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M-Link Mobile Unit Gateway R19.3 Evaluation Guide

Installing and configuring R19.3 of M-Link Mobile Unit Gateway for Constrained Networks for use over SatCom (IP) and HF (STANAG 5066) links.

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Contents

Introduction

This guide demonstrates how to get up and running with M-Link Mobile Unit Gateway R19.3

Objectives

By the end of this evaluation you will have:

- Installed M-Link MU Gateway R19.3
- Requested a Product Activation Key (PAK)
- Receive and installed the PAK.
- Created and configured a XEP-0361 Zero Handshake Server to Server Protocol Link
- Created and configured a Peer Control with an X2X Link
- Tested the 5066 Subsystem using S5066 Console
- Created a connection to Icon-5066 Server
- Created and configured a SLEP Link
- Created and configured a Peer Control with the SLEP Link

Using Isode Support

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

Preparation

You should visit *www.isode.com/products/supported-platforms.html* to discover which operating systems are supported for Isode evaluations. In addition to the server platforms listed, we support the use of Isode server products on Windows 10 for simple evaluations and demonstrations.
Isode supports the use of the latest versions of Google Chrome, Mozilla Firefox and Microsoft Edge browsers with the Harrier web client. Internet Explorer is not supported.

External Dependencies

You will need a Chrome Browser installed on the Server and set as the default browser.

Product Download

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

Product Activation Key

M-Link Mobile Unit Gateway requires a valid Product Activation Key from Isode before it will run correctly. Keys are issued by Isode Customer Services. You will be show in this guide how to copy and send the Product Activation Key request to support@isode.com.
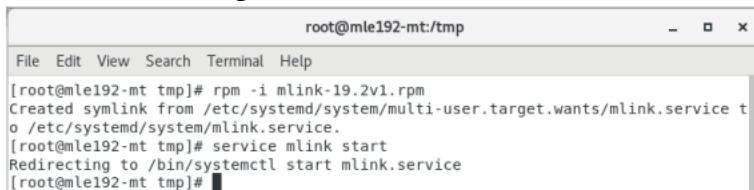
External XMPP Server Details

This guide assumes that you already have access to external XMPP servers, which this installation will interact with

Installing M-Link MU Gateway
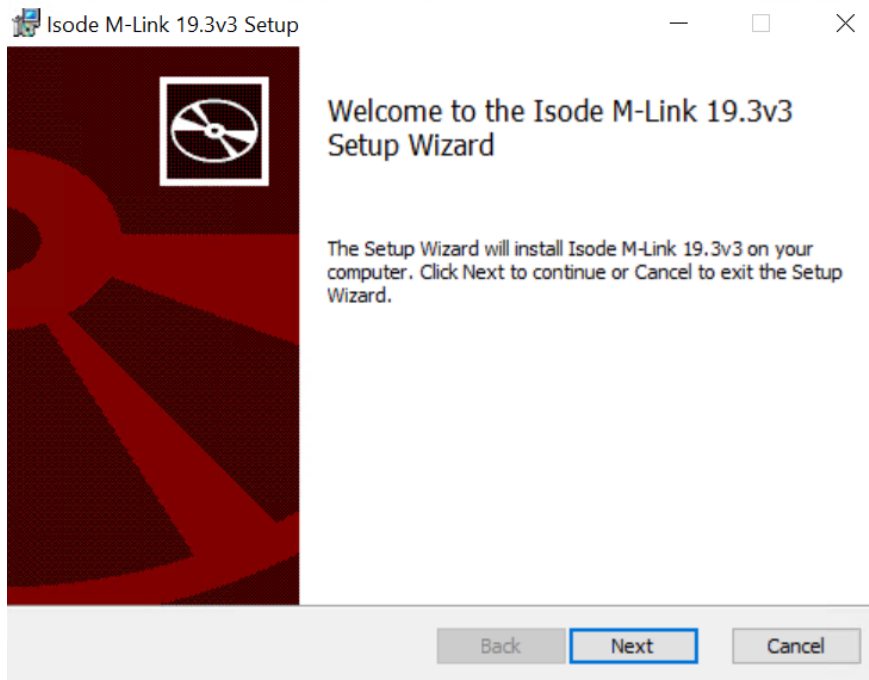
Linux

Run the following commands:

Then jump to the browser screen of the Windows Install (on Page 8) and point your browser at - https://localhost:5221

Windows

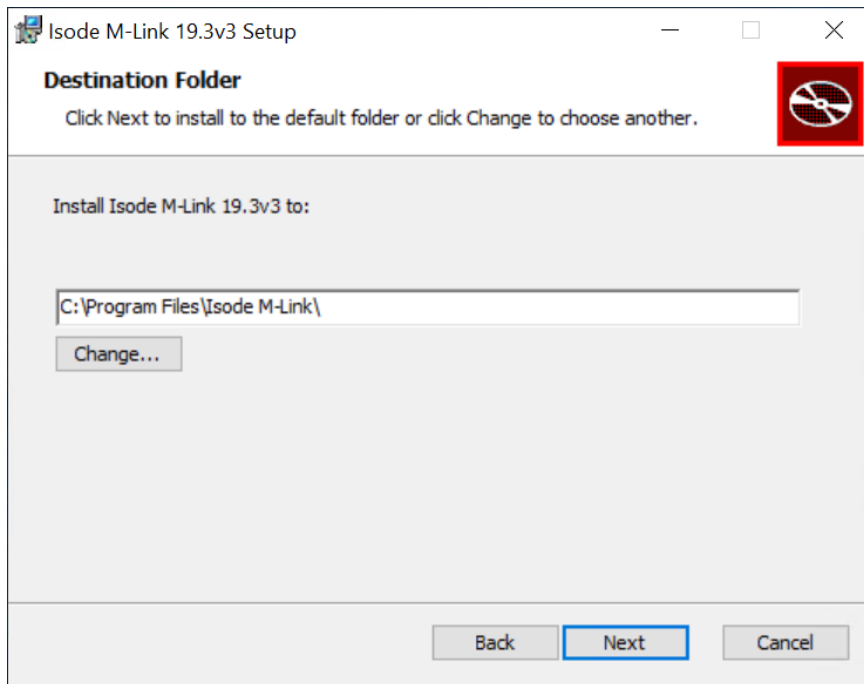Double-click the .msi file that you downloaded earlier and follow the instructions for a fresh install.
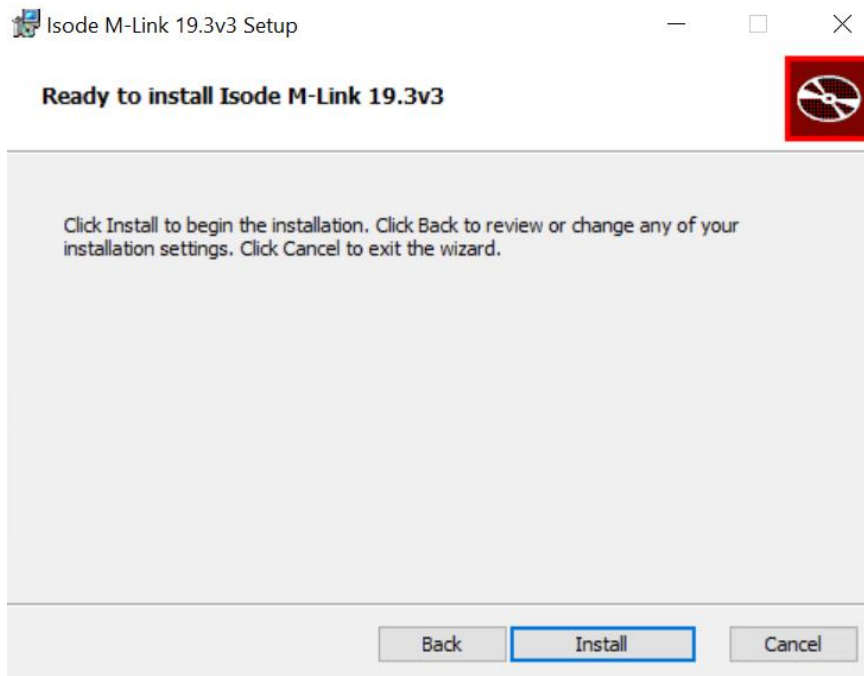

