

Icon-5066 Evaluation Guide

Configuring the R3.2 release of Isode's Icon-5066 Server on Windows and Linux Platforms for use with applications requiring a single STANAG 5066 node or multiple STANAG 5066 nodes.

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Introduction

This guide is intended to give the reader basic information on how to configure Isode's Icon-5066 server product. Icon-5066 is a STANAG 5066 server that can support multiple STANAG 5066 nodes on a single server.

Supporting multiple nodes on a single server is very helpful in lab environments, which this guide is aimed at. In a live environment it is likely that different nodes will be on different networks and locations, as such in this scenario an Icon-5066 Server will be required for each node.

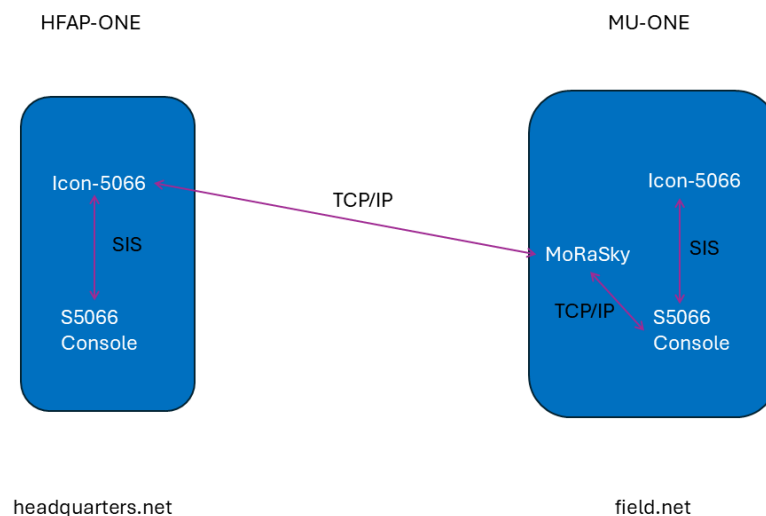
More information on Icon-5066 can be found at www.isode.com/product/stanag-5066-server/

Objectives

In this guide you will be shown how to configure two STANAG 5066 nodes that are connected to Isode's Modem Radio Sky Simulator (MoRaSky) in an ALE configuration. It should be noted that this is not designed to configure Icon-5066 for your requirements but merely gives you experience of configuring nodes and devices.

The diagram below gives an overview of this setup.

System Overview



By the end of this guide, you will have:

- Installed the Icon-5066 server software and started the Icon-5066 Services
- Used the web-based user interface to configure a S5066 Node on server HFAP-ONE and MU-ONE. That are connected to each other via a MoRaSky instance on MU-ONE.
- Connected the S5066 Console GUI to each node to test data throughput and chat.

For the purposes of this evaluation, we have assumed this is a "clean" installation of Icon-5066 on to a physical or virtual machine. If you have previously installed Icon-5066 on the hardware or VM you are using for this evaluation, please make sure you have completely uninstalled that version before proceeding.

Using Isode Support

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

Preparing the Server Environment

You should visit <https://www.isode.com/support/platform-support/> to discover which operating systems are supported for Isode evaluations.

Naming the Servers

Server 1 :

Make the machine's name: HFAP-ONE

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

Server 2 :

Make the machine's name: MU-ONE

Make the primary dns suffix for the server: FIELD.NET

Alternatively, you may use your own names or add dns entries in a dns server or hosts file.

Install the Isode Software on Both Servers

Follow the instructions in the release notes for the appropriate platform for the products. For this guide, the following products were used:

Icon-5066 3.2v10

M-Switch 19.1v9

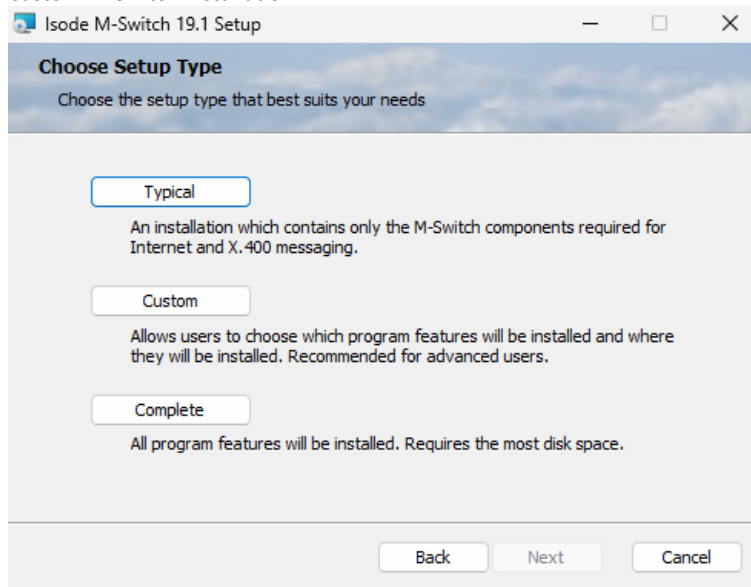
MAS 1.1V3 (Optional, see Product Activation later in this document)

On Windows, select the default install options when executing the installer for Icon-5066 and MAS.

Remember to install an appropriate java runtime engine (refer to product release notes) and in a Windows environment the visual c++ redistributable package.

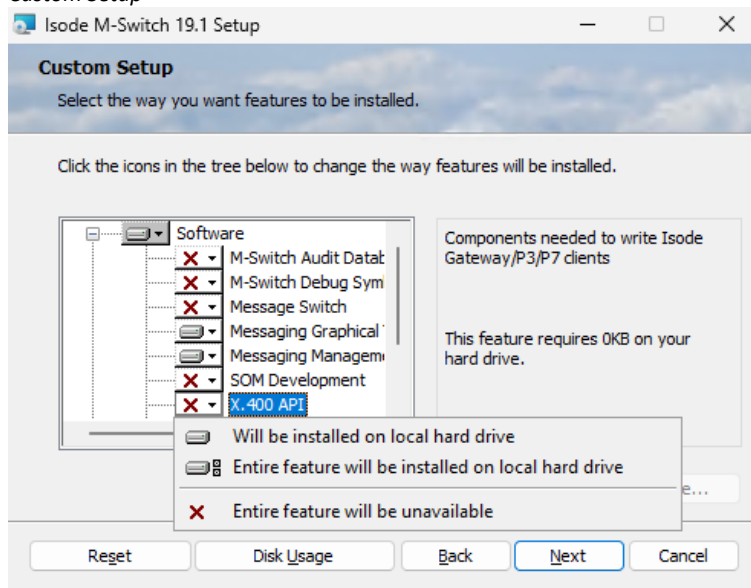
Start the M-Switch installer and, when asked for a Setup Type, choose "Custom"

Custom M-Switch Installation



In the “Custom Setup” Gui, disable all the features except for “Messaging Graphical Tools” and “Messaging Management Tools” by selecting, for every other option, the “Entire Feature will be unavailable” option.

