R2.0 Icon-Topo Evaluation Guide

How to create an outline Icon-Topo evaluation environment.

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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 highlatency 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 | STRATEGIC- | FAREP- | HFAP- | HFAP- | MU- |
|--------------------------------|------------|--------|-------|-------|-----|
| be installed on that server | ONE | ONE | ONE | TWO | ONE |
| | | | | | |
| MAS 1.1V1 | х | Х | X | x | X |
| | | | | | |
| | | | | | |
| Cobalt 1.5v3 | x | | х | | х |
| M-Vault 19.0v21 | x | х | х | х | x |
| | | | | | |
| M-Switch 19.0v21 | x | х | х | х | х |
| M-Box 19.0v21 | Х | | | | x |
| Icon-Topo 2.ov3 | | x | x | x | X |
| Icon-5066 3.1v3 | | | x | x | x |
| Harrier 4.1vo | х | | | | 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 III M-Vault Console File Help | × |
|---|--------------------------------------|
| Connect ▷ Start □ Stop ⊕ Create ▼ Q Scan ▼ Ø Directory Servers Shadowing Agreements ② Failover ③ Multimase | ter |
| Profile Server Managed Directory Servers | Hostname(s) |
| | Ing System HFAP-ONE.HEADQUARTERS.NET |
| | > |

Double Click on the "Managed Directory server"

HFAP-ONE Directory Configuration

| File Help | Refresh | | | |
|--|--|---|-------------------------------------|--|
| ☆ Configuration □ Shadow Age ♀ Address ♀ Operation ♀ Logging ☆ Logging ☆ Superior Knowledge | greements Server A The addr root entr | Databases Peer DSAs defress ess(es) that the directory server lis y. | Log Streams | OCSP Services |
| SASL TLS X.509 Paisword Policy Shadowing Failover Multimaster ↔ HTTP Services Q.OAuth Q.OLP | Type X.500 LDAP | Hostname or network address HFAP-ONE.HEADQUARTERS.NI HFAP-ONE.HEADQUARTERS.NI | Port number ET 19999 ET 19389 | Add Edit Remove Selectors Advanced |
| C Security Labels | Selectors | : (none) | А | pply Cancel |

From the "Create" menu Select "Multimaster Configuration"

Choose Multimaster Configuration Option

| 🗐 cn=dsa,o=Messaging System / Messa | ging / | Admin - M-Vault Console | - | | × |
|---|-------------|--|--------------------|-----------------|-----|
| File Help | | | | | |
| 🕂 Create 🔻 📼 Remove 🚺 Refre | sh | | | | |
| Supplier Agreement Consumer Agreement | ts r A | 🖹 Databases 📮 Peer DSAs 🗐 | Log Streams 🛛 🔄 | OCSP Servic | es |
| Failover Configuration Failover Mirror | :ldr ntr | ess(es) that the directory server listens y. | on and that it adv | rertises in the | |
| Multimaster Configuration | | Hostname or network address | Port number | Add | |
| Multimaster Replica Server |) | HFAP-ONE.HEADQUARTERS.NET HFAP-ONE.HEADOUARTERS.NET | 19999 19389 | Edit | |
| Database | | | | Remove | |
| Peer Configuration | | | | Selectors | |
| Log Stream | | | | Selectors | 31 |
| OCSP Service | | | | Advanced. | • |
| OAuth OCSP Security Labels LDAP Changelog | ectors | : (none) | | pply Canc | el. |
| Abort F Session is bound for "cn=d | sa,o= | Messaging System". Last data refresh: | 16 January 2025 at | t 10:22:01 GMT | т |

Give the Configuration a Name and press "Next >"

| 0 | | | | | | | × |
|-------------------------------|----------------------------------|----------------------------------|------------------|--------------------|-----------|-----|---|
| dultimaste | er Configur | ation Desc | ription | | | | |
| Enter a desc | ription for th | e multimaster | configuration | | | | |
| The descripti configuratio | on text is use n user interfa | d to identify th ce elements. | ie multimaster c | onfiguration in mo | onitoring | and | |
| Description: | Topo Multir | master Configu | ration | | | | |
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Press "Finish"

Multimaster configuration created Multimaster Configuration Created Multimaster Configuration Created The multimaster configuration has been created and all existing databases will be replicated. To add a new replica to select the "Create->Multimaster Replica Server menu item. OK

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"



Click "Yes".

Enter and verify the password "Secret1+"

Enter a Passphrase for the Bind Profile

| 🛐 Enter Profile pa | ssphrase X |
|---|---|
| Please enter a Pro and means that yo run Sodium, M-Va | file passphrase. This will be used to encrypt all of the passwords, ou will be prompted for this passphrase from now on whenever you ult Console, MConsole or M-Link Console. |
| Passphrase: | ••••• |
| Verify Passphrase: | ••••• |
| | OK Cancel |

Click "OK".

Bind Profile encryption confirmation

| Bind profile file encrypted | × |
|--|----|
| The bind profile file has been encrypted | |
| | ОК |

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

On the following Warning:

No managed DSA's configured

| 📑 No | Managed DSAs Configured | × |
|------|---|-------------------|
| 1 | You currently do not have any managed DSAs configured. You can use the "Create" option to create a new DSA, or to create a bi existing DSA. | nd profile for an |
| | [| ОК |

Click "OK"

You will be presented with the following GUI

Empty M-Vault console

| I M-Vault Console | | - | \times |
|---|-----------------|-------------|----------|
| File Help | | | |
| 🖞 Connect 🖒 Start 🗌 Stop 🗳 Create 🔹 | 🗸 Q Scan 👻 | | |
| Directory Servers Shadowing Agreements Failow | ver Multimaster | | |
| Profile | Server | Hostname(s) | |
| | | | |
| | | | |
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| | | | |
| | | | |
| | | | |
| < | | | > |
| Abort | | | |

Select "Create" and then from the menu presented "New Bind Profile"



On "Bind Profile Type" press "Next >"

On "Directory Server Address"



Select "LDAP" from the "Address" dropdown.

In "Hostname" type "HFAP-ONE.HEADQUARTERS.NET"

Press "Next >"

Select Bind Profile Authentication type

| Authentication T Choose an authenti Type Anonymous Simple Strong SASL ID Kerberos | Type ication type for bind Description A simple bind allo optional passwor The permissions i configuration for | ding to the directory ows authentication rd. granted to read or v | vith the DSA using a vrite entries depend or | DN and an | |
|--|--|--|--|--------------|-------|
| Choose an authenti Type O Anonymous Simple Strong O SASL ID O Kerberos | Description A simple bind allo optional passwor The permissions configuration for | ding to the directory ows authentication rd. granted to read or v the hind-DN. | v server with the DSA using a vrite entries depend o | DN and an | |
| Type Anonymous Simple Strong SASL ID Kerberos | Description A simple bind allo optional passwor The permissions configuration for | ows authentication rd. granted to read or v the hind-DN. | with the DSA using a | DN and an | |
| | | | | , and uncell | əry's |
| | c Daala | Neuto | rists. | 6 | |

On "Authentication Type" select "Simple" and Press "Next >"

The "Simple Bind" dialogue will be presented

Simple Bind Dialogue

| E Bind Profile Details | | | Х |
|---|-----------------------|--------------------|----|
| Simple Bind | | | |
| Bind to a directory server using password based authentication | | | |
| Bind DN : | | Pi | ck |
| Password : | | | |
| Verify Password : | | | |
| Leave the password blank to be prompted for it on connection, or for a "na Start TLS Identity (optional) | ame only | " bind. | |
| <none> View</none> | Clear | Selec | t |
| The identity to be used if the LDAP server requests a client certificate whe negotiation. Note that this identity will not be used for LDAP authentication: to authen certificate, you must configure a "Strong" bind. | n perfor nticate u | ming TL: sing a | |
| < Back Next > Finish | | Cance | I |

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

Press "OK"

In "Password" and "Verify Password" type "Secret1+"



Press "Finish"

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

Bind Profile Successfully Created

| 🛐 M-Vault Console | | - | | × |
|------------------------------------|---------------------------|--------------------------|---|---|
| File Help | | | | |
| 🖰 Connect 🗅 Start 🗌 Stop 🕂 Cr | eate 👻 🔍 Scan 👻 | | | |
| Directory Servers Shadowing Agreer | ments 🛞 Failover 🥪 Multim | aster | | |
| Profile | Server | Hostname(s) | | |
| Managed Directory Servers | | | | |
| SHEAP-ONE.HEADQUARTERS.NET | cn=dsa,o=Messaging System | HFAP-ONE.HEADQUARTERS.NE | L | |
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| | | | | |

Abort Automatic scans disabled. Last scan: 20 January 2025 at 13:01:41 GMT

Select "Create" and then from the dropdown menu "Multimaster Replica Server"

M-Vault console create menu

| 🛐 M-Vault Console File Help | | | | - | | × |
|--|---|---------------|----------------------|---|----------|---|
| 🖰 Connect 🗅 Start 🗔 Stop 🗧 | Create 🝷 🔍 Scan 🝷 | | | | | |
| Shadowing Shadowing | Directory Server | ter | | | | |
| Profile | Shadow Directory Server Multimaster Replica Server | | Hostname(s) | | | |
| Managed Directory Servers HFAP-ONE.HEADQUARTERS.I | New Bind Profile | saging System | HFAP-ONE.HEADQUARTER | | RTERS.NE | т |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| < | | | | | | > |
| Abort Automatic scans disabled, I | .ast scan: 13 January 2023 at 15:51:2! | GMT | | | | |

You will be presented with this dialogue:

Provide DSA Name



Change "cn=dsa" to" cn=dsa-farep-one"



Press "Next >"

| 🗐 Create M | ultimaster Re | eplica | | | | | × |
|----------------------------|--------------------------------|--------------------------------------|-------------------------------|----------------|------------|----------|--------|
| Authentica | tion config | guration | | | | | |
| Review auth | entication fo | or the new Direct | tory Server | | | | |
| A new bind authenticati | profile will b on as the su | e configured for oplier or master | r the Directory Serve DSA. | r which will u | ise the sa | me | |
| Manager: cr | n=Messaging | Admin, cn=Use | ers, o=Messaging Sys | stem | | | |
| Password: | ****** | | | | | | how |
| | | | Conv password t | o clinboard | Savena | coword t | o file |
| | | | Copy passion of t | o chpoodra | ouve pu | 33WOTU C | onic |
| | ser aumentic | ation times (au | in timestamps) | | | | |
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| | | | | | | | |

On "Authentication configuration" press "Next >"

| Name Bind Profile | | | |
|---|-----------|----------|------------------|
| 🛐 Create Multimaster Replica | | | × |
| Bind Profile Names and Filesystem Location | | | |
| Use the suggested values, or enter your own | | | |
| Management bind profile name: Used to manage the DSA in M-Vault Cons | ole | | |
| | | | |
| FAREP-ONE.HEADQUARTERS.NET | | | |
| FAREP-ONE-HEADQUARTERS.NET The folder which will contain the directory server's database and configural created in order to initialize the DSA): | tion (thi | s folder | will be |
| FAREP-ONE-FIEADQUARK HSS.NE I The folder which will contain the directory server's database and configural created in order to initialize the DSA): C:\lsode\d3-db | tion (thi | s folder | vill be rowse |
| FAREP-ONE-HEAUQUARLIES.NE I The folder which will contain the directory server's database and configural created in order to initialize the DSA): C:\lsode\d3-db | tion (thi | s folder | will be rowse |
| FAREP-ONE-HEADQUARTERS.NET The folder which will contain the directory server's database and configural created in order to initialize the DSA): C:\lsode\d3-db | tion (thi | s folder | will be rowse |
| FAREP-ONE-HEADQUARTERS.NET The folder which will contain the directory server's database and configural created in order to initialize the DSA): C:\lsode\d3-db | tion (thi | s folder | vill be rowse |

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

Press "Next >"



In "Hostname" type "FAREP-ONE.HEADQUARTERS.NET"

Press "Next >"

| Confirm Details | | | | | | |
|---|---------------------|--------------------|----------------|------------|------------|---|
| 🋐 Create Multimaster Replica | | | | | | × |
| Confirm Details | | | | | | |
| Check the details below before creatin | g the DSA | | | | | |
| DSA address: Host FAREP-ONE.HEADQUARTERS | .NET, X.500 on po | ort 19999, LDAP on | port 19389, MI | ESH on J | port 20000 | ^ |
| DSA name: cn=dsa-farep-one,o=Messaging Sy | /stem | | | | | |
| Bind profile name: cn=dsa-farep-one,o=Messaging Sy | ystem / Messagir | ıg Admin | | | | |
| Security settings: Password hashing and SASL securi server. | ty settings will be | copied from the s | ource multima | ister dire | ectory | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | ~ |
| | < Back | Next > | Finish | | Cancel | |

On "Confirm Details" press "Finish"

Replica created

| iephea ereatea | | | | |
|-----------------------------------|-------------------------------------|--------------------------|-----|---|
| M-Vault Console | | - | | × |
| File Help | | | | |
| 🖰 Connect 🕞 Start 🗔 Stop 🕂 Cr | eate 🝷 🔍 Scan 🔹 | | | |
| Directory Servers Shadowing Agree | ments 🕜 Failover 🛕 Multim | aster | | |
| Profile | Server | Hostname(s) | | |
| Managed Directory Servers | | | | |
| FAREP-ONE.HEADQUARTERS.NET | cn=dsa-farep-one,o=Messag | FAREP-ONE.HEADQUARTERS.M | VET | |
| ✓ HFAP-ONE.HEADQUARTERS.NET | cn=dsa,o=Messaging System | HFAP-ONE.HEADQUARTERS.N | ET | |
| Directory Server Created Se | uccessfully | × | | |
| The multimaster replic | ca server has been created and star | ted successfully. | | |
| Abort | | ОК | | |

On "Directory Server Created Successfully" press "OK"

Two directories available

| ■ M-Vault Console | | - 🗆 | × | | | |
|---|------------------------------|------------------------|------|--|--|--|
| File Help | | | | | | |
| 🖞 Connect 🖒 Start 🔲 Stop 🕂 Create 👻 🔍 Sca | an 🔻 | | | | | |
| Shadowing Agreements ② Failove | er 🛕 Multimaster | | | | | |
| Profile | Server | Hostname(s) | | | | |
| Managed Directory Servers | | | | | | |
| SAREP-ONE.HEADQUARTER.NET | cn=dsa-farep-one,o=Messaging | FAREP-ONE.HEADQUARTERS | .NET | | | |
| | cn=dsa,o=Messaging System | HFAP-ONE.HEADQUARTERS. | NET | | | |
| < | | | > | | | |
| Abort Automatic scans disabled. Last scan: 4 May 2023 at 18:12:52 BST | | | | | | |

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.