Click "Next"
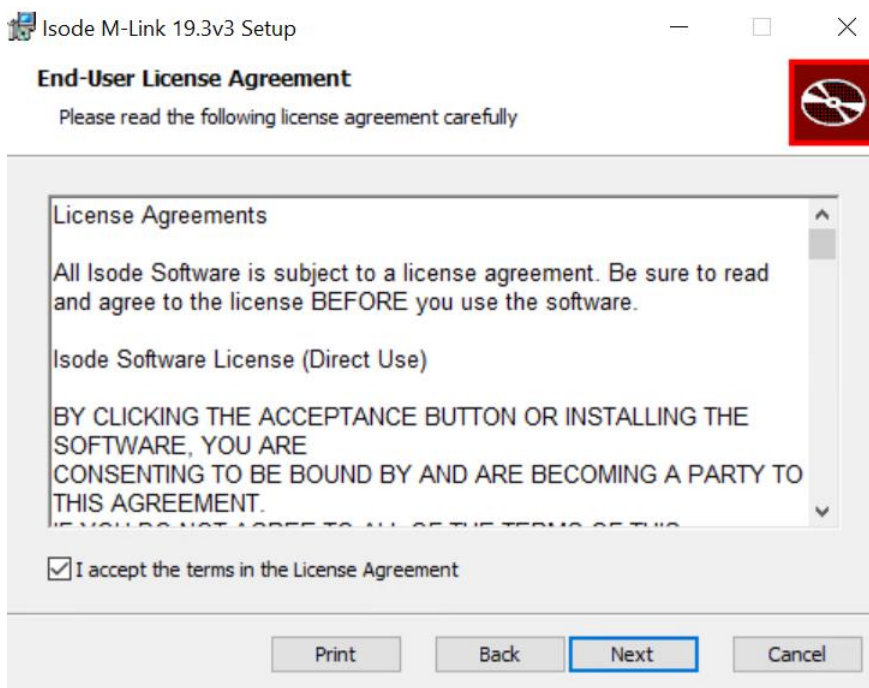
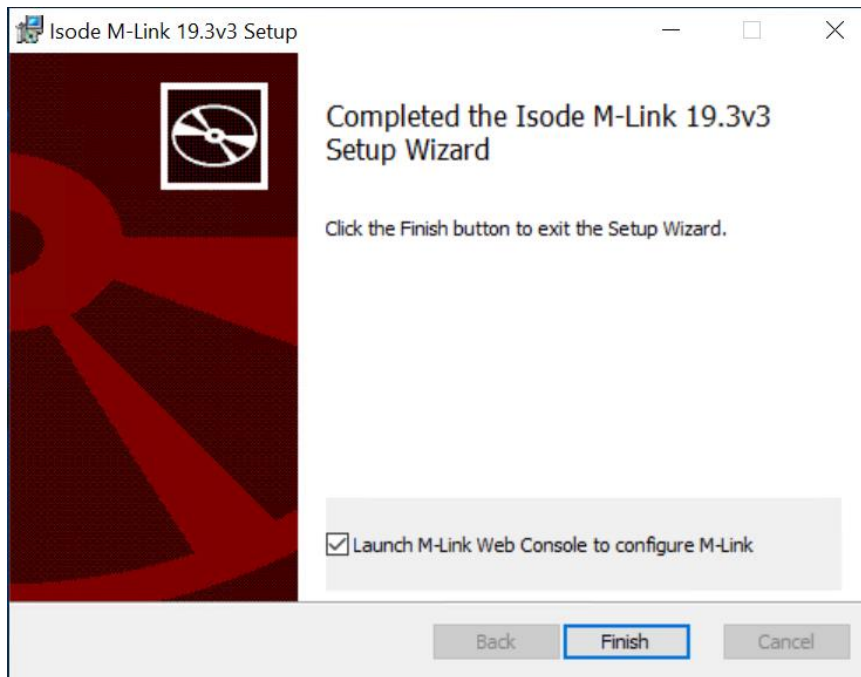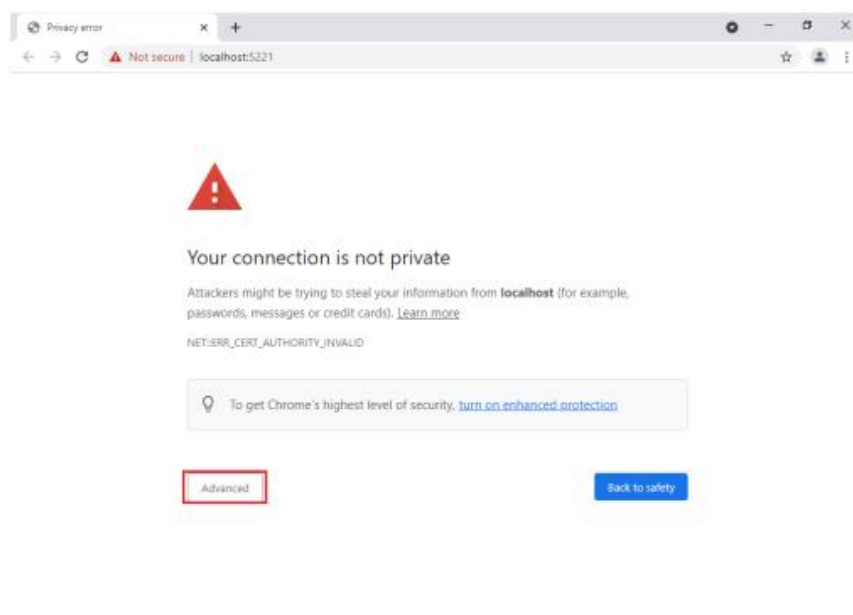Check the checkbox to accept the terms of the license and click "Next
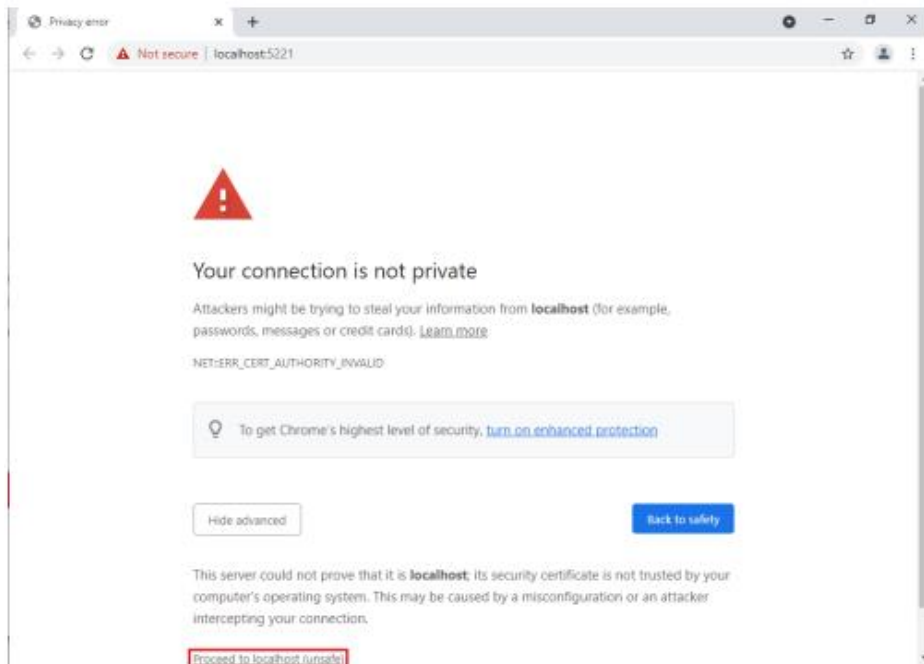
Click "Next"

Click "Install"

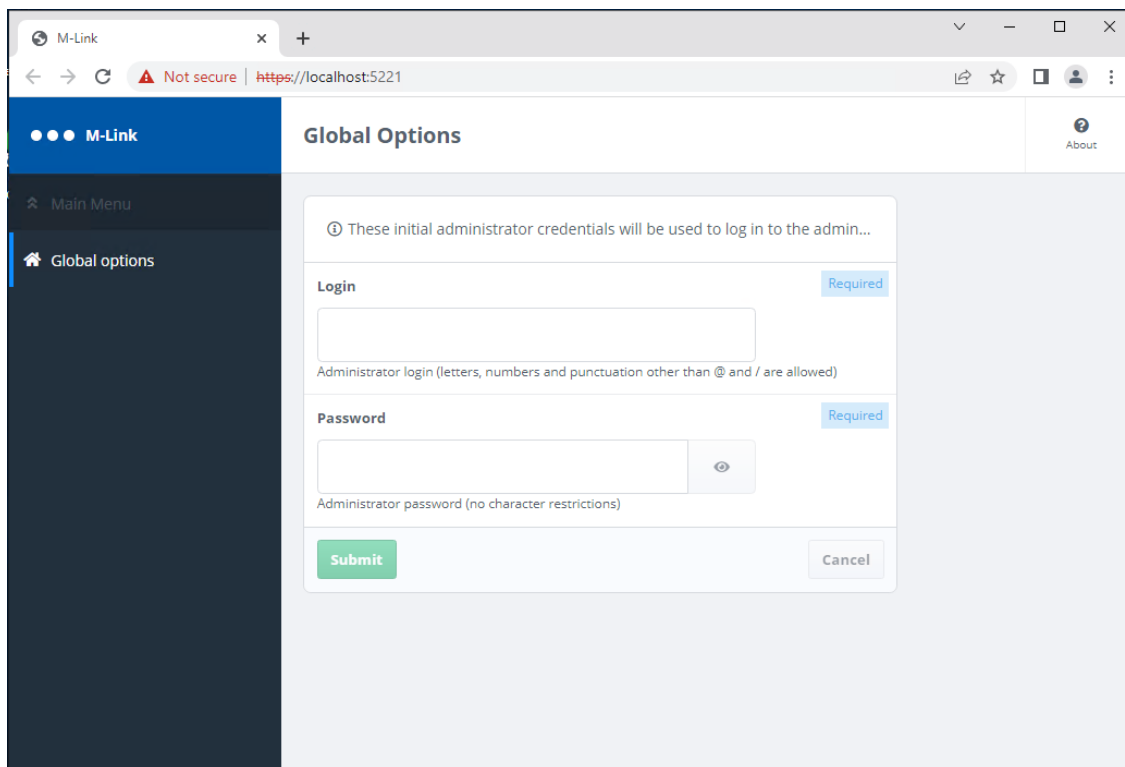Click "Finish" and the following Browser window will open:

