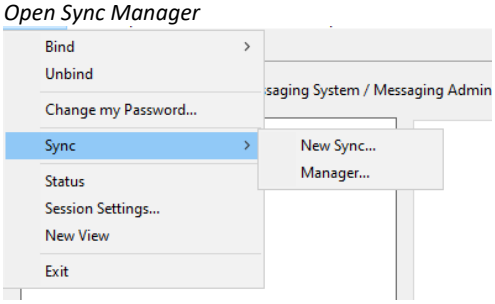
## Configure Sodium Sync

Sodium Sync is used to send Topo configuration changes to the directory at “FAREP ONE” to the directory at “MU ONE”.

Create the folder “C:\Sodium Sync\Topo Configuration”

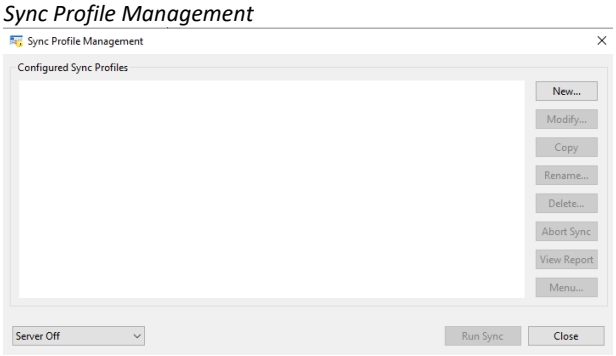
Open Sodium and bind to the local directory

*Open Sync Manager*



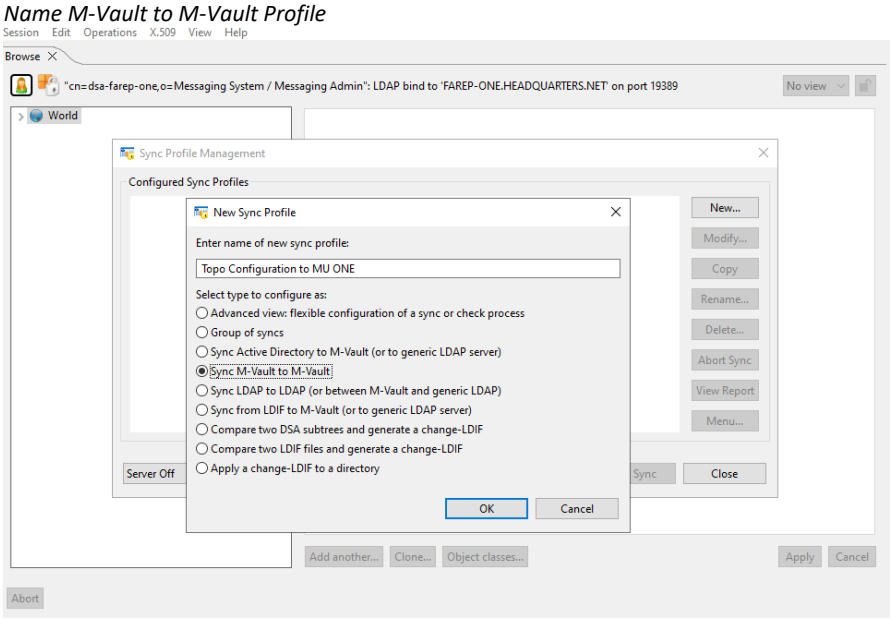

Select Session/Sync/Manager

*Sync Profile Management*




On “Sync Profile Management” press “New”

*Name M-Vault to M-Vault Profile*

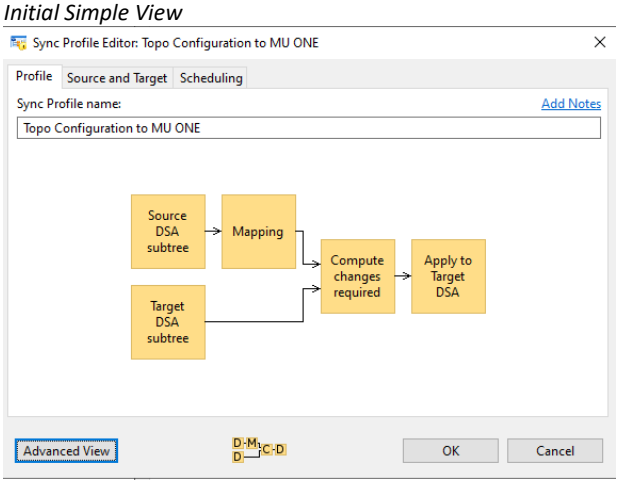



Name the Profile “Topo Configuration to MU ONE”

Select “Sync M-Vault to M-Vault”

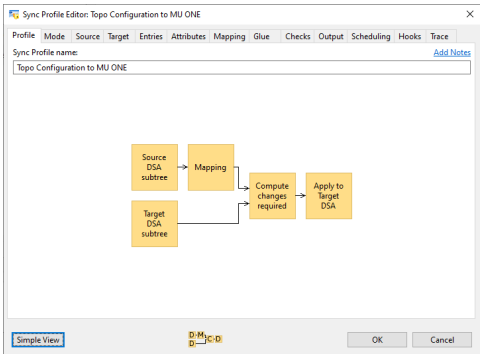
Press “OK”

*Initial Simple View*



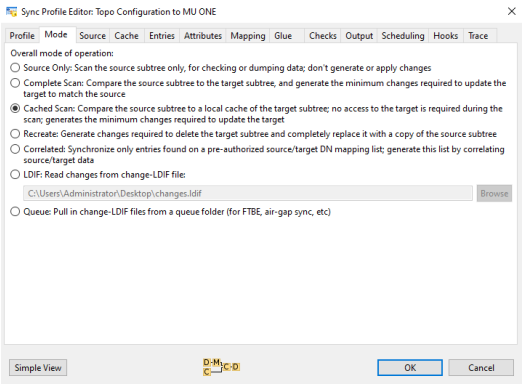

Press “Advanced View”

*Initial Advanced View*




Select “Mode” tab.

*Mode Tab*



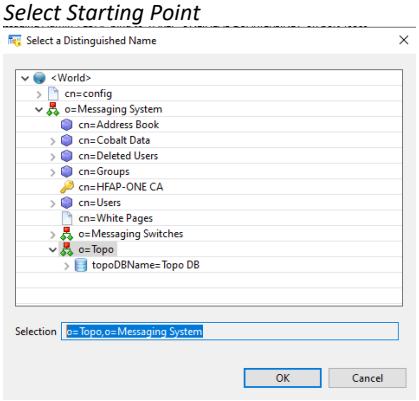

Select “Cached Scan”

Select “Source” tab.

Select “FAREP-ONE.HEADQUARTERS.NET” from the dropdown list of bind profiles.

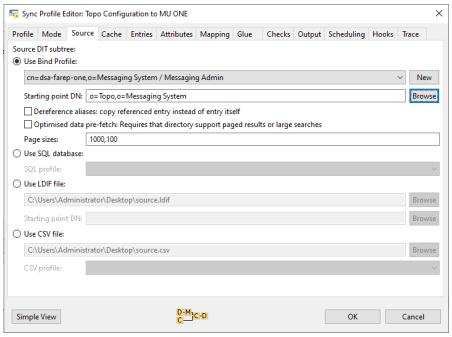
Browse to the starting point “o=Topo,o=Messaging System”

*Select Starting Point*



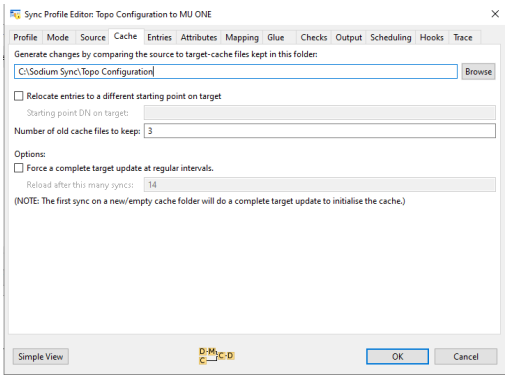

Press “OK”

*Source Tab*




Select “Cache” tab.

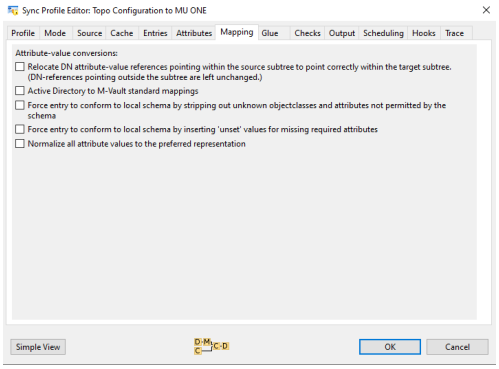
*Cache Tab*




Change the cache folder to “C:\Sodium Sync\Topo Configuration”

Change to “Mapping” tab.

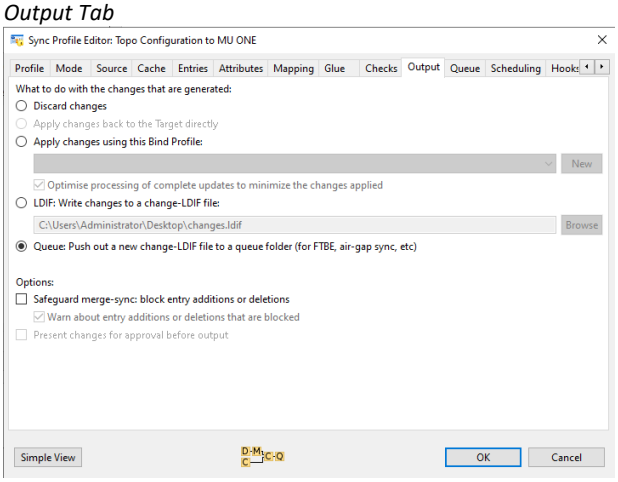
*Mapping Tab*




Uncheck all check boxes.

Change to “Output” tab

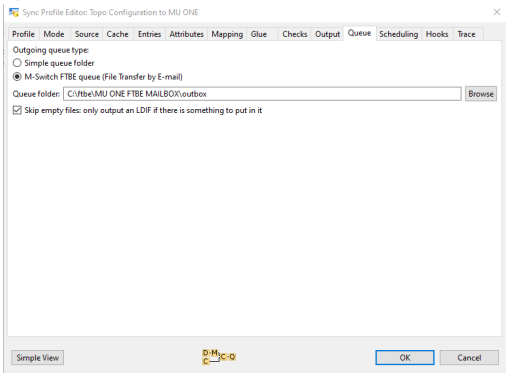
*Output Tab*




Select “Queue: Push out a new change-LDIF to a queue folder”

Change to “Queue” tab

*Queue Tab*



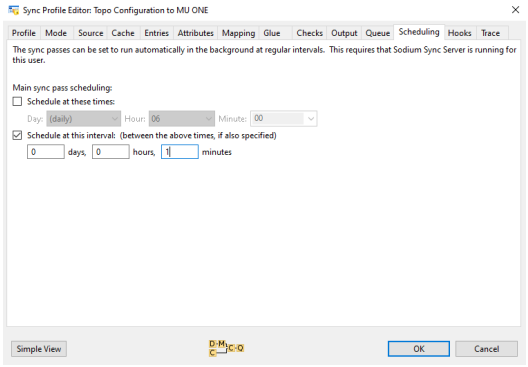

Select “M-Switch FTBE queue (File Transfer by Email)”

In the queue folder browse to “C:\ftbe\MU ONE FTBE MAILBOX\outbox”

Check “Skip empty files: only output an LDIF if there is something to put in it”

Change to “Scheduling” tab.

*Scheduling Tab*

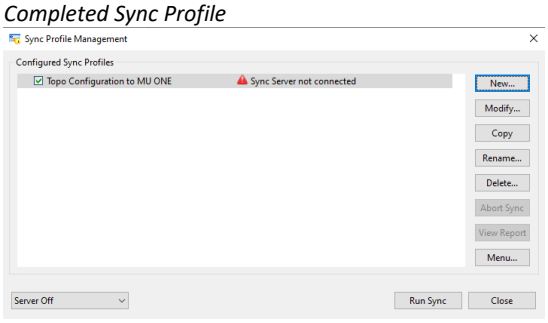



Select “Schedule at this interval”

Change the interval to 1 minute.

Press “OK”

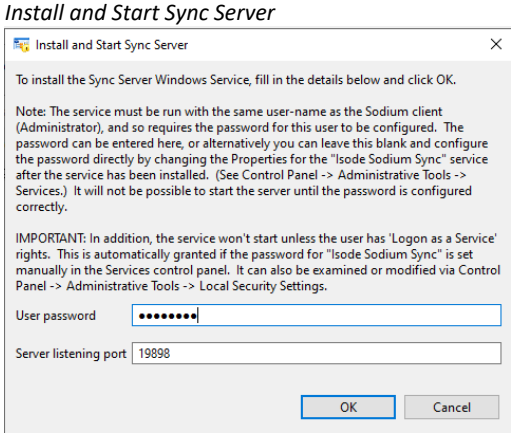
*Completed Sync Profile*




In the dropdown in the bottom left-hand corner choose “Install and start server”

*Select Install and Start Server*

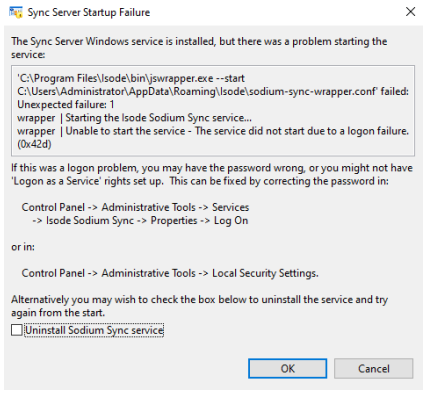

*Install and Start Sync Server*




Enter the server “administrator” password and press “OK”

A server startup failure will be presented.

*Sync Server Startup Failure*

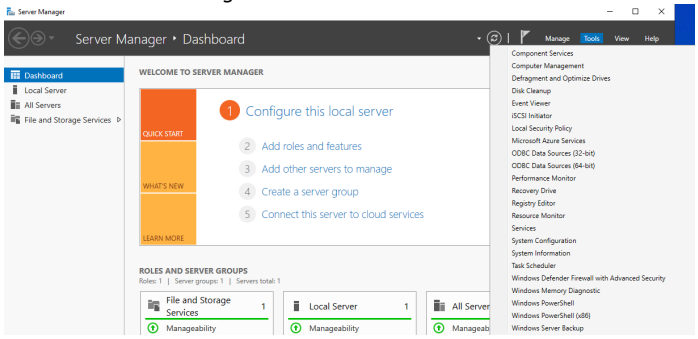



Press “OK”

Assuming you are logged on as local administrator take the following steps:

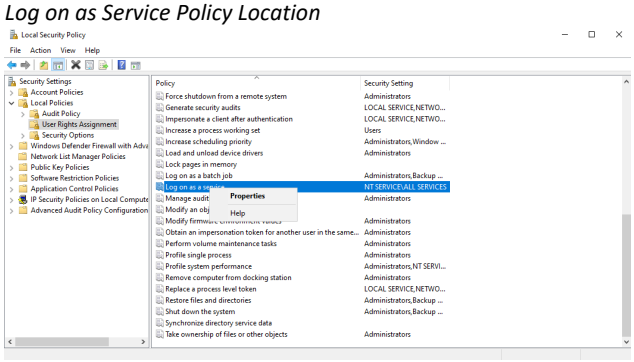
From the Windows server manager, choose “Tools/Local Security Policy”

*Windows Server manager*




Find the Policy “Local Policies/User Rights Assignment/Log on as a service”

*Log on as Service Policy Location*

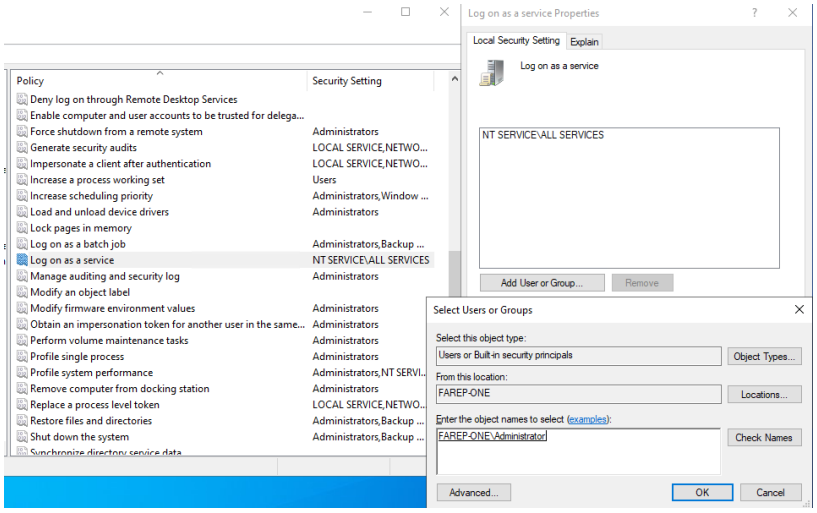



Right click and select “Properties”

Press “Add User or Group”

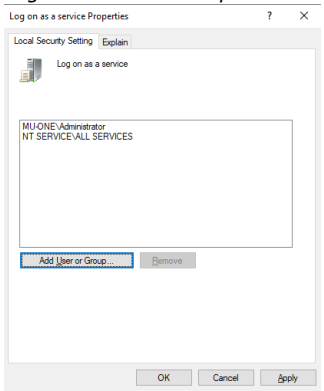
Enter The Object name “administrator” and press “Check names”

*Select Administrator User*




Press “OK”

*Log on As a Service Populated*



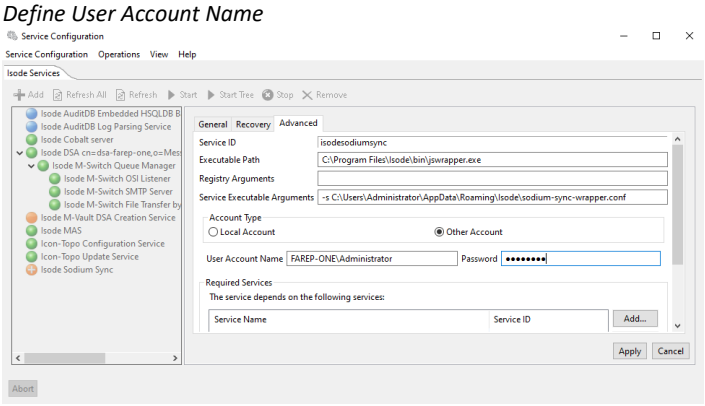

Press “OK”

Open the “Isode Service Configuration” tool.

Select the “Isode Sodium Sync” service

Change to the “Advanced” tab.

*Define User Account Name*




In “User Account Name” type “FAREP-ONE\Administrator”

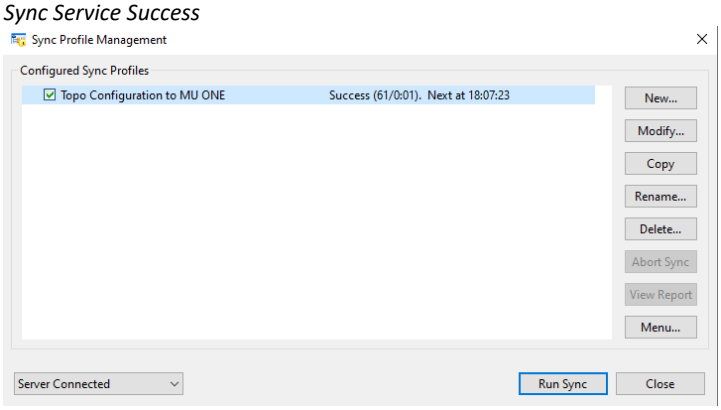
In the “Password” field enter the Administrator password

Press “Apply”

Start the “Isode Sodium Sync” service

Reopen Sync Profile Manager and note the updated sync status

*Sync Service Success*



# Complete HFAP ONE Configuration

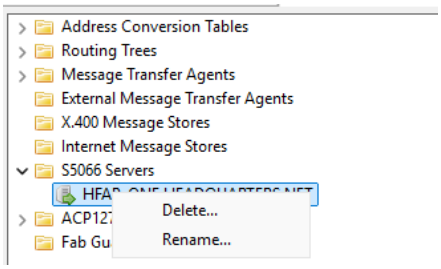
Change Server to HFAP ONE

## Rename the S5066 Server

Open “Mconsole”

In the left-hand pane, left click over the S5066 Server.

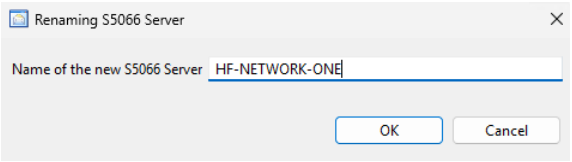
*S5066 Server Rename Menu*




Select “Rename”

Enter “HF-NETWORK-ONE”

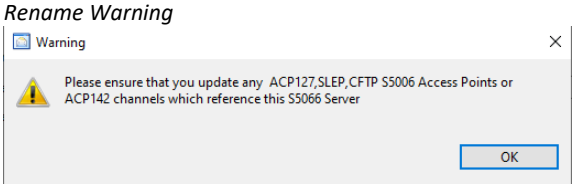
*Rename S5066 Server*




Press “OK”

On the warning press “OK”

*Rename Warning*




Select the Channel “acp142-mule”

Choose the “ACP142 Adv Tab”

Select “HF-NETWORK-ONE” from the “S5066 server” dropdown.