Select "Create a New Messaging Configuration ..."

| Select Local Bind Profile | | | | |
|--|---------|-----|---------|----------|
| Bind Profile Management | | | | \times |
| Configured Binds (encrypted) | | | | |
| FAREP-ONE.HEADQUARTER.NET HFAP-ONE.HEADQUARTERS.NET | | | New | |
| | | N | lodify | |
| | | | Сору | |
| | | R | ename | |
| | | | Delete | |
| | | Pas | sphrase | |
| | | | | |
| Certificates | | | | |
| | Connect | | Close | |

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

| Create a new MHS configuration | | | | \times |
|---|----------------------------------|-------------------|----------|----------|
| Product Activation | | | | |
| The Product Activation information | on this system is shown here. | | | |
| Product Activation information: M-S | witch is activated, Product is ' | M-Switch MIXE | R" | |
| Activated subfeatures are: TLS, x400, s | smtp, military, ftbe | | | |
| The remainder of this Messaging Cor M-Switch MIXER | nfiguration wizard will create a | a configuration a | ppropria | te for |
| If this is incorrect, contact support@i | sode.com for a suitable Produ | uct Activation Ke | у | |
| | | | | |
| | | | | |
| < <u>B</u> ac | k <u>N</u> ext > | Einish | Cance | el 👘 |

Press "Next >"

State an ever MHS configuration Image: Configuration State Ansex MHS configuration Detect Messaging Configuration Base DM State the entry under which a Messaging Configuration entry will be configuration Image: Configuration Date DM Section Detect Date Section Image: Configuration Date Date Section Image: Configuration Date Date Section Image: Configuration name Image: Configuration name Image: Configuration Date Section Messaging Configuration Date Section Messaging Configuration Date Section Messaging Configuration Name Image: Configuration Date Section Messaging Configuration FAREP-ONE configuration Section Messaging Configuration FAREP-ONE configuration</td

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" "farepone.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"



Select "New External MTA ... "



Select "X400"

Click "Next>".

Name the External MTA

| Create a new MTA | | | × |
|---|---|-------|---|
| MTA Naming | | | |
| MTAs can be named in a number of different ways, depending on the context. | | | |
| The MTA Name, to be used in protocols (like X.400 P1 binds) | | | |
| MTA name in protocol STRATEGIC-ONE | | | |
| | | | |
| The host name or IP address of the system on which the MTA will run | | | |
| Fully Qualified Hostname strategic-one.headquarters.net | | | |
| | | | |
| The local Directory Name in this configuration (defaults to MTA Name) | | | |
| Directory Name STRATEGIC-ONE X400 | | | |
| | | | |
| Optional local description for the new MTA | | | |
| Description | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| < Back Next > Finis | h | Cance | I |
| | | | |

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 >"



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

Press "Edit"

X400 Route to HEADQUARTERS

| O/R Address Editor | × |
|------------------------|--|
| Name Form Partial | ~ |
| Country Name GB | Administrative Domain HEADQUARTERS Space |
| Private Domain S4406 | Organization |
| Organizational Unit #1 | Organizational Unit #2 |
| Organizational Unit #3 | Organizational Unit #4 |
| Surname | Initials |
| Given Name | Generation Qualifier |
| Common Name | |
| X.121 Address | |
| Terminal ID | |
| Domain-defined type | = |
| Clear | OK Cancel |

In "Administrative Domain" type "HEADQUARTERS"

In "Private Domain" type "S4406"

Press "OK"

| Default route selected | | | |
|---|-------------------|-------------------|---------|
| Create a new MTA | | | × |
| Default Routing Tree for this MTA | | | |
| Routing will be setup for the O/R Address Prefix selected, and the default Internet domain selected earlier. | | | |
| Choose a Routing Tree or Address Conversion Table. Use the tree navigation or complete O/R address, and then modify this value if necessary via the Ed | tool t it butt | o select a on. | partial |
| cn=Main Routing Tree, cn=Messaging Configuration FAREP-ONE, o=Messa | ging S | witches,o: | -M ~ |
| ✓ Main Routing Tree | | | |
| > C=GB | | | |
| > net | | | _ |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Colored O/D Address | | | |
| Selected U/K Address | | | _ |
| O/R Address //PRMD=S4406/ADMD=HEADQUARTERS/C=GB/ | | Edi | t |
| < Back Next > Finish | | Cance | el 🛛 |

Click "Finish"

Select the node "headquarters" in the routing tree.

Right click.

Add node Address Conversion Tables Routing Trees Main Routing Tree Ec=GB C=GB C=met External Mess Delete... X.400 Message Check Routing... S5066 Servers

Select "Add node"

Add smtp route node to field

| > 🔁 Address Conversion Tables | м | TA Info | |
|--|--------|---------|------|
| ✓ → Main Routing Tree | | | |
| > 🚟 C=GB | | MTA G | roup |
| > C headquarters | | | |
| Create a Routing Tree node | | | × |
| Enter a value for the new Domain Component Nam | ne nod | e | |
| Domain Component Name mmhs | | | |
| ОК | | Cancel | |

In "Create a Routing tree node" type "mmhs". Press "OK"

Associate Remote MTA With Node

| > Conversion Tables | 🕝 Edit MTA Info | | × |
|---|--|---|--|
| ✓ industry trees ✓ image: A start of the st | By editing the MTA information fo The DN configured in the MTAInfo Routing for this node Select the MTA that is goi | r this routing tree node, you can so is the DN of an MTA ng handle this node | It the routing for the selected O/R hierarchy |
| > 🕑 mmhs > 📴 Message Transfer Agents | cn=STRATEGIC-ONE | · | ~ |
| Catemal Message Tanafer Agents X400 Message Stores Internet Message Stores S5066 Servers | Dealing with multiple MTAs for a MTA Weights affect the rou lower weighted MTAs are p MTA weight | a single node uting algorithm: if multiple MTAs a referred.] contact the remote MTA using mc to be used by adding it to the tab | re present in a node, yre than one channel, le with a lower weight |
| | AE title | Weight | Add |
| | | | OK Cancel |

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

| MConsole (Switch Configuration Management): (| nessaging.admin@hfap-one.headquarters.net | | | |
|---|--|---|-------|--------|
| File Window View Messaging Operations H | elp | | | |
| Welcome to Message Console 🔄 Switch Con | nfiguration Management 🗙 🔄 Switch Ope | erations | | |
| Witcher Meinige Count Wetcher Meinige Count Wetcher Meinige | Signation Measurement X with Ope Descriptions Profile Anatobia Lookup Palogue von undy Autor Palogue Anatobia Lookup Palogue von undy Autor Palogue Anatobia Lookup Palogue Anatobia Palogue Anatobia Lookup Palogue Anatobia Anatobia Lookup Palogue Anatobia Palogue Anatobia Lookup Palogue Anatobia Palogue An | Antonia y and a long the cardinal sector of the sector of | 9-1 v | Edt |
| L | | OK Cano | el | |
| | | | | 43.11. |

Press "OK"

On "Default Lookup Policy" press "OK"

This will result in the following routing policy:

| New Default | Routing | Policy |
|-------------|---------|--------|
|-------------|---------|--------|

| Lookup policies (ds) \$ (dns) | Edit |
|---|------|
| baddressing | |
| Recipient Delimiter (use '+' for Sieve) | |
| | |
| | |
| | |
| | |

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

| > Address Conversion Tables | Main Delivery Routing | Lookup Authorization | Oueue Manager Security Advanced Alertd | ^ | • |
|--|--|--------------------------|--|---|---|
| Guiling inces Message Transfer Agents Girl AREP-ONE.HEADQUARTERS.NET Setternal Message Transfer Agents | Vice: block | | | | |
| X.400 Message Stores Internet Message Stores S5066 Servers | Filter: (&(inchan=smtp-e State: Enabled | external)(outchan=smtp-e | xternal)(outmtal:localhosts)) | | |
| | Туре | Priority State | Description | | |
| | Inchan=smtp-internal | 0 Enabled | Local SMTP | | |
| | block | 0 Enabled | Stop relay | | |
| | archive | 0 Enabled | Archive all inbound messages | | |
| | archive=out | 0 Enabled | Enable Outbound Archive | | |
| | | | | | |

Select the rule "Stop Relay"

Press "Edit"

| Disable | rule | |
|-----------------|--|--------|
| 🥩 Edit MTA | Rule | × |
| Enter the inf | formation necessary to build a new MTA authorization rule | |
| Description | Stop relay | ~ |
| Туре | Block ~ | ~ |
| Filter | (&(inchan=smtp-external)(outchan=smtp-external)(outmtal:localhosts)) | 🥩 Edit |
| Priority | 0 | |
| Disable Rule | | |
| If two rules ar | e triggered, the higher priority rule will take precedence | |
| | ОК | Cancel |

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

| | _ | |
|---|------------|---|
| | | × |
| | | |
| | New | |
| | Modify | |
| | Сору | |
| | Rename | |
| | Delete | |
| | Passphrase | |
| | | |
| | | |
| | | |
| : | Close | |
| | | New Modify Copy Rename Delete Passphrase |

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 | ım | | | _ | П | × |
|------------------------------------|-------------------|-----------|----------------------------|------------|--------|-----|
| Session Edit Operations X.509 View | Help | | | | _ | |
| Browse: Messaging S × | | | | | | |
| 🔒 🌯 "FAREP-ONE.HEADQUARTER.N | ET": LDAP bind to | 'FAREP-ON | E.HEADQUARTERS.NET' on poi | Template v | iew 🗸 | ſ |
| V 😡 World | Organization | Address | | | | |
| > the config | ganization | Name | Messaging System | | + | 1 |
| Search Compare | scription | | | | + | |
| Copy DN | e Also | | • | | Pick + | |
| Rename Add below | one | | | | + | |
| Delete | | | | | + | |
| Refresh | | | | | | |
| Bulk tools | > | | | | | |
| | | | | | | |
| | Add another | Clone | Object classes | Appl | y Cano | :el |
| Abort Viewing: o=Messaging System | | | | | | |

Right click and from the context menu choose "Add Below..."



Select the template "Organisation" and Press "Next >"

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

| Provide Organization Name | | | | | |
|---------------------------|--------|--------|--------|-----|------|
| Organization Name | Торо | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | < Back | Next > | Finish | Car | ncel |

In "Organisation Name" enter "Topo"

Press "Finish"

Press "Add"

The organization "Topo" will be added:

| R FAREP-ONE.HEADQUARTER.NET - Sodium Session Edit Operations X.509 View Help | | | Not state that the state of the | | × |
|---|-----------------------------|-----------|--|-------|---|
| | | | Select template to add | | |
| Browse: Topo, Messa X | | | Choose the template suitable for the entry you wish to add | | |
| 🔒 🌇 "FAREP-ONE.HEADQUARTER. | NET": LDAP bind to 'FAREP-O | NE.HEADQU | ACP Organization ACP 127 | | ^ |
| V 😔 World | Organization Address | | ACP Tenant ACP 127 | | |
| > 📄 cn=config | | | NIS Posix Group | | |
| 🗸 💑 o=Messaging System | Organization Name | Торо | NIS IP Service | | |
| cn=Address Book | | | NIS IP Protocol | | |
| > Cn=Groups | Description | | Solution NIS ONC RPC binding | | |
| > cn=Users | | | S NIS Network | | |
| cn= white Pages | See Also | | NIS Netgroup | | |
| - o=Topo | | | NIS Map | | |
| 00 0- 10p0 | Phone | | Constraint Man | | |
| | | | I Icon-Topo Root Entry | | |
| | Fax | | Icon-Topo Structuring Entry | | |
| | | | lcon-Topo Entity Info | | |
| | | | lcon-Topo DB Entry | | |
| | | | Example pre-initialised form: Person for Accounts | | |
| | | | Example pre-initialised form: Person for Sales | | |
| | | | OAuth2 Client | | |
| | | | OAuth2 Config | | |
| | Add another Clone | Object cl | OAuth2 Service | | ~ |
| | | | | | |
| Abort Viewing: o=Topo,o=Messaging | System | | < Back Next > Finish | Cance | 1 |

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"

| FAREP-ONE.HEADQUARTER.NET - Sodium | | - 0 | × |
|---|---------------------------------|----------------------|--------|
| Session Edit Operations X.509 View He | lp | | |
| Browse: Topo DB, To × | | | |
| 🔒 🌇 "FAREP-ONE.HEADQUARTER.NET": L | DAP bind to 'FAREP-ONE.HEADQUAR | Template view | ~ |
| V 📦 World | Topo Root Data | | |
| cn=config cn=Config cn=Address Book | DB Name | Торо DB | 1 |
| > cn=Groups cn=Users | Freeze Time | | |
| cn=White Pages | Schema Version | | - |
| v 🙏 o=Topo | Update Times | Clear Edit | • |
| | Last Status Update Time | Clear Edit. | |
| | Current Locker | | |
| | Super Users | Pick | • |
| | Admin Users | Pick | + |
| | Operator Users | Pick | • 🗸 |
| | Add another Clone | Dbject classes Apply | Cancel |

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

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.

| Https://localnost: | 170 2 ⁵ S | 2) W |
|--------------------|--|---|
| | • | |
| lcon-T | | ain |
| icon-it | ομο Εο | ym |
| Username: | | Required |
| messaging.admin@ |)hfap-one.head | quarter: |
| Password: | | Required |
| | | rioquirou |
| | Icon-To Username: messaging.admin@ | B Icon-Topo Lo Username: messaging admin@hfap-one.head |

Enter username "messaging.admin@hfap-one.headquarters.net"

Enter password "Secret1+"

Press "Login"

Bootstrap System Administrator

| •ିଙ୍କ Icon Top | 0 | B messaging admin@hfsp-one.headqua | | |
|---------------------|---|---------------------------------------|------|---|
| 🚓 FAREPs | Bootstrap System Administrator | × | | |
| 🚓 HFAPs | | | When | ÷ |
| 🚓 HF Networks | granted temporary system administrator privileges. You may make yourself a system administrator now by clicking the Bo | potstrap button | | |
| 🙊 Mobile Units | below. Or continue with temporary access by clicking cancel. | | | |
| 🔞 Scheduled Updates | Bootstrap | Cancel | | |
| ⊕ Мар | | | | |
| 🗧 Database Admin | | | | |

Press "Bootstrap"

In the left-hand pane, select "FAREPs"

Empty Farep Configuration

| •ିଝ Icon Topo | | | 📓 messaging admin@Map-one.headquarters.net (System configuration) |
|---------------------|----------------|-------------------------------|--|
| A FAREPS | - | | |
| 🚠 HFAPs | Add FAREPS (FD | Application Routing Entry Poi | ints) |
| 🚠 HF Networks | Name | Hostname | Last Update |
| 🚊 Mobile Units | | | |
| 😰 Scheduled Updates | | | |
| ⊕ Мар | | | |
| 🛢 Database Admin | | | |

Press "Add FAREP"

```
Farep One Configuration
```

| •်လံ့ Icon Topo | | 2 messaging.admin@hfap-one.headquarters.net (System configu |
|-------------------|--|--|
| | Name Name of this FAREP | Required |
| 👬 HFAPs | FAREP ONE | |
| # HF Networks | No. and a second se | Required |
| 🚊 Mobile Units | Hostname of this FAREP | |
| Scheduled Updates | farep-one.headquarters.net | |
| ⊕ Map | Email Domain | Required |
| 🛢 Database Admin | The domain used for SMTP based email services. | |
| | farep-one.headquarters.net | |
| | MMHS Domain The domain used for MMHS formal military messaging. More | Required |
| | mmhs.farep-one.headquarters.net | |
| | X.400 O/R Address Prefix This is needed to support STANAG 4406 Protocols. More | Required |
| | /PRMD=S4406/ADMD=FAREP-ONE/C=GB/ | |
| | Mandatory Protocols These Protocols are automatically supported. | |

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 | | | | |
|---------------------|-------------|--------|-----------------------------|---------------------|
| 🚠 FAREPs | | | | |
| 🖶 HFAPs | Add FAREP | Applic | ation Routing Entry Points) | |
| 🚓 HF Networks | News | • | 11-14-1-1-1 | |
| | Name | ⇒ | Hostname | Last Opdate |
| 🚊 Mobile Units | FAREP ONE > | | farep-one.headquarters.net | 2023-02-02 17:18:50 |
| 🚠 Scheduled Updates | | | | |

Select "HF Networks" in the left-hand pane.