Click "Advanced"

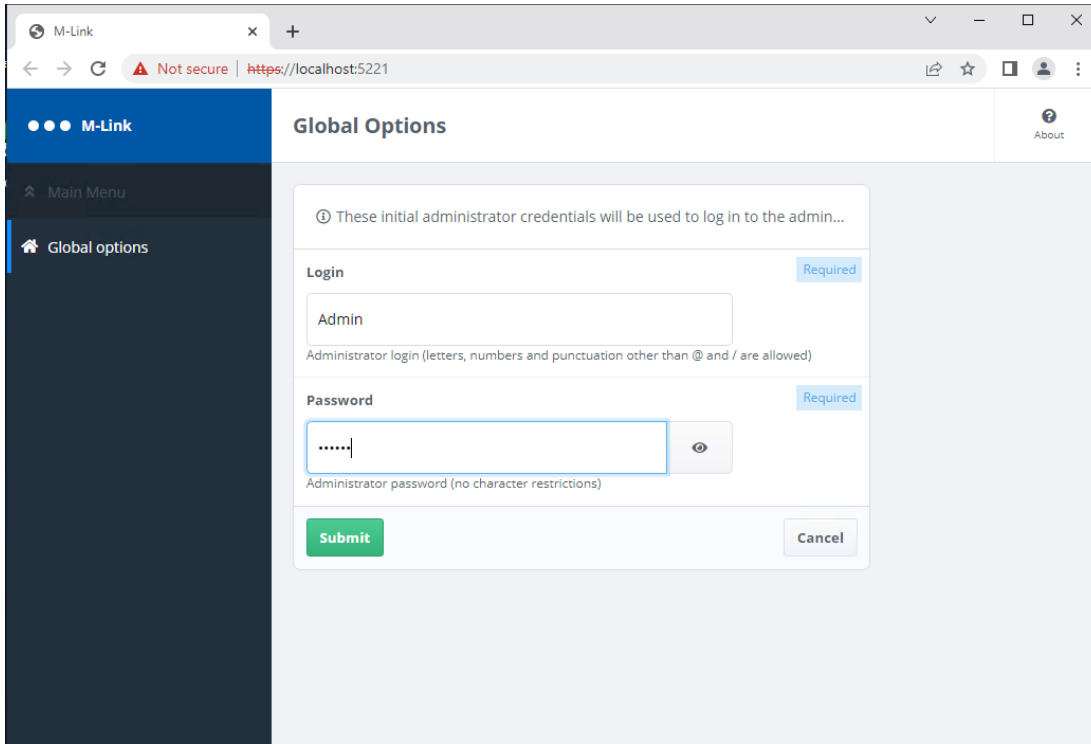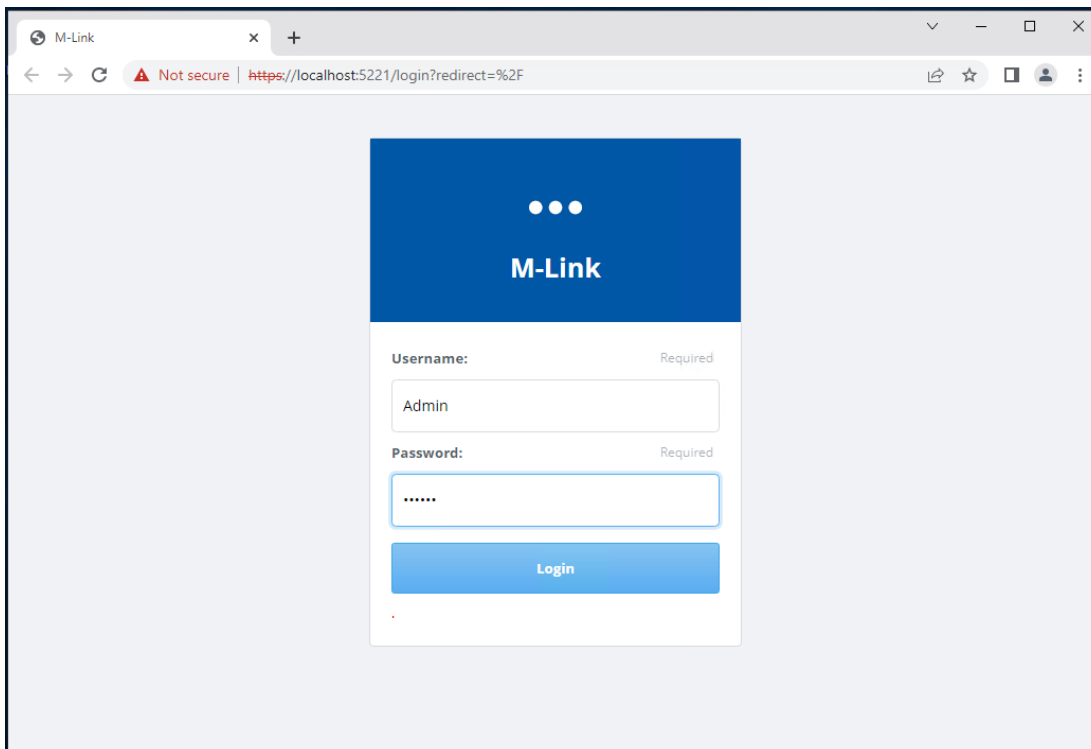Click "Proceed to localhost (unsafe)"

Enter an Administrator Login Name of your choice and set a password.
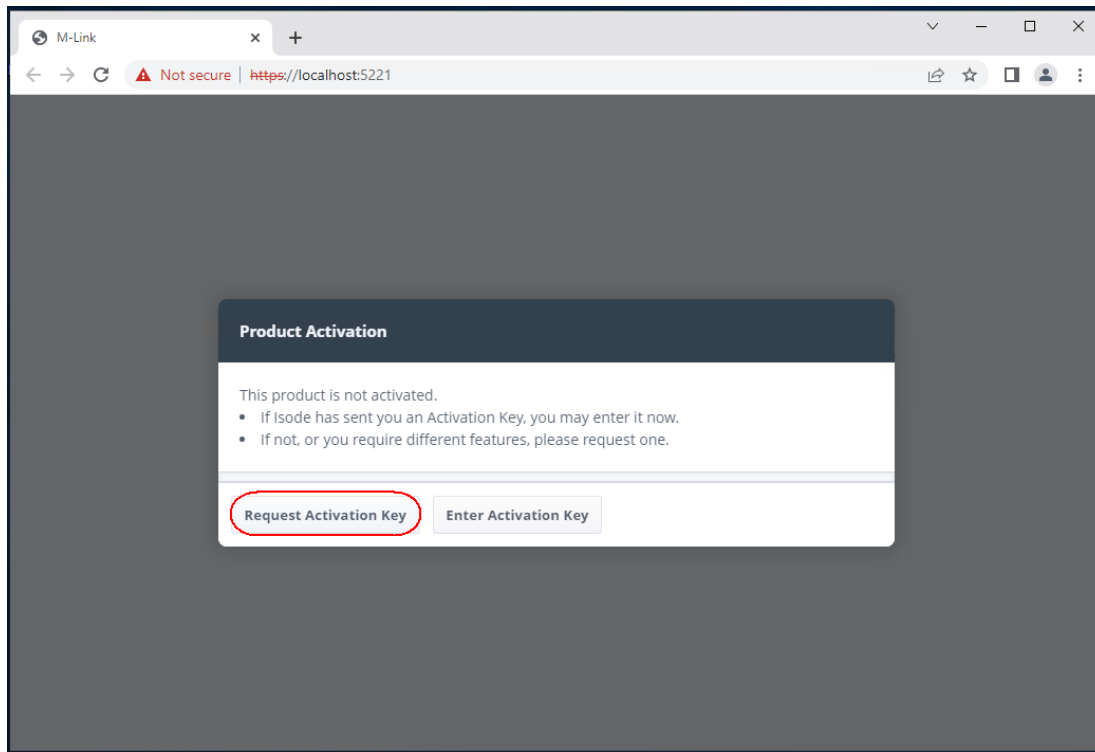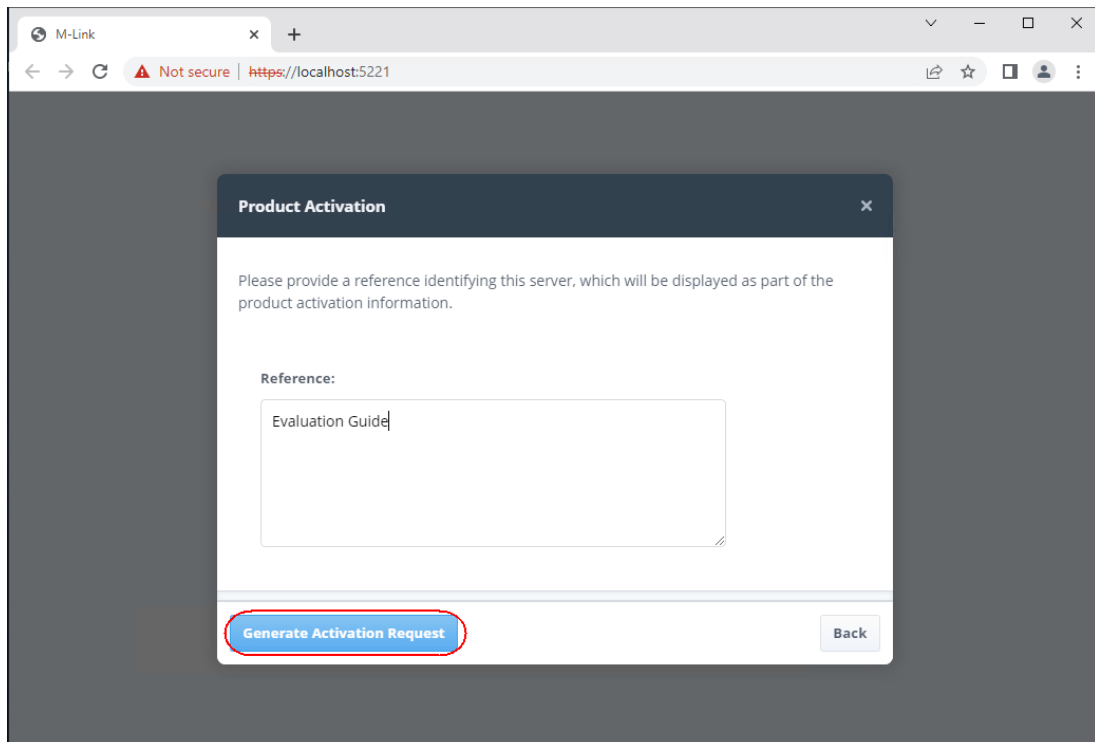
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Click "Submit"