Press “Apply”

Select the Channel “acp142-s4406e”

Choose the “ACP142 Adv Tab”

Select “HF-NETWORK-ONE” from the “S5066 server” dropdown.

Press “Apply”

## Configure the Icon-Topo Update Service

Close “MConsole”

Open the “Isode Service Configuration” tool.

Disable the “Icon-Topo Configuration Service”

Edit the file “C:\Isode\etc\topo\topoboot.xml” so the file looks like this:

*HFAP One Topoboot.xml contents*

```
<topoboot>
<db-dsa>
<ldaphost>ldap://localhost:19389/</ldaphost>
<root>topoDBName=Topo DB,o=Topo,o=Messaging System</root>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password>Secret1+</password>
<saslmech>SCRAM-SHA-1</saslmech>
</db-dsa>
<update>
<type>hfap</type>
<name>HFAP ONE</name>
<switch>
<!-- NB this value must match the MTA DN in mconsole -->
<mtadname>cn=HFAP-ONE.HEADQUARTERS.NET,cn=Messaging Configuration
HFAP-ONE,o=Messaging Switches,o=Messaging System</mtadname>
<ldaphost>ldap://localhost:19389/</ldaphost>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password>Secret1+</password>
<qmgrhost>hfap-one.headquarters.net</qmgrhost>
<qmgruser>messaging.admin@hfap-one.headquarters.net</qmgruser>
<password>Secret1+</password>
<qmgrmech>SCRAM-SHA-1</qmgrmech>
</switch>
<s5066>
<server>
<name>HF-NETWORK-ONE</name>
<!-- NB these values must match the 5066 Server
in the M-Switch config -->
<hfnet>HF-NETWORK-ONE</hfnet>
<hostname>hfap-one.headquarters.net</hostname>
<port>5066</port>
</server>
</s5066>
</update>
</topoboot>
```

Change the “Start-type” for the “Icon-Topo Configuration Service” to “Disabled”

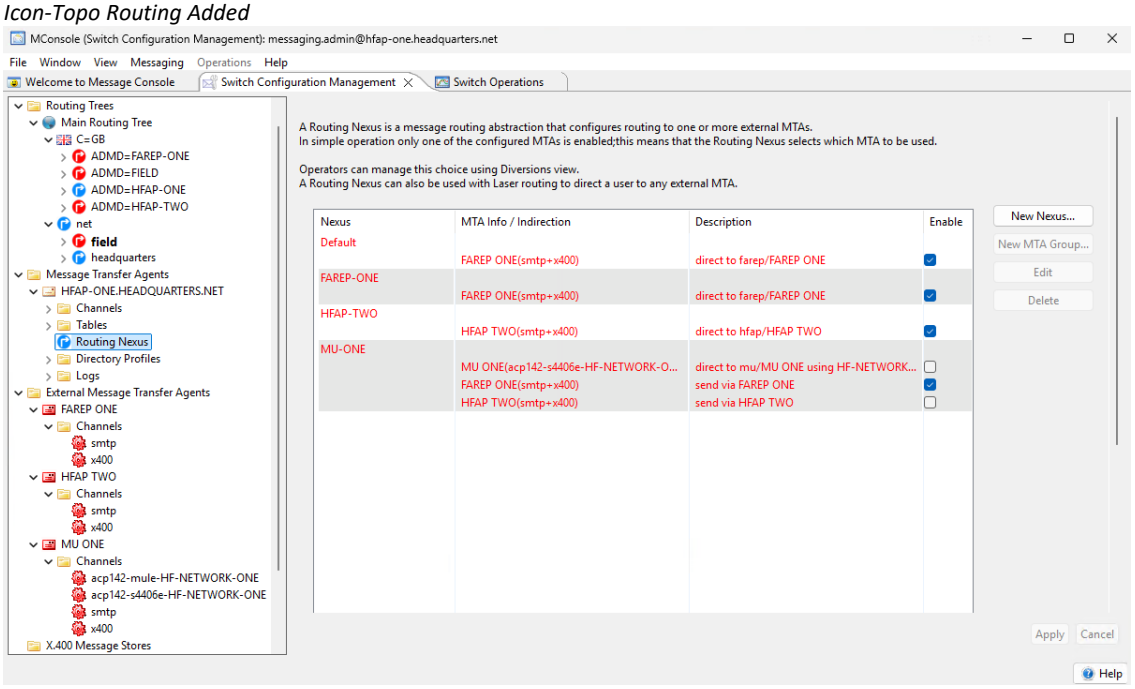
Change the “Start-type” for the “Icon-Topo Update Service” to “Automatic”

Start the “Icon-Topo Update Service”

Open “MConsole”

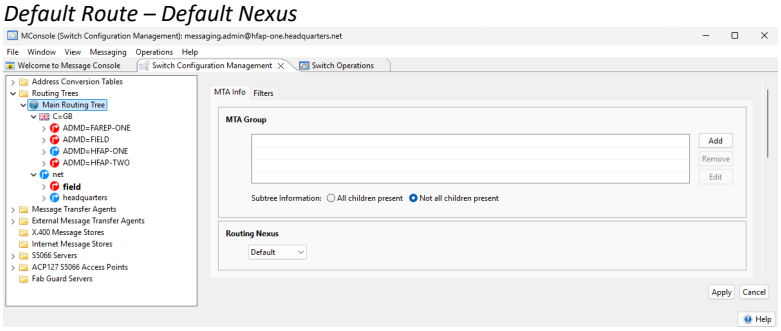
Note the additional Red coloured configuration items which have been added by Icon-Topo.

*Icon-Topo Routing Added*




Set the Default route at the top of the routing tree to the Routing Nexus “Default”

*Default Route – Default Nexus*




Press “Apply”

# Create HFAP-TWO

We will use the "R19.0 M-Switch Gateway Evaluation Guide" as a template to create "HFAP-TWO".

Start at the top of the guide, work to the bottom of the guide but be aware of these changes.

## Naming the Server

Make the machine name HFAP-TWO

## Install the Isode Software

Don't install Cobalt

Additionally install the software:

Icon-Topo 2.0v3

Icon-5066 3.1v3

## Activating the Isode Products

When activating the products in "Reference" type "R19.0 M-Switch Gateway Evaluation for Icon-Topo"

When writing to support for a product activation, ask for M-Vault, M-Switch Gateway (Options: Market type Military, X400 Messaging Protocols, ACP127 Channels, ACP127 Broadcast, ACP142), Icon-5066 (Options: direct-modem) and Icon-Topo (Options: Update Server) for an R19.0 M-Switch Gateway Evaluation with Icon-Topo.

## Create the DSA

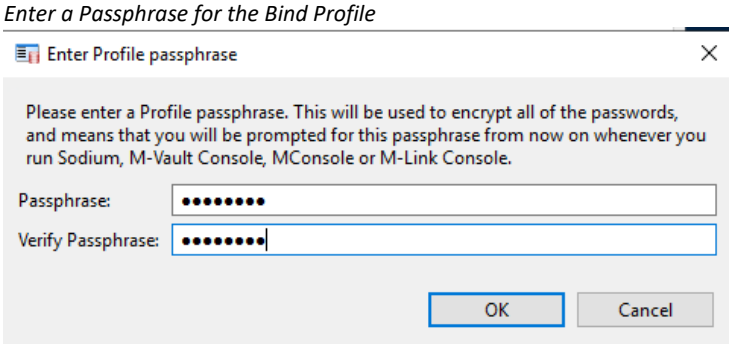
In an Icon-Topo environment, the farep and hfap's share the same directory database via the method of using a Multimaster dsa. The initial population of the directory is on HFAP-ONE. Subsequent servers in this guide will be multimastered alongside that dsa. So ignore the sections "Encrypt the Bind Profile" and "Create DSA" in the Gateway evaluation guide and substitute with the following:

From the start menu open "M-Vault Console"

*Encrypt the Bind Profile*


Click "Yes".

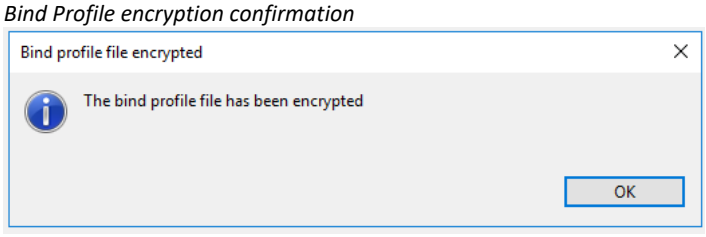
*Enter a Passphrase for the Bind Profile*




Enter and verify the password “Secret1+”

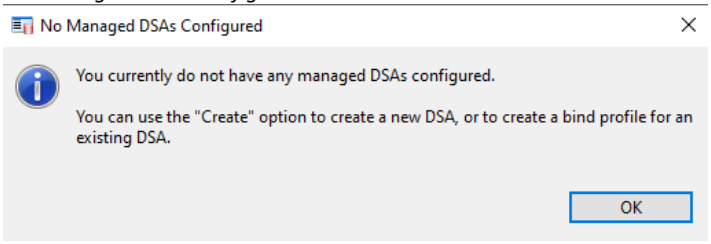
Click “OK”.

*Bind Profile encryption confirmation*



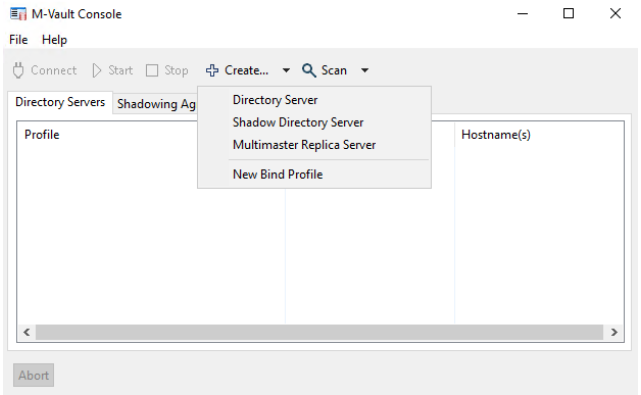

On “Bind profile encrypted warning” click “OK”.

*No Managed DSA’s Configured*



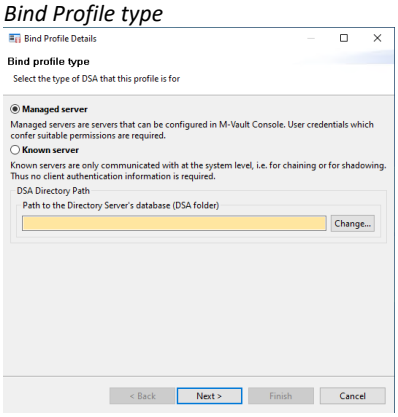

On “No managed DSA’s configured” warning click “OK”

*Create new bind Profile*



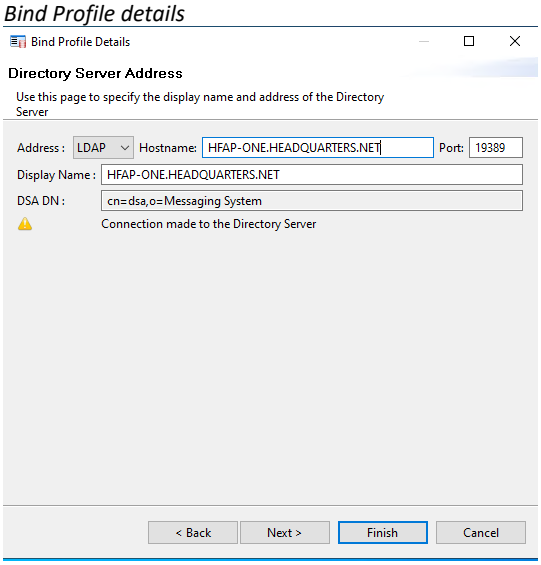

Select “Create” and then from the menu “New Bind Profile”

*Bind Profile type*




On “Bind Profile type” press “Next >”

*Bind Profile details*



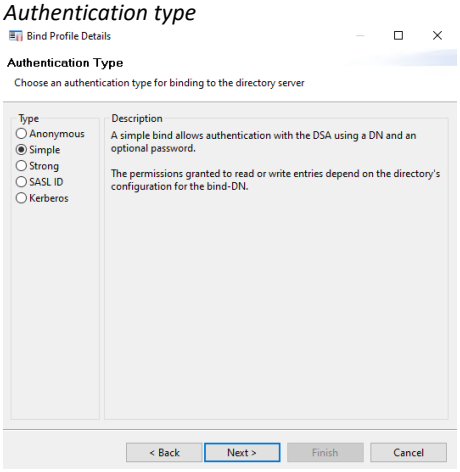

On “Directory Server Address”

Select “LDAP” from the Address dropdown.

In “Hostname” type “HFAP-ONE.HEADQUARTERS.NET”

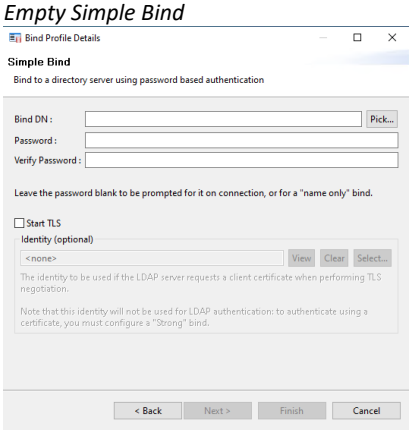
Press “Next >”

*Authentication type*



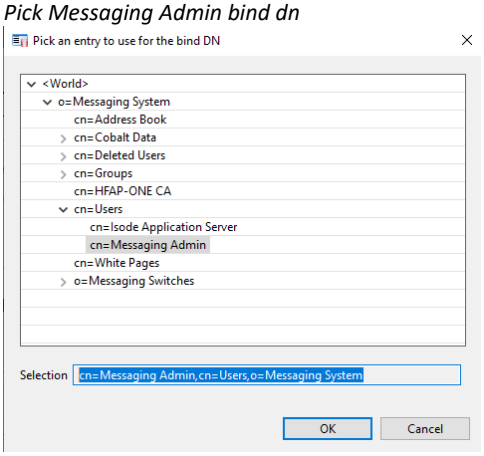

On “Authentication Type” Select “Simple” and Press “Next >”

*Empty Simple Bind*



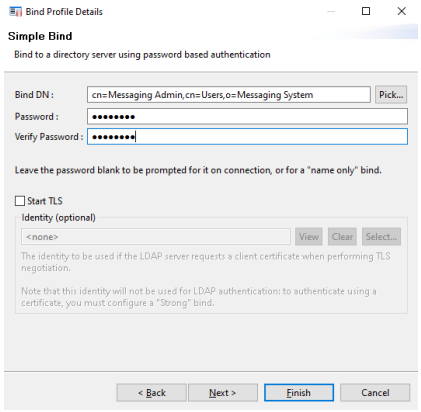

Press “Pick” and browse to “cn=Messaging Admin,cn=Users,o=Messaging System”

*Pick Messaging Admin bind dn*




Press “OK”

*Populated Simple Bind*

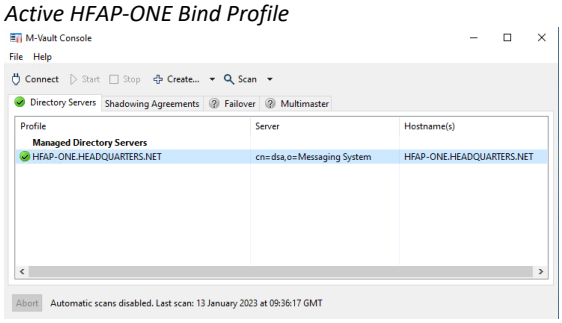



In “Password” and “Verify Password” type “Secret1+”

Press “Finish”

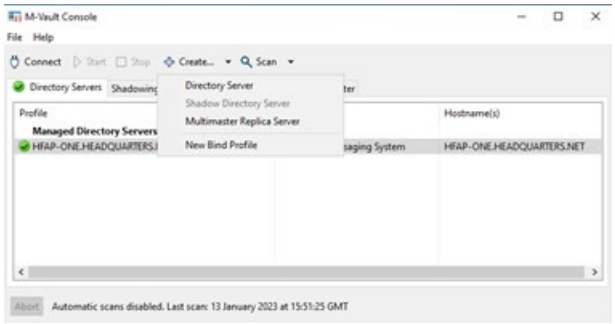
An Active Bind Profile to HFAP-ONE should be shown in M-Vault Console

*Active HFAP-ONE Bind Profile*

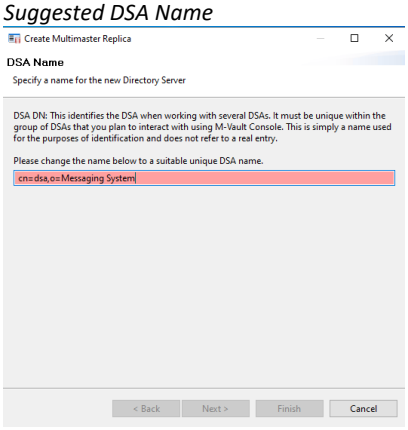



Select “Create” and then from the dropdown menu “Multimaster Replica Server”

*Multimaster Replica Server option*

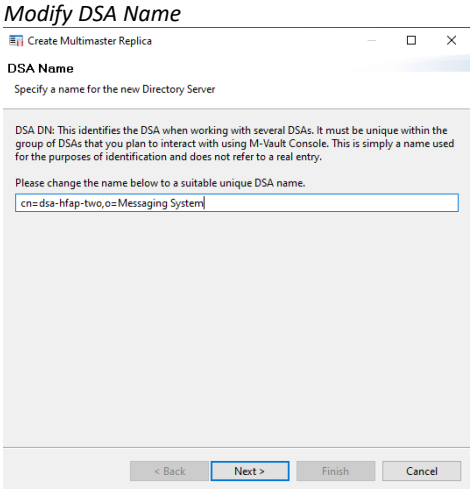


*Suggested DSA Name*



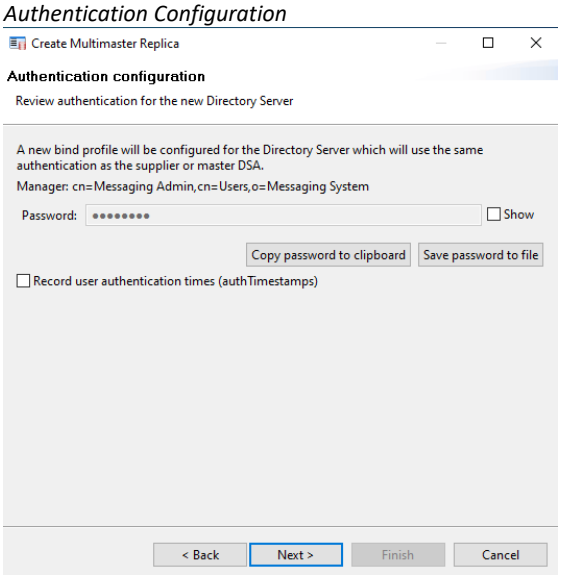

Change “cn=dsa” to” cn=dsa-hfap-two”.