Custom Setup



Click “Next” on this screen and “Install” on the next. On the “Completed” screen click “Finish”.
On Linux, install all the RPMs with the command:

```
# sudo rpm -i ISD*.rpm
```

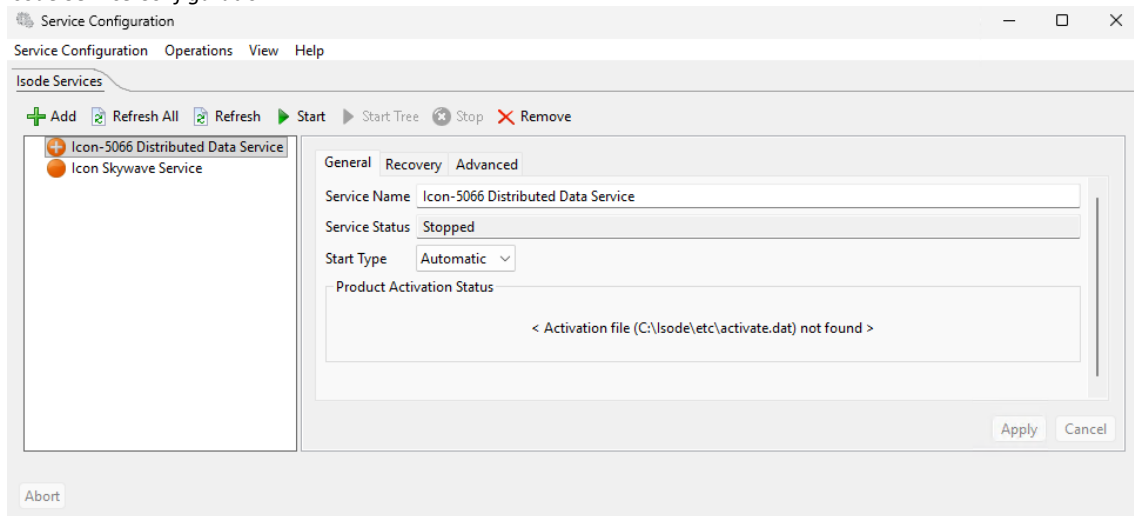
Please use a supported web browser as documented in the product release notes.

Activating the Isode Products on both Servers

Isode Products are typically activated using the Isode Messaging Activation Server (MAS). Some Isode Products, such as Icon-5066 also support local product activation. If you are installing other Isode Products such as M-Switch, M-Vault, M-Box etc on the same server as Icon-5066 we recommend using MAS and you should refer to the MAS Evaluation Guide for how to do that. For this Guide we will use the Local Product Activation in Icon-5066. You will need to start Icon-5066 first. For Windows this is done using the Isode “Services Configuration” tool.

On each server:

Isode Service Configuration



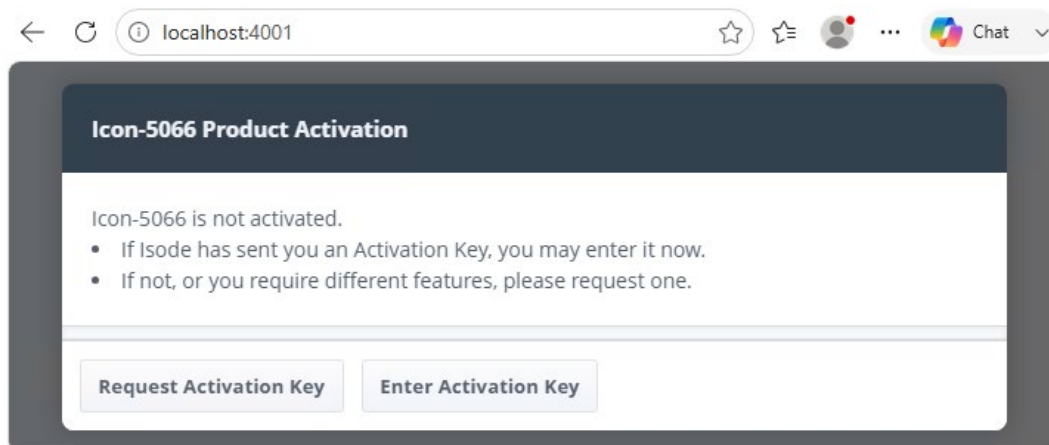
Start the “Icon-5066 Distributed Data Service”

On Linux use the command line below:

```
# sudo systemctl start isode.icon.ddsd
```

To Activate Icon-5066 point your browser to the URL: <http://localhost:4001>

Icon-5066 Product Activation



Click “Request Activation Key”

Request Activation Key

Product Activation

Please provide a reference identifying this Icon-5066 server, which will be displayed as part of the product activation information.

Reference:

Icon-5066 Evaluation - HFAP-ONE

[Generate Activation Request](#) [Back](#)

Enter a “Reference” which might helpfully include the machine name and click “Generate Activation Request”

Copy activation request

Product Activation

Please send the following Activation Request code to the Isode Product Activation Service isode.support@isode.com, explaining your requirements for this server.

ZmVhdHVyZT0iSWNvb01MDY2IiBjdXN0b211ci1yZWY9Ik1jb24tNTA2NiBBY3RpdmlF0aW9uIiBob3N0aWQ9I1VVSUQ7ZGQyMD1jOWJjOTRjNzljODgyMDRjNzQyMDZkNmM2YWU1YzJlZTdhZTYwOTY1NTM1MzRlZDVkOTA1ZjM4MDc4ZWlzMtNkMzdHNTk3ZTg1NDhkYTdlZWUyMWJjYjYkdMTY4ZjdmY2UwOWEzZjRlNzNjNWJhZmNmOWUzZWZlZDQ5Zjci

[Copy](#)

[Back](#)

Copy the activation request using the icon on the bottom left corner and send it to isode.support@isode.com noting that this is for an Icon-5066 Evaluation. Isode Support will then send a Product Activation Key. When they have done this click the “Back” button.

Click “Enter Activation Key”

Paste the Activation Key

Product Activation

Please input the Activation Key provided by the Isode Product Activation Service for Icon-5066.

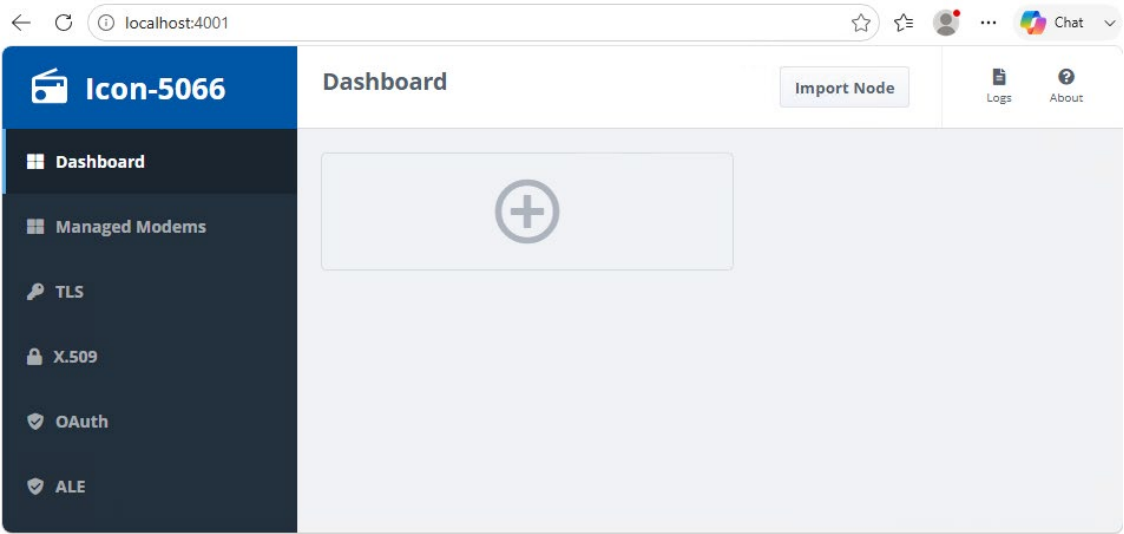
Jlcl0ISW50iIBjdXN0b211ci1yZWY9IkV2YWwgr3VpZGVzIHVwZGF0ZSlgY3VzdG9tZXltbmFtZT0iSXNvZGUgLSBNYXJlZlpzaWduPSJNRVIDSVFEcktucnhuMldKY1cwNzIEMjZIZDY1blpOZTRhenl2YUg5NkhYU3FXNEJ4QUloQUx6VkZoSmhVY2tWRUdCeWpIQ05kSjFyN043cmI0SEXYWndwY3Z5TVQzcEoiCg==

[Activate](#) [Back](#)

Paste in the Activation Key Sent by Isode Support and Click the “Activate” button. If there are no

errors, you will be presented with the Icon-5066 Initial Configuration Screen.