Press "Add HF Network"

Add HF Network

| Name | |
|---|----------|
| Enter the name of this HF Network | Required |
| HF-NETWORK-ONE |) |
| Description Enter a description for this HF Network | |
| Network One |) |
| Owning HFAP Select an initial owner HFAP for this 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

| Add HFAP Administrators may add a new HFAP (High Frequency Access Point) using this page | | | | |
|---|-------------------------|----------|--|--|
| Name Name of this HFAP HFAP ONE | | Required | | |
| STANAG5066 Address Enter the STANAG5066 Address 10.50.66.0 | | Required | | |
| Current HF Networks Changes will be applied when hitting 'Submit' or | reverted with 'Cancel'. | Required | | |
| Name | Description | | | |
| HF-NETWORK-ONE | Network One | × | | |
| No More HF Networks are available | | Required | | |
| Hostname Enter a valid hostname of this HFAP | | Required | | |
| hfap-one.headquarters.net | | | | |

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
| /1C HF/ /iew | Odify AP ON or modify o | HFAP Position E Jetalis and position |
|--------------------|-------------------------------|---|
| View | v Details | Position |
| | View | / Modify HFAP |
| | Adminis | trators may modify the current HFAP (High Frequency Access Point) |
| | Name | |
| | Name of | f this HFAP |
| | HFAP | ONE |

Select the "position" tab.

Enter the position Information:

Latitude: 50 degrees, 0.69 minutes North Longitude: 5 degrees, 0.714 minutes West

| View / Modify Higher Frequency Access Poin Location Higher Frequency Access Point (HFAP) Location data | t (HFAP) |
|---|----------|
| Name Name of this Higher Frequency Access Point (HFAP) HFAP ONE | |
| Latitude Enter Latitude degrees, decimal minutes and direction NIS Not Defined 50 0.69 North \$ | Required |
| Longitude Enter Longitude degrees, decimal minutes and direction EW Not Defined 5 0.714 West \$ | Required |
| Submit | Cancel |

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

| APs (High F | requei | ncy Access Points) | |
|-------------|--------|---------------------------|---------------------|
| Add HFAP | | | |
| Name | ÷ | Hostname | Last Update |
| HFAP ONE | | hfap-one.headquarters.net | 2023-02-02 18:05:00 |
| | | hfap-two.headquarters.net | 2023-02-03 09:25:35 |

Select "Map" in the left-hand pane.



Drag the "HFAP Radius" to be 1200 nautical miles.



Select "Mobile Units" in the left-hand pane. Press "Add MU"

| Add Mobile Unit (MU) | |
|---|----------|
| Administrators may add new mobile units using this page | |
| Name Name of this Mobile Unit (MU) | Required |
| MU ONE | |
| Is At Base / SATCOM | |
| Description Enter a description of this Mobile Unit (MU) | |
| SHIP ONE | |
| STANAG5066 Address | Required |
| Emer the STANAG3066 Address 10.50.66.1 | |
| FAREP Select FAREP | Required |
| FAREP ONE \$ | |
| | |

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

Mobile Units

| A | | | | | | |
|---|----------|-------------|-------------|-----------|--------------|------------------|
| | Name 🔶 | Satcom / HF | Description | Domain | Primary HFAP | Last Update |
| | MU ONE > | Satcom | SHIP ONE | field.net | HFAP ONE | 2025-01-21 10:17 |

Select "MU ONE"

Select the "Position" tab.

| Set MU position |
|-----------------|
|-----------------|

| Course (in Degree | s) | | | |
|---|--|-------------------|------------|---|
| 280 | | | | |
| Speed Speed (in Knots) | | | | R |
| 0 | | | | |
| | | | | |
| Latitude | | | | R |
| Latitude Enter Latitude deg Not Defined | rees, decimal minu | tes and directior | n N/S | R |
| Latitude Enter Latitude deg Not Defined 49 | 0.5 | North | n N/S ¢ | R |
| Latitude Enter Latitude deg Not Defined 49 Longitude Enter Longitude de | rees, decimal minu 0.5 egrees, decimal min | North | n N/S ♦ | R |
| Latitude Enter Latitude deg Not Defined 49 Longitude Enter Longitude de Not Defined | rees, decimal minu 0.5 egrees, decimal min | North | nV/S ¢ | R |

In "Course" type "280"

In "Speed" type "o"

In "Latitude" type "49 degrees 0.5 Seconds North"

In "Longitude" type "29 degrees o 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 | | |
|---------------------|--|-------------------------------|
| •်လံ့ Icon Topo | | essaging.admin@hfap-one.headq |
| 🚓 FAREPS | Database Administration | |
| 🚠 HFAPs | Config Authorised Users Modify Access Levels | |
| 🚓 HF Networks | name Topo DB instance FAREP- | |
| 🚊 Mobile Units | ONE/isode.topo.config version 2.0.3.1 | |
| O Scheduled Updates | schema- 1.1.2.0 version | |
| ⊕ Map | default- none access | |
| 🛢 Database Admin | update last-rebase | |
| | Freeze Time Time allowed (minutes) for changes to propagate to all MUs. More 5 Rebase Interval Period between rebase operations (in days). More 1 | Required |
| | Submit | Cancel |

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

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

| Address Conversion Tables | | | | | |
|----------------------------------|--------------------------|---|--|-------------|----------------|
| Routing Trees | A Routing Nexus is a me | ssage routing abstraction that configures ro | uting to one or more external MTAs. | | |
| 🗸 🌏 Main Routing Tree | In simple operation only | one of the configured MTAs is enabled;this | means that the Routing Nexus selects which MTA | to be used. | |
| ✓ 📰 C=GB | | | | | |
| > 🕜 ADMD=FAREP-ONE | Operators can manage ti | his choice using Diversions view. | to any external MTA | | |
| > 🕑 ADMD=FIELD | | o be used with caser routing to direct a user | to any externar with. | | |
| > C ADMD=HEADQUARTERS | | | D 1.0 | E 11 | New Nexus |
| > 🕑 ADMD=HFAP-ONE-ONE | Nexus | MIA Info / Indirection | Description | Enable | |
| > 🕑 ADMD=HFAP-TWO | HFAP-ONE | | | | New MTA Group. |
| > 🕑 net | | HFAP ONE(smtp+x400) | direct to hfap/HFAP ONE | | P. 15 |
| Message Transfer Agents | HFAP-TWO | | | | Edit |
| FAREP-ONE.HEADQUARTERS.NET | | HFAP TWO(smtp+x400) | direct to hfap/HFAP TWO | | Delete |
| > 🔚 Channels | MU-ONE | | | | |
| > 🔄 Tables | | MU ONE(smtp+x400) | direct to mu/MU ONE at base | | |
| C Routing Nexus | | HFAP ONE(smtp+x400) | send via HFAP ONE | | |
| > Directory Profiles | | HFAP TWO(smtp+x400) | send via HFAP TWO | | |
| > 🔚 Logs | | | | _ | |
| External Message Transfer Agents | | | | | |
| V 📑 HFAP ONE | | | | | |
| v 🔄 Channels | | | | | |
| 🍓 smtp | | | | | |
| 🎯 x400 | | | | | |
| HFAP TWO | | | | | |
| V 🔄 Channels | | | | | |
| 🍓 smtp | | | | | |
| 🍇 x400 | | | | | |
| 🖌 🔤 MU ONE | | | | | |
| ✓ Image: Channels | | | | | |
| 🙀 smtp | | | | | |
| 🎯 x400 | | | | | |
| STRATEGIC-ONE | | | | | |
| STRATEGIC-ONE X400 | | | | | Anak |
| X.400 Message Stores | | | | | Арріу С |

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 | | |
|------------------------|--|---|
| 🕰 Cobalt | Add FTBE Mailbox | Cobalt.admin@hfap-one.headquarters.net Domain: farep-one.headquarters.net View: Manage Everything |
| តុំភ្នំ FTBE Mailboxes | Name The name that identifies this FTBE mailbox | Required |
| Lomain Administrators | FAREP ONE FTBE MAILBOX | |
| | Mailbox Root Directory The file-system path where messages for this mailbox are stored. More | Required |
| | c:\ftbe | |
| | Email Address Email address for this mailbox. More | Required |
| | farep.one.ftbe.mailbox | farep-one.headquarters.net |
| | Alternative Email Addresses Messages sent to any of these addresses will be treated as if they had been | sent to the More |
| | @farep-one.hea | idquarters.net × + |
| | STANAG 4406 Address STANAG 4406 address (X.400 O/R Address). More | |
| | Channel Name M-Switch channel name for handling this file transfer based user | Required |
| | ftbe | |

In "Name" type "FAREP ONE FTBE MAILBOX"

In "Mailbox root Directory" type "c:\ftbe"

Press "Add"

| 🕰 Cobalt | FTBE (File Transfer | by Email) Mailboxes | Cobalt.admin@hfap-one.headquarters.net Domain: farep-one.headquarters.net View: Manage Everything |
|--------------------------|---------------------|---------------------|---|
| តុំ-ខ្ញុំ FTBE Mailboxes | FAREP ONE FTBE M | AILBOX : | |
| Lomain Administrators | Configure → | Peers → | |
| | | reers → | |

Press "Peers"

| FTBE Peers | | | |
|------------------------|---|----------|---|
| 🕰 Cobalt | FTBE Peers FTBE Peers (FAREP ONE FTBE M | Delete A | cobalt.admin@hfap- one.headquarters.net Domain: farep-one.headquarters.net View: Manage Everything |
| តុំភ្នំ FTBE Mailboxes | | | |
| Lomain Administrators | | | |
| | | | |

Press "Add"

| Add FTBE Peer | |
|--------------------------|--|
| 🕰 Cobalt | Add FTBE Peer FTBE Mailboxer > FTBE Peers (FAREP ONE FTBE > Add Contemportation of the second s |
| តុំ-ភ្នំ FTBE Mailboxes | |
| 20 Domain Administrators | File Transfer By Email Peer This page contains information about a specific peer for this FTBE mailbox |
| | Name Required The name that identifies this peer MU ONE FTBE MAILBOX |
| | Mailbox subdirectory Required Subdirectory name for files associated with this peer. More MU ONE FTBE MAILBOX |
| | Email Addresses Email address associated with this peer. Mare mu.one.ftbe.mailbox@field.net Search |
| | STANAG 4406 Address The X.400 address(es) of the peer, More |
| | /CN= MU ONE FTBE MAILBOX /PRMD=S4406/ADMD=FIELD/C=GB/ |
| | Add |

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 | | | | | | | |
|-----------------------|---|---------------------|--|-------|----|---------------------|----|
| 🕰 Cobalt | FTBE Peers Add Cobalt admineMnspeer TBE Mailboxes > FTBE Peers (FAREP ONE FTBE M. Delete Add Oenenchaguatters.net Domain fragewastergaters.net Water Kareps and State Revending | | Ladmin@hfap- eadquarters.net farep-one.headquarters.net nage Everything | | | | |
| 🚧 FTBE Mailboxes | | Name | \$ FTBE User | | \$ | Subdirectory | \$ |
| Lomain Administrators | | MU ONE FTBE MAILBOX | FAREP ONE FTBE MA | ILBOX | | MU ONE FTBE MAILBOX | |

Configure M-Switch

Open MConsole

Right Click on "Channels"

New channel

| > 🚞 Address Conversion Tables |
|--------------------------------|
| > 🚞 Routing Trees |
| 🗸 🚞 Message Transfer Agents |
| V 🔄 FAREP-ONE.HEADQUARTERS.NET |
| V 📴 Channele |
| 🚳 New Channel |
| 🏟 housekeeper |
| 🏟 Imtp |
| 🎯 mhsshaper |
| .m |

Select "New Channel"

| New FTBE | Channel | | | | |
|-------------------------|------------------------|----------------------|-------------------|-------|------|
| 🛅 Create a new MTA | thannel | | | | × |
| Channel type and | name | | | | |
| Select the type of char | nnel you want to cre | ate, and give it a n | ame | | |
| Channel Type | | | | | |
| FTBE | | / | | | |
| FTBE: File Transfer By | Email, for arbitrary f | ile transfer betwee | n M-Switch system | IS | |
| Channel name ftb | e | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | < <u>B</u> ack | Next > | <u>F</u> inish | Cance | el 🛛 |

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

| - | | | | | | | |
|----------------------------------|--------|----------|------------|------------------|---|-------|------|
| > 📴 Address Conversion Tables | ^ | | | | | | |
| Routing Trees | Main | Program | lables | Advanced | | | |
| 🗸 🔄 Message Transfer Agents | | | A | | | | |
| V I FAREP-ONE.HEADQUARTERS.NET | Progra | m to run | rtechani | nei | Program Arguments | | |
| v 🔛 Channels | | | | | | | |
| 822-local | Ney | | | | | | |
| housekeeper | | | | | | | |
| Imtp | Prog | am Speci | fic Variat | oles | | | |
| mhsshaper | | Main | le. | | | | |
| military-dl | | | | | | | |
| mimecheck | | Mailbo | x prefix | C:\ftbe | | | 1 |
| imimeshaper | | | | | | | - |
| p3deliver | | Inbox | inbox | | | | 1 |
| p3server | | | | | | | - L |
| smtp-auth | | Outbo | x outbo | x | | | 1 |
| 🎲 smtp-dl | | | | | | | |
| > 🎲 smtp-external | | Subdir | ectory De | elivery Mode | ⊖ True @ False | | |
| ismtp-internal | | | | | | | |
| 🎲 x400-dl | | Delive | | an inter er deal | Investering True @ Enles | | |
| *400mt | | Denie | manopa | its into soloo | inectories () noe (generate | | |
| > 🎲 x400p1 | | | | | | | |
| 💮 ftbe | | | | | cn=FTBE.cn=farep-one.headquarters.net.cn=Cobalt Data.o=Messaging System | Pick | |
| > 🔄 Tables | | Interne | et user se | arch base | | 1 | |
| Routing Nexus | | | | | Use the top of the directory tree _ | 1 | |
| > Cal Directory Profiles | | | | | | | |
| > 📴 Logs | | | | | | | |
| External Message Transfer Agents | | | | | | | |
| X.400 Message Stores | | | | | | | |
| Internet Message Stores | | | | | | | |
| Carl S5066 Servers | | | | | | | |
| ACP127 S5066 Access Points | | | | | | | |
| Fab Guard Servers | | | | | | A | C |
| CFTP S5066 Access Points | ~ | | | | | -pply | Canc |
| | | | | | | | |

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"

| Service Configuration | On View He | - | | | - | | × |
|-------------------------------------|---|--|----------------------------|---|-------|-----|-----|
| etvice Computation sode Services | Create Service Create Service Enable Logging Start All Stop All store dis-farep-one,o=Mess thich Queue Manager Switch OSI Listener Switch SOI Listener Switch SOI Listener DSA Creation Service Infguration Service Late Service | M-Yoult M-Soitch M-Store Audit Database Tomcat Service Status Start Type Disabled License Status | > > > > > > | tode M-Switch Queue Manager Ioode M-Switch QS Listener Ioode M-Switch QS Listener Ioode M-Switch SMTP Server Ioode M-Switch PT File Server Ioode M-Switch PT File Server Ioode M-Switch AT2Y Server Ioode M-Switch AT2Y Server Ioode M-Switch AT2P Server Ioode M-Switch AT2P Server Ioode M-Switch AT2P Server Ioode M-Switch PS Server | | | |
| < | > | | | | Apply | Can | sel |