*Modify DSA Name*




Press ”Next >”

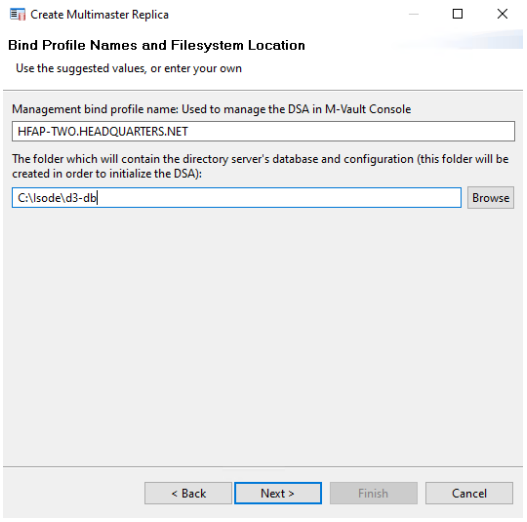
*Authentication Configuration*




On “Authentication configuration” leave defaults

Press “Next >”

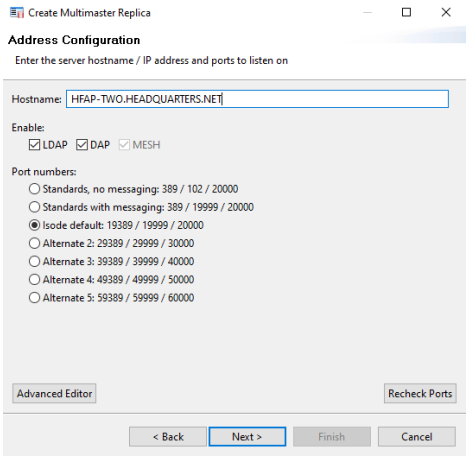
*Bind Profile Name*




Change the “Management bind profile name” to “HFAP-TWO.HEADQUARTERS.NET”

Press “Next >”

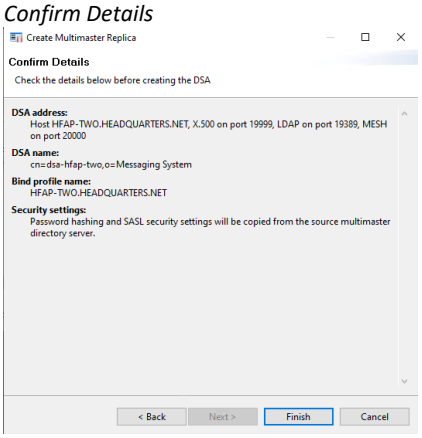
*Address Configuration*




Change the “Hostname” to “HFAP-TWO.HEADQUARTERS.NET”

Press “Next >”

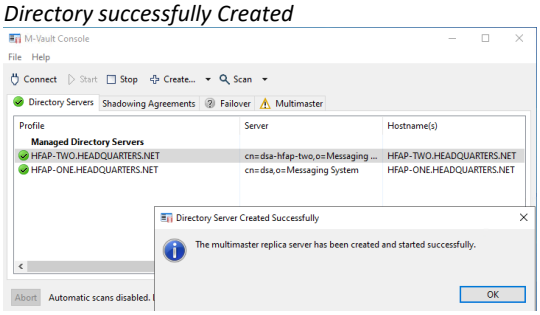
*Confirm Details*




On “Confirm Details” press “Finish”

On “Directory Server Created Successfully” press “OK”

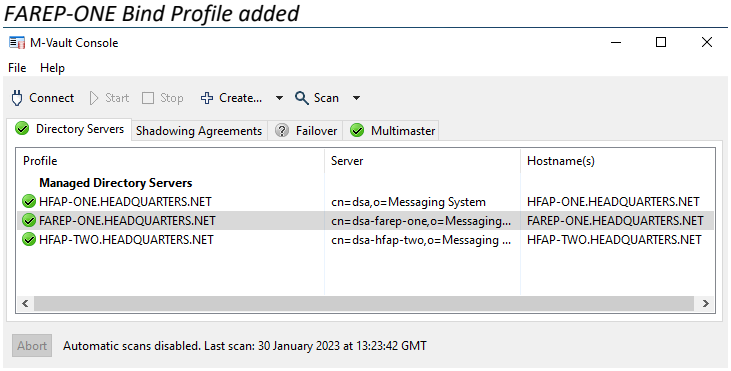
*Directory successfully Created*




Add an additional bind profile to FAREP-ONE.HEADQUARTERS.NET by following the recent instructions.

The M-Vault console should then look like this:

*FAREP-ONE Bind Profile added*

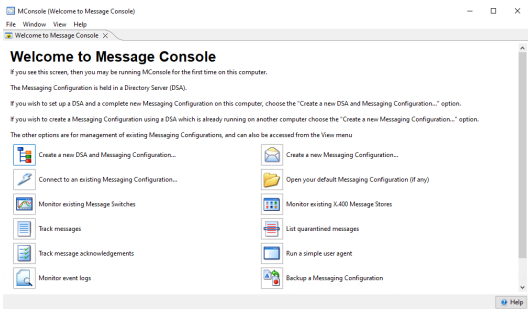



## Create the Messaging Configuration

Follow this section rather than the section with the same name in the Gateway Evaluation guide.

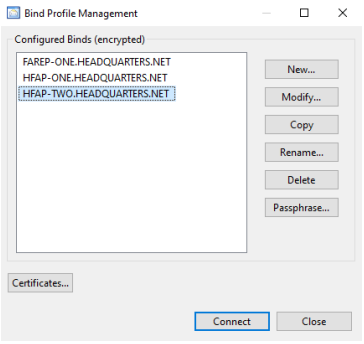
From the Windows start menu select “MConsole” and provide the Bind Profile password.

*Mconsole Welcome Screen*




Select “Create a New Messaging Configuration”

*Select HFAP-TWO Bind profile*

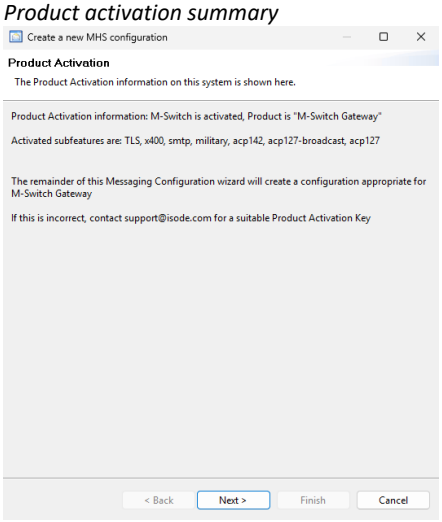



Ensure the bind profile for “HFAP-TWO.HEADQUARTERS.NET” is selected

Press “Connect”

A summary of options activated in the product will be provided.

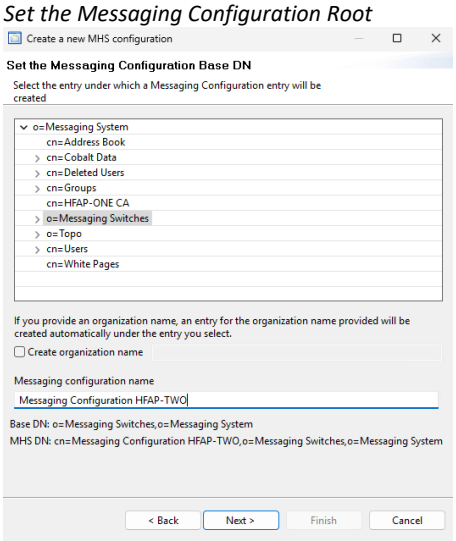
*Product activation summary*




Press “Next >”

Browse to and Select “o=Messaging Switches”

*Set the Messaging Configuration Root*




Ensure the Messaging Configuration Name is “Messaging Configuration HFAP-TWO”

Press “Next >”

Continue with the rest of the section in “**Create the messaging configuration**” in the “M-Switch Gateway Evaluation Guide” from the bitmap “Provide hostname”

BUT …

For the hostname enter “HFAP-TWO.HEADQUARTERS.NET”

Make the email domain that the switch is responsible for “hfap-two.headquarters.net”

Ensure that for “Administrator Authentication details” you use “Use Existing SASL ID” and select “cn=Messaging Admin,cn=Users,o=Messaging System”.

Make the X400 Address Profile “C=GB/ADMD=HFAP-TWO/PRMD=S4406/”

Follow “**Configure Switch Operations View**” without modification.

Follow “**Modify the MTA Name for P1 Connections**”

BUT …

- Change the “MTA Name” to “HFAP-TWO”
- Change the “Request MTA Name” to “HFAP-TWO”
- Change “Response MTA Name” to “HFAP-TWO”

Continue through the “M-Switch Gateway Evaluation Guide” but do not follow the following section:

Configure the External Connections

Configure the ACP127 Channel

In the section “Configure the ACP142 Channels”:

The “Unicast Address” for acp142-s4406e is 10.50.66.2

The “Unicast Address” for acp142-mule is 10.50.66.2

Do not follow the following sections:

Configure the External ACP127 Station

Configure the External ACP142 MTAs

Configure the External ACP142/mule MTA

When enabling services in the section “**Complete the Service Configuration**” leave the “Isode M-Switch ACP127 Server” disabled.

Follow only these sections after “**Complete the Service Configuration**” **:**

Configure Address Mapping

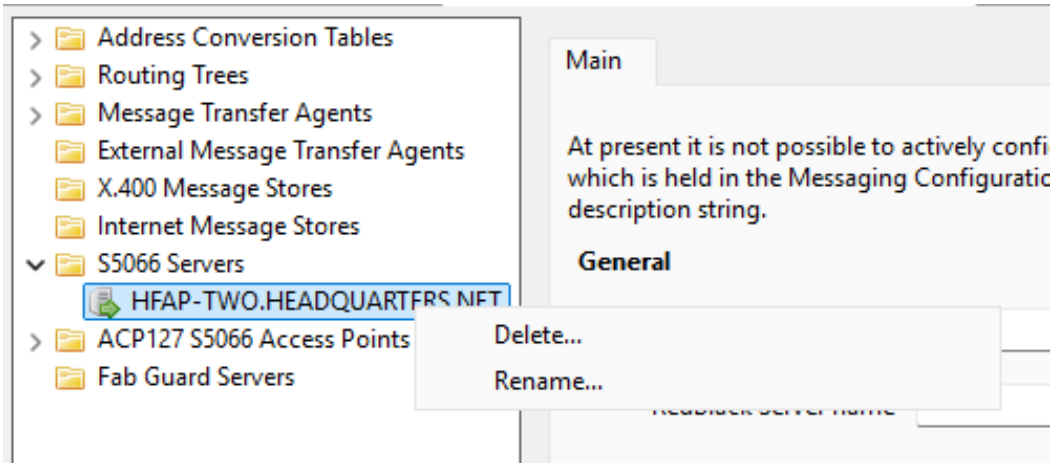
Reload Configuration

## Rename the S5066 Server

At “HFAP TWO” Open “Mconsole”

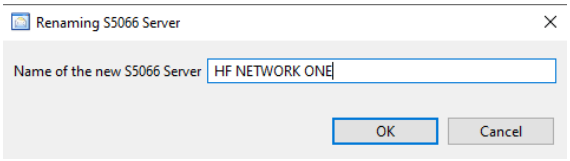
In the left-hand pane, left click over the S5066 Server.

*Rename the S5066 Server menu*




Select “Rename”

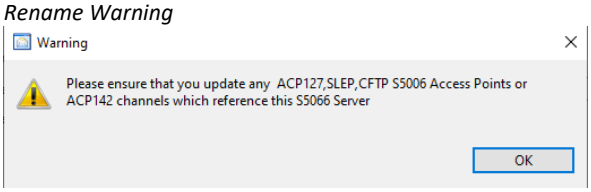
*Name S5066 Server*




Enter “HF-NETWORK-ONE”

Press “OK”

*Rename Warning*




On the warning press “OK”

Select the Channel “acp142-mule”

Choose the “ACP142 Adv” Tab”

Select “HF-NETWORK-ONE” from the “S5066 server Address” dropdown.

Press “Apply”

Select the Channel “acp142-s4406e”

Choose the “ACP142 Adv Tab”

Select “HF-NETWORK-ONE” from the “S5066 server Address” dropdown.

Press “Apply”

## Configure the Icon-Topo Update Service

Ensure “MConsole” is closed.

Create and edit the file C:\Isode\etc\topo\topoboot.xml” so the file looks like this:

*HFAP-Two topo boot contents*

```
<topoboot>
<db-dsa>
<ldaphost>ldap://localhost:19389/</ldaphost>
<root>topoDBName=Topo DB,o=Topo,o=Messaging System</root>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password>Secret1+</password>
<saslmech>SCRAM-SHA-1</saslmech>
</db-dsa>
<update>
<type>hfap</type>
<name>HFAP TWO</name>
<switch>
<!-- NB this value must match the MTA DN in mconsole -->
<mtadname>cn=HFAP-TWO.HEADQUARTERS.NET,cn=Messaging Configuration
HFAP-TWO,o=Messaging Switches,o=Messaging System</mtadname>
<ldaphost>ldap://localhost:19389/</ldaphost>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password>Secret1+</password>
<qmgrhost>hfap-two.headquarters.net</qmgrhost>
<qmgruser>messaging.admin@hfap-one.headquarters.net</qmgruser>
<password>Secret1+</password>
<qmgrmech>SCRAM-SHA-1</qmgrmech>
</switch>
<s5066>
<server>
<name>HF-NETWORK-ONE</name>
<!-- NB these values must match the 5066 Server
in the M-Switch config -->
<hfnet>HF-NETWORK-ONE</hfnet>
<hostname>hfap-two.headquarters.net</hostname>
<port>5066</port>
</server>
</s5066>
</update>
</topoboot>
```

Open the “Isode Service Configuration Tool”.

Change the “start-type” for the “Icon-Topo Configuration Service” to “Disabled”

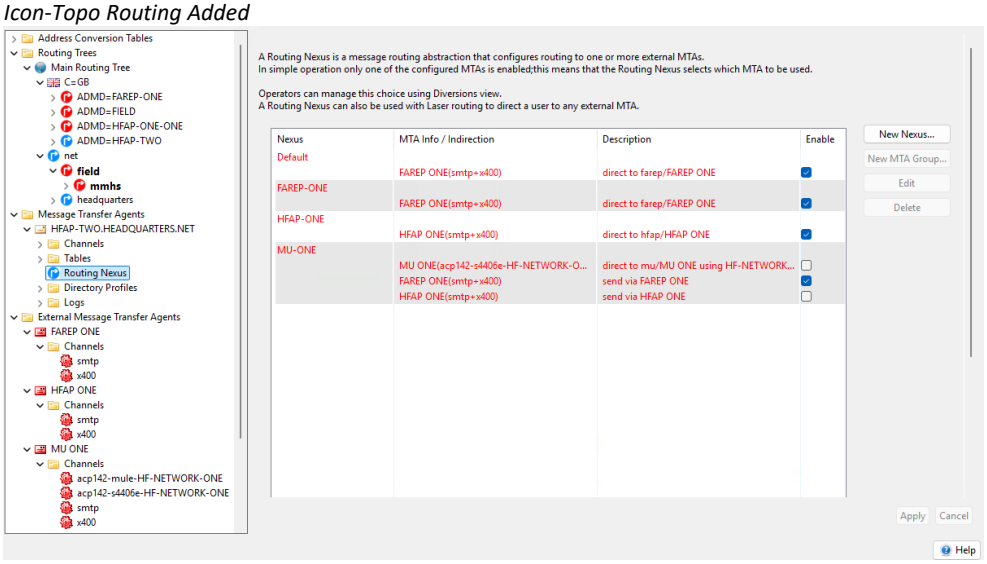
Change the “start-type” for the “Icon-Topo Update Service” to “Automatic”

Start the “Icon-Topo Update Service”

Open “MConsole”

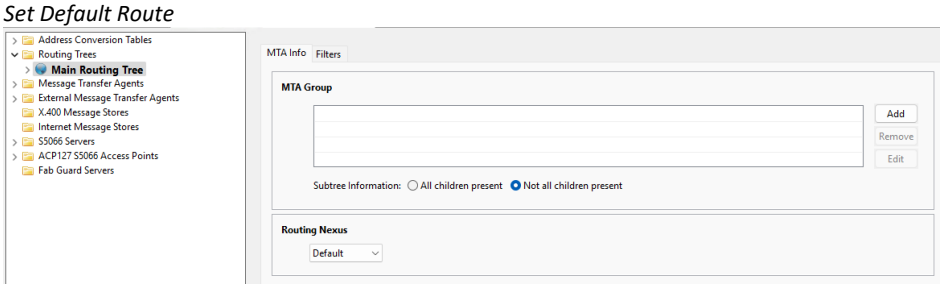
Note the additional red coloured configuration items which have been added by Icon-Topo:

*Icon-Topo Routing Added*




Set the Default route at the top of the routing tree to the Routing Nexus “Default”

*Set Default Route*



# Create MU-ONE

Follow the instructions in the "R19.0 M-Switch User Server Evaluation Guide" to create MU-ONE.

Start at the top of the guide, work to the bottom of the guide but be aware of the following changes.

## Install the Isode Software

Additionally install the software :

- Icon-Topo 2.0v3
- Icon-5066 3.1v3
- Isode-Harrier 4.1v0

## Activating the Isode Products

When activating the product use the reference "R19.0 M-Switch User Server Evaluation for Icon-Topo"

When writing to support for a Product activation, ask for M-Vault, M-Switch User Server (Options: Market type Military, X400 Messaging Protocols, ACP127 Channels, ACP142, Enable Profiler Channel, FTBE), M-Box, Sodium Sync, Cobalt, Harrier, Icon-5066 (Options: direct-modem) and Icon-Topo (Options: Configuration Server, Update Server) for a "R19.0 M-Switch User Server Evaluation for Icon-Topo"

In the section "Configure the External Connections to "headquarters.net", do not follow the sub sections:

Configure an appropriate Stanag 5066 Server

Configure the ACP127 Channel

Do not follow the sections:

Configure the External ACP127 Station

Configure the External ACP142 MTAs

In the section "**Complete the Service Configuration**", leave the "Start Type" of the service "Isode M-Switch ACP127 Server" as "Disabled".

Do not follow the sections:

Configure the Routing Nexus

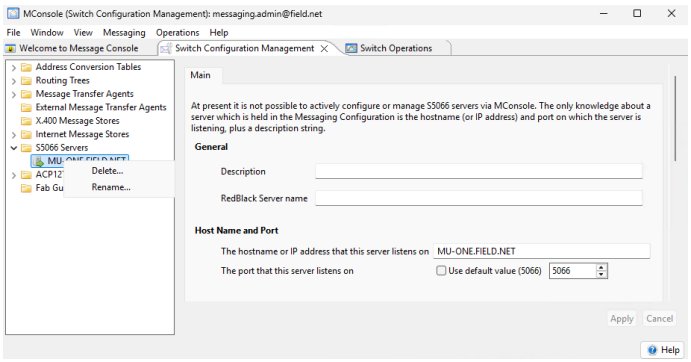
Configure the Address Routing

## Rename the S5066 Server

Open "Mconsole"

In the left-hand pane, left click over the S5066 Server.

*S5066 Server Rename Menu*

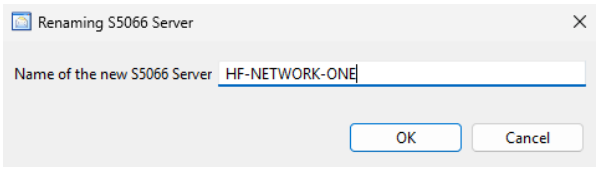



Select “Rename”

Enter “HF-NETWORK-ONE”

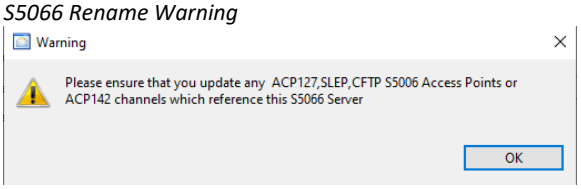
Press “OK”

*New S5066 Server Name*




On the warning press “OK”

*S5066 Rename Warning*




Select the channel “acp142-mule”

Choose the “ACP142 Adv Tab”

Select “HF-NETWORK-ONE” from the “S5066 server” dropdown.

Press “Apply”

Select the channel “acp142-s4406e”

Choose the “ACP142 Std Tab”

Select “HF-NETWORK-ONE” from the “S5066 server” dropdown.

Press “Apply”

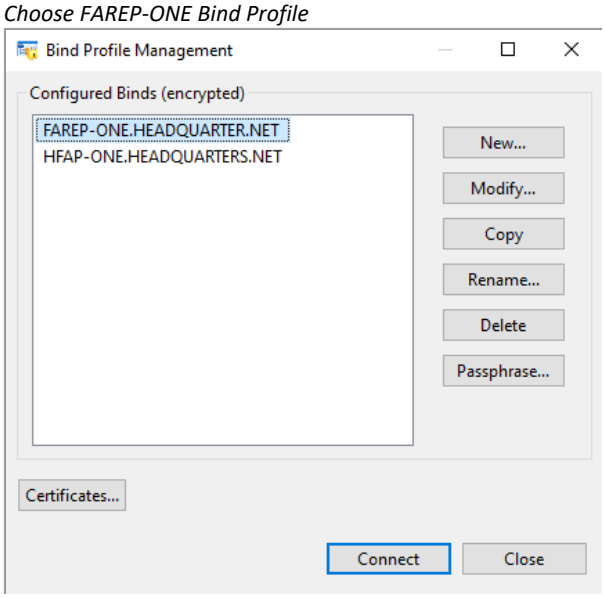
## Configure the Icon-Topo Server

On the server “FAREP-ONE” …

Open “Sodium” from the Windows Start menu and provide the bind profile password.