Product Activated

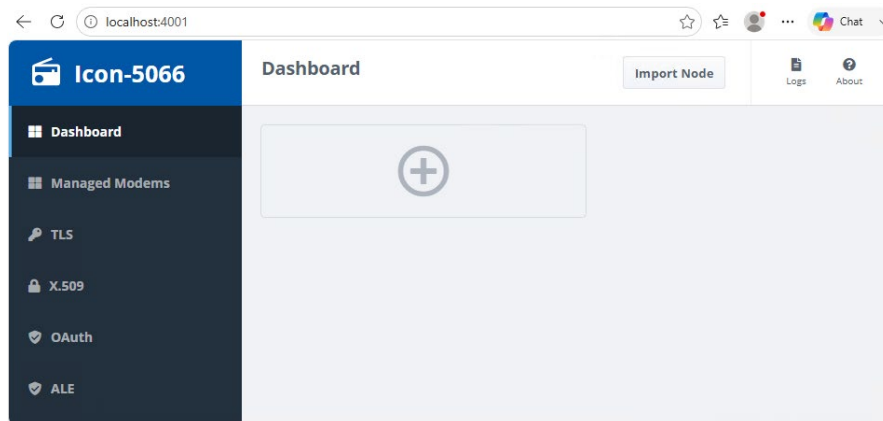


Create HFAP-ONE

Creating the HFAP-ONE node

On the HFAP-ONE server browse to `http:localhost:4001`

Icon-5066 dashboard



Click the “+” Button.

Configure Node information

In “Name” type “HFAP-ONE”

In “Node Address” type “10.50.66.0”

Node addresses must be unique and are similar to IPv4 syntax, but the first octet has a max value of 15. The choice for demos is arbitrary, but live deployments have rules for international allocation.

The “SIS Host” (the hostname of your Icon-5066 Server) is optional and if left blank Icon-5066 will listen on all IP Addresses.

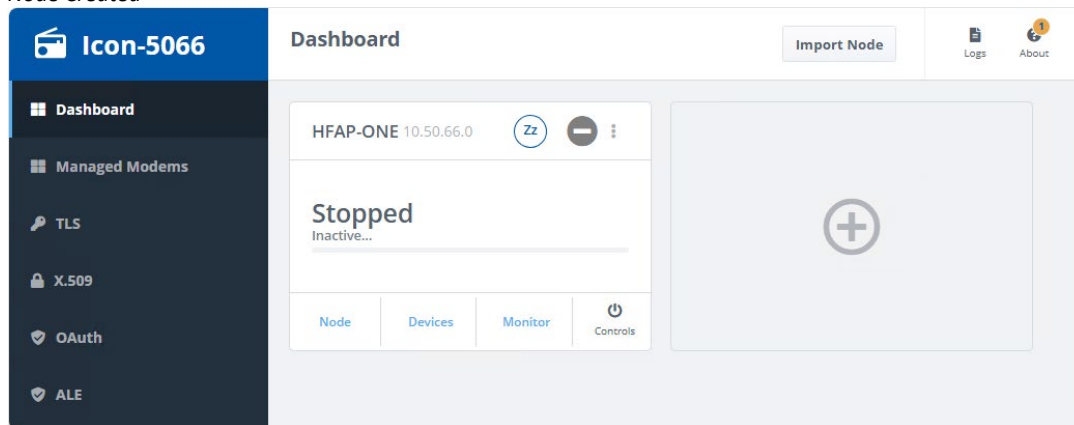
In “SIS Port” type “5066”

Click “Add”

You should receive a notification that the node was successfully created.

In the left-hand pane select “Dashboard”

Node Created



Configuring the HFAP-ONE node

Each node consists of a core configuration together with a number of devices that are used by, or control the behavior of, the S5066 node. Each working node configuration must define the following set of mandatory devices:

A Modem device that defines how to communicate with the underlying modem (simulated or real).

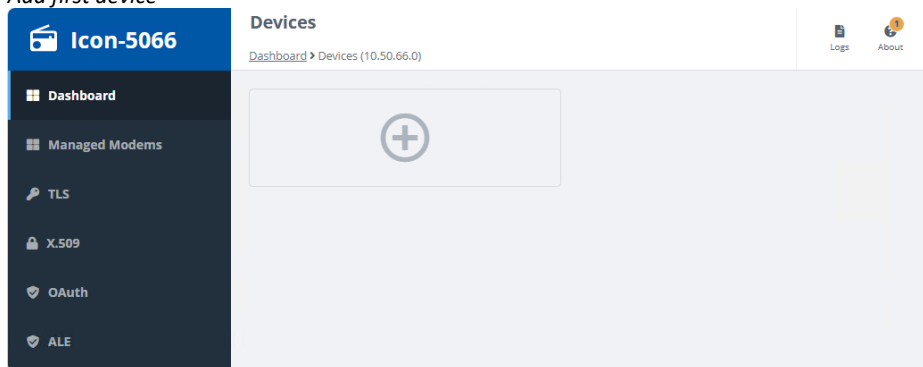
A Rate Change device that controls the rate at which data can be sent to the modem.

A Transmission Control device that controls the pattern of data transmission.

In this evaluation we will be using the MoRaSky GUI to create a clear channel, 2 Radio configuration using Waveform 4539, 9600 bps and medium Interleaver.

From the dashboard, select “Devices”

Add first device



Click the “+” button.

Choose a new device

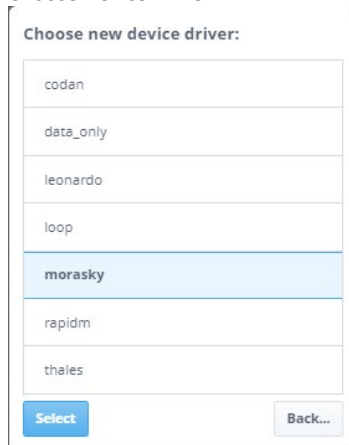
Choose new device:

ALE Device
EOT Engine
Modem
Monitoring
Rate Change
RX-end Handler
Receive Modem
Transmission Control
Transmit Modem

Next...Cancel

Select “Modem” and click “Next...”