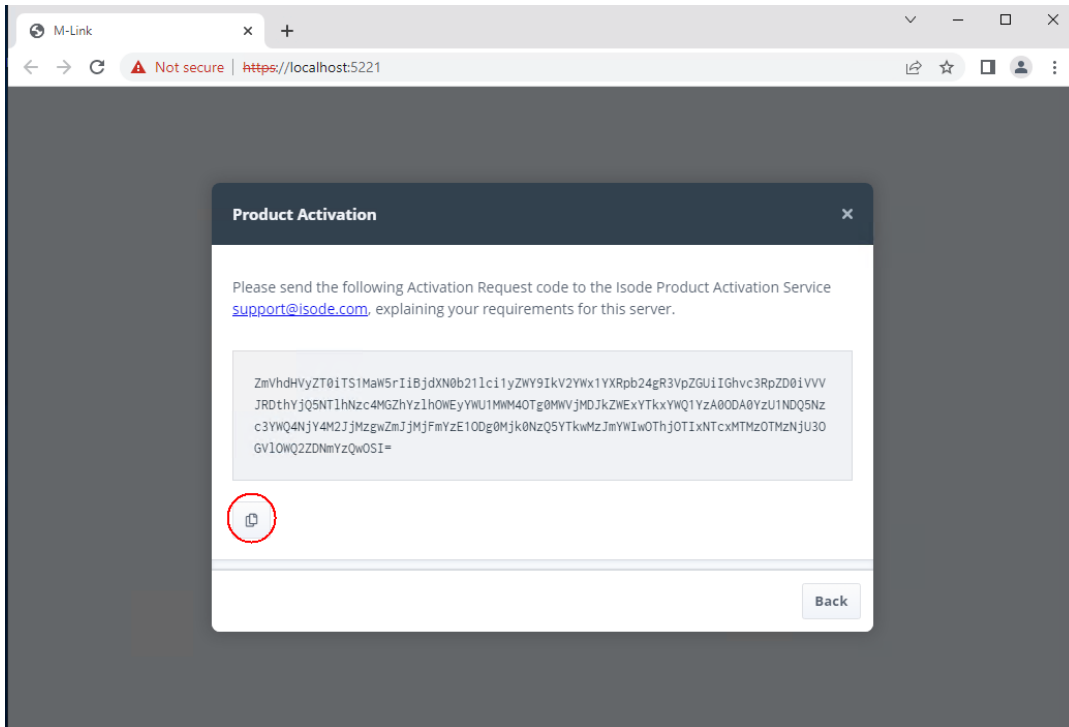Enter the Administrator Login Name and Password you created previously. Click "Login"

At the Product Activation screen click "Request Activation Key"
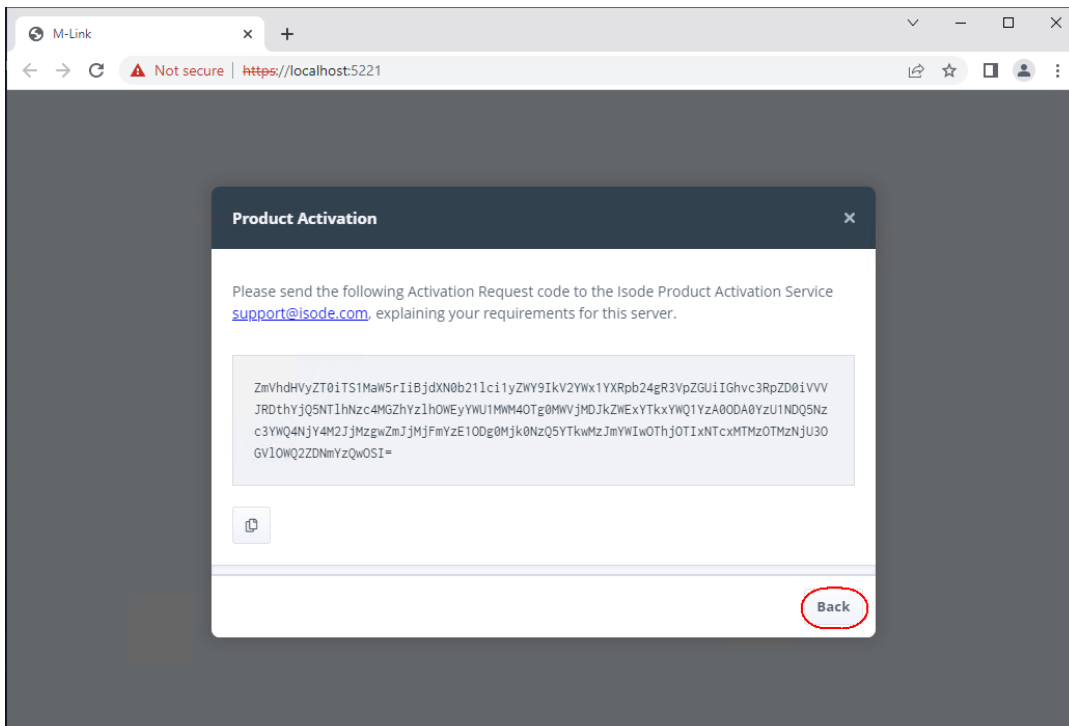