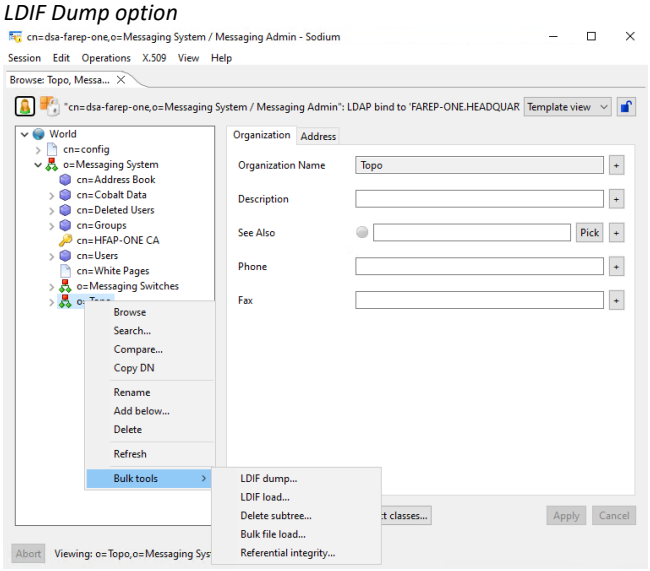
Connect to the local DSA on FAREP-ONE

*Choose FAREP-ONE Bind Profile*



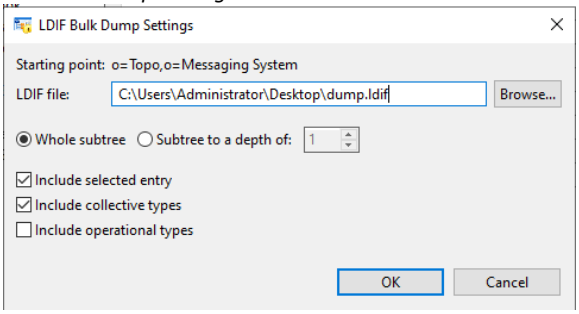

In the left-hand pane, browse to and select the object “o=Topo”

*LDIF Dump option*




Right click and from the context menu choose “Bulk Tools/LDIF Dump”

*LDIF Bulk dump settings*




Leave the defaults and press “OK”

On “LDIF Dump Completed” press “OK”

Copy the file “dump.ldif” from the desktop of “FAREP-ONE” to the desktop of “MU-ONE”

Open Sodium from the Windows start menu on “MU-ONE”

Provide the bind profile password.

Connect to the local directory.

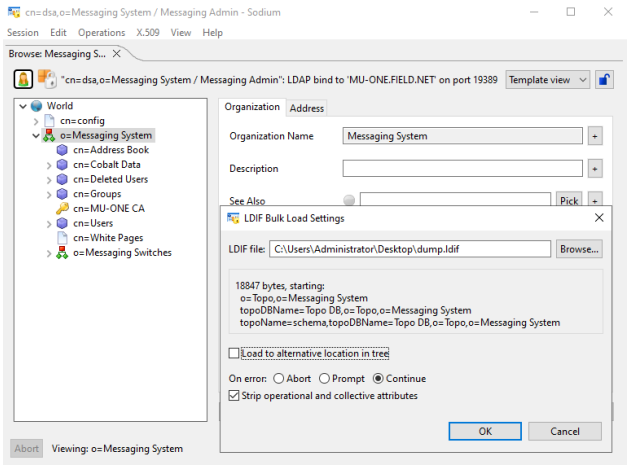
In the left-hand pane, browse to and select the object “o=Messaging System”

Right click and select “Bulk Tools/LDIF load ....”

Uncheck “Load to alternative location in tree”

Leave the remaining fields as default.

*LDIF Bulk Load settings*




Uncheck “Load to alternative location in tree”

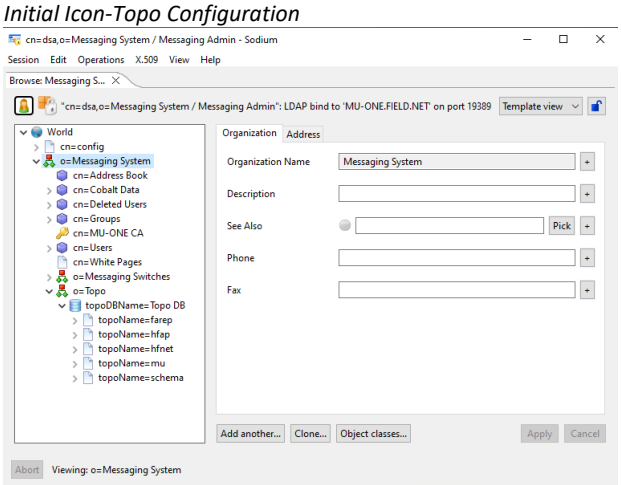
Leave the remaining fields as default.

Press OK”

On “LDIF Load Completed” press “OK”

The directory will now be populated with the initial Icon-Topo configuration:

*Initial Icon-Topo Configuration*




Close Sodium.

Edit the file “C:\Isode\etc\topo\topoboot.xml” so the file looks like this:

Topoboot.xml on MU ONE

```
<topoboot>
<db-dsa>
<ldaphost>ldap://localhost:19389/</ldaphost>
<root>topoDBName=Topo DB,o=Topo,o=Messaging System</root>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password servpass:encrypt="true">Secret1+</password>
<saslmech>SCRAM-SHA-1</saslmech>
</db-dsa>
<update>
<type>mu</type>
<name>MU ONE</name>
<switch>
<!-- NB this value must match the MTA DN in mconsole -->
<mtadname>cn=MU-ONE.FIELD.NET,cn=Messaging Configuration MU-ONE,o=Messaging
Switches,o=Messaging System</mtadname>
<ldaphost>ldap://localhost:19389/</ldaphost>
<userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn>
<password>Secret1+</password>
<qmgrhost>mu-one.field.net</qmgrhost>
<qmgruser>messaging.admin@field.net</qmgruser>
<password>Secret1+</password>
<qmgrmech>SCRAM-SHA-1</qmgrmech>
```

Open the “Isode Service Configuration Tool”.

Change the start-type for the “Icon-Topo Configuration Service” and the “Icon-Topo Update Service” to “Automatic”

Start the “Icon-Topo Configuration Service”

Open a browser and navigate to “https://localhost:17000”

The browser will provide a security warning. Choose an option to override the warning.

Enter username “messaging.admin@field.net”

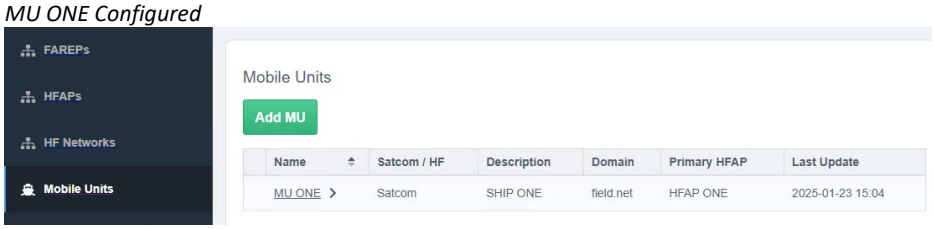
Enter password “Secret1+”

Press “Login”

In the left hand pane select “Mobile Units”

You will see that Icon-Topo is now configured on “MU-ONE”

*MU ONE Configured*

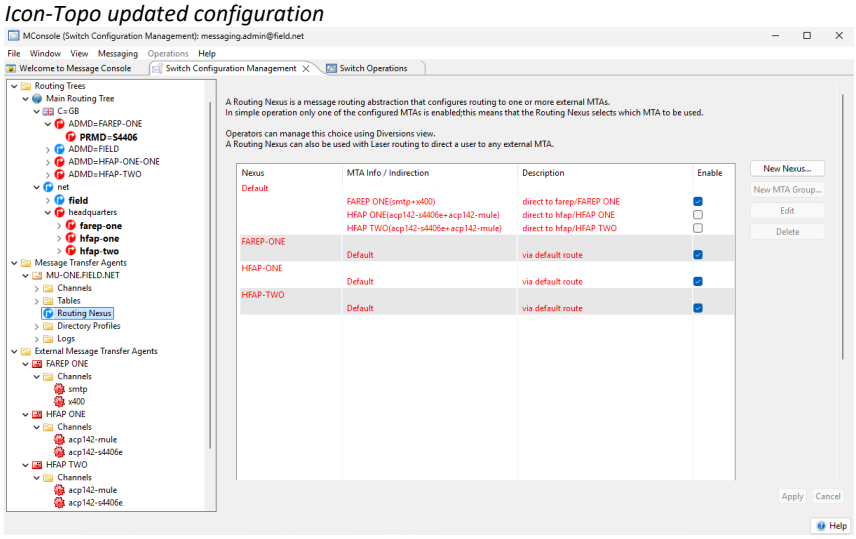



Start the “Icon-Topo Update Service”

Open “MConsole”

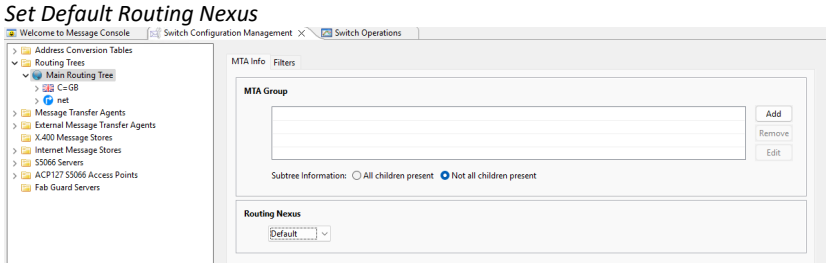
Note the additional Red coloured configuration items which have been added by Icon-Topo.

*Icon-Topo updated configuration*




Set the Default route at the top of the routing tree to the Routing Nexus “Default”

*Set Default Routing Nexus*




Press “Apply”

## Configure FTBE

Create the folder “c:\ftbe”

### Configure Cobalt

Open Cobalt via your web browser.

Sign in as “cobalt.admin@field.net”

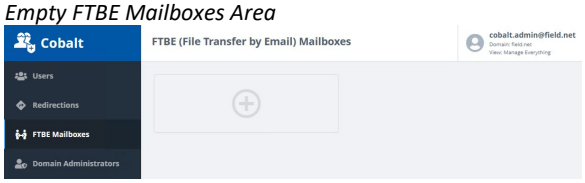
Select view “Cobalt Administrator”

For the domain “field.net” add the feature “FTBE Users”

Switch view to the domain “field.net”

Select “FTBE Mailboxes”

*Empty FTBE Mailboxes Area*

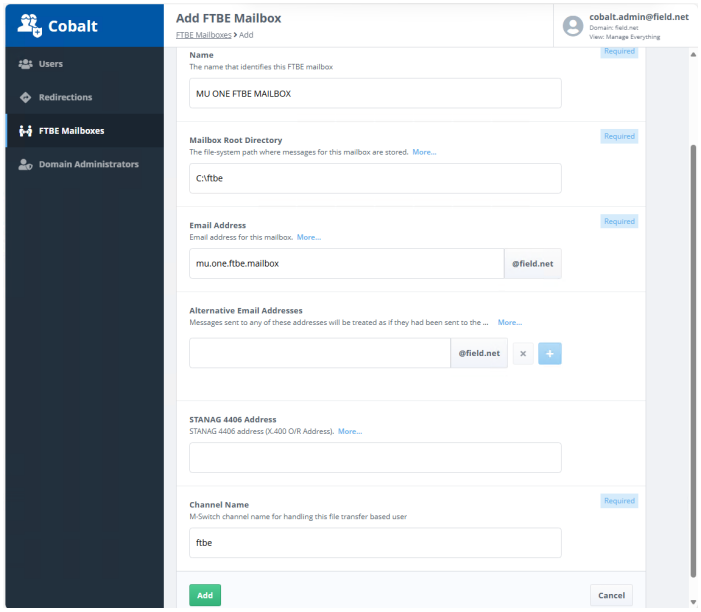



Press “+” in “FTBE Mailboxes”

In “Name” type “MU ONE FTBE MAILBOX”

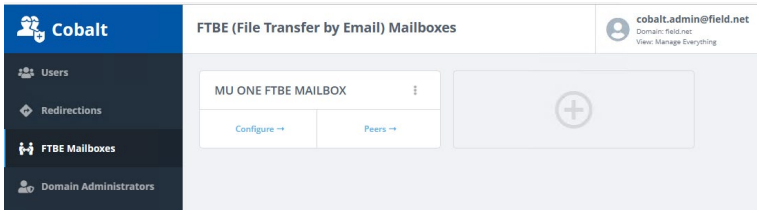
In “Mailbox Root Directory” type “c:\ftbe”

*Add FTBE Mailbox*



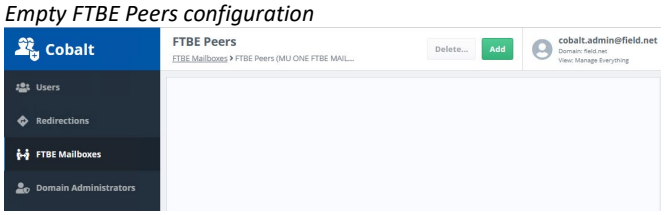

Press “Add”

*Created FTBE Mailbox*




Press “Peers”

*Empty FTBE Peers configuration*



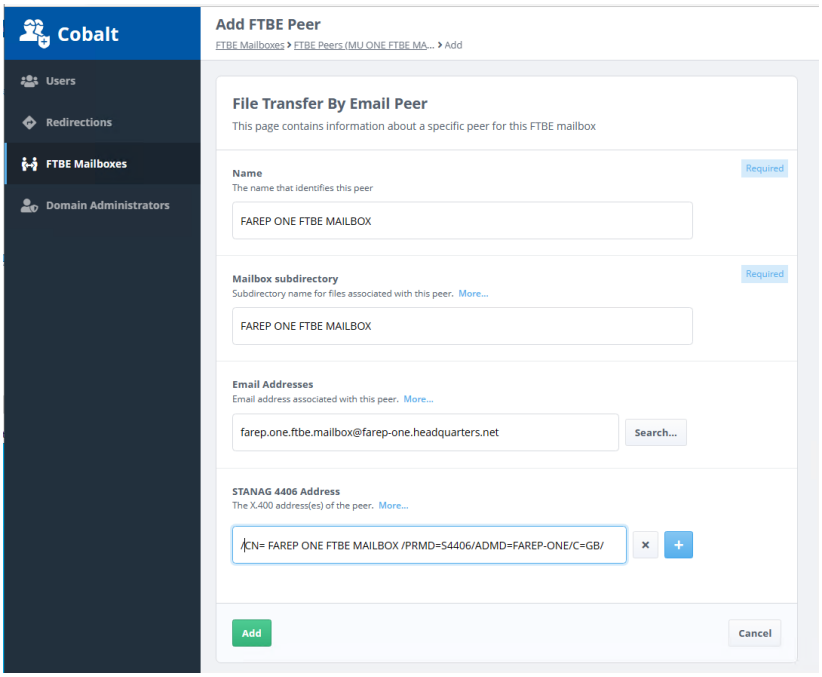

Press “Add”

In “Name” type “FAREP ONE FTBE MAILBOX”

In “Email Address” type “farep.one.ftbe.mailbox@farep-one.headquarters.net”

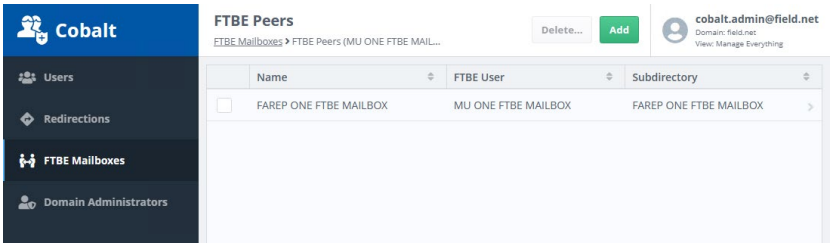
In “STANAG 4406 Address” type “/CN= FAREP ONE FTBE MAILBOX /PRMD=S4406/ADMD=FAREP-ONE/C=GB/”

*Add FTBE Peer*




Press “Add”

*FTBE Peer Added*

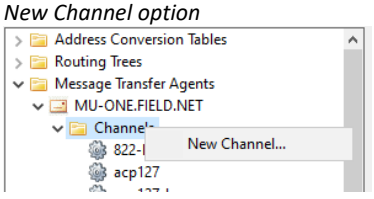



## Configure M-Switch

Open “MConsole”

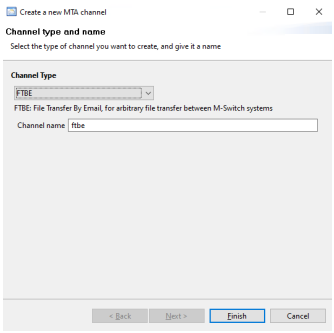
Right Click on “Channels”

*New Channel option*




Select “New Channel”

*Create FTBE Channel*




From the dropdown choose “FTBE” and press “Finish”

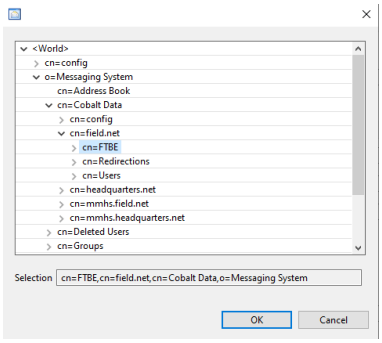
Select the “Program” tab.

In “Mailbox prefix” type “c:\ftbe”

Uncheck “Use the top of the directory tree”

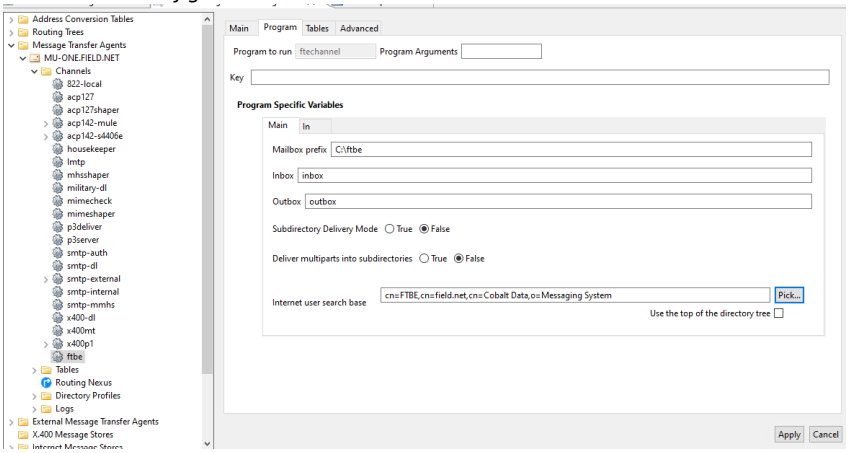
Press “Pick” and browse to “cn=FTBE,cn=field.net,cn=Cobalt Data,o=Messaging System”

*Pick Internet User Search base*




Press “OK”

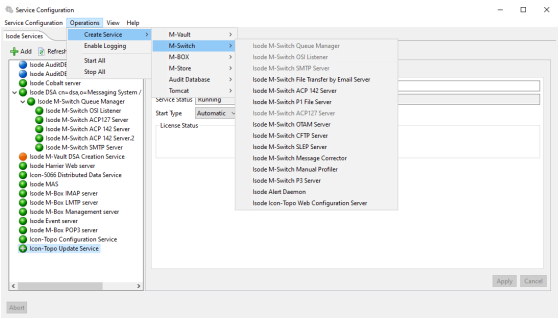
*FTBE Channel configuration*




Press “Apply”

Open the “Isode Services Configuration” tool from the Windows Start menu.

*Create FTBE Service*



Create the M-Switch Service “Isode M-Switch File Transfer by Email Server”

On “Set Service Details” Select “Start Type” “Automatic”

Press “Finish”

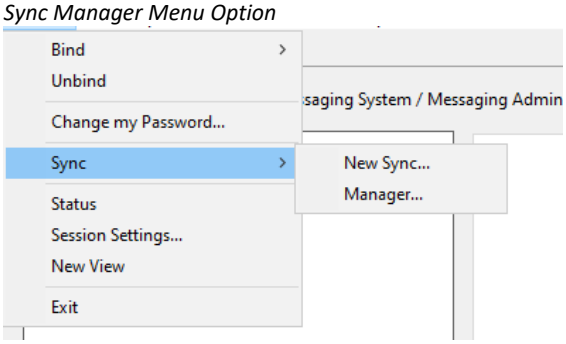
Start the new Service.

## Configure Sodium Sync

Sodium Sync is used to send Icon-Topo configuration changes and updates from the directory at FAREP ONE to MU ONE.