Choose Device Driver



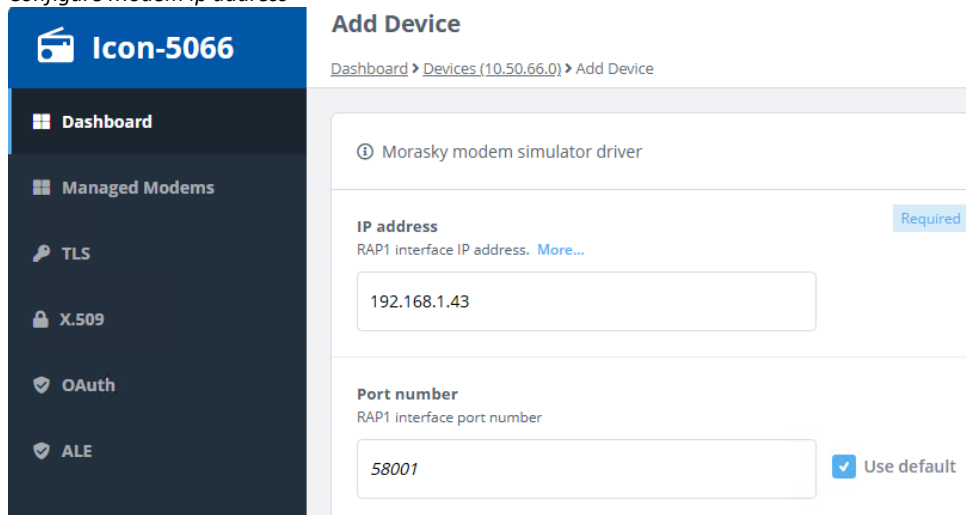
Choose new device driver:

codan
data_only
leonardo
loop
morasky
rapidm
thales

Select Back...

Select the “morasky” modem and click “Select”

Configure Modem ip address



Icon-5066

Dashboard

Managed Modems

TLS

X.509

OAuth

ALE

Add Device

[Dashboard](#) > [Devices \(10,50,66,0\)](#) > Add Device

ⓘ Morasky modem simulator driver

IP address Required
RAP1 interface IP address. [More...](#)

192.168.1.43

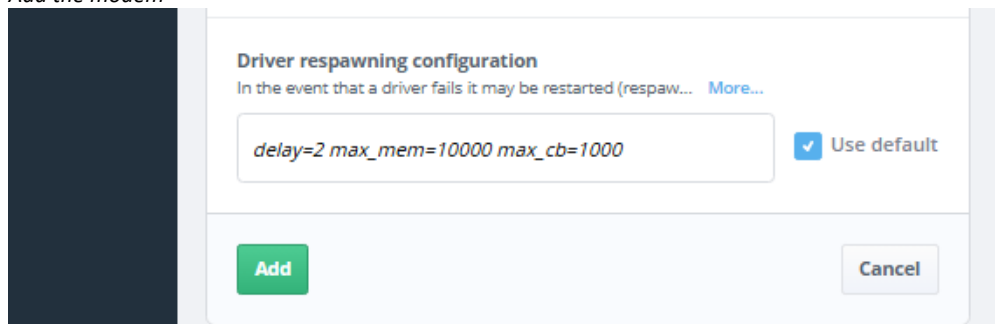
Port number
RAP1 interface port number

58001 ☒ Use default

In “IP address” type the IP address of the MU-ONE server

Scroll to the bottom of the page

Add the modem



Driver respawning configuration
In the event that a driver fails it may be restarted (respaw... [More...](#)

delay=2 max_mem=10000 max_cb=1000 ☒ Use default

Add Cancel

Click “Add”, you will receive a notification that the device has been added.

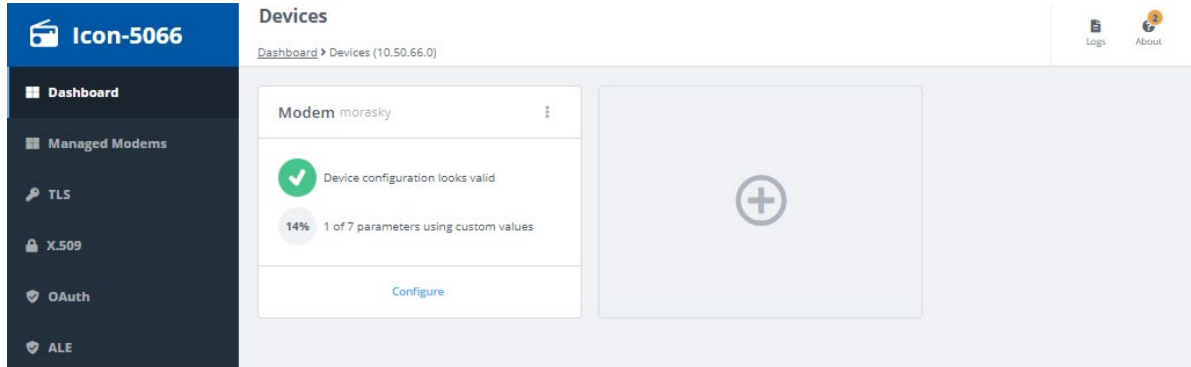
From the top menu:

Select Devices



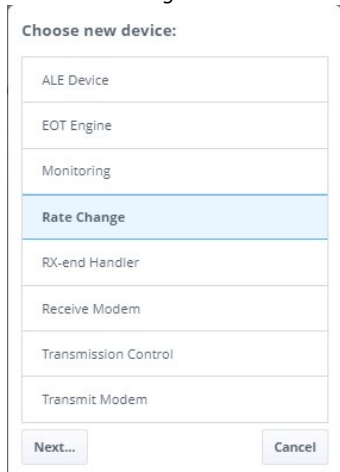
Click “Devices”

Modem device added



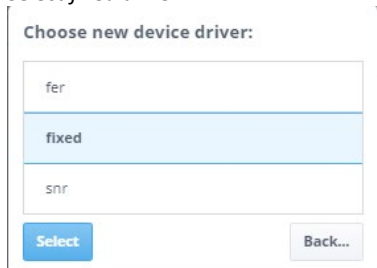
Click the “+” Button

Select rate change device



Select “Rate Change” and Click “Next...”

Select fixed driver



Select “fixed”

Click “Select”

Select a waveform

Icon-5066

Dashboard

Managed Modems

TLS

X.509

OAuth

ALE

Add Device

Dashboard > Devices (10.50.66.0) > Add Device

① Fixed waveform and parameters

Waveform Required

Waveform to configure in modem

Please select an option

- wf=4539 bps=9600 ilv=V5
- wf=4539 bps=9600 ilv=S
- wf=4539 bps=9600 ilv=M
- wf=4539 bps=9600 ilv=L
- wf=4539 bps=9600 ilv=VL
- wf=5069 bps=75 ilv=S
- wf=5069 bps=75 ilv=M
- wf=5069 bps=75 ilv=L
- wf=5069 bps=150 ilv=US
- wf=5069 bps=150 ilv=S
- wf=5069 bps=150 ilv=M
- wf=5069 bps=150 ilv=L
- wf=5069 bps=300 ilv=US
- wf=5069 bps=300 ilv=S
- wf=5069 bps=300 ilv=M
- wf=5069 bps=300 ilv=L
- wf=5069 bps=600 ilv=US
- wf=5069 bps=600 ilv=S
- wf=5069 bps=600 ilv=M
- wf=5069 bps=600 ilv=L

9

☒ Use default

☒ Use default

☒ Use default

☒ Use default

From the “Waveform” drop-down select “wf=4539 bps=9600 ilv=M”

Scroll to the bottom of the page

Add the fixed rate change device

Driver respawning configuration

In the event that a driver fails it may be restarted (respaw... [More...](#))

delay=2 max_mem=10000 max_cb=1000

☒ Use default

Add **Cancel**

Click “Add”

You will receive a notification that the device has been added

Select “Devices” from the top menu

Rate change device added

Icon-5066

Dashboard

Managed Modems

TLS

X.509

OAuth

ALE

Devices

Dashboard > Devices (10.50.66.0)

Modem morasky

✓ Device configuration looks valid

14% 1 of 7 parameters using custom values

[Configure](#)

Rate Change fixed

✓ Device configuration looks valid

7% 1 of 15 parameters using custom values

[Configure](#)

+

Click the “+” button

Select the transmission control device

Choose new device:

- ALE Device
- EOT Engine
- Monitoring
- RX-end Handler
- Receive Modem
- Transmission Control**
- Transmit Modem

Next... Cancel

Select “Transmission Control” and Click “Next...”