Enter a reference for your server, then click "Generate Activation Request"
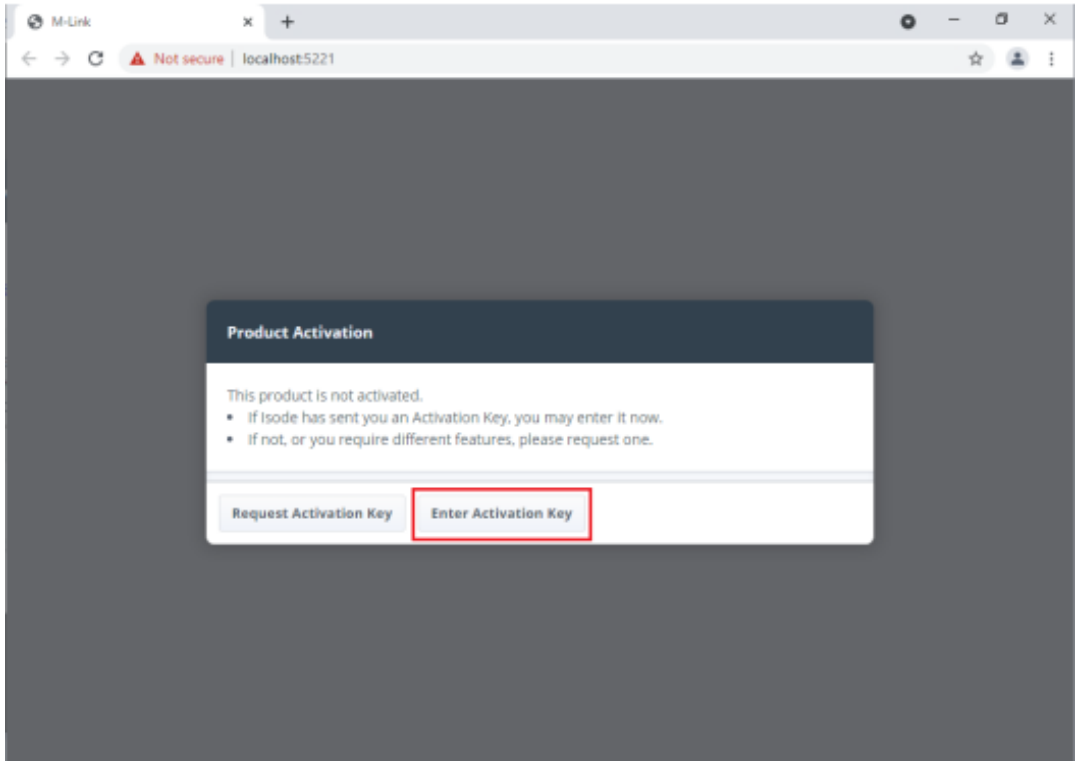
Use the "Copy" button (bottom left) to copy this "Activation Request" and then email it to
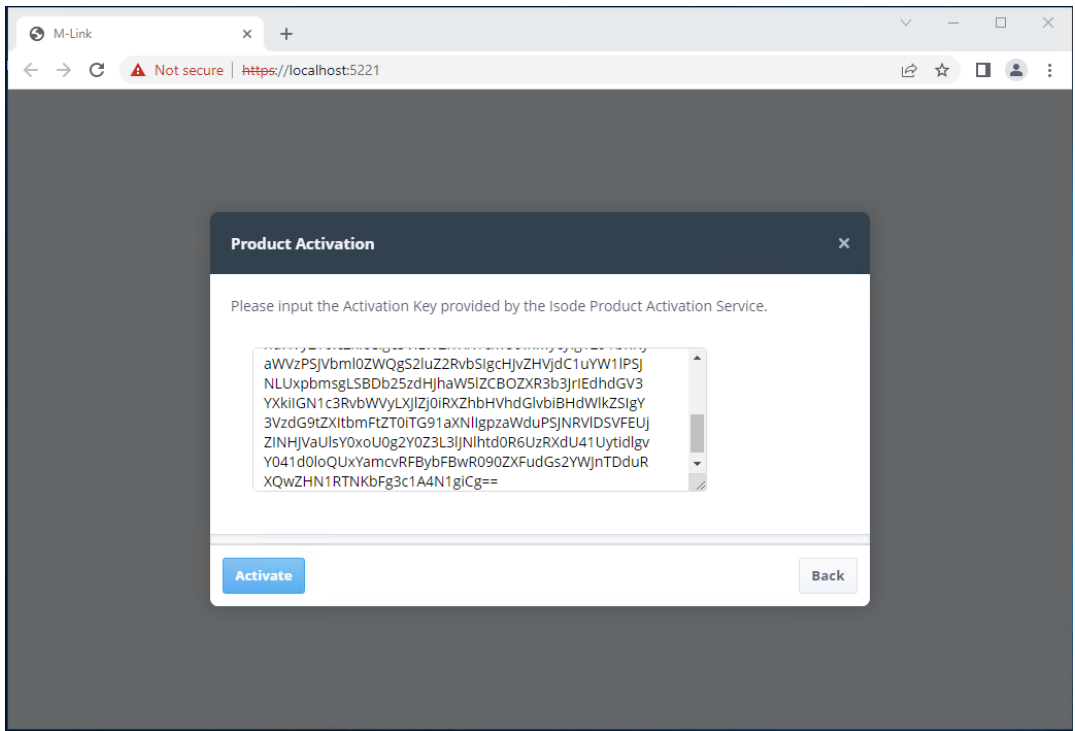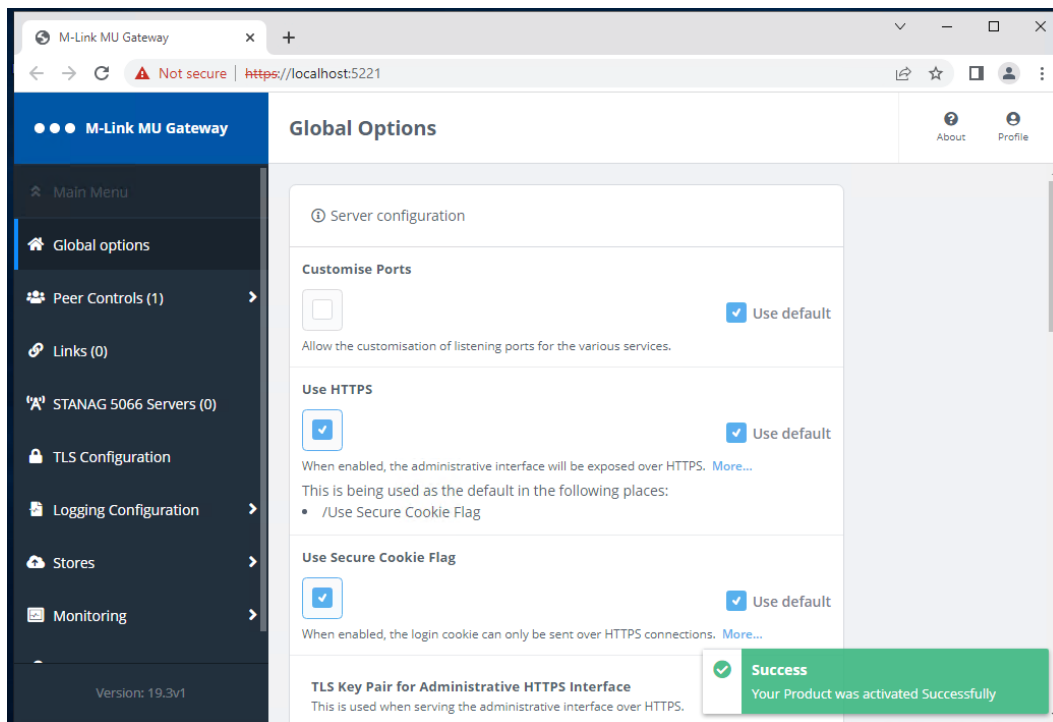support@isode.com

Click "Back"

When you receive the "Product Activation Key" from Isode Support, you should then Click "Enter Activation Key".

Paste the "Product Activation Key" in the space provided. Then click "Activate"

The following screen should appear. Your server is now ready for further configuration:

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Operation over IP Networks

M-Link MU Gateway is an M-Link server with no local users, it is used to enable communication between groups of XMPP Servers over slow network links, enabling the optimization of the server-to-server protocol over the slow links.

Firewall Settings

On server systems, firewalls should be turned off or the relevant TCP Port enabled, we've used 65510 in this guide for the Zero Handshake protocol.

Configuring a XEP-0361 Zero Handshake Server to Server Protocol Link

A XEP-0361 Zero Handshake Server to Server Protocol Link is typically used for connecting over a Low Bandwidth TCP/IP Connection e.g. SATCOM or some 3rd Party XMPP Guards