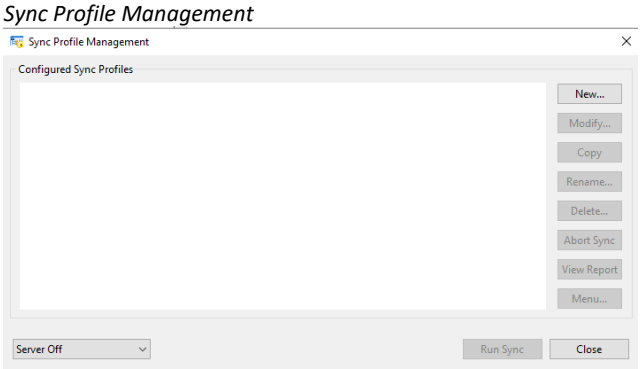
Open Sodium and Bind to the local directory

*Sync Manager Menu Option*



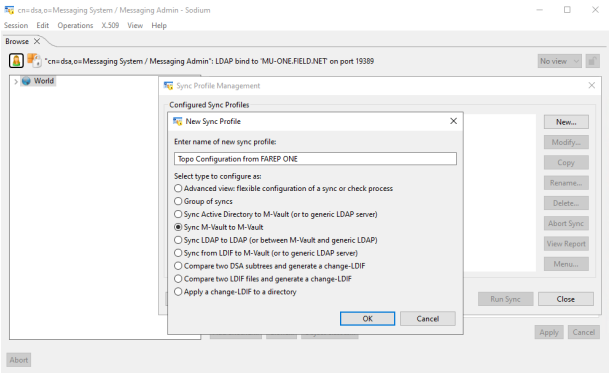

Select “Session/Sync/Manager”

*Sync Profile Management*




On “Sync Profile Management” Press “New”

*Sync Profile Initial Configuration*

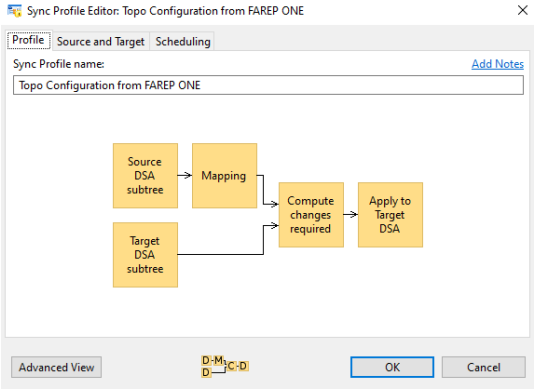



Name the Profile “Topo Configuration from FAREP ONE”

Select “”Sync M-Vault to “M-Vault”

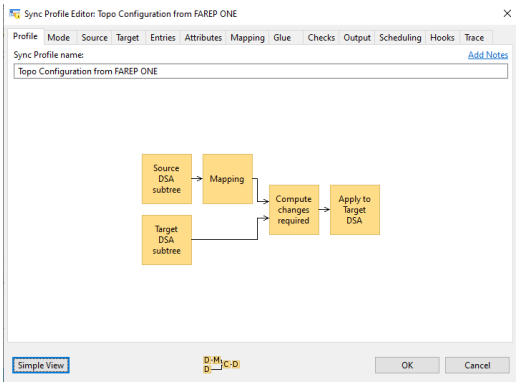
Press “OK”

*Simple View*



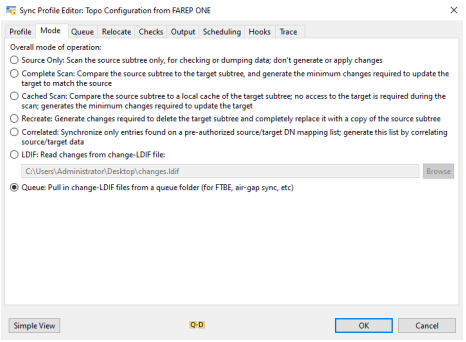

Press “Advanced View”

*Advanced View*




Select “Mode” tab.

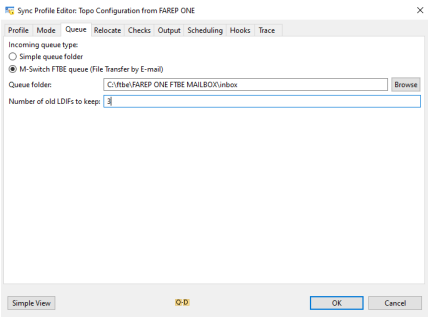
*Mode Tab*




Select “Queue: Pull in change LDIF files from a queue folder”

Select “Queue” tab.

*Queue Tab*

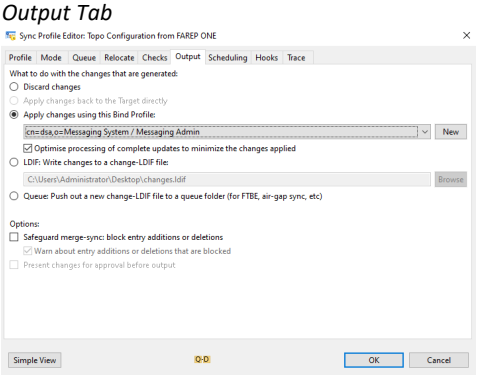



Select “M-Switch FTBE queue (File Transfer by E-mail)”

Populate the queue folder as “C:\ftbe\FAREP ONE FTBE MAILBOX\inbox”

Change to “Output” tab.

*Output Tab*

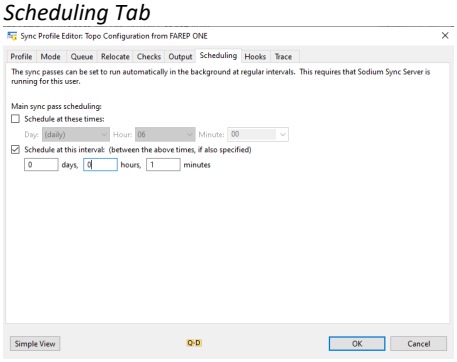



Select “Apply changes using this Bind Profile”

From the dropdown choose the local bind profile “cn=dsa, o=Messaging System / Messaging Admin”

Change to “Scheduling” tab.

*Scheduling Tab*

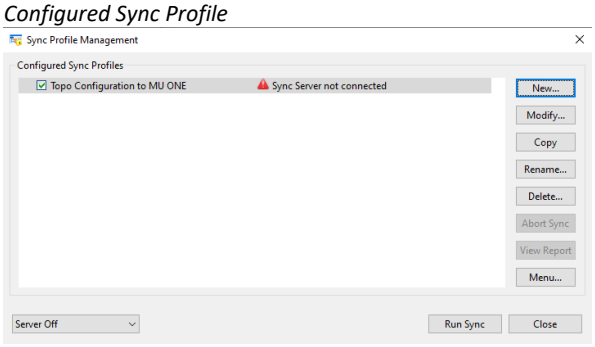



Check “Schedule at this interval”

Schedule to sync every minute.

Press “OK”

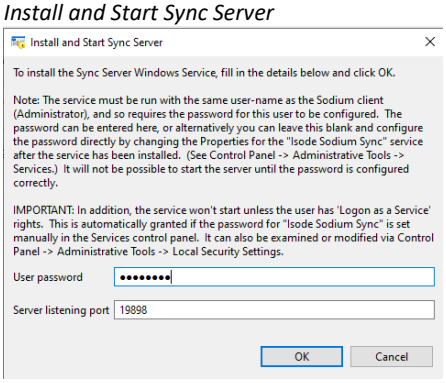
*Configured Sync Profile*




In the dropdown in the bottom left-hand corner choose “Install and start server”

*Install and start server*

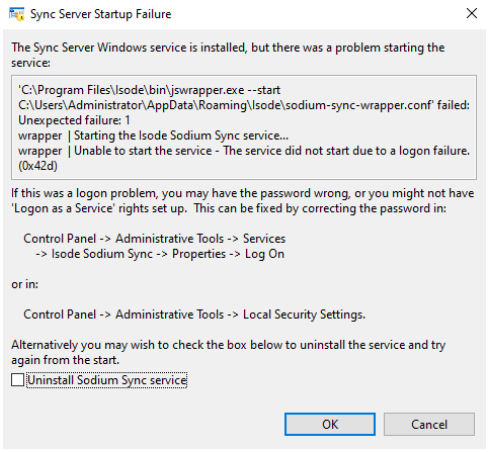

*Install and Start Sync Server*




Enter the server administrator password and Press “OK”

A server startup failure will be presented.

*Sync Server Startup Failure*

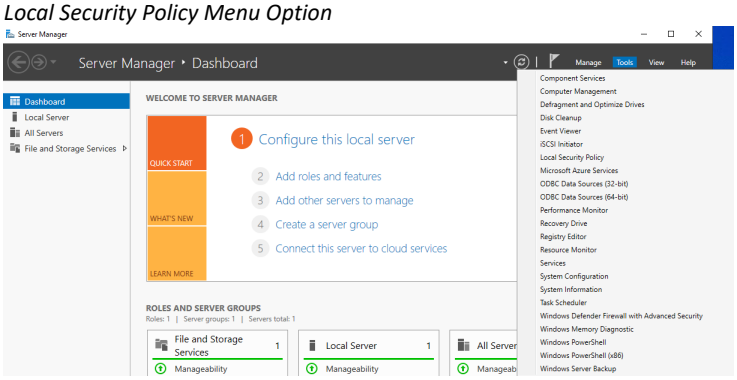



Press “OK”

Assuming you are logged on as local administrator”..

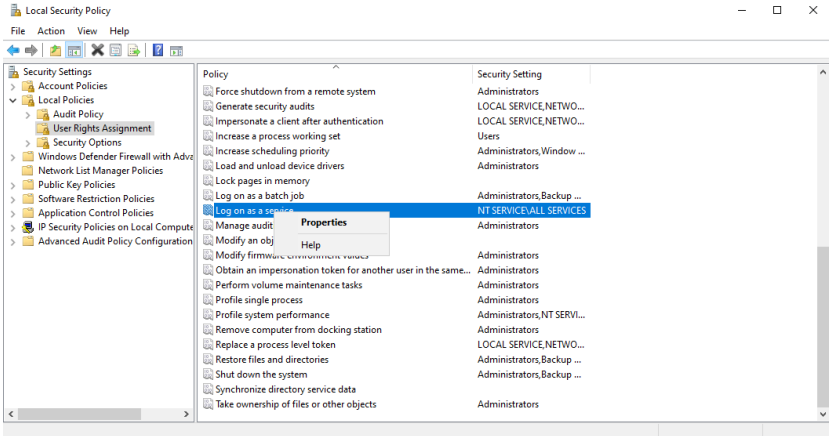
From the Windows server manager, choose “Tools/Local Security Policy”

*Local Security Policy Menu Option*




Find the Policy “Local Policies/User Rights Assignment/Log on as a service”

*Log on as Service Menu Option*

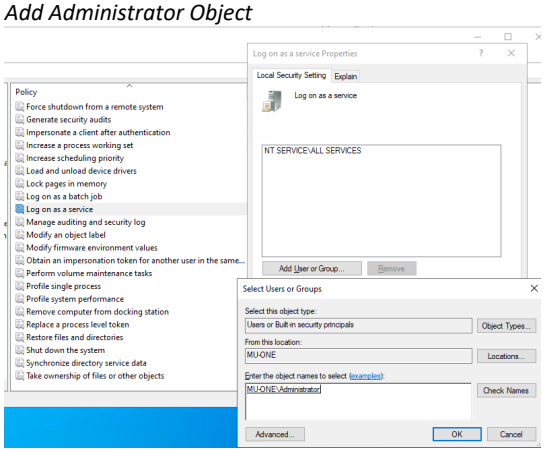



Right click and select “Properties”

Press “Add User or Group”

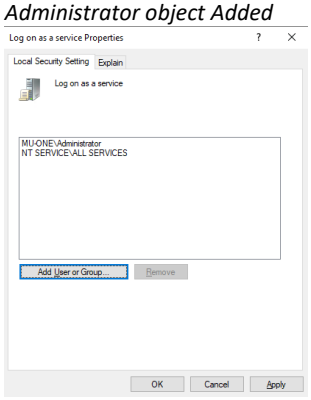
Enter The Object name “administrator” and press “Check names”

*Add Administrator Object*




Press “OK”

*Administrator object Added*



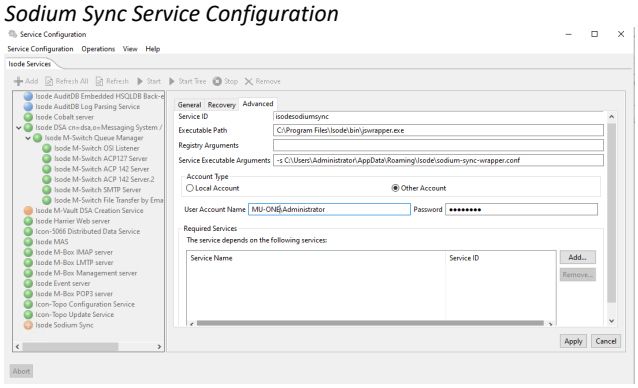

Press “OK”

Open the “Isode Service Configuration Manager”

Select the “Isode Sodium Sync” service

Change to “Advanced” tab.

*Sodium Sync Service Configuration*




In “User Account Name” type “MU-ONE\Administrator”

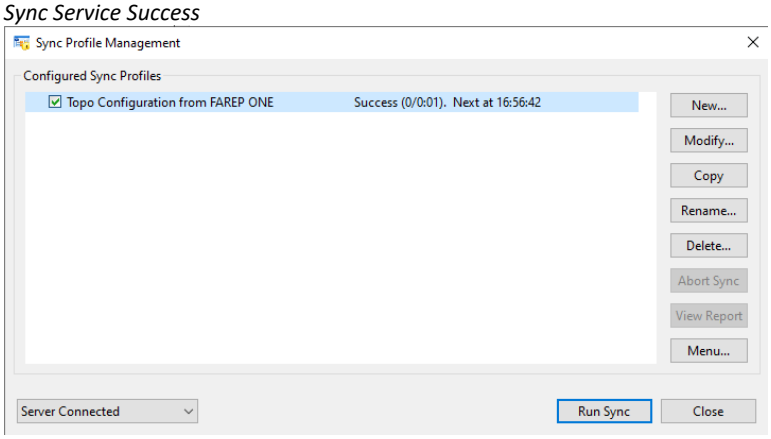
Enter the password for this account.

Press “Apply”

Start the “Sodium Sync Service”

Reopen the “Sync Profile Manager” and note the updated sync status

*Sync Service Success*



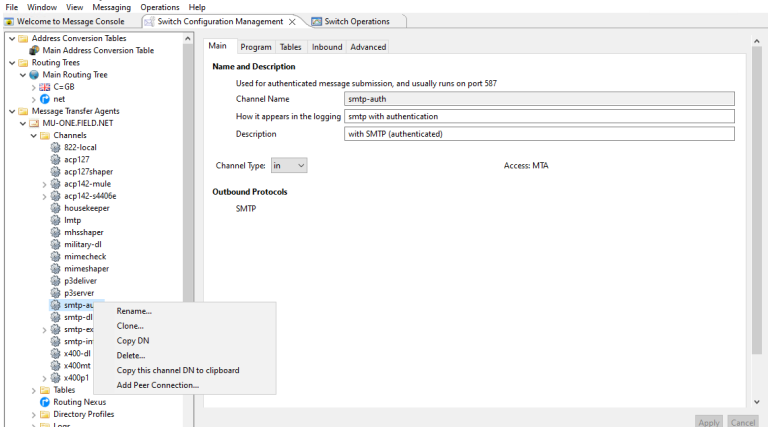

## Configure Switch for Harrier mmhs traffic separation

On the MU, it is important that mmhs traffic from Harrier be routed to the correct transport. This is achieved by creating a separate “smtp-auth” channel for mmhs internet traffic. Harrier will submit mmhs messages to the new channel. An authorisation rule is used to ensure traffic is routed to the appropriate transport.

Open “Mconsole”

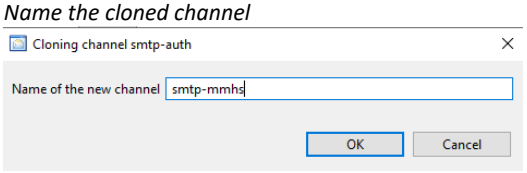
Select the “smtp-auth” channel

*Clone smtp-auth channel*




Right click and Select “Clone ...” from the context menu.

*Name the cloned channel*

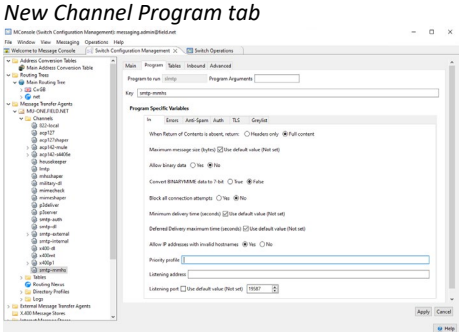



Provide the channel with the name “smtp-mmhs”

Press “OK”

Select the “Program” tab.

*New Channel Program tab*



Change the “Key” field to be “smtp-mmhs”

Make the “Listening port” “19587”

Press “Apply”

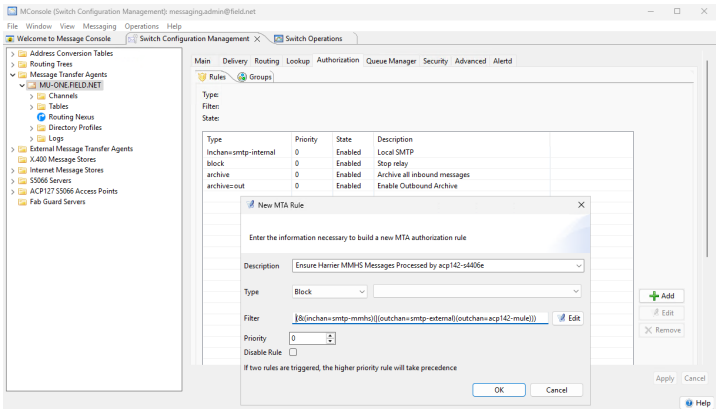
When connecting Harrier to the switch for mmhs traffic, use the port “19587”.

Select the switch “MU-ONE.FIELD.NET”

Select the “Authorization” tab.

Press “Add”

*New authorization rule*




In “Description” type “Ensure Harrier MMHS Messages Processed by acp142-s4406e”

Select “Block” from the “Type” dropdown.

In “Filter” type (&(inchan=smtp-mmhs)(|(outchan=smtp-external)(outchan=acp142-mule)))”

Press “OK”

Press “Apply”

## Configure Harrier

Follow the “Harrier 4.1 evaluation guide” to install and configure Harrier.

When configuring the smtp server for the domain, substitute the following:

SMTP Server URL: mu-one.field.net:19587

# Create STRATEGIC-ONE

Follow the instructions in the “R19.0 M-Switch User Server Evaluation Guide” to create “STRATEGIC-ONE”.

Start at the top of the guide, work to the bottom of the guide but be aware of these changes.

## Naming the Server

Make the machine name “STRATEGIC-ONE”

Make the primary dns suffix for the server “HEADQUARTERS.NET“

## Activating the Isode Products

When activating the product in “Reference” type “R19.0 M-Switch User Server Evaluation for Icon-Topo”

When writing to support for a Product activation, ask for M-Vault, M-Switch User Server (Options: Market type Military, X400 Messaging Protocols, Enable Profiler Channel), M-Box, Cobalt and Harrier for a “R19.0 M-Switch User Server Evaluation for Icon-Topo”

## Create the DSA

On “Provide address configuration” make the hostname: STRATEGIC-ONE.HEADQUARTERS.NET

## Create the Messaging Configuration

Set “Messaging Configuration name” as “Messaging Configuration STRATEGIC-ONE”

Provide the hostname as “STRATEGIC-ONE.HEADQUARTERS.NET”

The email address domain should be “headquarters.net”

The SASL id on “Administrator authentication details” should be “messaging.admin@headquarters.net”.

Provide the X400 configuration: “C=GB/ADMD=HEADQUARTERS/PRMD=S4406”

Rename the X400 MTA to be “STRATEGIC-ONE”

Skip the following sections:

- Configure the External Connections to “headquarters.net”
- Configure the External ACP127 Station
- Configure the External ACP142 MTAs
- Complete the Service Configuration
- Configure the Routing Nexus and Routing Tree
- Configure the Address Routing

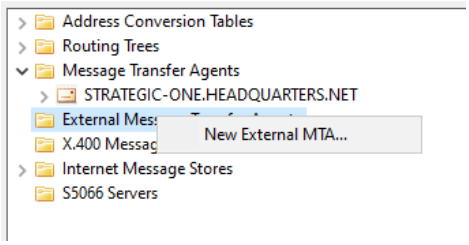
After the section “Reload Configuration” follow this additional section:

## Configure External Connections to field.net

The facility for SMTP and X400 communication will be provided.

Right Click on “External Message Transfer Agents”

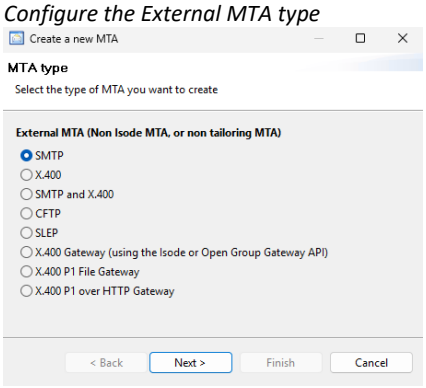
*Configure the External smtp MTA*




Select “New External MTA...”