Select ale_121 transmission control

Choose new device driver:

- ale_121**
- bc_cont
- bc_gaps
- csma
- notx
- si_cont
- si_gaps
- wtrp

Select Back...

Select “ale_121”

Click “Select”

Configure and add ale_121

Add Device

Dashboard > Devices (10,50,66,0) > Add Device

① ALE one-to-one, simplex (half-duplex), alternating turns continuously

Pauses between consecutive transmissions in seconds
A random duration from this space-separated list is used (e.g., 10 20 30). [More...](#)

20 20 30 ☒ Use default

Number of empty (padding) transmissions to make before terminating ALE link
It may be worth continuing to ping back and forth with padding. [More...](#)

10 ☒ Use default

Seconds to wait for a response before terminating ALE link
If the other party doesn't transmit back, then that may mean... [More...](#)

240 ☒ Use default

Seconds to wait for modem to drop RX-active after EOT
This is for recovery from unexpected modem behaviour, e.g., [More...](#)

10 ☒ Use default

Seconds to wait before aborting transmission (both Rx and Tx)
This is for recovery from unexpected modem behaviour

150 ☒ Use default

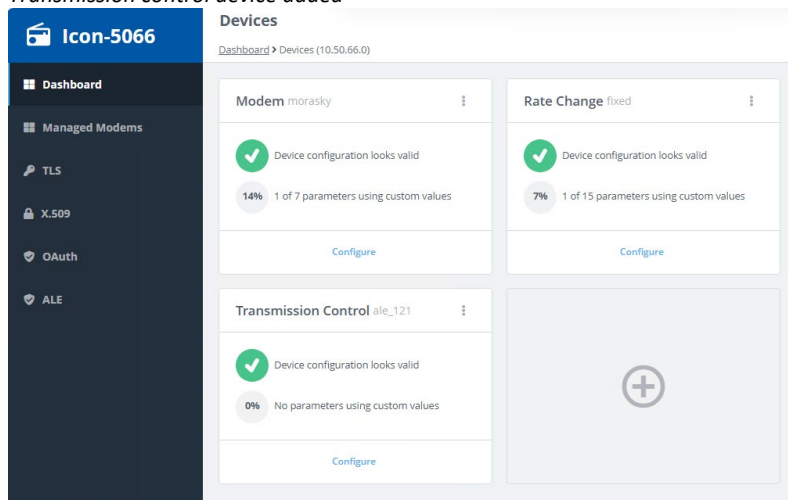
Add Cancel

Leave the default values and click “Add”

You will receive a notification that the device has been added

Select “Devices” from the top menu

Transmission control device added



Click the “+” button

Select ALE Device

Choose new device:

ALE Device
EOT Engine
Monitoring
RX-end Handler
Receive Modem
Transmit Modem

Next... Cancel

Select “ALE Device” and Click “Next...”

Select morasky driver

Choose new device driver:

codan
leonardo
morasky
rapidm
thales

Select Back...

Select “morasky”

Click “Select”

Configure and add ale device

Icon-5066 Add Device
Dashboard > Devices (10.50.66.0) > Add Device

① Morasky ALE device driver

Request timeout
Seconds to wait for a link setup before aborting it. [More...](#)
60 ☒ Use default

Contention slot width (seconds)
Contention slot duration. Each station in an ALE network. [More...](#)
5 ☒ Use default

Number of contention slots
The value selected is a balance between probability of on... [More...](#)
10 ☒ Use default

Specific contention slot to use
Use a specified contention slot number rather than a random. [More...](#)
0 ☒ Use default

Driver respawning configuration
In the event that a driver fails it may be restarted (replaces... [More...](#)
delay=2 max_mem=10000 max_cb=1000 ☒ Use default

Add **Cancel**

Leave the default values and click “Add”

You will receive a notification that the device has been added

Select “Devices” from the top menu

ALE device added

Icon-5066 Devices
Dashboard > Devices (10.50.66.0)

Modem morasky ☒ Device configuration looks valid 14% 1 of 7 parameters using custom values Configure	Rate Change fixed ☒ Device configuration looks valid 7% 1 of 15 parameters using custom values Configure
Transmission Control ale_121 ☒ Device configuration looks valid 0% No parameters using custom values Configure	ALE Device morasky ☒ Device configuration looks valid 0% No parameters using custom values Configure

Configure the ALE Parameters on HFAP-ONE

In the left-hand pane, select “ALE”

HF Networks

Icon-5066 HF Networks

Dashboard
Managed Modems
TLS
X.509
OAuth
ALE

+ **→**

Press “+”

Name Network

Add HF Network

HF Network Name

HF-NETWORK-ONE

Submit

Cancel

In “HF NETWORK NAME” type “HF-NETWORK-ONE”

Press “Submit”

The network will be created

HF-NETWORK-ONE Created

Icon-5066

Dashboard

Managed Modems

TLS

X.509

OAuth

ALE

HF Networks

HF-NETWORK-ONE

No STANAG-5066 node assigned

Addresses

Frequencies

Schedules

Options

Select “Options”

ALE options

Icon-5066

Dashboard

Managed Modems

TLS

X.509

OAuth

ALE

ALE Options for HF-NETWORK-ONE

HF Networks > options (HF-NETWORK-ONE)

ALE Options

Type of Channel

Type of Channel

NARROW-BAND

Use default

Sideband

This controls which sideband the ALE uses.

USB

Use default

Tx Bandwidth

Transmit Modem Bandwidth in Khz

3

Use default

Rx Bandwidth

Receive Modem Bandwidth in Khz

3

Use default

HF Frequency Prediction

If set, Icon5066 will query best frequencies from skywave

False True

Use default

From the “Type of Channel” dropdown select “NARROW-BAND”

From the “Tx Bandwidth” dropdown select “3”

From the “Rx Bandwidth” dropdown select “3”

Scroll to the bottom

Apply ALE options

Network Type
Type of ALE or Fixed Frequency

3G ☒ Use default

Submit **Cancel**

Press “Submit”

Configure the ALE Addresses on HFAP-ONE

Select “Addresses”

Empty Addresses

Icon-5066

Dashboard
Managed Modems
TLS
X.509
OAuth
ALE

ALE Addresses for HF-NETWORK-ONE **Add** **Logs** **About**

HF Networks > ALE Addresses (HF-NETWORK-O...

Mappings from ALE address to STANAG-5066 addresses in a given HF network.