From the M-Link MU Gateway, click on "Links" then click "Add"
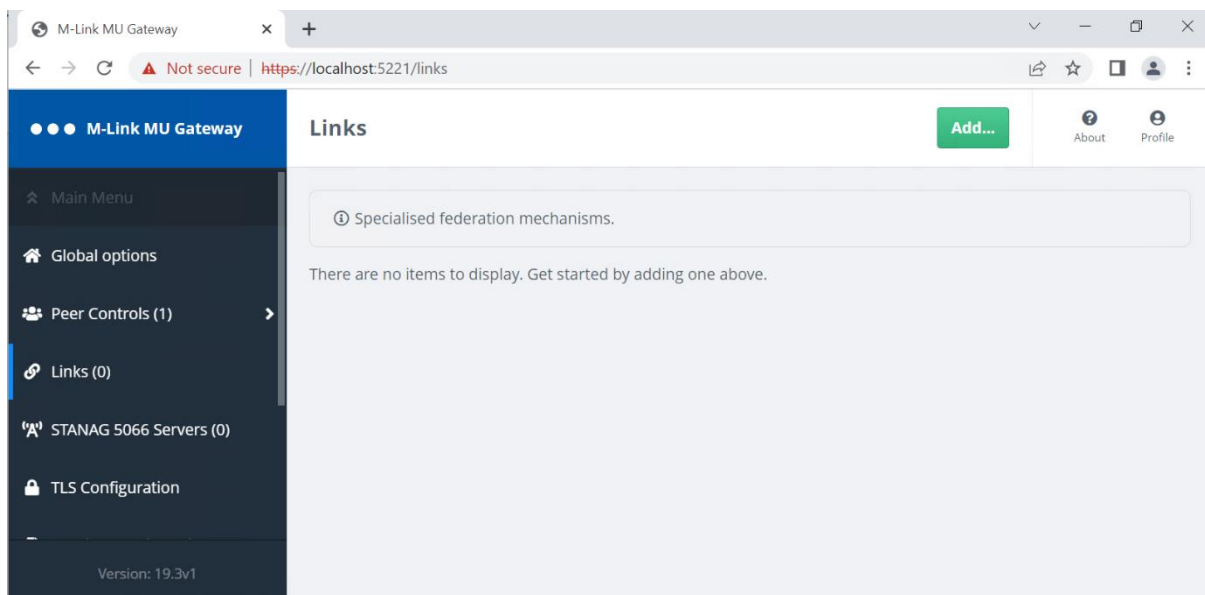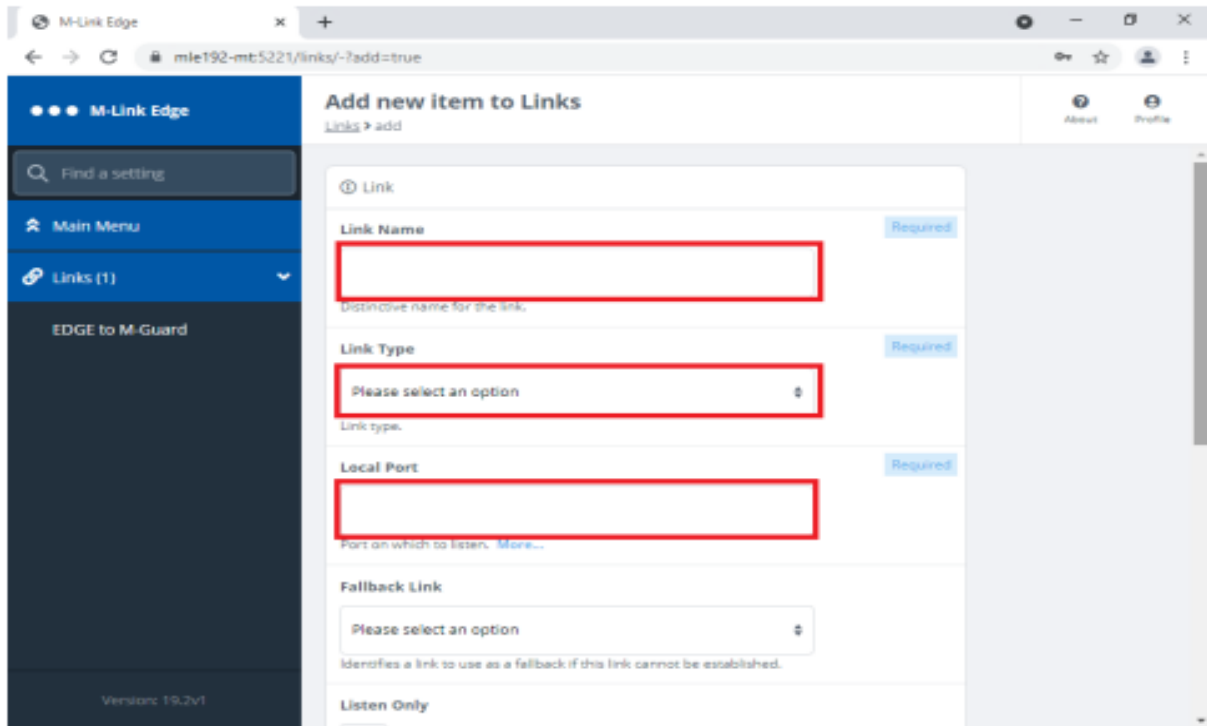
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The "Link Name" is a "Friendly Name" that you should use to identify the Link, the "Link Type" will be "XEP-0361 Zero Handshake Server to Server Protocol Link" selected from the drop down. The Port will be agreed between the two servers.
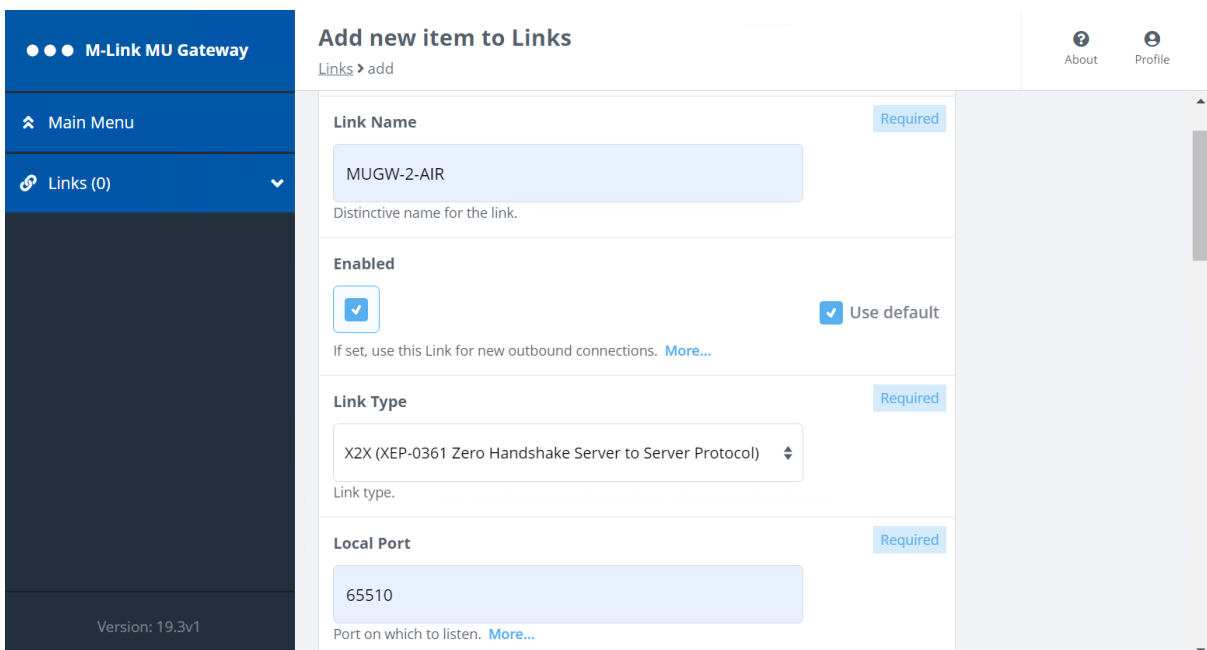
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Scroll down and enter the "Remote Host" IP or Hostname and "Remote Port" of the external XMPP Server:

Scroll down and click "Add". Your XEP-0361 Zero Handshake Server to Server Protocol Link is now complete and we can proceed to add it to a Peer Control Configuration.
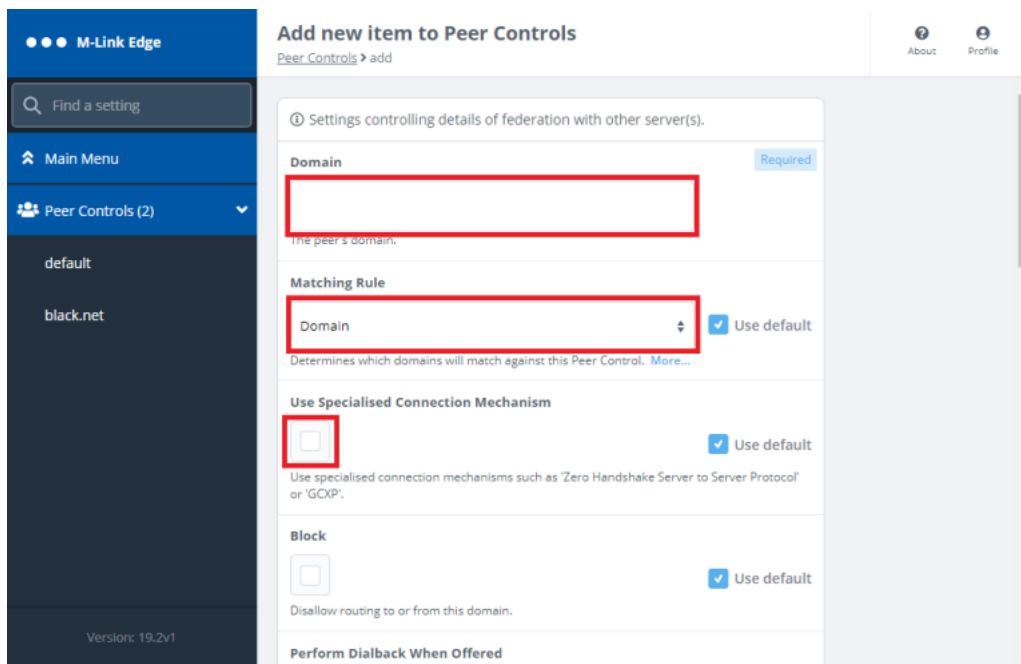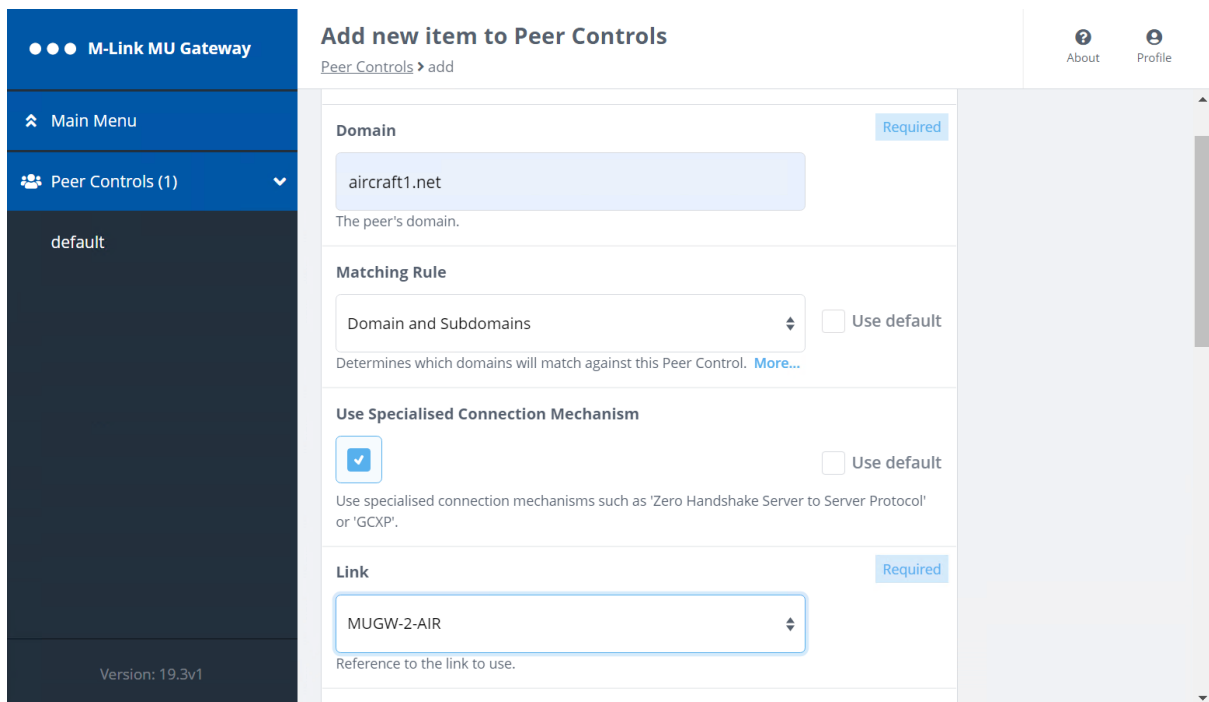
From the Main Menu click "Peer Controls":