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



Select Session/Sync/Manager



| Nync Profile Management | × |
|--------------------------|----------------|
| Configured Sync Profiles | |
| | New |
| | Modify |
| | Сору |
| | Rename |
| | Delete |
| | Abort Sync |
| | View Report |
| | Menu |
| | |
| Server Off 🗸 🗸 | Run Sync Close |

On "Sync Profile Management" press "New"

Name M-Vault to M-Vault Profile

| wond | | | | 7 |
|---------|--|------|-------------|---|
| Nig Syr | nc Profile Management | | × | |
| Conf | igured Sync Profiles | | | |
| | ॡ New Sync Profile | × | New | |
| | Enter name of new sync profile: | | Modify | |
| | Topo Configuration to MU ONE | | Conv | |
| | Select time to configure an | | - | |
| | Advanced view: flexible configuration of a sync or check process | | Rename | |
| | O Group of syncs | | Delete | |
| | O Sync Active Directory to M-Vault (or to generic LDAP server) | | Abort Sync | |
| | Sync M-Vault to M-Vault Sync L DAP to L DAP (or between M-Vault and generic L DAP) | | View Pepert | |
| | O Sync from LDIF to M-Vault (or to generic LDAP server) | | view Report | |
| | O Compare two DSA subtrees and generate a change-LDIF | | Menu | |
| | O Compare two LDIF files and generate a change-LDIF | | | |
| Serve | r Off Off Apply a change-LDIF to a directory | Sync | Close | |
| | OK Cancel | | | |
| | OK Calicel | _ | | |

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

| | | | T . | | | | | <i>a</i> | . | 61. L.F. | | - | |
|--------|-----------|-----------|------------|--|------------|---------|----------------------------|------------|---------------------------|------------|-------|-------|------|
| rotile | Mode | Source | larget | Entries | Attributes | Mapping | Glue | Checks | Output | Scheduling | Hooks | Irace | |
| ync Pr | ofile nam | ie: | | | | | | | | | | Add N | oter |
| Торо (| Configura | tion to M | IU ONE | | | | | | | | | | |
| | | | | Source DSA subtree Target DSA subtree | → Map | pping | Compu changu require | te ss → | Apply to Target DSA | | | | |
| | | | | | | | | | | | | | |

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 a Distinguished Name | × |
|-------------------------------------|---|
| | |
| 🗸 🌍 <world></world> | |
| > Cn=config | |
| ✓ | |
| cn=Address Book | |
| > 🔘 cn=Cobalt Data | |
| > 🔘 cn=Deleted Users | |
| > 🔘 cn=Groups | |
| 🔑 cn=HFAP-ONE CA | |
| > 🔘 cn=Users | |
| 📄 cn=White Pages | |
| 🔉 🗸 o=Messaging Switches | |
| 🗸 💑 о=Торо | |
| > 📑 topoDBName=Topo DB | |
| | |
| | |
| | |
| Selection o=Topo,o=Messaging System | |
| | |
| | |

Press "OK"

Source Tab

| Tome mode | oource | Cacilie | chules | Attributes | mapping | Olde | CHECKS | Output | scheduling | HOURS | nace | |
|------------------|------------|------------|-----------|---------------|----------------|-----------|-------------|----------|------------|-------|------|----|
| iource DIT subtr | ee: | | | | | | | | | | | |
| Use Bind Pro | hle | | | | | | | | | | | |
| cn=dsa-fare | p-one,o= | Messagin | g System | i / Messagin | ig Admin | | | | | | ~ Ne | w |
| Starting poin | t DN: o: | Topo,o=l | Messagin | g System | | | | | | | Brow | ws |
| Dereferen | ce aliases | copy ref | erenced e | entry instead | l of entry its | elf | | | | | | |
| Optimised | i data pre | -fetch: Re | quires th | at directory | support pa | ged resul | ts or large | searches | | | | |
| Page sizes: | 10 | 00,100 | | | | | | | | | | |
| 🔵 Use SQL data | base: | | | | | | | | | | | |
| SQL profile: | | | | | | | | | | | | |
|) Use LDIF file: | | | | | | | | | | | | |
| C:\Users\Ad | Iministrat | or\Deskto | p\source | ldif | | | | | | | Brow | ws |
| Starting noin | DNe | | | | | | | | | | Bros | |
| Like CSV file: | | | | | | | | | | | | |
| C:\Users\Ac | Iministrat | or\Deskto | p\source | 5.CSV | | | | | | | Brow | ws |
| CSV nonfile | | | | | | | | | | | | |
| cos promo | | | | | | | | | | | | |

Select "Cache" tab.

| | Jource | Entries | Attributes | Mapping | Glue | Checks | Output | Scheduling | Hooks | Irace |
|--------------------|--------------------|------------|---------------|---------------|------------|-------------|------------|-------------|-------|-------|
| ienerate changes | by comparing t | ne source | to target-ca | che files kep | ot in this | folder: | | | | |
| C:\Sodium Sync\ | Topo Configura | ion | | | | | | | | Brow |
| Relocate entrie | s to a different s | tarting po | int on target | | | | | | | |
| Starting point I | DN on target: | | | | | | | | | |
| lumber of old car | che files to keep | 3 | | | | | | | | |
| Reload after th | is many syncs: | 14 | | | | | | | | |
| NOTE: The first sy | nc on a new/em | pty cache | folder will d | lo a comple | te targe | t update to | initialise | the cache.) | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

Some Cache Lettries Attributes Mapping Obse Checks Output Output Scheduling Hocks Trace Ordging agrees to ber Ordging output of Diamond by E-mail Check Output Checks Output Output on LDIF of there is something to put in it

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 TDA Scheduling TDA Scheduling Carlos Carlos

Select "Schedule at this interval"

Change the interval to 1 minute.

Press "OK"

Completed Sync Profile

| Sync Profile Management | | | > |
|------------------------------|-----------------------------|----------|-------------|
| Configured Sync Profiles | | | |
| Topo Configuration to MU ONE | 📤 Sync Server not connected | | New |
| | | | Modify |
| | | | Сору |
| | | | Rename |
| | | | Delete |
| | | | Abort Sync |
| | | | View Report |
| | | | Menu |
| | | | |
| Server Off ~ | | Run Sync | Close |

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

Select Install and Start Server

| Install and Start server V Server Off | | Run Sync | Close |
|---|-------------|----------|-------|
| Install and Start server Install server Refresh status | | | |
| Install and Start Sync Server | | | |
| 🏣 Install and Start Sync Server | × | | |
| To install the Sync Server Windows Service, fill in the details below and click OK. | | | |
| Note: The service must be run with the same user-name as the Sodium client (Administrator), and so requires the password for this user to be configured. The password can be entered here, or alternatively you can leave this blank and configur the password directly by changing the Properties for the "Isode Sodium Sync" servic after the service has been installed. (See Control Panel -> Administrative Tools -> Services) it will not be possible to start the server until the password is configured correctly. | e | | |
| IMPORTANT: In addition, the service won't start unless the user has 'Logon as a Servi rights. This is automatically granted if the password for 'Isode Sodium Sync' is set manually in the Services control panel. It can also be examined or modified via Con Panel -> Administrative Tools -> Local Security Settings. | ce' trol | | |
| User password | | | |
| Server listening port 19898 | | | |
| OK Cancel | | | |

Enter the server "administrator" password and press "OK"

A server startup failure will be presented.



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

| h Local Security Policy | | | - | × |
|-------------------------|---|---|---|---|
| File Action View Help | | | | |
| 🗢 🔿 🙍 📷 🗙 🖾 🔒 📓 🖬 | | | | |
| Security Settings | Peloy Genesa backeoun from a rende system Genesale security audit Inversionals a call of the authentication Inversionals a call of the authentication Inversional a call of the authentication Inversional a call of the authentication Inversional Call of the authentication Inversional Inversion Inversional Inversion Inversion Inversion Inversional Inversion | Scurfty Setting Administrator LOCA SERVICE.NETWO Ubas Administrator, Window Administrator, Backup Administrator, Backup Administrator, Backup Administrator, Backup Administrator, Statunet, S | | ^ |
| | Modify from, vetex Oten an improvement total for source use in the same Perform suppresent totals for source uses Performance Profile suppresent totals Porformation of the same Performance Porformation | Administrators Administrators Administrators Administrators Administrators MTSRNL Administrators MTSRNL UCALSRNCE.NETWOL, Administrators Reckup Administrators Reckup | | * |

Right click and select "Properties"

Press "Add User or Group"

Enter The Object name "administrator" and press "Check names"

Select Administrator User

| | | × | Log on as a service Properties | ? × |
|--|--------------------------|---------|--|--------------|
| | | | Local Security Setting Evolution | |
| | | | | |
| Policy | Security Setting | ^ | Log on as a service | |
| Denv log on through Remote Desktop Services | | | | |
| Enable computer and user accounts to be trusted for delega | | | | |
| Force shutdown from a remote system | Administrators | | NT SERVICE ALL SERVICES | |
| Generate security audits | LOCAL SERVICE, NETWO | | NT SERVICE VILE SERVICES | |
| Impersonate a client after authentication | LOCAL SERVICE, NETWO | | | |
| Increase a process working set | Users | | | |
| Increase scheduling priority | Administrators, Window | | | |
| Load and unload device drivers | Administrators | | | |
| Lock pages in memory | | | | |
| Log on as a batch job | Administrators, Backup | | | |
| Log on as a service | NT SERVICE\ALL SERVICES | | | |
| Manage auditing and security log | Administrators | | Add Users of Cases | |
| Modify an object label | | | Add User or Group Hemove | |
| Modify firmware environment values | Administrators | Select | Users or Groups | × |
| Obtain an impersonation token for another user in the same | Administrators | | | |
| Perform volume maintenance tasks | Administrators | Select | t this object type: | |
| E Profile single process | Administrators | Users | or Built-in security principals | Object Types |
| Reference Profile system performance | Administrators, NT SERVI | From th | his location: | |
| Remove computer from docking station | Administrators | FARE | PONE | Locations |
| Replace a process level token | LOCAL SERVICE, NETWO | | | Locations |
| Restore files and directories | Administrators, Backup | Entert | the object names to select (examples): | |
| Shut down the system | Administrators, Backup | FARE | P-ONE\Administrator | Check Names |
| Synchronize directory service data | | | | |
| | | | | |
| | | Adv | Vapped OK | Cancel |
| | | MUN | UK UK | Caricel |



Log on As a Service Populated

| Log on as a service Properties | | | ? | × |
|--|--------|--------|----|-----|
| Local Security Setting Explain | | | | |
| Log on as a service | | | | |
| MU-ONE-Vadministrator NT SERVICE-ALL SERVICES | 5 | | | |
| Add User or Group | Bemove | | | |
| | ОК | Cancel | Ap | ply |

Press "OK"

Open the "Isode Service Configuration" tool. Select the "Isode Sodium Sync" service Change to the "Advanced" tab.

Define User Account Name

| Service Configuration | | | | - | | × |
|---|--|--------|--|------------------------------|------|----------|
| Service Configuration Operations View He | lp | | | | | |
| Isode Services | | | | | | |
| kode Service → Add ② Africh All ③ Refrech All ③ → Gode AuddDB Embedded HSQLDB B → Gode AuddDB HSQLDB All → Gode → Gode All → Gode → Gode → Gode All → Gode → Gode | Aut Tree Opport General Recovery Advances Service ID Executable Path Registry Arguments Service Executable Arguments O Local Account User Account Name Required Services The service depends on the I Service Name | Remove | per.eve a)Reaming\Isode\xadium-sync-v ther Account Password Service ID | vrapper.conf Add Apply | Canu | × cel |
| < >> | | | | Obbit | 2011 | |
| Abort | | | | | | |

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



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 | r | |
|-------------------------------|----------------|--|
| 🛅 Renaming S5066 Server | × | |
| Name of the new \$5066 Server | HF-NETWORK-ONE | |
| | OK Cancel | |

Press "OK"

On the warning press "OK"



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> <sasimech>SCRAM-SHA-1</sasimech> </db-dsa></topoboot> |
|--|
| <update></update> |
| <type>hfap</type> |
| <name>HFAP ONE</name> |
| <switch></switch> |
| NB this value must match the MTA DN in mconsole <mtadname>cn=HFAP-ONE.HEADQUARTERS.NET,cn=Messaging Configuration</mtadname> |
| HFAP-ONE,o=Messaging Switches,o=Messaging System |
| <ldaphost>ldap://localhost:19389/</ldaphost> |
| <userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn> |
| <pre><password>Secret1+</password></pre> |
| <qmgrhost>hfap-one.headquarters.net</qmgrhost> |
| <qmgruser>messaging.admin@hfap-one.headquarters.net</qmgruser> |
| <pre><pre>sword>Secret1+</pre>/password></pre> |
| <qmgrmech>SCRAM-SHA-1</qmgrmech> |
| |
| <s5066></s5066> |
| <server></server> |
| <name>HF-NETWORK-ONE</name> |
| NB these values must match the 5066 Server</td |
| in the M-Switch config> |
| <ninet>HF-NETWORK-ONE</ninet> |
| <pre><nostname>ntap-one.neadquarters.net</nostname> <pre><pre>cont</pre></pre></pre> |
| |
| |
| |
| |

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.



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

Default Route - Default Nexus

| Window View Messaging Operations | Help | |
|---|--|-------------|
| Welcome to Message Console Switch | Configuration Management X Z Switch Operations | |
| Address Conversion Tables Address Conversion Tables Routing Trees G Main Routing Tree C G B C G B C D AD P FATT DATE | MTA Info Filters MTA Group | |
| > O ADMD=FAREP-ONE | | Add |
| > C ADMD=HFAP-ONE > ADMD=HFAP-TWO | | Remove |
| v 🕒 net | | Edit |
| | Subtree Information: O All children present O Not all children present | |
| External Message Transfer Agents X.400 Message Stores Internet Message Stores S5066 Serves S5066 Serves Output CE127 S506 Access Points | Routing Nexus Default v | |
| Fab Guard Servers | | Apply Cance |

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"



Click "Yes".

Enter a Passphrase for the Bind Profile

| 🛐 Enter Profile pa | ssphrase X |
|--|---|
| Please enter a Prof and means that yo run Sodium, M-Va | file passphrase. This will be used to encrypt all of the passwords, ou will be prompted for this passphrase from now on whenever you ult Console, MConsole or M-Link Console. |
| Passphrase: | ••••• |
| Verify Passphrase: | •••••• |
| | OK Cancel |

Enter and verify the password "Secret1+"

Click "OK".

Bind Profile encryption confirmation

| Bind pr | ofile file encrypted | × |
|---------|--|---|
| 1 | The bind profile file has been encrypted | |
| | ОК | |

On "Bind profile encrypted warning" click "OK".

| No Ma | anaged DSA's Configured | |
|-------|---|--------|
| 🗐 No | Managed DSAs Configured | × |
| 1 | You currently do not have any managed DSAs configured. You can use the "Create" option to create a new DSA, or to create a bind profile existing DSA. | for an |
| | ОК | |

On "No managed DSA's configured" warning click "OK"



Select "Create" and then from the menu "New Bind Profile"

| Bind Profile Detail: | 5 | | | | × |
|---|--|---------------------------------------|-------------------------|-------------|-------|
| Bind profile type | | | | | |
| Select the type of DS/ | A that this profile is f | for | | | |
| Managed server | | | | | |
| Managed servers are s confer suitable permis | servers that can be co ssions are required. | onfigured in M-Vaul | t Console. User cree | dentials wh | ich |
| O Known server | | | | | |
| Known servers are onl Thus no client authen | ly communicated wi itication information | th at the system leve is required. | el, i.e. for chaining o | or for shad | owing |
| DSA Directory Path | | | | | |
| Path to the Directo | ory Server's database | (DSA folder) | | | |
| | | | | Chang | e |
| | | | | | |
| | | | | | |
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| | | | | | |

On "Bind Profile type" press "Next >"



On "Directory Server Address"

Select "LDAP" from the Address dropdown.