ALE Address	S5066 Address
-------------	---------------

Press “Add”

Configure HFAP-ONE ALE Address

Add ALE Address Entry for HF-NETWORK-ONE **Logs**

HF Networks > ALE Addresses (HF-NETWORK-ONE) > Add ALE Address

ALE Address **Required**

ALE string identifying the node (Capital Letters and numbers only)

HF1

3G Binary Address **Required**

ALE binary address of the node (0-1023)

1

Node Address **Required**

The 5066 Unicast or Multicast Address

10.50.66.0

Submit **Cancel**

In “ALE Address” type “HF1”

In “3G Binary Address” type “1”

In “Node Address” type “10.50.66.0”

Press “Submit”

Press “Add”

Configure MU-ONE ALE Address

Add ALE Address Entry for HF-NETWORK-ONE

HF Networks > ALE Addresses (HF-NETWORK-ONE) > Add ALE Address

ALE Address

ALE Address
ALE string identifying the node (Capital Letters and numbers only)

MU1

Required

3G Binary Address

3G Binary Address
ALE binary address of the node (0-1023)

2

Required

Node Address

Node Address
The 5066 Unicast or Multicast Address

10.50.66.1

Required

Submit

Cancel

In “ALE Address” type “MU1”

In “3G Binary Address” type “2”

In “Node Address” type “10.50.66.1”

Press “Submit”

ALE Addresses Added

ALE Addresses for HF-NETWORK-ONE

HF Networks > ALE Addresses (HF-NETWORK-ONE) > Add

Mappings from ALE address to STANAG-5066 addresses in a given HF network.

	ALE Address	SS066 Address
	HF1	10.50.66.0
	MU1	10.50.66.1

Configure the ALE Frequencies on HFAP-ONE

From the top menu press “HF Networks”

Press “Frequencies”

Empty Frequency List

ALE Frequencies for HF-NETWORK-ONE

HF Networks > Frequencies (HF-NETWORK-ONE) > Add

Frequencies defined for use in scheduled ALE device configuration updates.

Transmit Frequency (MHz)	Receive Frequency (MHz)
--------------------------	-------------------------

Press “Add”

Add ALE Frequency 3 MHZ

Add ALE Frequency for HF-NETWORK-ONE

HF Networks > Frequencies (HF-NETWORK-Q... > Add Frequency

HF Frequency

Tx Frequency Required

Transmit Frequency in Mhz

Rx Frequency

Receive Frequency in Mhz

Rx ALE Position

ALE Position references the wide-band channel used as a ... [More...](#)

Tx ALE Position

ALE Position references the wide-band channel used as a ... [More...](#)

RX BW

Receive Modem Bandwidth

TX BW

Transmit Modem Bandwidth

In “Tx Frequency” type “3”

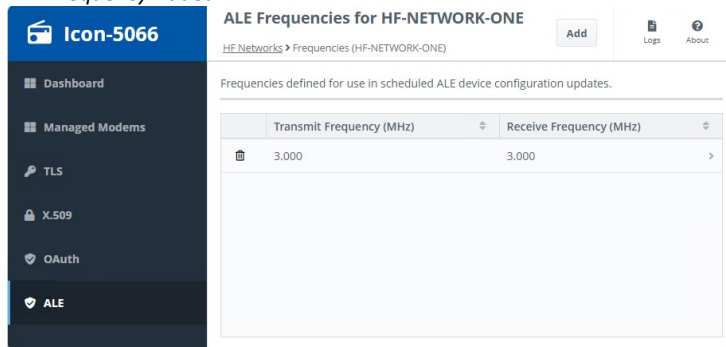
In “Rx Frequency” type “3”

In “RX BW” type “3”

In “TX BW” type “3”

Press “Submit”

ALE Frequency Added

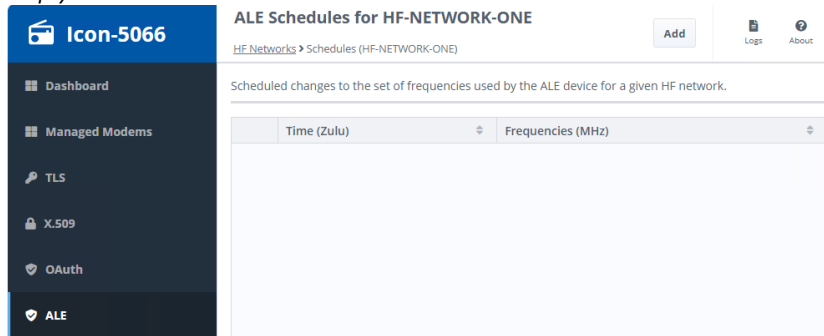


Configure the ALE Schedules on HFAP-ONE

From the top menu press “HF Networks”

Press “Schedules”

Empty Schedules View



Press “Add”

Add ALE Schedule

Add ALE Schedule for HF-NETWORK-ONE

HF Networks > Schedules HF-NETWORK-ONE > Add Schedule

Hour

Minute

Frequencies ☒ 3.000

In “Hour” type “0”

In “Minute” type “0”

Check frequency “3.000”

Press “Add”

ALE Schedule Added

ALE Schedules for HF-NETWORK-ONE

HF Networks > Schedules (HF-NETWORK-ONE)

Add

Logs

About

Scheduled changes to the set of frequencies used by the ALE device for a given HF network.

	Time (Zulu)	Frequencies (MHz)
	00:00	[3.000]

Assign the 5066 Node on HFAP-ONE

From the top menu press “HF Networks”

Select Assign Node

The screenshot shows the 'HF Networks' interface. On the left is a sidebar with a blue header 'Icon-5066' and a list of menu items: Dashboard, Managed Modems, TLS, X.509, OAuth, and ALE. The main content area is titled 'HF Networks' and shows a card for 'HF-NETWORK-ONE'. Below the card title, it says 'No STANAG-5066 node assigned'. There are tabs for 'Addresses', 'Frequencies', 'Schedules', and 'Operations'. A dropdown menu is open next to the 'HF-NETWORK-ONE' card, showing three options: 'Assign Node...', 'Remove HF Network...', and 'Export HF Network'.

To the right of “HF-NETWORK-ONE” select the 3 vertical dots.

Select “Assign Node ...”

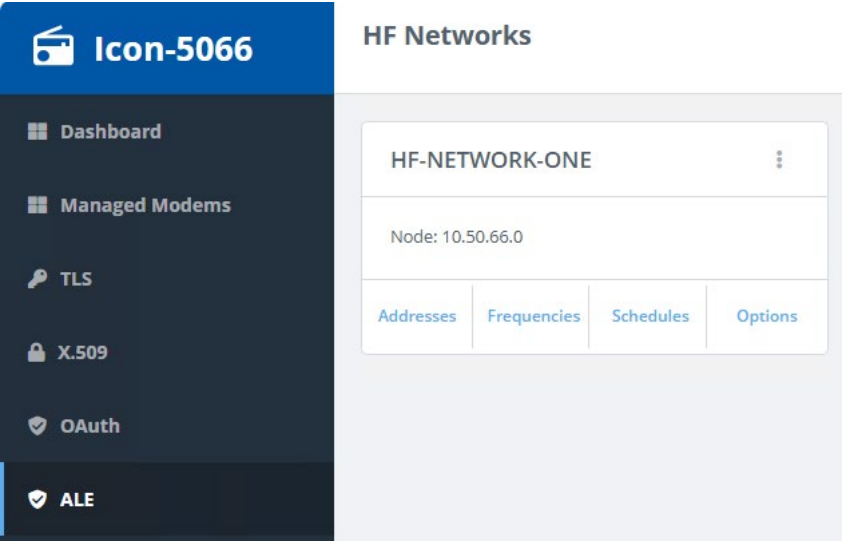
Assign Node Dropdown

The screenshot shows a dialog box titled 'Assign Node to HF Network'. It has a close button (X) in the top right corner. Below the title, there is a label 'Node' and a dropdown menu with the text 'Select Node'. Below the dropdown, the IP address '10.50.66.0' is displayed. At the bottom left is a blue 'Select' button, and at the bottom right is a grey 'Cancel' button.