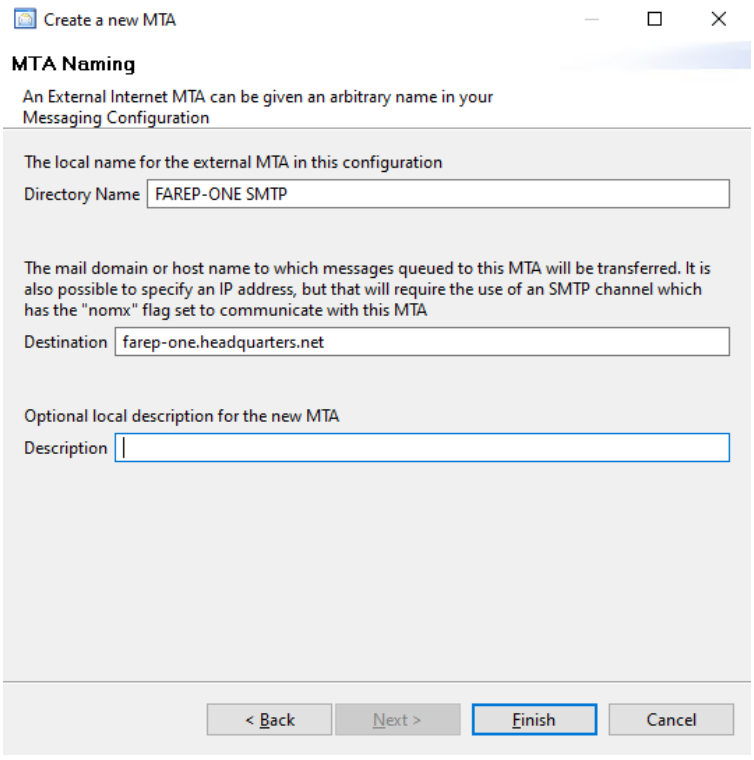
Select “SMTP”

*Configure the External MTA type*




Click “Next>”.

*Name the External MTA*




Enter the “Directory Name” as “FAREP-ONE SMTP”

In “Destination” type “farep-one.headquarters.net”.

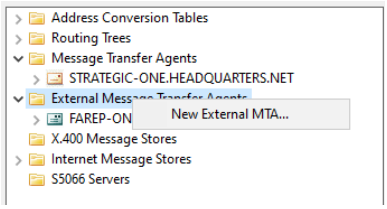
Click “Finish”.

The External smtp connection to FAREP-ONE has been created.

Now we will create an X400 connection to FAREP-ONE

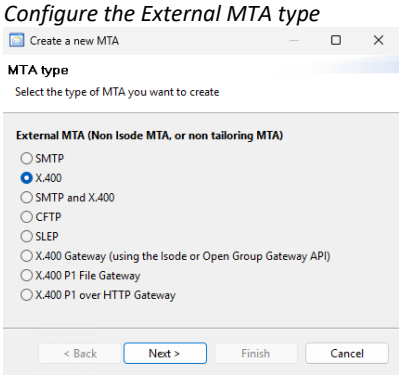
Right Click on “External Message Transfer Agents”

*Configure the External X400 MTA*




Select “New External MTA...”

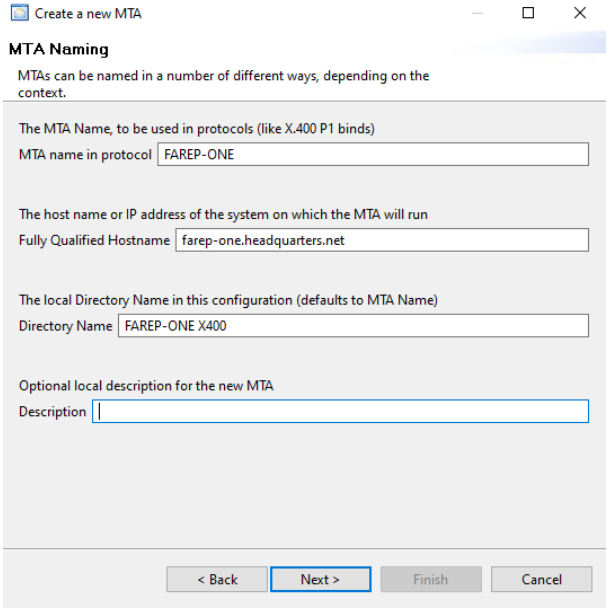
*Configure the External MTA type*




Select “X400”

Click “Next>”.

*Name the External MTA*



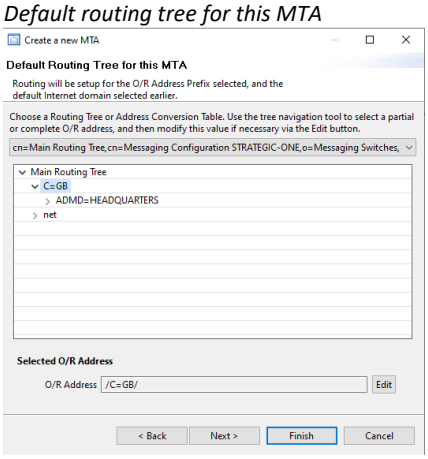

Enter the “MTA name in protocol” as “FAREP-ONE”

In “Fully Qualified Hostname type “farep-one.headquarters.net”.

In “Directory Name” type “FAREP-ONE X400”

Click “Next >”

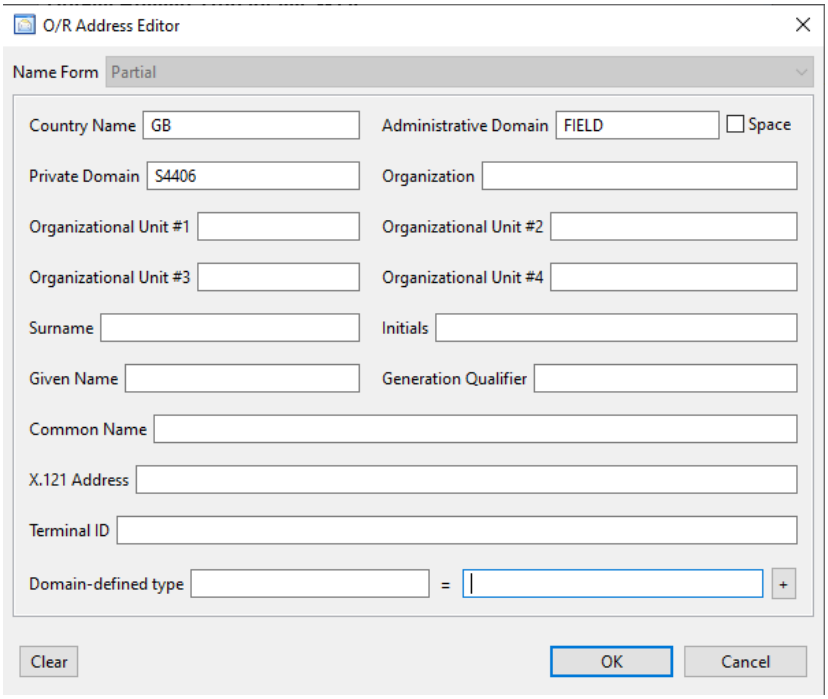
*Default routing tree for this MTA*




Select “C=GB” in the “Default Routing Tree for this MTA”

Press “Edit”

*X400 Route to FIELD*

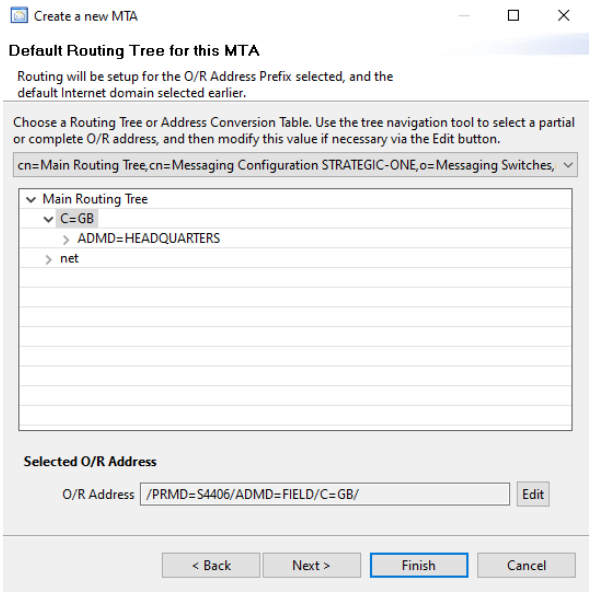



In “Administrative Domain” type “FIELD”

In “Private Domain” type “S4406”

Press “OK”

*Default route selected*

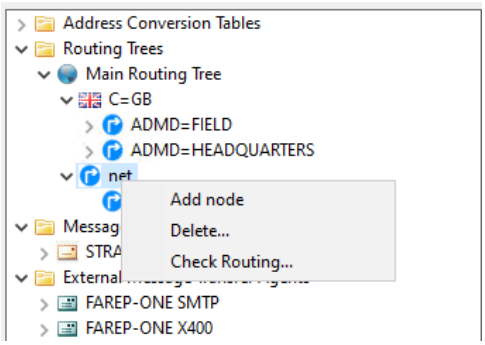



Click “Finish”

Select the node “net” in the routing tree.

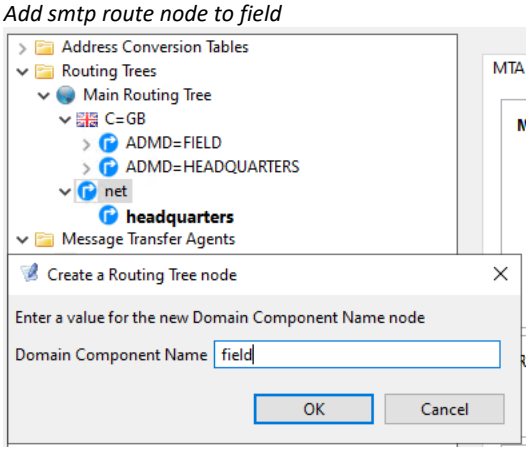
Right click.

*Add node*




Select “Add node”

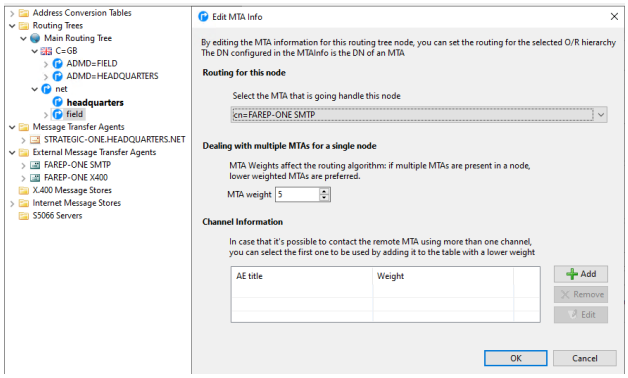
*Add smtp route node to field*




In “Create a Routing tree node” type “field”.

Press “OK”

*Associate Remote MTA With Node*




In “MTA Group” press “Add”

In the dropdown select “cn=FAREP-ONE SMTP”

Press “OK”

Press “Apply”

Repeat the above adding the node “mmhs” under “field” but associating with the remote MTA “cn=FAREP-ONE X400”.

## Populate Recipient Information

The CA already created on HFAP-ONE will be used to generate certificates. So do not follow the section **“Create an Isode PKI”.**

Before following the section “**Configure M-Vault to Support TLS”:**

Create the folder “c:\IsodeCerts”

Copy the file “ca_certificate.pem” from the folder “c:\IsodeCerts” on “HFAP-ONE” to the folder “c:\IsodeCerts” on “STRATEGIC-ONE”.

Follow the section “Configure M-Vault to Support TLS”

BUT …

Use the Sodium CA on HFAP-ONE.

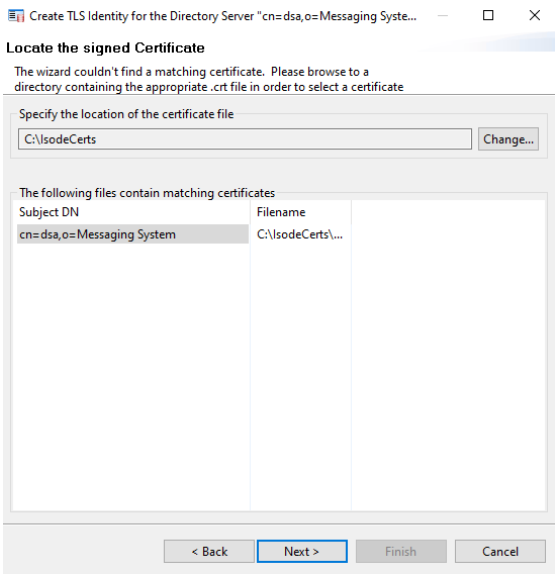
Copy the certificate request (the file “rsa_pem_csr.pem” to HFAP-ONE before generating the dsa certificate using the HFAP-ONE CA.

Copy the certificate generated back to STRATEGIC-ONE before moving on. The certificate file will be named “rsa_pem_csr_cert_?.pem (? Will probably be 1).

To identify the correct certificate, look at the “Date Modified” in Windows explorer. When copying that file to STRATEGIC-ONE, also rename it “STRATEGIC-ONE.pem” for clarity.

An additional page will be shown:

*Locate the signed Certificate*




Press “Change” and browse to “c:\IsodeCerts”

Select the certificate with Subject DN “cn=dsa,o=Messaging System”

Press “Next >”

**Initial Cobalt Configuration**

Follow this section but …

Make the “domain to use for initial cobalt administrator” “headquarters.net”.

When authenticating, use the identity cobalt.admin@headquarters.net

Rather than adding “headquarters.net” without MMHS support, add “Field.net” without that support.

For the domain “mmhs.field.net” only enable the features “Role Based UAs” and “Organizations (Profiled Addresses)”

For the domain “mmhs.headquarters.net” ensure the following features are enabled:

Role Based UAs

Organizations (Profiled Addresses)

Profiler Configuration

For the domain “field.net” only enable the features “Messaging Users”

For the domain “headquarters.net” enable only the features “Messaging Users” and “Redirections”

Search for cobalt admins in the domain “headquarters.net” rather than “Field.net”

Ensure cobalt.admin@headquarters.net can “Manage Everything” in “field.net”

## Configure the local mailboxes and remote users

Follow the general instructions in this section but add users, roles, mailboxes and redirections in the “headquarters.net” and “mmhs.headquarters.net” domain and remote roles from the “field.net” and “mmhs.field.net” domains.

The postmaster redirection address is added in the domain “headquarters.net” rather than “field.net”.

The postmaster address is “postmaster@headquarters.net”

The “redirected address” is “radio.operator@mmhs.headquarters.net”

There is no need to add “Garbled Data” redirection at this node.

There is no need to add “Service Messages” roles at this node.

When adding the remaining objects from the table, users in headquarters.net will require a password while users in field.net will not. There is no need to add the postmaster, garbled data or gateway objects in the field.net domain.

## Configure a Profiler Rule

Follow this section.

Use it to set up a rule in the “mmhs.headquarters.net” domain

Use the “Target organization” “HOME GUARD”

For “Action Address” select “HEADQUARTERS CAPTAIN”

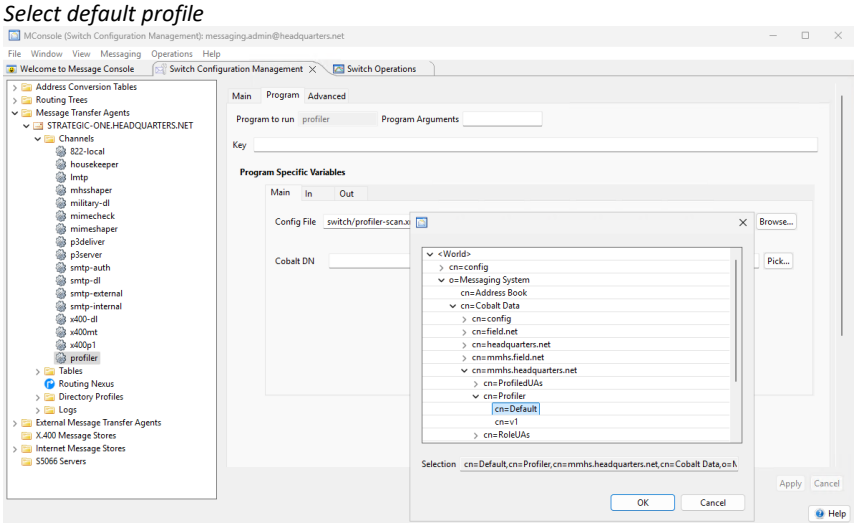
For “Info Address” select “HEADQUARTERS RADIO OPERATOR”

## Configure the Profiler Channel

Follow this section.

But browse to the object:

*Select default profile*




## Configure Switch For Harrier

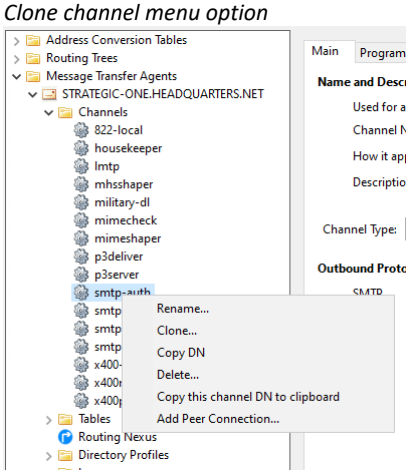
As a demonstration of traffic types, on the Strategic node, it is useful for internet traffic to be routed over smtp and Military traffic to be routed over X.400. This is achieved by creating a

separate smtp-auth channel for internet and mmhs internet traffic. Harrier will submit mmhs messages to the new channel. An authorisation rule is used to ensure traffic is routed to the appropriate transport.

Open “Mconsole”

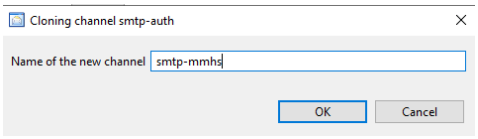
Select the “smtp-auth” channel and right-click for context menu

*Clone channel menu option*




Select “Clone”

*New channel name*




Provide the channel with the name “smtp-mmhs”

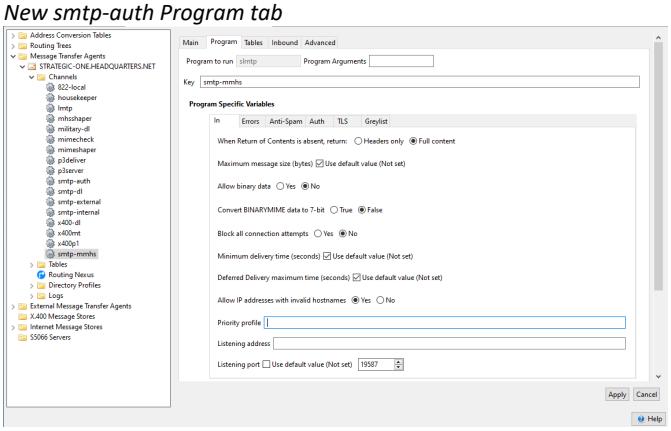
Press “OK”

Select the “Program” tab.

Change the “Key” field to be “smtp-mmhs”

Make the “Listening port” “19587”

*New smtp-auth Program tab*




Press “Apply”

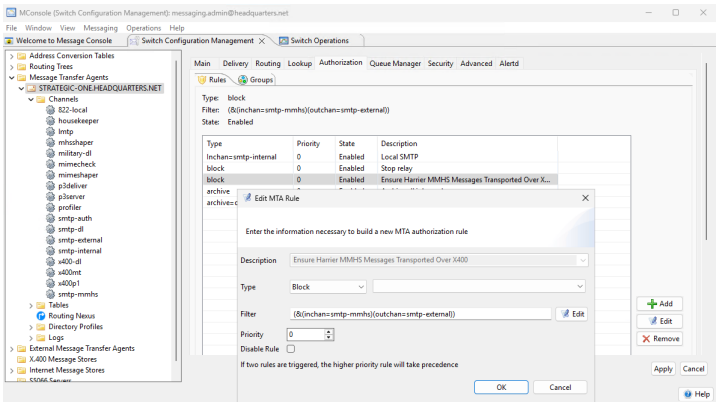
When connecting Harrier to the switch for mmhs, use the port “19587”.

Select the switch “STRATEGIC-ONE.HEADQUARTERS.NET”

Select the “Authorization” tab.

Press “Add”

*New authorization rule*




In “Description” type “Ensure Harrier MMHS Messages Transported Over X400”

Select “Block” from the “Type” dropdown.

In “Filter” type “(&(inchan=smtp-mmhs)(outchan=smtp-external))”

Press “OK”

Press “Apply”

## Configure Harrier

Follow the “Harrier 4.1 evaluation guide” to install and configure Harrier.

When configuring the smtp server for the domain, substitute the following:

Hostname : strategic-one.headquarter.net

Internet Domain Name : headquarters.net

Military Domain name : mmhs.headquarters.net

IMAP Server URL : imap://strategic-one:143

LDAP Server URL : ldap://strategic-one.headquarter.net:19389

SMTP Server URL (Internet Domain) : smtp://strategic-one.headquarter.net:587

SMTP Server URL (Military Domain) : smtp://strategic-one.headquarter.net:19587

# Configure Icon-5066

Icon-5066 should be installed on HFAP-ONE, HFAP-TWO and MU-ONE.

For guidance you should follow the Icon-5066 R3.1 Evaluation Guide.

This guide shows how to install 3 Icon-5066 nodes on one machine.

For the purpose of this evaluation, each node should be installed on a separate machine.

The MoRaSky instance should be placed on the MU-ONE server.

It is not necessary to install and configure the Operator Chat software, that will already have been installed with M-Switch earlier in this guide.

There is no need to follow the sections:

Naming the Server

Install the Isode Software

Activating the Isode Products

As those steps will already have been followed in this guide.