In "Hostname" type "HFAP-ONE.HEADQUARTERS.NET"

Press "Next >"

| thentication | Гуре | | | | |
|---------------------|---|---------------------------|---------|-----------|-------|
| hoose an authen | tication type for binding to the dir | rectory server | | | |
| Туре | Description | | | | |
| Anonymous Simple | A simple bind allows authentic optional password. | ation with the DSA usin | ig a DN | l and an | |
| ○ Strong ○ SASL ID | The permissions granted to rea configuration for the bind-DN | id or write entries deper | nd on t | he direct | ory's |
| Kerberos | comgaration of the bind bin | | | | |
| | | | | | |
| | | | | | |
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On "Authentication Type" Select "Simple" and Press "Next >"

| mple Bind ind to a directory server using Sind DN : Password : Arrify Password : | password b | ased authentic | ation | | Pick |
|--|---------------------------|---------------------------|---------------------|------------|---------|
| Sind to a directory server using Bind DN : Password : //erify Password : | password b | ased authentic | ation | | Pick |
| Sind DN : Password : (erify Password : | | | | | Pick |
| Password : | | | | | rice. |
| /erify Password : | | | | | |
| | | | | | |
| <none></none> | | | View | Clear | Select |
| The identity to be used if the l negotiation. | .DAP server | requests a clie | nt certificate wher | perform | ing TLS |
| Note that this identity will not certificate, you must configur | be used fo e a "Strong | r LDAP autheni ' bind. | ication: to authen | ticate usi | ng a |

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

Pick Messaging Admin bind dn

| World> | | | |
|-----------------------------------|--------------|------------|--|
| ✓ o=Messaging System | | | |
| cn=Address Book | | | |
| > cn=Cobalt Data | | | |
| > cn=Deleted Users | | | |
| > cn=Groups | | | |
| cn=HFAP-ONE CA | | | |
| ✓ cn=Users | | | |
| cn=lsode Application Server | | | |
| cn=Messaging Admin | | | |
| cn=White Pages | | | |
| > o=Messaging Switches | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| ection cn=Messaging Admin, cn=Use | rs, o=Messag | ing System | |
| | | | |

Press "OK"

| mpro Dinu | | |
|-----------------------------------|---|------|
| ind to a director | vserver using password based authentication | |
| ind DN : | cn=Messaging Admin, cn=Users, o=Messaging System | Pick |
| assword : | ••••• | |
| /erify Password : | ••••• | |
| identity (option | aı) | |
| <none></none> | View Clear Sel | |
| | e used if the LDAP server requests a client certificate when performing " | |
| The identity to b negotiation. | | |

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

| En M-Vault Console | | | - | | × |
|---|---------------------------|--------------|-------|----------|---|
| File Help | | | | | |
| 🖞 Connect 🗅 Start 🗔 Stop 🕀 Create 👻 🔍 Sca | in 🝷 | | | | |
| Shadowing Agreements ③ Failove | er 🛞 Multimaster | | | | |
| Profile | Server | Hostname(s) | | | |
| Managed Directory Servers | | | | | |
| HFAP-ONE.HEADQUARTERS.NET | cn=dsa,o=Messaging System | HFAP-ONE.HEA | DQUAR | TERS.NET | |
| < | | | | | > |
| | | | | | - |
| Abort Automatic scans disabled. Last scan: 13 January 202 | 23 at 09:36:17 GMT | | | | |

Select "Create" and then from the dropdown menu "Multimaster Replica Server"

Multimaster Replica Server option

| M-Vault Console | | | | - | | × |
|--------------------------------------|---|---------------|-------------|--------|---------|---|
| e Help | | | | | | |
| Connect D Start 🗆 Stop | 🔆 Create + 🔍 Scan + | | | | | |
| Directory Servers Shadowing | Directory Server | ter | | | | |
| Profile Managed Directory Servers | Shadow Directory Server Multimaster Replica Server | | Hostname(s) | ŝ. | | |
| HEAP-ONE HEADQUARTERS. | New Bind Profile | saging System | HEAP-ONE. | EADQUA | RTERS.N | T |
| | | | | | | |
| | | | | | | |

| 🛐 Create Multimaster Rep | lica | | | | × |
|---|--|--|--|---------------------------|-------------|
| DSA Name | | | | | |
| Specify a name for the new | Directory Serve | er | | | |
| DSA DN: This identifies the group of DSAs that you pla for the purposes of identifi | DSA when wor an to interact wi ication and doe | king with several D th using M-Vault C s not refer to a real | SAs. It must be un Console. This is sim entry. | ique within ply a name | the used |
| Please change the name b | elow to a suitab | le unique DSA nan | ne. | | |
| cn=dsa,o=Messaging Sys | tem | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | < Back | Next > | Finish | Canc | el |

Change "cn=dsa" to" cn=dsa-hfap-two".

| 🗐 Create Multimaster Rep | plica | | | | × |
|---|---|---|--|---------------------------|-------------|
| OSA Name | | | | | |
| Specify a name for the ne | w Directory Server | | | | |
| DSA DN: This identifies th group of DSAs that you pl for the purposes of identi | e DSA when worki lan to interact with fication and does i | ng with several DS using M-Vault Co tot refer to a real e | As. It must be un insole. This is sim intry. | ique within ply a name | the used |
| cn=dsa-hfap-two.o=Me | ssaging System | unique DSA hame | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

Press "Next >"



On "Authentication configuration" leave defaults Press "Next >"

| Bind Profile No | ame | | | | ~ |
|--|------------------------------------|-------------------|---------------------|---------------|---------|
| Bind Profile Names | end Filoeveta | mlocation | | | ^ |
| Use the suggested values | , or enter your ov | vn | | | |
| Management bind profile | name: Used to n | nanage the DSA ir | M-Vault Console | | |
| HFAP-TWO.HEADQUAR | TERS.NET | | | | |
| The folder which will cont created in order to initiali | tain the directory ze the DSA): | server's database | and configuration (| this folder v | vill be |
| C:\lsode\d3-db | | | | В | rowse |
| | | | | | |
| | < Back | Next > | Finish | Canc | el |

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

Press "Next >"



Change the "Hostname" to "HFAP-TWO.HEADQUARTERS.NET"

Press "Next >"



On "Confirm Details" press "Finish"

On "Directory Server Created Successfully" press "OK"



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

| En M-Vault Console | | – 🗆 X | | | | |
|--|------------------------------|----------------------------|--|--|--|--|
| File Help | | | | | | |
| 🖞 Connect 🖒 Start 🗌 Stop 🔂 Create 💌 🔍 S | can 🔻 | | | | | |
| Shadowing Agreements ③ Failo | over 🥪 Multimaster | | | | | |
| Profile | Server | Hostname(s) | | | | |
| Managed Directory Servers | | | | | | |
| W HFAP-ONE.HEADQUARTERS.NET | cn=dsa,o=Messaging System | HFAP-ONE.HEADQUARTERS.NET | | | | |
| SAREP-ONE.HEADQUARTERS.NET | cn=dsa-farep-one,o=Messaging | FAREP-ONE.HEADQUARTERS.NET | | | | |
| ➢ HFAP-TWO.HEADQUARTERS.NET | cn=dsa-hfap-two,o=Messaging | HFAP-TWO.HEADQUARTERS.NET | | | | |
| ٢ > | | | | | | |
| Abort Automatic scans disabled. Last scan: 30 January 2023 at 13:23:42 GMT | | | | | | |

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.



Select "Create a New Messaging Configuration"

Select HFAP-TWO Bind profile

| Bind Profile Management Configured Binds (encrypted) | | | | × | |
|---|---------|--------|----------|---|--|
| FAREP-ONE.HEADQUARTERS.NET HFAP-ONE.HEADQUARTERS.NET | | | New | | |
| HFAP-TWO.HEADQUARTERS.NET | | Modify | | | |
| | | | Сору | | |
| | | 1 | Rename | | |
| | | | Delete | | |
| | | Pa | ssphrase | | |
| | | | | | |
| Certificates | | | | | |
| | Connect | | Close | | |

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 act | ivation | summa | iry | | | |
|--|--------------------|--------------------|------------------|-------------|-----------|-------|
| Create a new MHS co | onfiguration | | | | | × |
| Product Activation | | | | | | |
| The Product Activation i | nformation on t | his system is sho | wn here. | | | |
| Product Activation inform | nation: M-Switcl | h is activated, Pr | oduct is "M-Sv | vitch Gatew | /ay" | |
| Activated subfeatures are | :: TLS, x400, smtp | o, military, acp14 | 2, acp127-broa | idcast, acp | 127 | |
| The remainder of this Me M-Switch Gateway | essaging Configu | ration wizard wi | ll create a conf | iguration a | ppropriat | e for |
| If this is incorrect, contac | t support@isode | .com for a suita | ble Product Ac | tivation Ke | у | |
| | | | | | | |
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| | | | | | | |
| | < Back | Next > | Finis | h | Cance | 4 |
| | | | _ | | | |

Press "Next >"

Browse to and Select "o=Messaging Switches"



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 | |
|---|--|
| Address Conversion Tables Routing Trees Message Transfer Agents External Message Transfer Agents X.400 Message Stores Internet Message Stores S5066 Servers | Main At present it is not possible to actively confi which is held in the Messaging Configuratic description string. General |
| > ACP127 S5066 Access Points D Fab Guard Servers R | elete |

×

Select "Rename"

| Name S5066 Server | |
|---|---|
| Renaming S5066 Server | × |
| Name of the new S5066 Server HF NETWORK ONE | |
| OK Cancel | |

Enter "HF-NETWORK-ONE"

Press "OK"

| Renai | me Warning | |
|----------|--|-----------|
| <u>^</u> | Please ensure that you update any ACP127,SLEP,CFTP S5006 Access ACP142 channels which reference this S5066 Server | Points or |
| | | OK |

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:

| Address Conversion Tables | | | | | |
|----------------------------------|--------------------------|--|--|--------|---------------|
| Routing Trees | A Routing Nexus is a me | ssage routing abstraction that configures routing to o | ne or more external MTAs. | | |
| 🗸 🌍 Main Routing Tree | In simple operation only | one of the configured MTAs is enabled; this means the | at the Routing Nexus selects which MTA to be u | sed. | |
| ✓ ₩ C=GB | | | | | |
| > 🕑 ADMD=FAREP-ONE | Operators can manage th | his choice using Diversions view. | 11.071 | | |
| > 😰 ADMD=FIELD | A Routing Nexus can also | o be used with Laser routing to direct a user to any ext | ernal MTA. | | |
| > 🔂 ADMD=HFAP-ONE-ONE | | | | | New News |
| > 🕜 ADMD=HFAP-TWO | Nexus | MTA Info / Indirection | Description | Enable | New Nexus |
| ∽ 🕝 net | Default | | | | New MTA Group |
| ∽ 🕞 field | | FAREP ONE(smtp+x400) | direct to farep/FAREP ONE | | |
| > 🕑 mmhs | FAREP-ONE | | | | Edit |
| > 🕝 headquarters | | FAREP ONE(smtp+x400) | direct to farep/FAREP ONE | | Dalata |
| Message Transfer Agents | HEAP-ONE | | | | Delete |
| V I HFAP-TWO.HEADQUARTERS.NET | | HEAP ONE(smtn+x400) | direct to bfan/HEAR ONE | | |
| > 🔚 Channels | MULONE | | | | |
| > 🔚 Tables | MO ONE | MU ONE(acp142-c4406a-HE-NETWORK-O | direct to mu/MU ONE using HE-NETWORK | | |
| Routing Nexus | | EARED ONE(septral-seduce-ini-international-one | conductor FARED ONE | | |
| > 🤤 Directory Profiles | | USAD ONE(1 400) | Send Via PAREP ONE | | |
| > 🔚 Logs | | HPAP ONE(Ship+x400) | Seria Via HPAP ONE | 0 | |
| External Message Transfer Agents | | | | | |
| V 🖾 FAREP ONE | | | | | |
| ✓ ☐ Channels | | | | | |
| 🍓 smtp | | | | | |
| 🍓 x400 | | | | | |
| V 📑 HFAP ONE | | | | | |
| ✓ ☐ Channels | | | | | |
| 😝 smtp | | | | | |
| 🍓 x400 | | | | | |
| V 🔛 MU ONE | | | | | |
| 🗸 📴 Channels | | | | | |
| acp142-mule-HF-NETWORK-ONE | | | | - I | |
| acp142-s4406e-HF-NETWORK-ONE | | | | | |
| 🍓 smtp | | | | | Annhy Ca |
| 🍓 x400 | | | | | Арріу Са |

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

| Set Default Route | | |
|--|--|-----------------------|
| Address Conversion Tables Souting Trees Address Main Routing Tree | MTA Info Filters | |
| > > : Message Transfer Agents > : : External Message Transfer Agents : : X400 Message Stores : : : X400 Message Stores : : : : : : : : : : : : : : : : : | MTA Group | Add Remove Edit |
| 📄 Fab Guard Servers | Subtree Information: O All children present O Not all children present | |
| | Routing Nexus Default v | |
| 1 | | |

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 4.1vo

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

| MConsole (S | witch Configuration Manag | ement): messaging.admin@field.net | | - | | × |
|--|---|--|---|------------------------|---------------|------|
| File Window | View Messaging Opera | tions Help | | | | |
| 😨 Welcome to I | Message Console 🛛 📈 S | witch Configuration Management 🗙 🛛 Switch Operation | 5 | | | |
| > a Address > a Routing? > a Message > External I > X.400 ML > a Internet I > a Stoffs Address > a Addres > a Addres > a Address <l< td=""><td>Conversion Tables Transfer Agents Hessage Transfer Agents Sage Stores Vers Nersing Stores Vers Rename Rename Rename</td><td>Main At present it is not possible to actively configure or manage is server which is held in the Massaging Configuration is the heli iterating plus acception attraction. General Description RedBlack Server name Host Name and Port The hostname or IP address that this server listens on The port that this server listens on</td><td>55066 servers via MCConsole. The only kno stramme (or IP address) and port on which MU-ONE FIELD NET Use default value (5066) 5086</td><td>wledge ab the serve</td><td>out a r is</td><td></td></l<> | Conversion Tables Transfer Agents Hessage Transfer Agents Sage Stores Vers Nersing Stores Vers Rename Rename Rename | Main At present it is not possible to actively configure or manage is server which is held in the Massaging Configuration is the heli iterating plus acception attraction. General Description RedBlack Server name Host Name and Port The hostname or IP address that this server listens on The port that this server listens on | 55066 servers via MCConsole. The only kno stramme (or IP address) and port on which MU-ONE FIELD NET Use default value (5066) 5086 | wledge ab the serve | out a r is | |
| | | | | Appl | y Can | icel |
| L | | | | | | |
| | | | | | 0 | Help |

Select "Rename"

Enter "HF-NETWORK-ONE"

Press "OK"

| New S5066 Server Name | |
|---|--------|
| Renaming S5066 Server | × |
| Name of the new S5066 Server HF-NETWORK-ONE | |
| ОК | Cancel |

On the warning press "OK"

| S5066 | 6 Rename Warning | × |
|----------|---|------|
| <u>^</u> | Please ensure that you update any ACP127,SLEP,CFTP S5006 Access Point ACP142 channels which reference this S5066 Server | s or |
| | | ОК |

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

| Configured Binds (encrypted) | | | | |
|------------------------------|---------|----|-----------|--|
| FAREP-ONE.HEADQUARTER.NET | | | New | |
| HFAP-ONE.HEADQUARTERS.NET | | | Modify | |
| | | | Сору | |
| | | ł | Rename | |
| | | | Delete | |
| | | Pa | assphrase | |
| | | | | |
| Certificates | | | | |
| [| Connect | | Close | |

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

| Rig cn=dsa,o=Messaging System / Messaging A | Admin - Sodium | - 🗆 🗙 |
|---|--|-----------------|
| Session Edit Operations X.509 View He | elp | |
| Browse: Messaging S × | | |
| Image: State of the state | ssaging Admin's LDAP bind to 'MU-ONE.FIELD.NET' on port 19389 Organization Address Organization Name Messaging System Description | Template view v |
| <pre> P cn=MU-ONE CA (cn=Users</pre> | See Also | Browse |
| | 18847 bytes, starting: o=Topo,o=Messaging System topoDRAme=Topo DB,o=Topo,o=Messaging System topoName=schema,topoDBName=Topo DB,o=Topo,o=Messag Load to alternative location in tree | ging System |
| | On error: OAbort OPrompt Continue Strip operational and collective attributes | |
| Abort Viewing: o=Messaging System | ОК | Cancel |

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

| 🖏 cn=dsa,o=Messaging System / Messaging A | dmin - Sodium | | | - | ш | × |
|---|---|--------------------------------|--|----------|-------|------|
| Session Edit Operations X.509 View Hel | lp | | | | | |
| Browse: Messaging S × | | | | | | |
| Browse Messaging S × World World Cconfig Cconfig Cconfig Cconfig Cconfig Cconfig Cconfig Cconfig Cconfig Cconfig Cconfig Cconforupt | organization Organization Organization Description See Also Phone Fax | LDAP bind t Address Name | o 'MU-ONE.FIELD.NET on port 19389 Messaging System | Template | iew V | • |
| | Add another | Clone | Object classes | App | ly Ca | ncel |
| Abort Viewing: o=Messaging System | | | | | | |

Close Sodium.