From the Node dropdown select “10.50.66.o”

Press “Select”

Network Associated



Note that the Node “10.50.66.0” has been associated with the network “HF-NETWORK-ONE”

You have now completed configuration of HFAP-ONE

Create MU-ONE

Creating the MU-ONE node

On MU-ONE follow the above steps for “Creating the HFAP-ONE” node but changing these values:

Name: MU-ONE

Node Address: 10.50.66.1

Configuring the MU-ONE node

On MU-ONE follow the above steps for “Configuring the HFAP-ONE node”

When configuring the modem device, set the “Port Number” to “58002”

Configure the ALE Parameters on MU-ONE

On MU-ONE follow the above steps for “Configure the ALE Parameters on HFAP-ONE” but at the last step, associate the network “HF-NETWORK-ONE” with the node “10.50.66.1”

Assign Node Dropdown

Assign Node to HF Network

Node

Select Node

Select

10.50.66.1

Cancel

Node Associated

HF Networks

HF-NETWORK-ONE

Node: 10.50.66.1

Addresses

Frequencies

Schedules

Options

Configuring and Starting MoRaSky on MU-ONE

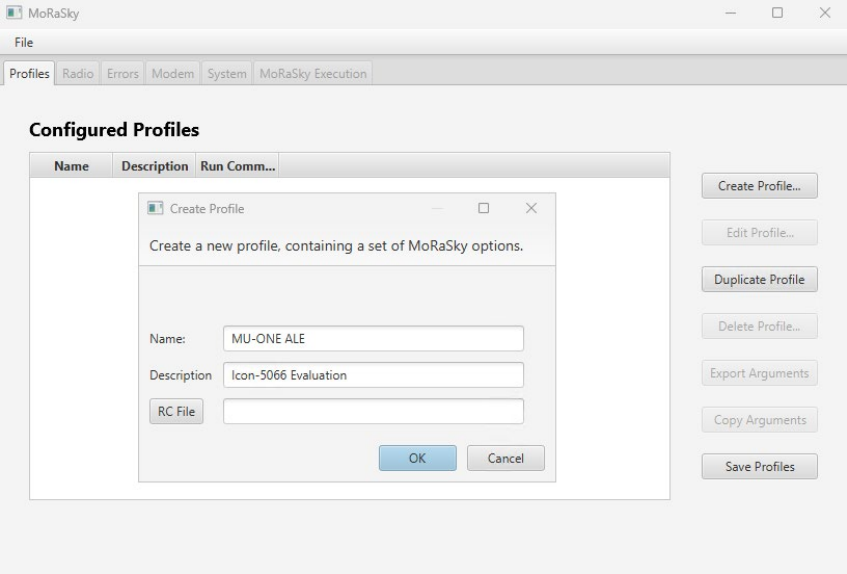
On Windows open the “MoRaSky” GUI from the Windows Start menu

On Linux, start the MoRaSky GUI by:

```
# /opt/isode/sbin/moraskyGUI
```

Press “Create Profile ...”

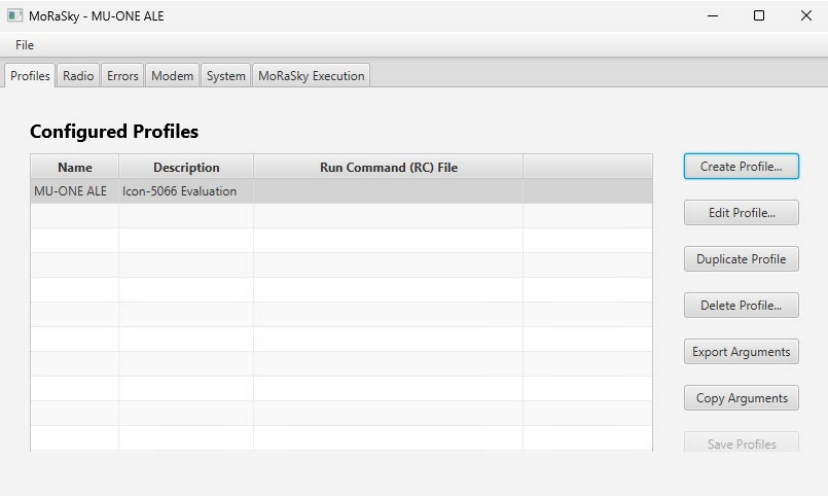
Create MoRaSky Profile



Provide a profile name and description

Press “OK”

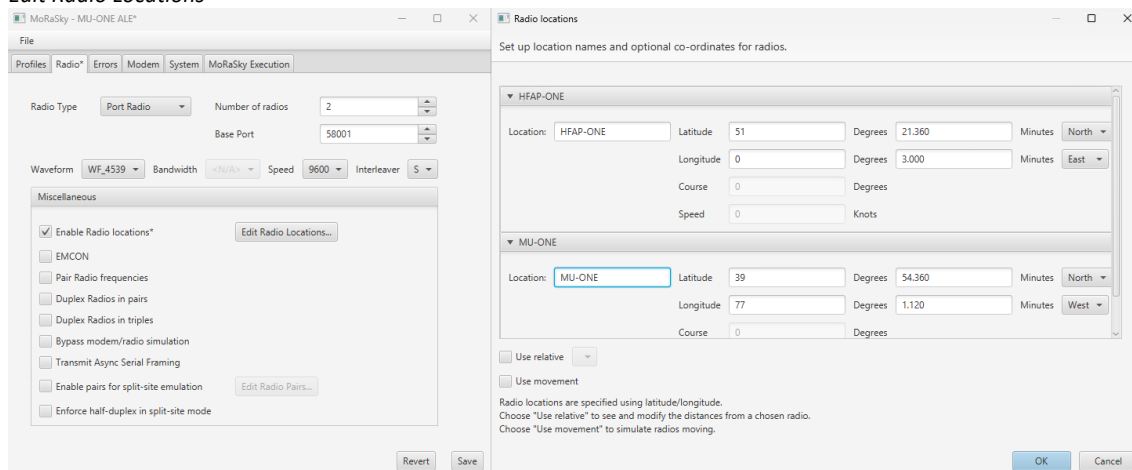
Profile Created



Select “Radio” tab

Press “Enable Radio Locations”

Press “Edit Radio Locations ...”