Click on "Add"

Complete the "Domain", "Matching Rule" and Check the "Use Specialised Connection Mechanism" Checkbox
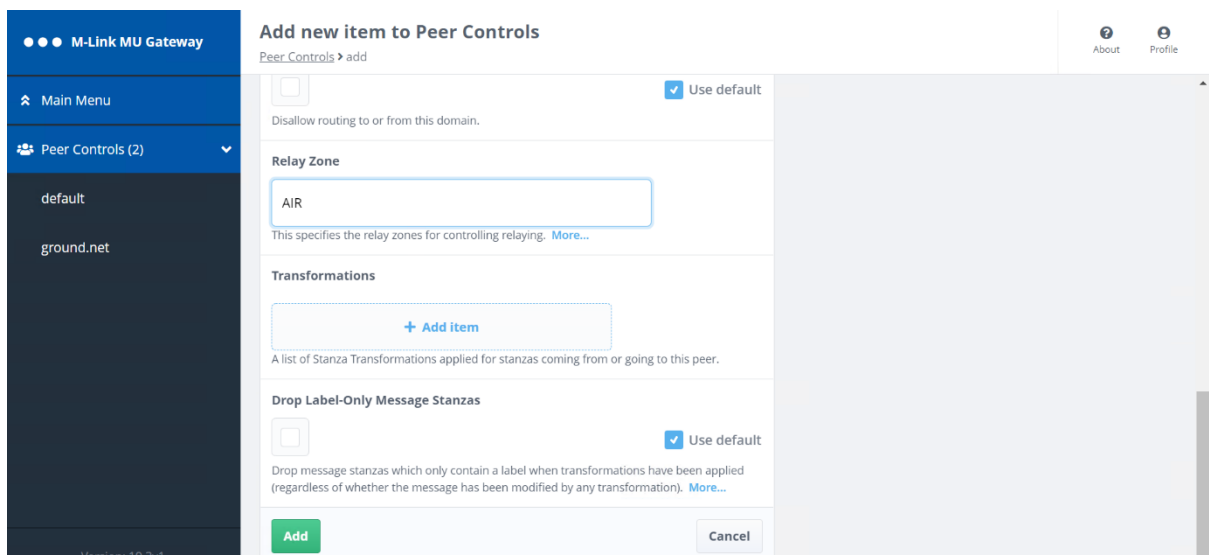

The "Domain" should be the XMPP Domain of the Server you are connecting to. The "Matching Rule" should be "Domain and Subdomain" if you want to include both the 1 to 1 Domain and Multi User Chat (MUC) Domain. You should then select the "Link" you have just created from the drop down:

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Scroll down to "Relay Zone"

The M-Link MU Gateway Server does not have a Domain of its own, so it typically relays between different XMPP Domains. In order to do this, each Peer Control needs a unique "Relay Zone" defined. This is a free text name, so should be something to remind you of where you are relaying between:

Click "Add"

You have now completed configuring the XEP-0361 Zero Handshake Server to Server Protocol Link (X2) Link and associated Peer Control.

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Operation over HF Radio (STANAG 5066)

The M-Link MU Gateway uses the SIS Layer Extension Protocol protocol with Server to Server communication over STANAG 5066 ARQ (*XEP-0365*) to enable communication over STANAG 5066 services, such as HF radio via the STANAG 5066 Subnet Interface Service. The use of SLEP provides a reliable bidirectional stream service which can support compression.

This section assumes that you have access to a STANAG 5066 server. Isode's own "Icon-5066" product is available for this purpose and an evaluation guide for Icon5066 is available from www.isode.com/evaluate/evaluate-network.html.

To configure Isode applications to use STANAG 5066, two parameters are needed:

- The domain (or IP address) of the STANAG 5066 server
- The TCP ports of the STANAG 5066 server (port 5066 is commonly used)

Prior to running Isode applications over an S5066 link, we recommend testing the STANAG 5066 subsystem, using Isode's 'STANAG 5066 Console' tool.

Testing the 5066 Subsystem using S5066 Console

Isode's STANAG 5066 Console is intended to help set up, test, and monitor STANAG 5066 infrastructure. In Windows click Start, and from the Programs menu, select "Isode 17.0 > S5066 Console". In Linux execute the following command:

/opt/isode/bin/s5066console

Within the S5066 Console tool, select "View > S5066Console" followed by "S5066 Server>Add". S5066 server parameters screen should be completed as follows:
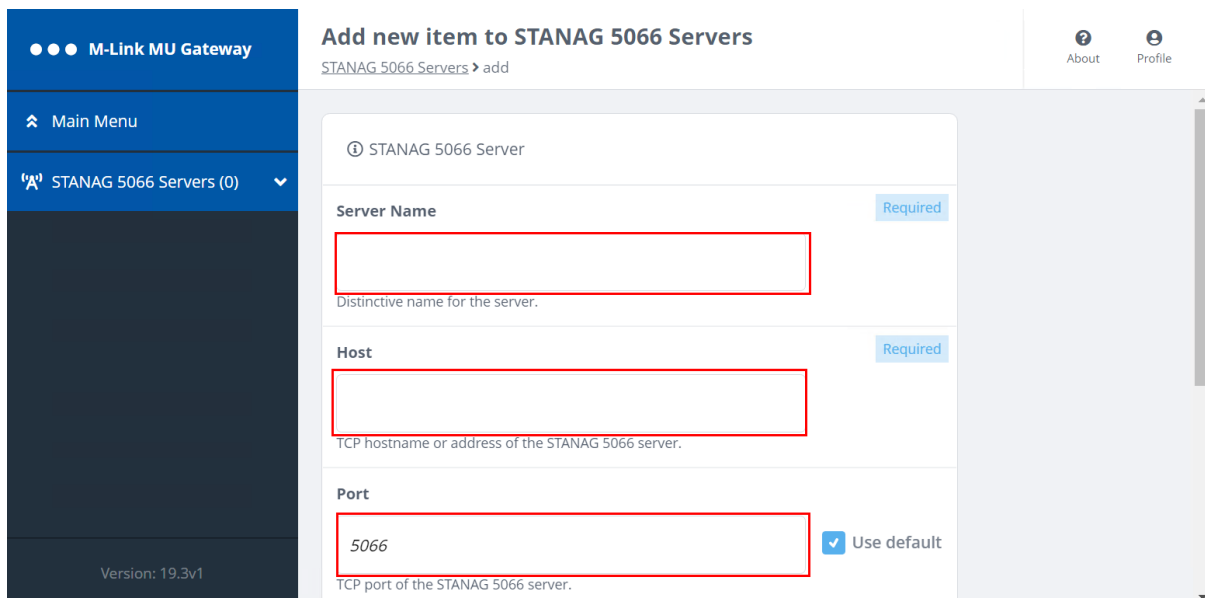
- Friendly Name: Give the S5006 server an identifying name

- Hostname/Port: Fill in the Host and Port of the S5066 server

- Auto-discover: select this option

- Transmission Mode: Set to ARQ

- Broadcast Address: Configure the broadcast address, which will be set by the server.