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

Topoboot.xml on MU ONE

| <topoboot></topoboot> |
|--|
| <db-dsa></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> |
| <pre><password servpass:encrypt="true">Secret1+</password></pre> |
| <saslmech>SCRAM-SHA-1</saslmech> |
| |
| <update></update> |
| <type>mu</type> |
| <name>MU ONE</name> |
| <switch></switch> |
| NB this value must match the MTA DN in mconsole |
| <mtadname>cn=MU-ONE.FIELD.NET,cn=Messaging Configuration MU-ONE,o=Messaging</mtadname> |
| Switches,o=Messaging System |
| <ldaphost>ldap://localhost:19389/</ldaphost> |
| <userdn>cn=Messaging Admin,cn=Users,o=Messaging System</userdn> |
| <pre><password>Secret1+</password></pre> |
| <qmgrhost>mu-one.field.net</qmgrhost> |
| <qmgruser>messaging.admin@field.net</qmgruser> |
| <pre><password>Secret1+</password></pre> |
| <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 | | | | | | | |
|-------------------|--------------|---|-------------|-------------|-----------|--------------|------------------|
| 👬 FAREPs | | | | | | | |
| 👬 HFAPS | Mobile Units | | | | | | |
| 👬 HF Networks | Name | | Satcom / HE | Description | Domain | Primary HEAP | Last Lindate |
| 🚊 Mobile Units | MU ONE > | * | Satcom | SHIP ONE | field.net | HFAP ONE | 2025-01-23 15:04 |

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

| MConsole (Switch Configuration Management): mess | saging.admin@field.net | | | | - 🗆 X |
|--|---|--|---|---------------|----------------------|
| File Window View Messaging Operations Help | | | | | |
| Welcome to Message Console Switch Config | uration Management | Switch Operations | | | |
| | A Routing Nexus is a mess In simple operation only o Operators can manage thi A Routing Nexus can also | age routing abstraction that configures routing to one of the configured MTAs is enabled; this means th s choice using Diversions view. be used with Laser routing to direct a user to any ex | one or more external MTAs. nat the Routing Nexus selects which MT ternal MTA. | A to be used. | |
| ADMD=HFAP-TWO | Nexus | MTA Info / Indirection | Description | Enable | New Nexus |
| v 🕜 net | Default | | | | New MTA Group |
| > 🕝 field | | FAREP ONE(smtp+x400) | direct to farep/FAREP ONE | | recontract of output |
| ✓ i headquarters | | HFAP ONE(acp142-s4406e+acp142-mule) | direct to hfap/HFAP ONE | ō I | Edit |
| > 🚱 farep-one | | HFAP TWO(acp142-s4406e+acp142-mule) | direct to hfap/HFAP TWO | ō I | Delete |
| > 🕑 hfap-one | FAREP-ONE | | | | berete |
| > 🕞 hfap-two | | Default | via default route | | |
| ✓ | HFAP-ONE | | | | |
| V MU-ONE.FIELD.NET | | Default | via default route | | |
| > Channels | HFAP-TWO | | | | |
| > a Tables | | Default | via default route | | |
| Directory Drafiler | | | | | |
| > I lons | | | | | |
| × External Message Transfer Agents | | | | | |
| V FAREP ONE | | | | | 1 |
| V 📴 Channels | | | | | |
| 🔐 smtp | | | | | |
| 🏟 x400 | | | | | |
| V 🔛 HFAP ONE | | | | | |
| 🗸 📴 Channels | | | | | |
| 🎯 acp142-mule | | | | | |
| acp142-s4406e | | | | | |
| V 🔛 HFAP TWO | | | | | |
| V 📴 Channels | | | | | |
| 👹 acp142-mule | | | | | Apply Cancel |
| | | | | | 🤨 Help |

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

Set Default Routing Nexus

| Welcome to Message Console | ration Management 🗙 🔽 Switch Operations | |
|--|---|--------|
| > 🔁 Address Conversion Tables > 🔄 Routing Trees | MTA Info Filters | |
| Main Routing Tree Main C=GB P net | MTA Group | |
| > 📴 Message Transfer Agents | | Add |
| > See External Message Transfer Agents | | Remove |
| > 🔤 Internet Message Stores | | Edit |
| > 😭 S5066 Servers > 🔄 ACP127 S5066 Access Points 📴 Fab Guard Servers | Subtree Information: All children present Not all children present | |
| | 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

| 🕰 Cobalt | Add FTBE Mailbox | Cobalt.admin@field.net Domain: field.net View: Manage Everything |
|---|--|--|
| Users Redirections | Name The name that identifies this FT8E mailbox MU ONE FT8E MAILBOX | Required |
| តុំ-ភ្នំ FTBE Mailboxes | Mailbox Root Directory | Required |
| 20 Domain Administrators | The file-system path where messages for this mailbox are stored. More Ciftbe | |
| | Email Address Email address for this malbox. More | Required |
| | mu.one.ftbe.mailbox @field.net | |
| | Alternative Email Addresses Messages sent to any of these addresses will be treated as if they had been sent to the More | |
| | @field.net x + | |
| | STANAG 4406 Address STANAG 4406 address (K-400 O/R Address), More | |
| | Channel Name M-Switch channel name for handling this file transfer based user | Required |
| | ftbe | |
| | Add | Cancel |

Press "Add"

Created FTBE Mailbox



Press "Peers"



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/"

| 🕰 Cobalt | Add FTBE Peer <u>FTBE Mailboxes</u> > <u>FTBE Peers (MU ONE FTBE MA</u> > Add | |
|------------------|---|----------|
| 🔹 Users | File Transfer By Email Peer This page contains information about a specific peer for this FTBE mailbox | |
| 🚧 FTBE Mailboxes | Name The name that identifies this peer FAREP ONF ETRE MAIL ROX | Required |
| | Mailbox subdirectory Subdirectory name for files associated with this peer. More FAREP ONE FTBE MAILBOX | Required |
| | Email Addresses Email address associated with this peer. More farep.one.ftbe.mailbox@farep-one.headquarters.net | |
| | STANAG 4406 Address The X400 address(es) of the peer. More | |
| | /CN= FAREP ONE FTBE MAILBOX /PRMD=S4406/ADMD=FAREP-ONE/C=GB/ | |
| | Add | Cancel |

Press "Add"

| FTBE Peer Added | | | | | | | | | |
|--------------------------|------|--|------|-------------|---------|----|---------|------------------|---------------|
| 🕰 Cobalt | FTBI | E Peers Mailboxes > FTBE Peers (MU ONE FTBI | MAIL | | Delete | Ad | ld (| Cobalt.admin@f | ield.net s |
| 🍰 Users | | Name | \$ | FTBE User | | \$ | Subdire | ctory | ¢ |
| Redirections | | FAREP ONE FTBE MAILBOX | | MU ONE FTBE | MAILBOX | | FAREP C | INE FTBE MAILBOX | > |
| ត្ថំ-ភ្នំ FTBE Mailboxes | | | | | | | | | |
| Lomain Administrators | | | | | | | | | |

Configure M-Switch

Open "MConsole"

Right Click on "Channels"

New Channel option

| > 🚞 Address Conversio | on Tables |
|-----------------------|-------------|
| > 🚞 Routing Trees | |
| 🗸 🚞 Message Transfer | Agents |
| V 📴 MU-ONE.FIELD | .NET |
| 🗸 📴 Channe'- | |
| 🎯 822-I | New Channel |
| 🎯 acp127 | |
| Ch. 1071 | |

Select "New Channel"

| Create | FTBE | Ch | anne | 1 | | 0 | × |
|--------------------------------------|-----------------------------------|---------------|-------------------|-----------------|--------|-------|----|
| Channel type a Select the type of | i nd name channel you w | ant to crea | te, and give it : | a name | | | |
| Channel Type | | | | | | | |
| FTBE | | v | | | | | |
| FTBE: File Transfe | r By Email, for | arbitrary fil | le transfer betw | veen M-Switch s | ystems | | |
| Channel name | ftbe | | | | | | |
| | | | | | | | |
| | <] | Back | Next > | Einish | | Cance | el |

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"

| <world></world> | |
|----------------------------|--|
| > cn=config | |
| ✓ o=Messaging System | |
| cn=Address Book | |
| ✓ cn=Cobalt Data | |
| > cn=config | |
| ✓ cn=field.net | |
| > cn=FTBE | |
| > cn=Redirections | |
| > cn=Users | |
| > cn=headquarters.net | |
| > cn=mmhs.field.net | |
| > cn=mmns.neadquarters.net | |
| > ch=beleted users | |
| > cn=droups | |

Press "OK"

FTBE Channel configuration

| | | | · · · | |
|---|--------------|---------------------------|---|--------------|
| > 🔁 Address Conversion Tables | ^ | | | |
| > 📴 Routing Trees | Main Prog | am Tables Advance | d | |
| ✓ Image: Value >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>> | | 0.1.1 | | |
| V 🔄 MU-ONE.FIELD.NET | Program to r | in rtechannel | Program Arguments | |
| 🗸 📴 Channels | Key (| | | |
| 822-local | Ney | | | |
| acp127 | | | | |
| acp127shaper | Program Sp | acific Variables | | |
| > 🎲 acp142-mule | Mai | 1 In | | |
| > 🎲 acp142-s4406e | | | | |
| housekeeper | Ma | ilbox prefix C:\ftbe | | |
| Imtp | | | | |
| mhsshaper | Int | ox inbox | | |
| 🎡 military-dl | | | | |
| mimecheck | 0. | tbox outbox | | |
| mimeshaper | | | | |
| p3deliver | Su | directory Delivery Mod | le 🔿 True 🖲 False | |
| p3server | | | | |
| smtp-auth | De | iver multiparts into sub- | directories O True | |
| i smtp-dl | | | | |
| > smtp-external | | | | |
| internal smtp-internal | Int | amet user search have | cn=FTBE, cn=field.net, cn=Cobalt Data, o=Messaging System | Pick |
| smtp-mmns | | anet user search base | Use the top of the directory tree | |
| 985 x400-01 | | | | - |
| 100 x400ml | | | | |
| Sh the | | | | |
| Tables | | | | |
| Routing Nexus | | | | |
| > Directory Profiles | | | | |
| > 📴 Logs | | | | |
| > 📴 External Message Transfer Agents | | | | |
| X.400 Message Stores | | | | Apply Cancel |
| > Paintemet Message Stores | * | | | |

Press "Apply"

Open the "Isode Services Configuration" tool from the Windows Start menu.

<complex-block><complex-block>

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

| Normal Sync Profile Management | | > |
|--------------------------------|----------|-------------|
| Configured Sync Profiles | | |
| | | New |
| | | Сору |
| | | Rename |
| | | Delete |
| | | Abort Sync |
| | | View Report |
| | | Menu |
| | | |
| Server Off 🗸 🗸 | Run Sync | Close |

On "Sync Profile Management" Press "New"

Sync Profile Initial Configuration

| cn=dsa,o=Messagi | ng System / Messaging Admin': LDAP bind to 'MU-ONE.FIELD.NET' on port 19389 | No view 🖂 |
|------------------|--|----------------|
| > 😡 World | Reg Sync Profile Management | |
| | Configured Sync Profiles | |
| | New Sync Profile × | New |
| | Enter name of new sync profile: | Modify |
| | Topo Configuration from FAREP ONE | Сору |
| | Select type to configure as: | Rename |
| | Advanced view: flexible configuration of a sync or check process | - Lui |
| | Sync Active Directory to M-Vault (or to generic LDAP server) | Delete |
| | Sync M-Vault to M-Vault | Abort Sync |
| | Sync LDAP to LDAP (or between M-Vault and generic LDAP) Sync from LDIE to M-Vault (or to generic LDAP repart) | View Report |
| | Compare two DSA subtrees and generate a change-LDIF | Menu |
| | O Compare two LDIF files and generate a change-LDIF | |
| | Apply a change-LDIF to a directory | Run Sync Close |
| | OK Cancel | |
| | | Apply Cano |

Name the Profile "Topo Configuration from FAREP ONE"

Select ""Sync M-Vault to "M-Vault"

Press "OK"

| Simple View | / r: Topo Configuration from FAR | EP ONE | | × |
|--|--|------------------------------------|---------------------------|-----------|
| Profile Source and Sync Profile name: | Target Scheduling | | | Add Notes |
| Topo Configuration | Source DSA subtree Target DSA subtree | → Compute changes → required | Apply to Target DSA | |
| Advanced View | D-M ₃ C-D | C | OK | Cancel |

Press "Advanced View"



Select "Mode" tab.