Changes to note while following the guide …

When specifying Node names, make the following substitutions on the appropriate server:

S5066 Node 1: HFAP ONE

S5066 Node 2: HFAP TWO

S5066 Node 3: MU ONE

When defining Node addresses use:

| | |
|---|---|
| HFAP ONE | 10.50.66.0 |
| HFAP TWO | 10.50.66.2 |
| MU ONE | 10.50.66.1 |

The SIS port for each server should be the same – 5066. The guide changes this for each node so that it can run more than one node on each server.

When configuring the modem, the ip address of the modem should be the ip address of the MU-ONE server.

When creating the MoRaSky profile, call it “MU ONE”

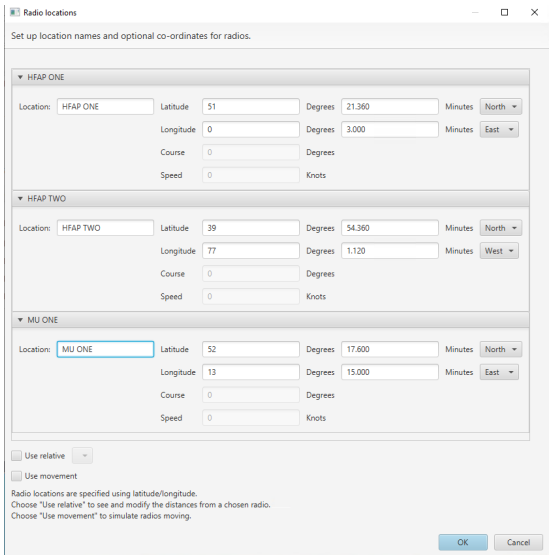
Issues with connectivity may be easier to identify if the following steps are followed in MoRaSky:

Change to the “Radio” tab.

Select “Enable Radio Locations”

Press “Edit Radio Locations”

*Edit Radio Locations*




Fill in the Data as Follows:

Location 1 Name: HFAP ONE

Location 2 Name: HFAP TWO

Location 3 Name: MU ONE

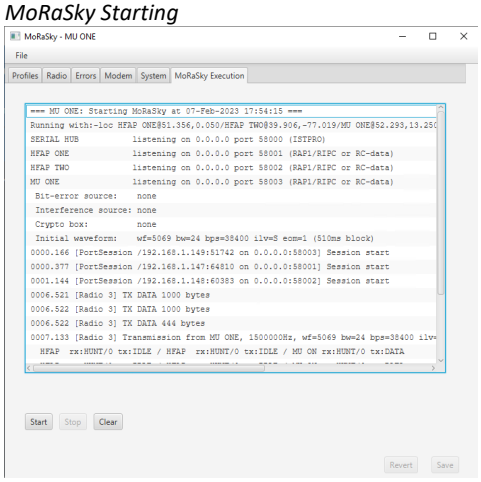
Press “OK”

Press “Save”

On “Saving profiles” press “OK”

It is now easier to distinguish the locations when executing MoRaSky:

*MoRaSky Starting*



# Demonstrate the System

## Send an Internet Message while in port

On “STRATEGIC ONE” log into Harrier as “steve.wright@headquarters.net”

On “MU ONE” log into Harrier as “simon.bates@field.net”

Send a message from “Steve Wright” to “Simon Bates”

Note that the message will be transported over smtp.

The starting state of the system is that MU-ONE is on shore.

So the message should be routed to Mu One directly via smtp.

The audit logging at FAREP ONE will look like this:

*Logging Internet message while in port*

```
2025-03-12 10:53:50 pp.smtp  04896 (#0        ) ConnectFrom chan:smtp-external host:STRATEGIC-ONE
ip:192.168.1.145
2025-03-12 10:53:52 pp.smtp  04896 (#0        ) Archive unid:Z9FnvgATIEEA qid:msg.04896-0
file:"C:/Isode/Archive/2025-03-12/1741776832.4896.0.iar"
2025-03-12 10:53:52 pp.smtp  04896 (#0        ) Msgin unid:Z9FnvgATIEEA qid:msg.04896-0 type:User-Mpdu
msgid:<1087bdaa-5f50-4cb9-8ebf-f2e24174a63e@localhost> p1msgid:[/PRMD=S4406/ADMD=FAREP-
ONE/C=GB/;FAREP-ONE..0489601-250312.105352] subject:"Internet Message While in Port" chan:smtp-
external mta:STRATEGIC-ONE size:1036 nrecip:1 content-type:822 sender:steve.wright@headquarters.net
submit-time:2025-03-12-10.53.46 queued-time:2025-03-12-10.53.52 priority:3
2025-03-12 10:53:52 pp.smtp  04896 (#0        ) ok unid:Z9FnvgATIEEA qid:msg.04896-0 rno:1 xno:1
recip:simon.bates@field.net ureq:fwu mreq:1 chan:smtp-external mta:mu-one.field.net
2025-03-12 10:53:52 pp.smtp  04896 (#0        ) Disconnect chan:smtp-external host:STRATEGIC-ONE
ip:192.168.1.145 helo:STRATEGIC-ONE.HEADQUARTERS.NET
2025-03-12 10:53:59 smtp-ext 06752 (#0        ) Trans unid:Z9FnvgATIEEA qid:msg.04896-0 chan:smtp-
external rno:1 recip:simon.bates@field.net action-time:2025-03-12-10.53.59 tid:1 qtime:6.991
2025-03-12 10:53:59 smtp-ext 06752 (#0        ) Msgout unid:Z9FnvgATIEEA qid:msg.04896-0 chan:smtp-
external mta:mu-one.field.net sender:steve.wright@headquarters.net size:1039 nrecip:1 tid:1 ttime:0.451
subject:"Internet Message While in Port"
```

At MU-ONE log on to Harrier as “Simon Bates”

Note the message has been received.

Reply to the message and see that it is routed back to STRATEGIC ONE and can be seen in Steve Wrights mailbox. The message is transported over smtp.

The logging at FAREP-ONE looks like this:

*Logging Internet message reply while in port*

```
2025-03-12 10:59:27 pp.smtp  04896 (#0        ) ConnectFrom chan:smtp-external host:MU-ONE ip:192.168.1.149
2025-03-12 10:59:27 pp.smtp  04896 (#0        ) Archive unid:Z9FpDwATICYB qid:msg.04896-1
file:"C:/Isode/Archive/2025-03-12/1741777167.4896.1.iar"
2025-03-12 10:59:27 pp.smtp  04896 (#0        ) Msgin unid:Z9FpDwATICYB qid:msg.04896-1 type:User-Mpdu
msgid:<cde2a456-6fc0-4528-a9e6-9c8f0e6d501d@localhost> p1msgid:[/PRMD=S4406/ADMD=FAREP-
ONE/C=GB/;FAREP-ONE..0489602-250312.105927] subject:"Re: Internet Message While in Port" chan:smtp-
external mta:MU-ONE size:1200 nrecip:1 content-type:822 sender:simon.bates@field.net submit-time:2025-03-12-
10.59.25 queued-time:2025-03-12-10.59.27 priority:3
2025-03-12 10:59:27 pp.smtp  04896 (#0        ) ok unid:Z9FpDwATICYB qid:msg.04896-1 rno:1 xno:1
recip:steve.wright@headquarters.net ureq:fwu mreq:1 chan:smtp-external mta:strategic-one.headquarters.net
2025-03-12 10:59:27 pp.smtp  04896 (#0        ) Disconnect chan:smtp-external host:MU-ONE ip:192.168.1.149
helo:MU-ONE.FIELD.NET
2025-03-12 10:59:28 smtp-ext 08952 (#0        ) Trans unid:Z9FpDwATICYB qid:msg.04896-1 chan:smtp-external
rno:1 recip:steve.wright@headquarters.net action-time:2025-03-12-10.59.28 tid:1 qtime:1.372
2025-03-12 10:59:28 smtp-ext 08952 (#0        ) Msgout unid:Z9FpDwATICYB qid:msg.04896-1 chan:smtp-
```

### Send a Military Message while in port

On “STRATEGIC ONE” log into Harrier as “ian.lavender@headquarters.net”

Send a military message from “HEADQUARTERS RADIO OPERATOR” to “FIELD RADIO OPERATOR”.

The starting state of the system is that MU-ONE is on shore.

So the message will be routed to MU ONE directly via X400 P1.

The audit logging at FAREP ONE will look like this :

*Logging Military message while in port*

```
2025-03-12 19:05:56 x400p1    08200 (#0         ) P1RespConnOK chan:x400p1 theirmtaname:STRATEGIC-ONE
theirpa:Internet=192.168.1.145 ourmtaname:FAREP-ONE
their_calling_addr:"\"591\"/URI+0000+URL+itot://strategic-one.headquarters.net" rtse_type:normal appcon:3
recov:false dialogmode:mono auth_req:11 our_auth_req:11 rtsid:3 ckpoint:63 window:3 actno:0 rts_flags:c01
bindtype:simple
2025-03-12 19:05:56 x400p1    08200 (#0         ) IPM unid:Z9HbFAAgCLQA qid:msg.08200-0 ipmid-
str:3d2b6b32-1b22-4e35-a5dd-c4438147bf21(a)localhost ipmid-ora:"/DD.MIXER1=message-id:(060)3d2b6b32-
1b22-4e35-a5dd-c4438147bf21(a)localhost(062)/PRMD=S4406/ADMD=HEADQUARTERS/C=GB/"
subject:"Military Message While in Port" dtg:20250312190531Z
2025-03-12 19:05:56 x400p1    08200 (#0         ) Archive unid:Z9HbFAAgCLQA qid:msg.08200-0
file:"C:/Isode/Archive/2025-03-12/1741806356.8200.0.xar"
2025-03-12 19:05:56 x400p1    08200 (#0         ) Msgin unid:Z9HbFAAgCLQA qid:msg.08200-0 type:User-
Mpdu p1msgid:[/P=S4406/A=HEADQUARTERS/C=GB/;STRATEGIC-.0582407-250312.190556]
envid:"X400-MTS-Identifier:[/P=S4406/A=HEADQUARTERS/C=GB/;STRATEGIC-.0582407-
250312.190556]" chan:x400p1 mta:"cn=x400p1,cn=STRATEGIC-ONE X400,cn=Messaging Configuration
FAREP-ONE,o=Messaging Switches,o=Messaging System" size:671 nrecip:1 content-
type:oid.1.3.26.0.4406.0.4.1 sender:"/CN=HEADQUARTERS RADIO OPERATOR
/PRMD=S4406/ADMD=HEADQUARTERS/C=GB/" submit-time:2025-03-12-19.05.56 queued-time:2025-03-
12-19.05.56 priority:4
2025-03-12 19:05:56 x400p1    08200 (#0         ) ok unid:Z9HbFAAgCLQA qid:msg.08200-0 rno:1 xno:1
recip:"/CN=FIELD RADIO OPERATOR /PRMD=S4406/ADMD=FIELD/C=GB/" ureq:fw mreq:1 chan:x400p1
mta:"cn=x400,cn=MU ONE,cn=Messaging Configuration FAREP-ONE,o=Messaging Switches,o=Messaging
System"
2025-03-12 19:05:56 x400p1    02236 (#0         ) Trans unid:Z9HbFAAgCLQA qid:msg.08200-0 chan:x400p1
rno:1 recip:"/CN=FIELD RADIO OPERATOR /PRMD=S4406/ADMD=FIELD/C=GB/" action-time:2025-03-
12-19.05.56 tid:1 qtime:0.031
2025-03-12 19:05:56 x400p1    02236 (#0         ) Msgout unid:Z9HbFAAgCLQA qid:msg.08200-0 chan:x400p1
mta:"cn=x400,cn=MU ONE,cn=Messaging Configuration FAREP-ONE,o=Messaging Switches,o=Messaging
System" sender:"/CN=HEADQUARTERS RADIO OPERATOR
/PRMD=S4406/ADMD=HEADQUARTERS/C=GB/" size:1504 nrecip:1 tid:1 ttime:0.017
2025-03-12 19:05:56 x400p1    02236 (#0         ) Archive unid:Z9HbFAAgCLQA qid:msg.08200-0
file:"C:/Isode/Archive/2025-03-12/1741806356.2236.1.xar" tid:1
```

At “MU-ONE” log on to Harrier as “Elizabeth Swann”

Note the message has been received.

Reply to the message and see that it is routed back to STRATEGIC ONE and can be seen in the “RADIO OPERATOR HEADQUARTERS” mailbox.

The logging at FAREP-ONE looks like this:

*Logging Military message reply while in port*

```
2025-03-14 09:30:07 x400p1   03608 (#0        ) P1RespConnOK chan:x400p1 theirmtaname:MU-ONE
theirpa:Internet=192.168.1.149 ourmtaname:FAREP-ONE their_calling_addr:"\"591\"/URI+0000+URL+itot://mu-
one.field.net" rtse_type:normal appcon:3 recov:false dialogmode:mono auth_req:80 our_auth_req:11 rtsid:3
ckpoint:63 window:3 actno:0 rts_flags:c01 bindtype:simple
2025-03-14 09:30:07 x400p1   03608 (#0        ) IPM unid:Z9P3HwAOGF4A qid:msg.03608-0 ipmid-str:a48e756f-
3fbc-4051-a48d-e12860b398b5(a)localhost ipmid-ora:"/DD.MIXER1=message-id:(060)a48e756f-3fbc-4051-a48d-
e12860b398b5(a)localhost(062)/PRMD=S4406/ADMD=FIELD/C=GB/" subject:"Re: Military Message While in
Port" dtg:20250314093002Z
2025-03-14 09:30:07 x400p1   03608 (#0        ) Archive unid:Z9P3HwAOGF4A qid:msg.03608-0
file:"C:/Isode/Archive/2025-03-14/1741944607.3608.0.xar"
2025-03-14 09:30:07 x400p1   03608 (#0        ) Msgin unid:Z9P3HwAOGF4A qid:msg.03608-0 type:User-Mpdu
p1msgid:[/PRMD=S4406/ADMD=FIELD/C=GB/;MU-ONE.FIE.0509602-250314.093006] envid:"X400-MTS-
Identifier:[/PRMD=S4406/ADMD=FIELD/C=GB/;MU-ONE.FIE.0509602-250314.093006]" chan:x400p1
mta:"cn=x400,cn=MU ONE,cn=Messaging Configuration FAREP-ONE,o=Messaging Switches,o=Messaging
System" size:1102 nrecip:1 content-type:oid.1.3.26.0.4406.0.4.1 sender:"/CN=FIELD RADIO OPERATOR
/PRMD=S4406/ADMD=FIELD/C=GB/" submit-time:2025-03-14-09.30.06 queued-time:2025-03-14-09.30.07
priority:4
2025-03-14 09:30:07 x400p1   03608 (#0        ) ok unid:Z9P3HwAOGF4A qid:msg.03608-0 rno:1 xno:1
recip:"/CN=HEADQUARTERS RADIO OPERATOR /PRMD=S4406/ADMD=HEADQUARTERS/C=GB/"
ureq:fw mreq:1 chan:x400p1 mta:"cn=x400p1,cn=STRATEGIC-ONE X400,cn=Messaging Configuration FAREP-
ONE,o=Messaging Switches,o=Messaging System"
2025-03-14 09:30:08 x400p1   04240 (#0        ) P1InitConnOK chan:x400p1 theirmtaname:STRATEGIC-ONE
theirpa:"\"591\"/URI+0000+URL+itot://strategic-one.headquarters.net" ourmtaname:FAREP-ONE rtse_type:normal
appcon:3 recov:false dialogmode:mono auth_req:11 our_auth_req:11 rtsid:3 ckpoint:63 window:3 actno:0
rts_flags:c15 bindtype:simple
2025-03-14 09:30:08 x400p1   04240 (#0        ) Trans unid:Z9P3HwAOGF4A qid:msg.03608-0 chan:x400p1 rno:1
recip:"/CN=HEADQUARTERS RADIO OPERATOR /PRMD=S4406/ADMD=HEADQUARTERS/C=GB/"
action-time:2025-03-14-09.30.08 tid:1 qtime:0.623
2025-03-14 09:30:08 x400p1   04240 (#0        ) Msgout unid:Z9P3HwAOGF4A qid:msg.03608-0 chan:x400p1
mta:"cn=x400p1,cn=STRATEGIC-ONE X400,cn=Messaging Configuration FAREP-ONE,o=Messaging
Switches,o=Messaging System" sender:"/CN=FIELD RADIO OPERATOR
/PRMD=S4406/ADMD=FIELD/C=GB/" size:1890 nrecip:1 tid:1
ttime:0.095/PRMD=S4406/ADMD=FIELD/C=GB/" size:2003 nrecip:1 tid:1 ttime:0.105
2023-05-23 16:15:27 x400p1   04196 (#0        ) Archive unid:ZGzYigAVNGwA qid:msg.05428-0
```

## Change Icon-Topo Configuration So Not in Port

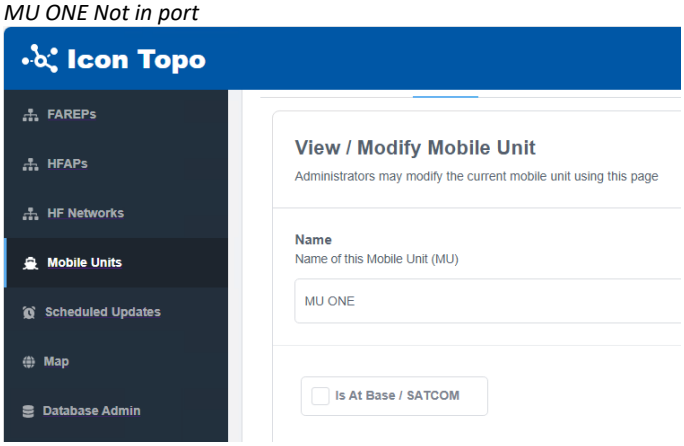
Log in to the Icon-Topo administration tool at “Farep One”

Select “Mobile Units”

Select “MU ONE”

Change to “Details” Tab.

*MU ONE Not in port*




Uncheck “Is At Base/SATCOM”

Scroll down and press “Submit”

Wait until Sodium sync and ftbe have transferred this change to MU ONE. To confirm, log on to Icon Topo at MU ONE and wait until the “Is At Base/SATCOM” check box appears unchecked.

## Send an Internet Message while not in port

On “STRATEGIC ONE” log into Harrier as “steve.wright@headquarters.net”

On “MU ONE” log into Harrier as “simon.bates@field.net”

Send a message from Steve Wright to Simon Bates

Note that the message will be transported over smtp to HFAP-ONE and then ACP142-mule across the 5066 network.

The audit logging at HFAP ONE will look like this:

*Logging Internet message while not in port*

```
2025-03-14 13:38:41 pp.smtp  07028 (#0        ) ConnectFrom chan:smtp-external host:FAREP-ONE
ip:192.168.1.146
2025-03-14 13:38:41 pp.smtp  07028 (#0        ) Archive unid:Z9QxYQAbdEwB qid:msg.07028-1
file:"C:/Isode/Archive/2025-03-14/1741959521.7028.1.iar"
2025-03-14 13:38:41 pp.smtp  07028 (#0        ) Msgin unid:Z9QxYQAbdEwB qid:msg.07028-1 type:User-Mpdu
msgid:<c53d8611-0288-45b6-872b-9329d5cac56b@localhost> p1msgid:[/PRMD=S4406/ADMD=HFAP-
ONE/C=GB/;HFAP-ONE.H.0702802-250314.133841] subject:"Internet Message While Not in Port" chan:smtp-
external mta:FAREP-ONE size:1317 nrecip:1 content-type:822 sender:steve.wright@headquarters.net submit-
time:2025-03-14-13.38.40 queued-time:2025-03-14-13.38.41 priority:3
2025-03-14 13:38:41 pp.smtp  07028 (#0        ) ok unid:Z9QxYQAbdEwB qid:msg.07028-1 rno:1 xno:1
recip:simon.bates@field.net ureq:fwu mreq:1 chan:acp142-mule mta:"cn=acp142-mule-HF-NETWORK-
ONE,cn=MU ONE,cn=Messaging Configuration HFAP-ONE,o=Messaging Switches,o=Messaging System"
2025-03-14 13:38:41 acp142-m 03124 (#0        ) ACP142out unid:Z9QxYQAbdEwB qid:msg.07028-1
chan:acp142-mule msid:1741959521 ndest:1 percent:41 co:no
2025-03-14 13:38:41 pp.smtp  07028 (#0        ) Disconnect chan:smtp-external host:FAREP-ONE
ip:192.168.1.146 helo:FAREP-ONE.HEADQUARTERS.NET
2025-03-14 13:38:45 acp142-m 03124 (#0        ) Trans unid:Z9QxYQAbdEwB qid:msg.07028-1 chan:acp142-
mule rno:1 recip:simon.bates@field.net action-time:2025-03-14-13.38.45 tid:1 qtime:4.168
2025-03-14 13:38:45 acp142-m 03124 (#0        ) Msgout unid:Z9QxYQAbdEwB qid:msg.07028-1 chan:acp142-
mule mta:"cn=acp142-mule-HF-NETWORK-ONE,cn=MU ONE,cn=Messaging Configuration HFAP-
ONE,o=Messaging Switches,o=Messaging System" sender:steve.wright@headquarters.net size:595 nrecip:1 tid:1
ttime:4.153 subject:"Internet Message While Not in Port"
```

At “MU-ONE” log on to Harrier as “Simon Bates”

Note the message has been received.