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Link Setup for STANAG 5066

From the M-Link MU Gateway click on "STANAG 5066 SERVERS"
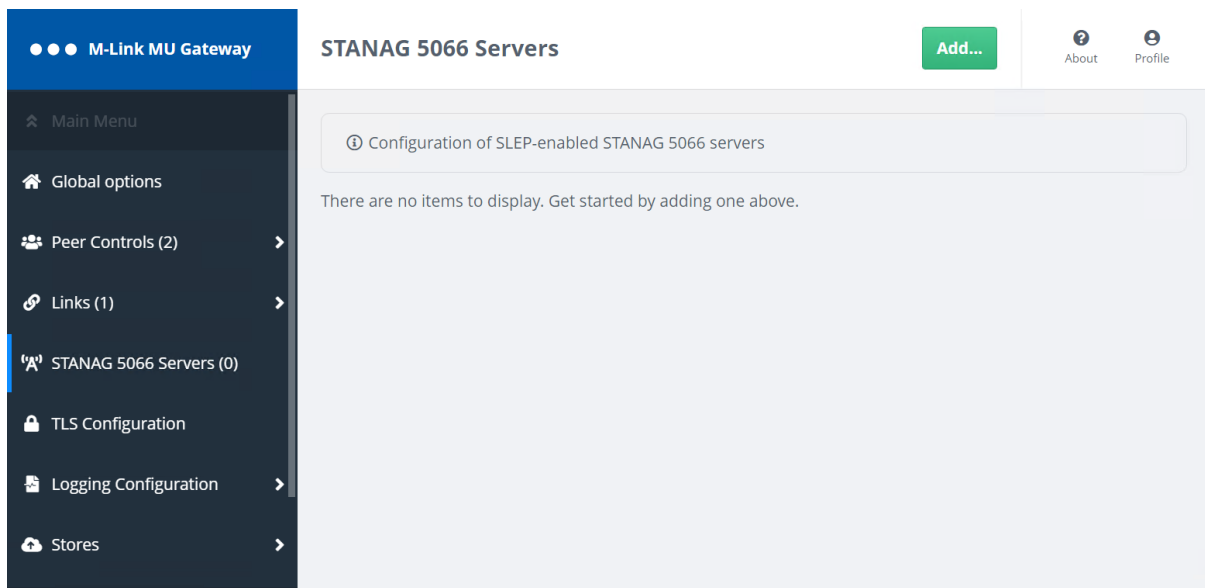
Click "Add"

The "Server Name" is a "Friendly Name" that you should use to identify the STANAG server. The "Host" will be IP or Host name of the 5066 Server. The "Port" is the TCP port of the STANAG 5066 Server

Scroll down.

In "Local SIS Address" Add the local SIS address of the STANAG 5066 server, "SAP ID" add the SAP ID used for this link.

Click "Add"

The configuration of the STANAG 5066 Server is now complete and we can proceed to add it to a Link.

Click "Main Menu", click on "Links"
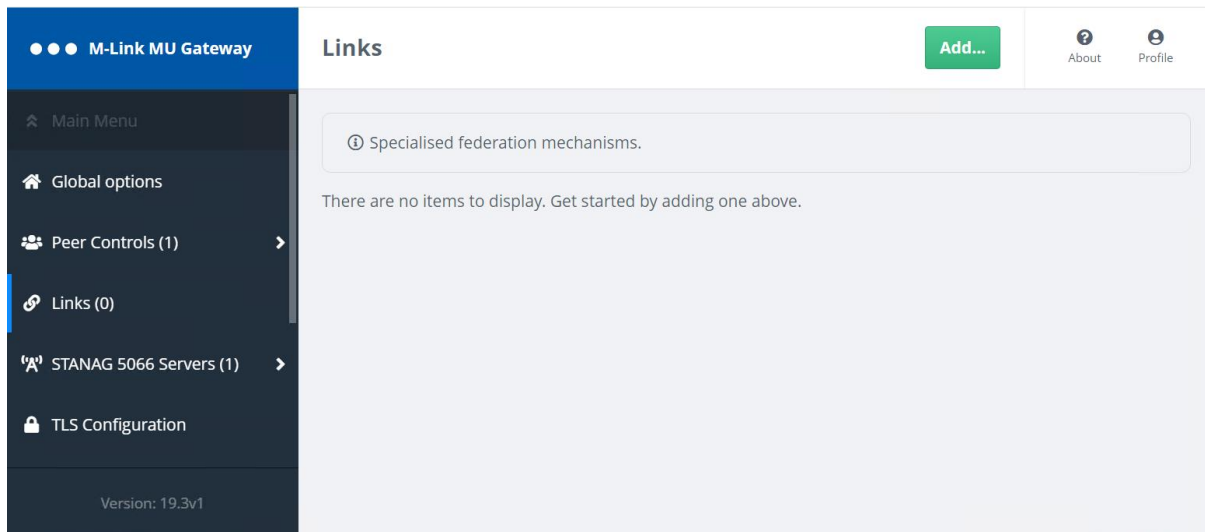
Click "Add"
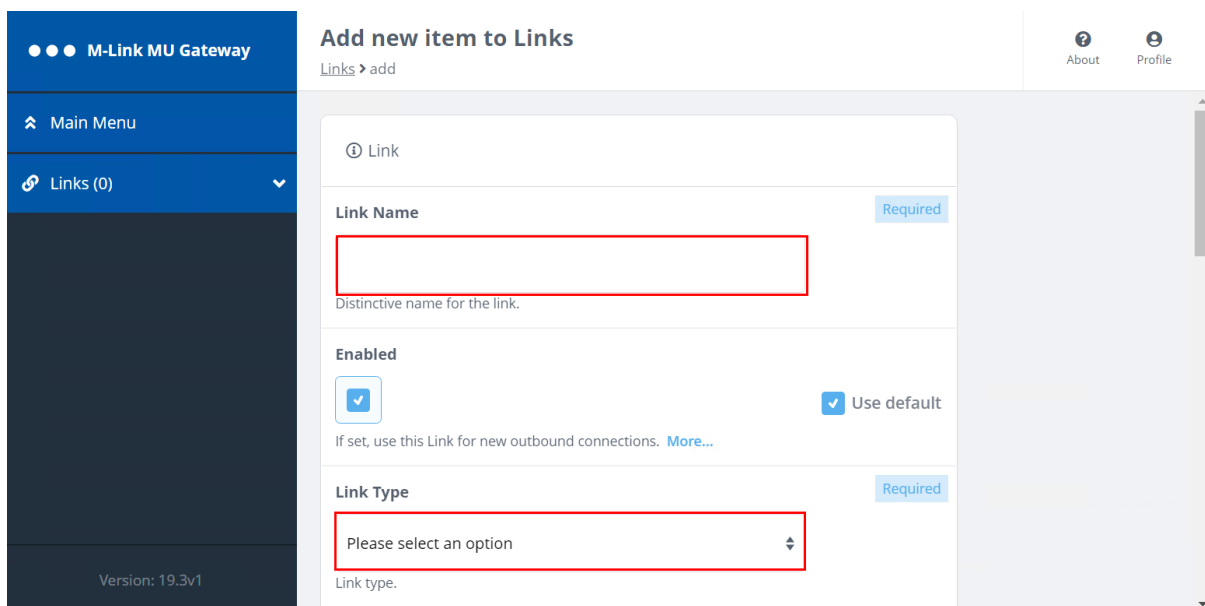
The "Link Name" is a "Friendly Name" that you should use to identify the Link, the "Link Type" will be "SLEP" selected from the drop down.

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Scroll down.

From "STANAG 5066 Server" select 5066-node1. "Remote SIS Address enter the IP address of the remote STANAG 5066 SIS Node Address

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Click "Add"

Your SLEP Link is now complete, we can proceed to add it to a Peer Control Configuration.

From the Main Menu click "Peer Controls":

Click on "Add"

Complete the "Domain", "Matching Rule" and Check the "Use Specialised Connection Mechanism" Checkbox

The "Domain" should be the XMPP Domain of the Server you are connecting to. The "Matching Rule" should be "Domain and Subdomain" if you want to include both the 1 to 1 Domain and Multi User Chat (MUC) Domain. You should then select the "Link" you have just created from the drop down.

Scroll down to "Relay Zone"

The M-Link MU Gateway Server does not have a Domain of its own, so it typically relays between different XMPP Domains. In order to do this, each Peer Control needs a unique "Relay Zone" defined. This is a free text name, so should be something to remind you of where you are relaying between:

Click "Add"
You have now completed configuring the "SLEP" Link and associated Peer Control.

You have also reached the end of this Guide. Further Advanced Configuration Options can be found in the M-Link R19.3 User Manual or by contacting support@isode.com.

Other Evaluations

This guide is one many relating to Isode's XMPP Messaging Products, other guides are:

- Setting up an XMPP System for 1:1 and Multi-User Chat
- Connecting XMPP and IRC Chat Services
- XMPP for Constrained Network Environments (M-Link R17.0 only)
- M-Link EDGE 19.3 Evaluation Guide

Information on all of these evaluations can be found at www.isode.com/evaluate/evaluate-xmpp.html . For messaging evaluations outside the scope of these guides, please contact us. Whitepapers Isode regularly publishes whitepapers on technical and market topics related to its products. A full list of these can be found at www.isode.com/whitepapers/.

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