| rofile | Mode | Queue | Relocate | Checks | Output | Scheduling | Hooks | Trace | | | |
|------------|---------------------------|-------------------------|------------------------------|------------|-------------|----------------|------------|------------|-------------------|----------------------|------------|
| Overall | I mode of | operatio | n: | | | | | | | | |
|) Sou | arce Only: | Scan the | source sub | tree only, | for check | ing or dumpi | ng data; | don't gen | erate or apply cl | nanges | |
|) Cor | mplete So | an: Comp | pare the sou | rce subtr | ee to the f | arget subtree | , and gen | erate the | minimum chan | ges required to u | pdate the |
|) Cao | ched Scar | : Compa | re the sourc | e subtree | to a local | cache of the | target sui | btree; no | access to the tar | get is required du | uring the |
| scar | n; genera | tes the m | inimum cha | inges req | uired to u | pdate the targ | get | | | | |
|) Rec | reate: Ge | nerate ch | anges requi | red to del | ete the ta | rget subtree a | nd comp | letely rep | lace it with a co | py of the source i | ubtree |
| Sou Cor | rrelated: S irce/targe | ynchrons t data | ze only entr | ies tound | on a pre- | authorized so | urce/targ | jet DN m | pping list; gene | rate this list by co | orrelating |
| | F: Read cl | hanges fri | om change- | LDIF file: | | | | | | | |
| | | | | changes | .ldif | | | | | | Browse |
| Ci | \Users\A | dministrat | tor\Desktop | | | | | | | | |
| C: Que | \Users\Ar | dministrat in change | tor\Desktop LDIF files f | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| C: Que | \Users\Ar eue: Pull i | iministrat in change | +LDIF files f | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| C:) Que | \Users\Ar | dministrat n change | tor\Desktop | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| C:) Que | \Users\Ar | lministrat in change | tor\Desktop LDIF files fi | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| Que | \Users\Ar | lministrat | tor\Desktop | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| C: Que | \Users\Ai | dministrat | tor\Desktop | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| Ci Que | \Users\Ai | dministrat | tor\Desktop | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |
| Ci Que | \Users\Ai | dministrat | tor\Desktop | rom a qu | eue folder | (for FTBE, air | -gap syn | c, etc) | | | |

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

Select "Queue" tab.

| QUEUE Ta | b Configuration from FAREP ONE | × |
|---|---|--------|
| Profile Mode Queue (Incoming queue type: Simple queue folder M-Switch FTBE queue (F | Relocate Checks Output Scheduling Hooks Trace | |
| Queue folder: | C:\ftbe\FAREP ONE FTBE MAILBOX\inbox | Browse |
| Number of old LDIFs to keep | p: 3 | |
| | | |
| Simple View | Q-D OK | Cancel |

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

| 🊾 Sync Profile | Editor: Top | o Configur | ation fror | n FAREP | DNE | | | | | | | × |
|--|--|--|--------------------------------|------------|----------------|------------|---------|------|----|---|----|--------|
| Profile Mode | Queue | Relocate | Checks | Output | Scheduling | Hooks | Trace | | | | | |
| What to do with Discard cha Apply chan Apply chan | n the chan inges ges back t ges using ' | ges that are o the Target this Bind Pr | generate directly ofile: | ıd: | | | | | | | | |
| cn=dsa,o= | Messaging | System / I | Messagin | g Admin | | | | | | | ~ | New |
| Optimis O LDIF: Write | e processir changes to | ng of comp o a change- | lete upda LDIF file: | tes to mir | nimize the chi | inges app | lied | | | | | |
| C:\Users\A | Administra | tor\Desktop | \change | s.ldif | | | | | | | | Browse |
| O Queue: Pus | h out a ne | w change-l | .DIF file to | o a queue | folder (for FT | BE, air-ga | p sync, | etc) | | | | |
| Safeguard r | nerge-syn | c: block ent | ry additio | ins or del | etions | | | | | | | |
| Warn ab | out entry a | dditions or | deletion | s that are | blocked | | | | | | | |
| Present cha | nges for a | pproval bef | ore outpu | ıt | | | | | | | | |
| Simple View | | | | Q | Ð | | | | 01 | (| Ca | incel |

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.

| 🙀 Sync Profile Editor: Topo Configuration from FAREP ONE | | | | | | 1 | | | |
|--|--------------------|--------------|------------|------------|----------------|------------|-----------|--|--|
| Profile Mode | Queue | Relocate | Checks | Output | Scheduling | Hooks | Trace | | |
| The sync passes unning for this | can be se user. | t to run aul | omaticall | y in the b | ackground at | regular ir | ntervals. | This requires that Sodium Sync Server is | |
| Aain sync pass | schedulin | 9: | | | | | | | |
| Schedule at | these time | es: | | | | | | | |
| Day: (daily) | | ✓ Hour: | 06 | | Minute: 00 | | | | |
| Schedule at | this interv | al: (betwe | en the abo | ive times, | if also specif | ied) | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Check "Schedule at this interval"

Schedule to sync every minute.

Press "OK"

Configured Sync Profile

| 🏹 Sync Profile Management | | > |
|---------------------------|-----------------------------|--|
| Configured Sync Profiles | | |
| Configuration to MU ONE | ▲ Sync Server not connected | New Modify Copy Rename Delete Abort Sync View Report Menu |
| Server Off ~ | Ru | un Sync Close |

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

Install and start server



Install and Start Sync Server

| 🏹 Install and Start S | iync Server | × |
|--|---|---------------|
| To install the Sync Se | rver Windows Service, fill in the details below and click OK. | |
| Note: The service mu (Administrator), and password can be ent the password directh after the service has Services.) It will not correctly. | ust be run with the same user-name as the Sodium Client so requires the password for this user to be configured. The ered here, or altenatively you can leave this blank and configu y by changing the Properties for the "Isode Sodium Sync" servi- been installed. "See Control Panel - Administrative Tools -> be possible to start the server until the password is configured | re ce |
| IMPORTANT: In addit rights. This is autom manually in the Serv Panel -> Administrat | tion, the service won't start unless the user has 'Logon as a Serv atically granted if the password for 'Isode Sodium Sync'' is set ices control panel. It can also be examined or modified via Cor tive Tools -> Local Security Settings. | ice' ntrol |
| User password | •••••• | |
| Server listening port | 19898 | |
| | OK Cancel | |

Enter the server administrator password and Press "OK"

A server startup failure will be presented.



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

| Server Ma | anager • Dash | board | • (3) | Component Services |
|--|--|---|-------|---|
| Dashboard | WELCOME TO SERV | ER MANAGER | | Computer Management Defragment and Optimize Drives |
| Local Server All Servers File and Storage Services ▷ | | Configure this local server | | Disk Cleanup Event Viewer ISCSI Initiator Local Security Policy |
| | QUICK START | 2 Add roles and features | | Microsoft Azure Services ODBC Data Sources (32-bit) |
| | | 3 Add other servers to manage | | ODBC Data Sources (64-bit) |
| | WHAT'S NEW | 4 Create a server group | | Recovery Drive Registry Editor |
| | | 5 Connect this server to cloud services | | Resource Monitor |
| | LEARN MORE | | _ | Services System Configuration System Information |
| | ROLES AND SERVER Roles: 1 Server grou | R GROUPS sc: 1 Servers total: 1 | | Task Scheduler Windows Defender Firewall with Advanced Security |
| | File and Sto Services | rage 1 Local Server 1 🖬 All Se | erver | Windows Memory Diagnostic Windows PowerShell Windows PowerShell (x86) |
| | Manageabili | y 🛈 Manageability 🛈 Mana | geab | Windows Server Backup |

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



Right click and select "Properties"

Press "Add User or Group"

Enter The Object name "administrator" and press "Check names"

Add Administrator Object





Administrator object Added

| Log on as a service Properties | | | ? | × |
|--|----------------|--------|----|-----|
| Local Security Setting Explain | | | | |
| Log on as a service | | | | |
| MUONEVAdministrator NT SERVICEVALL SERVICES | | | | |
| Add User or Group | <u>R</u> emove | | | |
| | OK | Cancel | Ap | ply |

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 | | |
|-------------------------------------|------------------------------------|----------------|
| ह्यु Sync Profile Management | | × |
| Configured Sync Profiles | | |
| ✓ Topo Configuration from FAREP ONE | Success (0/0:01). Next at 16:56:42 | New |
| | | Modify |
| | | Сору |
| | | Rename |
| | | Delete |
| | | Abort Sync |
| | | View Report |
| | | Menu |
| Server Connected ~ | | Run Sync Close |

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 smtn-auth chi | annel | | |
|--|--|---|---|
| File Window View Mercaning Operations M | alo | | |
| Welcome to Message Console Switch Cor | nfiguration Management X | ch Operations | |
| Witcome to Massage Connol: Stack Conversion Table ✓ Address Connexion Table ✓ Mass Address Connexion Table ✓ Socion Trees ✓ Mass Roding Test ✓ Mass Roding Test ✓ Mass Roding Test ✓ Massage Tambe Agents ✓ MACOMERILD NET ✓ MACOMERILD NET ✓ Garantic Ø sep12/Tabper Ø sep12/Tabper Ø engle Garantic Ø minscheck Ø setter Ø setter <td>rfguration Management X 2 Switc Min Program Tables Indound Name and Descripton Used for suthenticited messes Channel Name How it appears in the logging Description Channel Type In V Outbourd Protocols SMTP</td> <td>A dynanced ge submission, and usually runs on port 587 sintp-auth imp with authentication with SMTP (subhenticated) Access: MTA</td> <td></td> | rfguration Management X 2 Switc Min Program Tables Indound Name and Descripton Used for suthenticited messes Channel Name How it appears in the logging Description Channel Type In V Outbourd Protocols SMTP | A dynanced ge submission, and usually runs on port 587 sintp-auth imp with authentication with SMTP (subhenticated) Access: MTA | |
| ×400mt Copy this channel DN | to clipboard | | |
| > 😸 x400p1 > 🔄 Tables Add Peer Connection. | | | |
| Routing Nexus | | | ~ |
| > 🔛 Directory Profiles | | Apply Cance | |

Right click and Select "Clone ..." from the context menu.

| Name the cloned channel | |
|-----------------------------------|-----------|
| Cloning channel smtp-auth | × |
| Name of the new channel smtp-mmhs | |
| | OK Cancel |

Provide the channel with the name "smtp-mmhs"

Press "OK"

Select the "Program" tab.

New Channel Program tab

| Welcome to Message Console Switch Co | Infiguration Management 🗙 🛄 Switch Operations | | |
|---|---|-------|--------|
| Address Committee Tables A Address Committee Tables Main Tables Tree Main Tables | Salar Pergerin Bases (Salawa) Pergenten ten (Selar) Pergenten ten (Selar) Pergenten Bases Pergenten Bases (Selar) Bases (Selar) Bases (Selar) Bases (Selar) Defenten Selar Salar) Defenten Selar Salar | | |
|) is 2016-MUR is 2016-MUR is housener is interface is interface in | Manumun manage sets bytes () Silve diffact when plant sets Allow biologi datas () He () Concel BRAINMAR datas () He () For () He () Boot all acconducts starget () The () He () Manumun datas () Silve diffact when plant and | | |
| (a) setp-aten (a) setp-atenal (a) antp-atenal (a) antp-intenal | Orfered Delivery maximum time (second) ⊠ Use default value (Not set) Allow ₽ addesses with imaid hostnames | | |
| Addres Addres Addres Addres Addres Addres Addres Addres | Priority profile [| | |
| Routing News Directary Profiles Logs | Listening pert 🗌 Use default value (Plant set) 🛛 19587 🔹 | | |
| External Message Transfer Agents X400 Message Stores | | Apply | Cancel |

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 | | × |
|---|-------------|------|----|
| MTA type Select the type of MTA you want to create | | | |
| External MTA (Non Isode MTA, or non tailoring MT/ | A) | | |
| O SMTP | | | |
| ○ X.400 | | | |
| SMTP and X.400 | | | |
| ○ CFTP | | | |
| ⊖ SLEP | | | |
| 🔿 X.400 Gateway (using the Isode or Open Group G | ateway API) | | |
| X.400 P1 File Gateway | | | |
| X.400 P1 over HTTP Gateway | | | |
| | | | |
| | | | |
| A Pack Next > E | inich | Canc | al |
| Next > P | misii | Canc | CI |
| | | | |

Click "Next>".

| Name the External N | ITA | | | | | |
|--|---|--|--|------------------------------|-----------------------|------------|
| 🛅 Create a new MTA | | | | | | × |
| MTA Naming | | | | | | |
| An External Internet MTA Messaging Configuratior | can be given an a | arbitrary name in y | your | | | |
| The local name for the e | ternal MTA in this | s configuration | | | | |
| Directory Name FAREP | ONE SMTP | | | | | |
| The mail domain or host also possible to specify a has the "nomx" flag set t | name to which m n IP address, but t o communicate w | nessages queued t that will require th vith this MTA | to this MTA will b the use of an SMTF | e trans ⁹ chan | ferred. I nel whic | t is :h |
| Destination farep-one. | eadquarters.net | | | | | |
| | | | | | | |
| Optional local descriptio | n for the new MTA | 4 | | | | |
| Description | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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..."



| Select "X400" | | |
|---|------|----|
| Click "Next>". | | |
| Name the External MTA | | |
| Create a new MTA | | × |
| MTA Naming | | |
| MTAs can be named in a number of different ways, depending on the context. | | |
| The MTA Name, to be used in protocols (like X.400 P1 binds) | | |
| MTA name in protocol FAREP-ONE | | |
| | | |
| The host name or IP address of the system on which the MTA will run | | |
| Fully Qualified Hostname farep-one.headquarters.net | | |
| | | |
| The local Directory Name in this configuration (defaults to MTA Name) | | |
| Directory Name FAREP-ONE X400 | | |
| | | |
| Optional local description for the new MTA | | |
| Description | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| < Back Next > Finish | Canc | el |
| | | |

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 >"

| Create a new MTA | | × | | | |
|---|---------------------------------------|-------|--|--|--|
| efault Routing Tree for this MTA | | | | | |
| Routing will be setup for the O/R Address Prefix se default Internet domain selected earlier. | lected, and the | | | | |
| Thoose a Routing Tree or Address Conversion Table. Use the tree navigation tool to select a part or complete O/R address, and then modify this value if necessary via the Edit button. | | | | | |
| cn=Main Routing Tree, cn=Messaging Configuration | on STRATEGIC-ONE, o= Messaging Switch | es, 🔻 | | | |
| ✓ Main Routing Tree | | _ | | | |
| ✓ C=GB | | | | | |
| > ADMD=HEADQUARTERS | | | | | |
| > net | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Selected O/R Address | | | | | |
| O/D Address /C_CD/ | | a - | | | |
| U/R Address /C=GB/ | Edi | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

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

Press "Edit"

| X400 Route to FIELD | |
|------------------------|-----------------------------------|
| O/R Address Editor | × |
| Name Form Partial | ~ |
| Country Name GB | Administrative Domain FIELD Space |
| Private Domain S4406 | Organization |
| Organizational Unit #1 | Organizational Unit #2 |
| Organizational Unit #3 | Organizational Unit #4 |
| Surname | Initials |
| Given Name | Generation Qualifier |
| Common Name | |
| X.121 Address | |
| Terminal ID | |
| Domain-defined type | = [+ |
| Clear | OK Cancel |

In "Administrative Domain" type "FIELD"

In "Private Domain" type "S4406"

Press "OK"

| Default route selected | | | |
|---|-------------------------|-----------|----------|
| 🔄 Create a new MTA | | | \times |
| Default Routing Tree for this MTA | | | |
| Routing will be setup for the O/R Address Prefix selected, and the default Internet domain selected earlier. | | | |
| Choose a Routing Tree or Address Conversion Table. Use the tree navigatic or complete O/R address, and then modify this value if necessary via the F | on tool to dit butto | select a | partial |
| cn=Main Routing Tree, cn=Messaging Configuration STRATEGIC-ONE, o= | Messagir | ng Switch | es, v |
| Main Routing Tree C=GB ADMD=HEADQUARTERS net | | | |
| Selected O/R Address O/R Address /PRMD=S4406/ADMD=FIELD/C=GB/ | | Edi | t |
| < Back Next > Finish | | Cance | el |

Click "Finish"

Select the node "net" in the routing tree.

Right click.