Reply to the message and see that it is routed back via “HFAP ONE” and can be seen in “Steve Wrights” mailbox.

The logging at HFAP ONE looks like this:

Logging Internet message reply while not in port

```
2025-03-14 13:41:09 acp142-m 03124 (#0        ) Msgin unid:Z9Qx9QAMNJIA qid:msg.03124-0 type:User-Mpdu
msgid:<df52cacf-8dad-4cc6-ae6a-1281ba9ce124@localhost> p1msgid:[/PRMD=S4406/ADMD=HFAP-
ONE/C=GB/;HFAP-ONE.H.0312401-250314.134109] subject:"Re: Internet Message While Not in Port"
chan:acp142-mule mta:"cn=acp142-mule-HF-NETWORK-ONE,cn=MU ONE,cn=Messaging Configuration HFAP-
ONE,o=Messaging Switches,o=Messaging System" size:1172 nrecip:1 content-type:822
sender:simon.bates@field.net submit-time:2025-03-14-13.41.01 queued-time:2025-03-14-13.41.09 priority:3
2025-03-14 13:41:09 acp142-m 03124 (#0        ) ok unid:Z9Qx9QAMNJIA qid:msg.03124-0 rno:1 xno:1
recip:steve.wright@headquarters.net ureq:fwu mreq:1 chan:smtp-external mta:farep-one.headquarters.net
2025-03-14 13:41:09 acp142-m 03124 (#0        ) ACP142in unid:Z9Qx9QAMNJIA qid:msg.03124-0 chan:acp142-
mule source:10.50.66.1 msid:1741959662 co:no
2025-03-14 13:41:10 smtp-ext 08000 (#0        ) Trans unid:Z9Qx9QAMNJIA qid:msg.03124-0 chan:smtp-external
rno:1 recip:steve.wright@headquarters.net action-time:2025-03-14-13.41.10 tid:1 qtime:0.826
2025-03-14 13:41:10 smtp-ext 08000 (#0        ) Msgout unid:Z9Qx9QAMNJIA qid:msg.03124-0 chan:smtp-
external mta:farep-one.headquarters.net sender:simon.bates@field.net size:1175 nrecip:1 tid:1 ttime:0.010
subject:"Re: Internet Message While Not in Port"
```

### Send a Military Message while not in port

On “STRATEGIC ONE” log into Harrier as “ian.lavender@headquarters.net”

On “MU ONE” log into Harrier as “elizabeth.swann@field.net”

Send a military message from “HEADQUARTERS RADIO OPERATOR” to “FIELD RADIO OPERATOR”.

Note that the message will be transported over X400 to HFAP-ONE and then ACP142-stanag4406e across the 5066 network.

The audit logging at HFAP ONE will look like this:

*Logging Military message while not in port*

```
2025-03-14 13:45:34 x400p1    06856 (#0         ) P1RespConnOK chan:x400p1 theirmtaname:FAREP-ONE
theirpa:Internet=192.168.1.146 ourmtaname:HFAP-ONE
their_calling_addr:"\"591\"/URI+0000+URL+itot://farep-one.headquarters.net" rtse_type:normal appcon:3
recov:false dialogmode:mono auth_req:80 our_auth_req:11 rtsid:3 ckpoint:63 window:3 actno:0 rts_flags:c01
bindtype:simple
2025-03-14 13:45:34 x400p1    06856 (#0         ) IPM unid:Z9Qy=gAayBQA qid:msg.06856-0 ipmid-
str:19c02a36-ba7e-464f-947d-f8721f98d950(a)localhost ipmid-ora:"/DD.MIXER1=message-id:(060)19c02a36-
ba7e-464f-947d-f8721f98d950(a)localhost(062)/PRMD=S4406/ADMD=HEADQUARTERS/C=GB/"
subject:"Military Message While Not in Port" dtg:20250314134411Z
2025-03-14 13:45:34 x400p1    06856 (#0         ) Archive unid:Z9Qy=gAayBQA qid:msg.06856-0
file:"C:/Isode/Archive/2025-03-14/1741959934.6856.0.xar"
2025-03-14 13:45:34 x400p1    06856 (#0         ) Msgin unid:Z9Qy=gAayBQA qid:msg.06856-0 type:User-Mpdu
p1msgid:[/P=S4406/A=HEADQUARTERS/C=GB/;STRATEGIC-.0521210-250314.134533] envid:"X400-MTS-
Identifier:[/P=S4406/A=HEADQUARTERS/C=GB/;STRATEGIC-.0521210-250314.134533]" chan:x400p1
mta:"cn=x400,cn=FAREP ONE,cn=Messaging Configuration HFAP-ONE,o=Messaging Switches,o=Messaging
System" size:679 nrecip:1 content-type:oid.1.3.26.0.4406.0.4.1 sender:"/CN=HEADQUARTERS RADIO
OPERATOR /PRMD=S4406/ADMD=HEADQUARTERS/C=GB/" submit-time:2025-03-14-13.45.32 queued-
time:2025-03-14-13.45.34 priority:4
2025-03-14 13:45:34 x400p1    06856 (#0         ) ok unid:Z9Qy=gAayBQA qid:msg.06856-0 rno:1 xno:1
recip:"/CN=FIELD RADIO OPERATOR /PRMD=S4406/ADMD=FIELD/C=GB/" ureq:fw mreq:1 chan:acp142-
s4406e mta:"cn=acp142-s4406e-HF-NETWORK-ONE,cn=MU ONE,cn=Messaging Configuration HFAP-
ONE,o=Messaging Switches,o=Messaging System"
2025-03-14 13:45:34 acp142-s 06524 (#0         ) ACP142out unid:Z9Qy=gAayBQA qid:msg.06856-0
chan:acp142-s4406e msid:1741959934 ndest:1 percent:46 co:no
2025-03-14 13:46:07 acp142-s 06524 (#0         ) Trans unid:Z9Qy=gAayBQA qid:msg.06856-0 chan:acp142-
s4406e rno:1 recip:radio.operator@mmhs.field.net in-recip:"/CN=FIELD RADIO OPERATOR
/PRMD=S4406/ADMD=FIELD/C=GB/" orig-recip:"/CN=FIELD RADIO OPERATOR
/PRMD=S4406/ADMD=FIELD/C=GB/" action-time:2025-03-14-13.46.07 tid:1 qtime:33.025
2025-03-14 13:46:07 acp142-s 06524 (#0         ) Msgout unid:Z9Qy=gAayBQA qid:msg.06856-0 chan:acp142-
s4406e mta:"cn=acp142-s4406e-HF-NETWORK-ONE,cn=MU ONE,cn=Messaging Configuration HFAP-
ONE,o=Messaging Switches,o=Messaging System" sender:radio.operator@mmhs.headquarters.net size:791
nrecip:1 tid:1 ttime:33.011
```

At “MU-ONE” log on to Harrier as “Elizabeth Swann”

Note the message has been received.

Reply to the message and see that it is routed back to “STRATEGIC ONE” and can be seen in the “RADIO OPERATOR HEADQUARTERS” mailbox.

The logging at HFAP-ONE looks like this:

*Logging Military message reply while not in port*

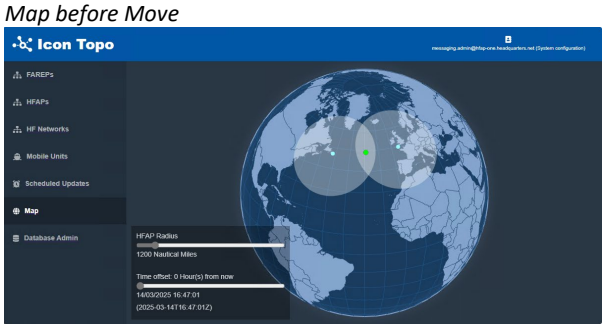
```
2025-03-14 14:00:36 acp142-s 06524 (#0        ) IPM unid:Z9Q2hAAZfHMB qid:msg.06524-1 ipmid-str:2ab1c526-7b87-4697-a412-4c23f93aa9d2(a)localhost ipmid-ora:"/DD.MIXER1=message-id:(060)2ab1c526-7b87-4697-a412-4c23f93aa9d2(a)localhost(062)/PRMD=S4406/ADMD=FIELD/C=GB/" subject:"Re: Military Message While Not in Port" dtg:20250314140030Z
2025-03-14 14:00:36 acp142-s 06524 (#0        ) Archive unid:Z9Q2hAAZfHMB qid:msg.06524-1 file:"C:/Isode/Archive/2025-03-14/1741960836.6524.2.xar"
2025-03-14 14:00:36 acp142-s 06524 (#0        ) Msgin unid:Z9Q2hAAZfHMB qid:msg.06524-1 type:User-Mpdu p1msgid:[/PRMD=S4406/ADMD=FIELD/C=GB/;MU-ONE.FIE.0509606-250314.140033] envid:"X400-MTS-Identifier:[/PRMD=S4406/ADMD=FIELD/C=GB/;MU-ONE.FIE.0509606-250314.140033]" chan:acp142-s4406e mta:"cn=acp142-s4406e-HF-NETWORK-ONE,cn=MU ONE,cn=Messaging Configuration HFAP-ONE,o=Messaging Switches,o=Messaging System" size:1110 nrecip:1 content-type:oid.1.3.26.0.4406.0.4.1 sender:"/CN=FIELD RADIO OPERATOR /PRMD=S4406/ADMD=FIELD/C=GB/" submit-time:2025-03-14-14.00.33 queued-time:2025-03-14-14.00.36 priority:4
2025-03-14 14:00:36 acp142-s 06524 (#0        ) ok unid:Z9Q2hAAZfHMB qid:msg.06524-1 rno:1 xno:1 recip:"/CN=HEADQUARTERS RADIO OPERATOR /PRMD=S4406/ADMD=HEADQUARTERS/C=GB/" ureq:fw mreq:1 chan:x400p1 mta:"cn=x400,cn=FAREP ONE,cn=Messaging Configuration HFAP-ONE,o=Messaging Switches,o=Messaging System"
2025-03-14 14:00:36 acp142-s 06524 (#0        ) ACP142in unid:Z9Q2hAAZfHMB qid:msg.06524-1 chan:acp142-s4406e source:10.50.66.1 msid:1741960833 co:no
2025-03-14 14:00:36 x400p1   06096 (#0        ) P1InitConnOK chan:x400p1 theirmtaname:FAREP-ONE theirpa:"\"591\"/URI+0000+URL+itot://farep-one.headquarters.net" ourmtaname:HFAP-ONE rtse_type:normal appcon:3 recov:false dialogmode:mono auth_req:11 our_auth_req:11 rtsid:3 ckpoint:63 window:3 actno:0 rts_flags:c15 bindtype:simple
2025-03-14 14:00:36 x400p1   06096 (#0        ) Trans unid:Z9Q2hAAZfHMB qid:msg.06524-1 chan:x400p1 rno:1 recip:"/CN=HEADQUARTERS RADIO OPERATOR /PRMD=S4406/ADMD=HEADQUARTERS/C=GB/" action-time:2025-03-14-14.00.36 tid:1 qtime:0.268
2025-03-14 14:00:36 x400p1   06096 (#0        ) Msgout unid:Z9Q2hAAZfHMB qid:msg.06524-1 chan:x400p1 mta:"cn=x400,cn=FAREP ONE,cn=Messaging Configuration HFAP-ONE,o=Messaging Switches,o=Messaging System" sender:"/CN=FIELD RADIO OPERATOR /PRMD=S4406/ADMD=FIELD/C=GB/" size:1899 nrecip:1 tid:1 ttime:0.016
```

## MU ONE Moves Towards HFAP TWO from HPAP ONE

Log into the Icon-Topo Configuration Site at “FAREP ONE”

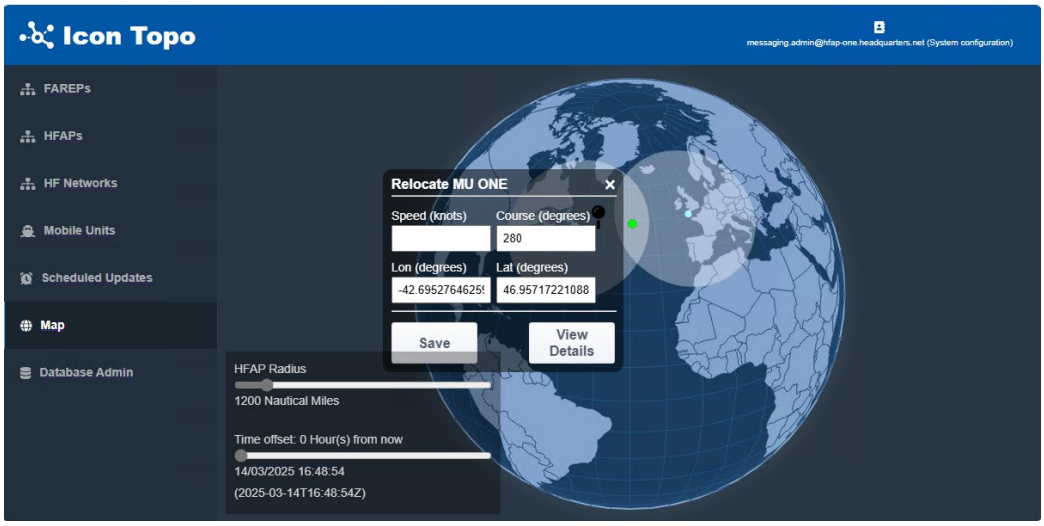
Select “Map”

*Map before Move*




Select the Green Dot that represents “MU ONE” and drag to a location that is in range of “HFAP TWO” but not “HFAP ONE”.

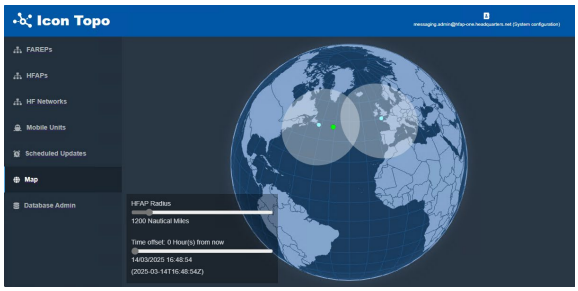
*Relocate MU ONE*




Press “Save”

You will see a green status update message.

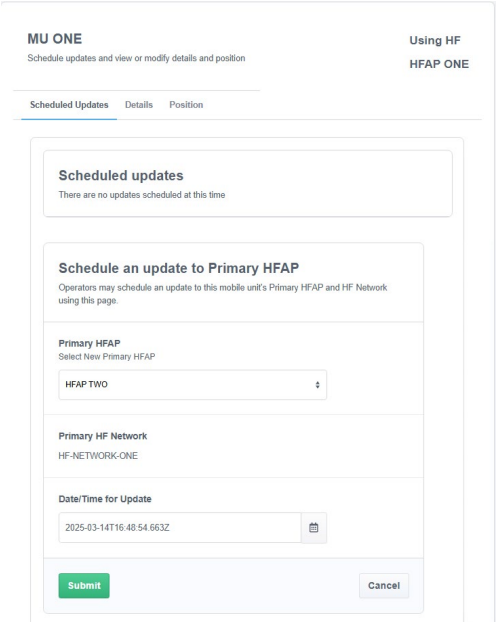
*New MU ONE location*




Select “MU ONE” on the map.

Note that it is suggested that the Primary HFAP should now be “HFAP TWO” and that an update should be scheduled.

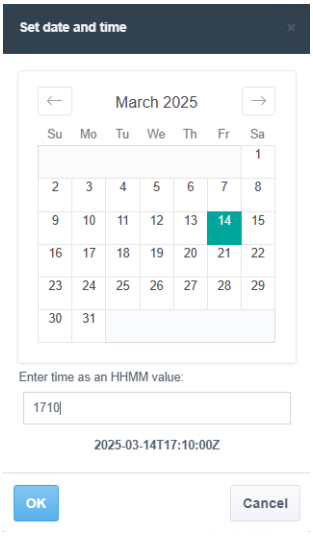
*Update suggested*




Press the calendar icon

Select a time for the update that is at least 6 minutes from the current time

*Set date and time*

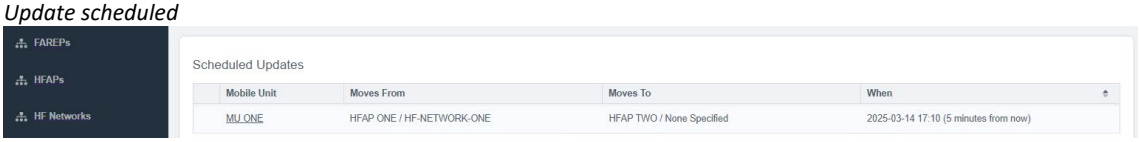



Press “OK”

Press “Submit”

Select “Scheduled updates”

*Update scheduled*




Change to “MU ONE” and open the “Icon-Topo Configuration site” on “MU ONE”.

Select “Scheduled Updates”

The scheduled update may not have arrived yet.

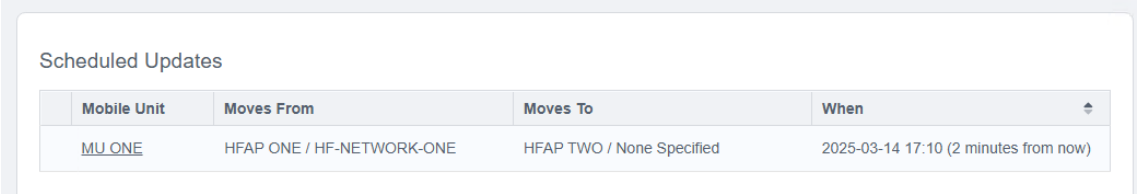
Refresh the page occasionally until the scheduled update is populated via Sodium Sync, FTBE and Mule.

This indicates that the Sodium Sync, ftbe via HFAP ONE and Mule have worked.

Now wait until after the time the update is scheduled to happen.

The countdown will be shown.

*Countdown to application of scheduled update*

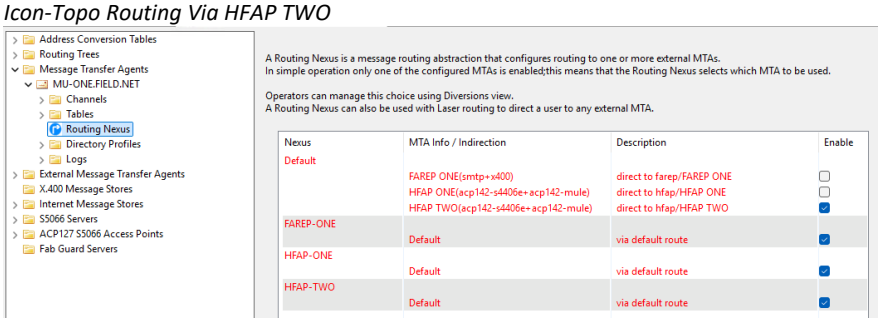



Once the above view is empty, the update will have been applied.

Close and reopen “MConsole” at MU ONE

Note that the “Default” routing in the Routing Nexus has changed.

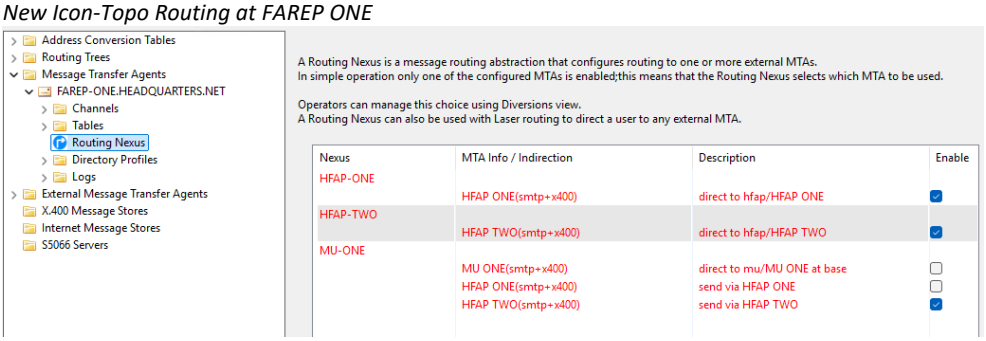
*Icon-Topo Routing Via HFAP TWO*




In this case, “MU ONE” Now routes via “HFAP TWO”.

At “FAREP ONE”, messages are now routed to “MU ONE” via “HFAP TWO”.

*New Icon-Topo Routing at FAREP ONE*




As a further test of the system, repeat the following tests and confirm that messages are routed via “HFAP TWO” by examining the switch audit logging at “HFAP TWO”.

Send an Internet Message while not in port from “Steve Wright” to “Simon Bates”.

Reply to that message.

Send a Military Message while not in port from “HEADQUARTERS RADIO OPERATOR” to “FIELD RADIO OPERATOR”

Reply to that message.