Add node



Select "Add node"

| Add smtp route node to field |
|------------------------------|
| |

| ✓ Call Routing Trees ✓ Call Main Routing Tree | MTA |
|--|-----|
| 🗸 🌍 Main Routing Tree | |
| | |
| ✓ 🚟 C=GB | N |
| > 🕝 ADMD=FIELD | |
| > (P ADMD=HEADQUARTERS | |
| V 🕝 net | |
| P headquarters | |
| 🗸 🚞 Message Transfer Agents | |
| 🥩 Create a Routing Tree node | × |
| Enter a value for the new Domain Component Name node | |
| Domain Component Name field | |
| OK Cancel | |

In "Create a Routing tree node" type "field".

Press "OK"

Associate Remote MTA With Node

| > Can Address Conversion Tables | 🕝 Edit MTA Info | | × |
|---|--|--|--|
| Wind Roung Tite W | By editing the MIA information fr The Di Configured in the MIAinh Routing for this mode Select the MIA that is go con-FAREP-ONE SMTP Dealing with multiple MIAs for MIA Weight State of the or lower weight State of the or Channel Information In case that it's possible to you can subte the first on | r this routing tire node, you can set is the DN of an MTA. Ing handle this node a single node uting algorithm: if multiple MTAs are referred. | the routing for the selected O/R hierarchy |
| | AE title | Weight | Add Remove Edit OK Cancel |

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

| Create TLS Identity for the Directory Serve | r "cn=dsa,o=Messa | aging Syste | | × |
|---|--|---------------------|-------|----|
| Locate the signed Certificate | | | | |
| The wizard couldn't find a matching certifica directory containing the appropriate .crt file | ite. Please browse in order to select a | to a certificate | | |
| Specify the location of the certificate file | | | | |
| C:\lsodeCerts | | | Chang | је |
| The following files contain matching certifi | rates | | | |
| Subject DN | Filename | | | |
| cn=dsa,o=Messaging System | C:\lsodeCerts\ | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| < Back | Next > | Finish | Cance | :I |
| | | | | |

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



Select "Clone"

| New channel name | |
|-----------------------------------|-----------|
| Cloning channel smtp-auth | × |
| Name of the new channel smtp-mmhs | |
| | OK Cancel |

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

| Address Conversion Tables Routing Trees Message Transfer Agents | Main Delivery Routing | Lookup Au | thorization (| Queue Manager Security Advanced Alertd | | |
|--|--|-----------------------------------|------------------|---|-----------------|---------------------------|
| STRATEGIC-UNEPHEADQUARTERSIVET Channels Strategic and a str | Type: block Filter: (&(inchan=smtp- State: Enabled | mmhs)(outch | an=smtp-exte | rnal)) | | |
| inhsshaper 🔅 | Туре | Priority | State | Description | | |
| ilitary-dl | Inchan=smtp-internal | 0 | Enabled | Local SMTP | | |
| i mimecneck | block | 0 | Enabled | Stop relay | | |
| a D3deliver | block | 0 | Enabled | Ensure Harrier MMHS Messages Transported Over X | | |
| p3server | archive 🕺 Edit MTA | Rule | | | × | |
| profiler | archive=c | | | | | |
| | | | | | | |
| is smtp-auth | | | | | | |
| i smtp-auth smtp-dl | Enter the inf | ormation nec | essary to build | a new MTA authorization rule | | |
| smtp-auth smtp-dl smtp-external smtp-internal | Enter the inf | ormation nec | essary to build | I a new MTA authorization rule | | |
| Smtp-auth Smtp-di Smtp-d Smtp-internal Smtp-internal St400-dl | Enter the inf Description | ormation nec | issary to build | I a new MTA authorization rule essages Transported Over X400 | | |
| w smtp-auth of smtp-dl w smtp-external w smtp-internal w x400-dl w 400mt | Enter the inf Description | Ensure Har | essary to build | I a new MTA authorization rule essages Transported Over X400 | | |
| Smtp-auth Smtp-all Smtp-dl Smtp-internal X400-dl S400mt X400p1 | Enter the inf Description Type | Ensure Har Block | ier MMHS Mi | I a new MTA authorization rule essages Transported Over X400 | ~ | |
| iii smbp-outh iii smbp-ol iii smbp-otemal iii smbp-internal iii smbp-internal iii smbp-internal iii smbp-iii smbp-iii iii smbp-iii smbp-iii iii smbp-iii smbp-iii iii smbp-iii smbp-iii shbb iii smbp-iii shbb iii smbp-iii shbb iii smbp-iii shbb iii smbp-iii shbb iii smbp-iii shbb iii shbbb iii shbbb ii shbbbb ii shbbb ii shbbbb ii shbbbbb ii shbbbbb ii shbbbbb ii shbbbbb ii shbbbbbbbb ii shbbbbbb ii shbbbbbbbbbbbbb ii shbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb | Enter the inf | Ensure Har Block | ier MMHS Mi | I a new MTA authorization rule essages Transported Over X400 | ~ | 1 A44 |
| intp-suth intp-el intp-el intp-elternal intp-internal internal int | Enter the inf Description Type Filter | Ensure Har Block (&(inchan: | ier MMHS Mi | a new MTA authorization rule essages Transported Over X400 (coutchan-smtp-osternal)) | ✓ | - Add |
| © smtp=suth © smtp=rdl © smtp=rdtreal © sd00-dl © | Enter the inf Description Type Filter | Ensure Har Block (&(inchan: | ier MMHS Mi | a new MTA authorization rule essages Transported Over X400 (outchan=smtp-external)) | v V Edk | |
| is smtp=suth is smtp=setenal is smtp=internal is sittp=internal is sk00-til is sk00-til is sk00nt | Enter the inf Description Type Filter Priority | Ensure Har Block (&(inchan: | ier MMHS Mi | I a new MTA authorization nule essages Transported Over X400 (outchan: smip-otemall)) | V V Ø EdR | + Add Edit X Remove |
| Image: Single-such Image: S | Enter the inf Description Type Filter Priority Disable Rule | Ensure Har Block (&(inchans | ier MMHS Mi v | i a new MTA authorization nule essages Transported Over X400 (ovid-hins:antp-external)) | v v Ø Eda | + Add Edit K Remove |

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

| HFAP O | NE | | | | | | |
|-----------|----------|-----------|-----|---------|--------|---------|---------|
| | | | (m) | | (| | |
| ocation: | HEAP ONE | Latitude | 51 | Degrees | 21.300 | Minutes | North * |
| | | Longitude | 0 | Degrees | 3.000 | Minutes | East * |
| | | Course | | Degrees | | | |
| | | Speed | | Knots | | | |
| HEAP T | NO | | | | | | |
| ocation: | HFAP TWO | Latitude | 39 | Degrees | 54.360 | Minutes | North + |
| | | Longitude | 77 | Degrees | 1.120 | Minutes | West + |
| | | Course | | Degrees | | | |
| | | Speed | | Knots | | | |
| MU ON | E | | | | | | |
| cation: | MU ONE | Latitude | 52 | Degrees | 17.600 | Minutes | North * |
| | | Longitude | 13 | Degrees | 15.000 | Minutes | East 💌 |
| | | Course | | Degrees | | | |
| | | Speed | | Knots | | | |
| | | | | | | | |
| Use relat | ive - | | | | | | |
| Use mov | rement | | | | | | |

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:

| indiably indiance | - 0 |
|--------------------|--|
| | |
| les Radio Errors M | odem System MoRaSky Execution |
| | |
| | |
| NU ONE: Start | ing MoRasky at 07-reb-2023 17:54:15 === |
| Running With:-100 | : HEAP ONLUSI.356,0.050/HEAP IN0034.906,-77.013/ND ONL052.293,13.250 |
| SERIAL HUD | listening on 0.0.0 port Scool (ISIPRO) |
| NEAP ONE | listening on 0.0.0.0 port Stool (RAPI/RIPC or RC-data) |
| NEAF ING | listening on 0.0.0.0 port 50002 (RAFI/RIPC or RC-data) |
| BIT-ATTON ADDRES | Trace and a contract port source (Marring or Ro-data) |
| Interference sou | irce: none |
| Crupto box: | none |
| Initial waveform | : wfs5069 bws24 bpss38400 ilvs8 coms1 (510ms block) |
| 0000.166 [PortSes | sion /192.168.1.149:51742 on 0.0.0.0:580031 Session start |
| 0000.377 [PortSes | sion /192.168.1.147:64810 on 0.0.0.0:580011 Session start |
| 0001.144 [PortSes | sion /192.168.1.148:60383 on 0.0.0.0:580021 Session start |
| 0006.521 [Radio 3 |] TX DATA 1000 bytes |
| 0006.522 [Radio 3 |] TX DATA 1000 bytes |
| 0006.522 [Radio 3 |] TX DATA 444 bytes |
| 0007.133 [Radio 3 |] Transmission from MU ONE, 1500000Hz, wf=5069 bw=24 bps=38400 ilv= |
| HFAP IN:HUNT/O | tx:IDLE / HFAP rx:HUNT/0 tx:IDLE / MU ON rx:HUNT/0 tx:DATA |
| | |

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:smtpexternal 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 gid: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) Trans unid:Z9FnvgATIEEA qid:msg.04896-0 chan:smtp-2025-03-12 10:53:59 smtp-ext 06752 (#0 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:smtpexternal 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) Archive unid:Z9FpDwATICYB qid:msg.04896-1 2025-03-12 10:59:27 pp.smtp 04896 (#0 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:smtpexternal 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 ipmidstr: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=HEADOUARTERS/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 contenttype: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) ok unid:Z9HbFAAgCLQA qid:msg.08200-0 rno:1 xno:1 2025-03-12 19:05:56 x400p1 08200 (#0 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 gid: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 aid: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 | |
|-----------------------|--|
| ・& Icon Topo | |
| 🚓 FAREPs | |
| 🚠 HFAPs | View / Modify Mobile Unit Administrators may modify the current mobile unit using this page |
| 🚓 HF Networks | |
| â Mobile Units | Name Name of this Mobile Unit (MU) |
| (0) Scheduled Updates | MU ONE |
| | |
| ⊕ Мар | |
| 🛢 Database Admin | Is At Base / SATCOM |

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:smtpexternal mta:FAREP-ONE size:1317 nrecip:1 content-type:822 sender:steve.wright@headquarters.net submittime: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:acp142mule 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:acp142mule 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:acp142mule 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:smtpexternal 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 ACP142stanag4406e 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 ipmidstr:19c02a36-ba7e-464f-947d-f8721f98d950(a)localhost ipmid-ora:"/DD.MIXER1=message-id:(060)19c02a36ba7e-464f-947d-f8721f98d950(a)localhost(062)/PRMD=S4406/ADMD=HEADOUARTERS/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 queuedtime: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:acp142s4406e 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:acp142s4406e 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:acp142s4406e 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:acp142s4406e 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"



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

| IU ONE hedule updates and view or modify details and position | Using HF HFAP ONE | |
|--|---|----|
| cheduled Updates Details Position | | |
| Scheduled updates There are no updates scheduled at this time | | |
| Schedule an update to Primar Operators may schedule an update to this mobile u using this page. | y HFAP nit's Primary HFAP and HF Netwo | rk |
| | | |
| Primary HFAP Select New Primary HFAP | | |
| Primary HFAP Select New Primary HFAP HFAP TWO Primary HF Network | ¢ | |
| Primary HFAP Select New Pimary HFAP HFAP TWO Primary HF Network HF-NETWORK-ONE Date/Time for Update | ¢ | |
| Primary HFAP Select New Finary HFAP HFAP TWO Primary HF Network HF-NETWORK-ONE Date/Time for Update 2025-03-14116-40-54.6632 | : | |

Press the calendar icon

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

Set date and time

| \leftarrow | | Ма | rch 2 | 025 | | \rightarrow |
|---------------|-------|--------|--------|--------|----|---------------|
| Su | Mo | Tu | We | Th | Fr | Sa |
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| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
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| r time 710 | as ar | 1 HHM | M valu | e: | | |
| | 20 |)25-03 | -14T1 | 7:10:0 | 0Z | |

Press "OK"

Press "Submit"

Select "Scheduled updates"

Update scheduled

| 🚠 FAREPs | ([*] | | | | |
|---------------|-------------------|---------------------------|---------------------------|---------------------------------------|---|
| - HFΔPs | Scheduled Updates | | | | |
| | Mobile Unit | Moves From | Moves To | When | + |
| # HF Networks | MU ONE | HFAP ONE / HF-NETWORK-ONE | HFAP TWO / None Specified | 2025-03-14 17:10 (5 minutes from now) | |

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

| Scheduled Upd | ates | | | |
|---------------|---------------------------|---------------------------|-----------------------------|-----------|
| Mobile Unit | Moves From | Moves To | When | ÷ |
| MU ONE | HFAP ONE / HF-NETWORK-ONE | HFAP TWO / None Specified | 2025-03-14 17:10 (2 minutes | from now) |

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

| > address Conversion Tables > Roturing Trees > MU-ONE-FIELD.NET > address > addres > address > address <l< th=""><th colspan="5">A Routing News is a message routing abstraction that configures routing to one or more external MTAs. In simple operation only one of the configured MTAs is enabled;this means that the Routing News selects which MTA to be used. Operators can manage this choice using Diversions view. A Routing News can also be used with Laser routing to direct a user to any external MTA.</th></l<> | A Routing News is a message routing abstraction that configures routing to one or more external MTAs. In simple operation only one of the configured MTAs is enabled;this means that the Routing News selects which MTA to be used. Operators can manage this choice using Diversions view. A Routing News can also be used with Laser routing to direct a user to any external MTA. | | | | |
|---|---|-------------------------------------|---------------------------|----------|--|
| > Directory Profiles | Nexus | MTA Info / Indirection | Description | Enable | |
| > 🔤 Logs | Default | | | | |
| > 📴 External Message Transfer Agents | | FAREP ONE(smtp+x400) | direct to farep/FAREP ONE | | |
| X.400 Message Stores | | HFAP ONE(acp142-s4406e+acp142-mule) | direct to hfap/HFAP ONE | | |
| > 🔤 Internet Message Stores | | HFAP TWO(acp142-s4406e+acp142-mule) | direct to hfap/HFAP TWO | Sec. | |
| > 🔄 S5066 Servers | FAREP-ONE | | | | |
| > ACP127 S5066 Access Points | | Default | via default route | | |
| ab Guard Servers | HFAP-ONE | | | | |
| | | Default | via default route | ~ | |
| | HFAP-TWO | | | | |
| | | Default | via default route | | |

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

| | A Routing Nexus is a message routing abstraction that configures routing to one or more external MTAs. In simple operation only one of the configured MTAs is enabled;this means that the Routing Nexus selects which MTA to be used. Operators can manage this choice using Diversions view. A Routing Nexus can also be used with Laser routing to direct a user to any external MTA. | | | | |
|--------------------------------------|--|------------------------|-----------------------------|----------|--|
| > 🚞 Directory Profiles | Nexus | MTA Info / Indirection | Description | Enable | |
| > 📴 Logs | HFAP-ONE | | | | |
| > 🚞 External Message Transfer Agents | | HFAP ONE(smtp+x400) | direct to hfap/HFAP ONE | <u>~</u> | |
| X.400 Message Stores | HFAP-TWO | | | | |
| 📄 Internet Message Stores | | HFAP TWO(smtp+x400) | direct to hfap/HFAP TWO | ~ | |
| S5066 Servers | MU-ONE | | | | |
| | | MU ONE(smtp+x400) | direct to mu/MU ONE at base | | |
| | | HFAP ONE(smtp+x400) | send via HFAP ONE | | |
| | | HFAP TWO(smtp+x400) | send via HFAP TWO | | |
| | | | | | |

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.