Edit Radio Locations

In the first location, replace “London” with “HFAP-ONE”

In the second location, replace “Washington” with “MU-ONE”

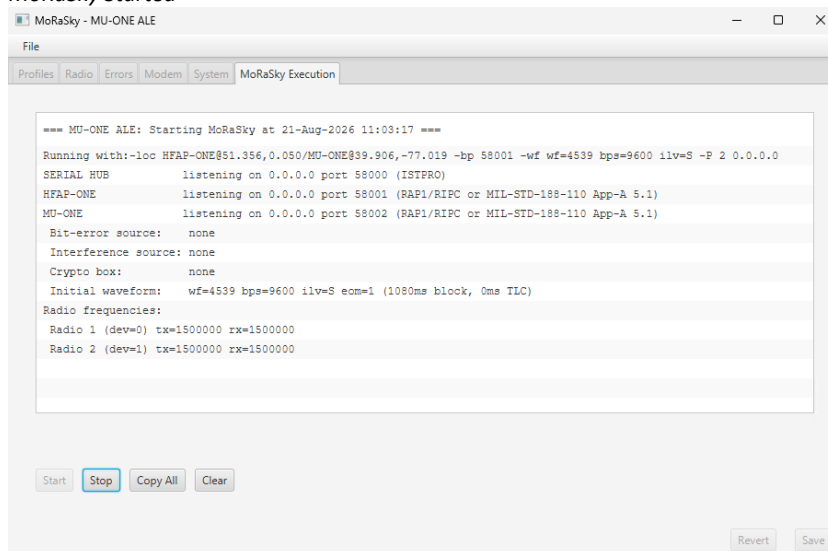
Press “OK”

Press “Save”

On “Saving Profiles” press “OK”

Select the MoRaSky Execution Tab

Press “Start”

MoRaSky Started

Note that MoRaSky is listening on ports 58001 and 58002

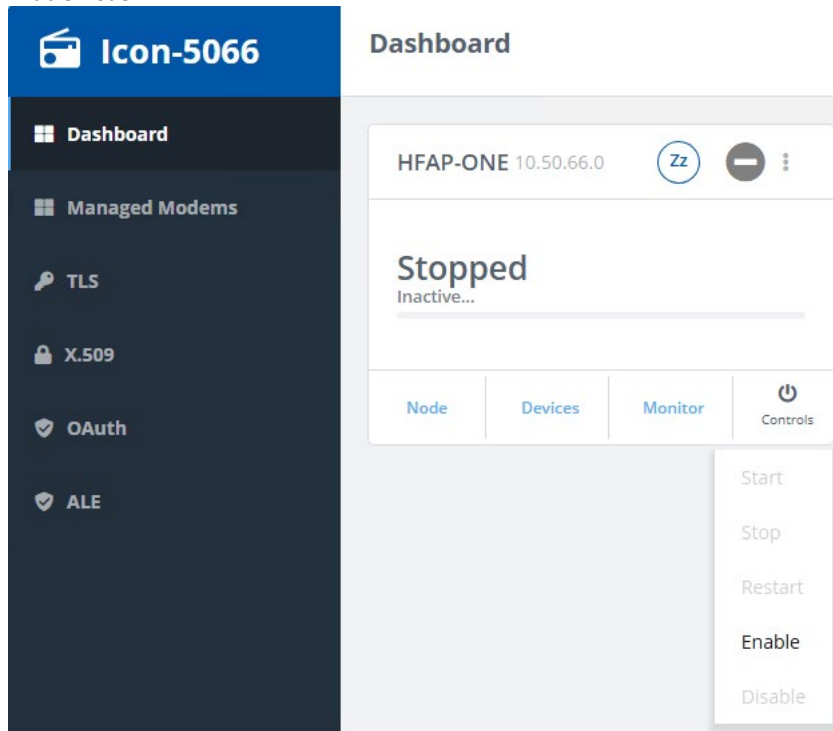
Enabling the Nodes

On both HFAP-ONE and MU-ONE :

Select “Dashboard”.

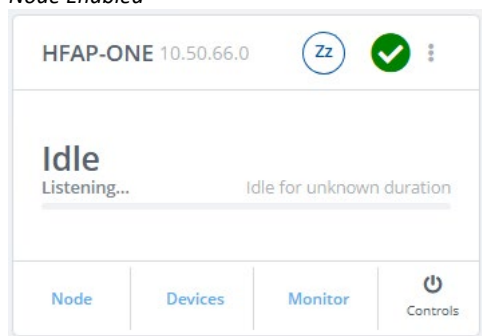
Press the “Controls” button

Enable Node



Select “Enable”

Node Enabled



A green tick should now indicate each node has been enabled

Select the MoRaSky “Execution” tab

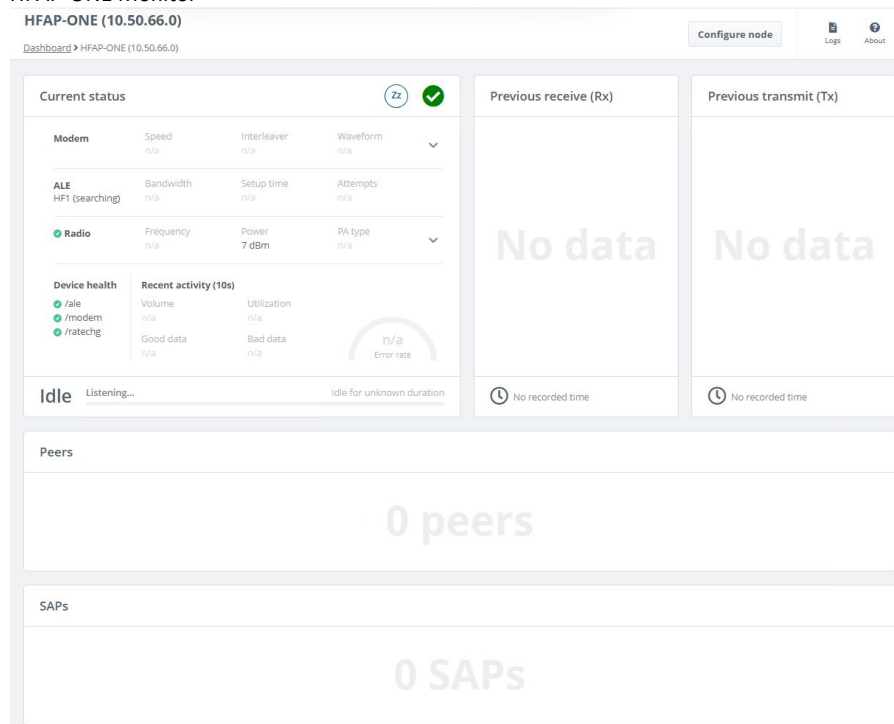
Nodes Registered with MoRaSky

```
3762.420 [PortSession /192.168.1.42:51314 on 0.0.0.0:58001] Session start
3762.457 [Radio 1] 3G ALE freq pool add index=0 freq=3000000 mod=USB max_power=2
3762.459 [Radio 1] 3G ALE chan pool add index=0 use=search_and_traffic chan=3 freq_idx=0
3762.461 [Radio 1] 3G ALE scan list=[0]
3762.468 [Radio 1] 3G ALE Address(0) (Binary:1) = HF1
3762.469 [Radio 1] 3G ALE Address(0) (Binary:1) = HF1 -- SELF
3762.469 [Radio 1] 3G ALE Address(1) (Binary:2) = MU1
3767.475 [Radio 1] ALE: Release
4234.378 [PortSession /192.168.1.43:61101 on 0.0.0.0:58002] Session start
4234.393 [Radio 2] 3G ALE freq pool add index=0 freq=3000000 mod=USB max_power=2
4234.393 [Radio 2] 3G ALE chan pool add index=0 use=search_and_traffic chan=3 freq_idx=0
4234.393 [Radio 2] 3G ALE scan list=[0]
4234.395 [Radio 2] 3G ALE Address(0) (Binary:1) = HF1
4234.395 [Radio 2] 3G ALE Address(1) (Binary:2) = MU1
4234.395 [Radio 2] 3G ALE Address(1) (Binary:2) = MU1 -- SELF
4239.397 [Radio 2] ALE: Release
```

Note that two nodes have registered themselves with MoRaSky

On HFAP-ONE press “Monitor”

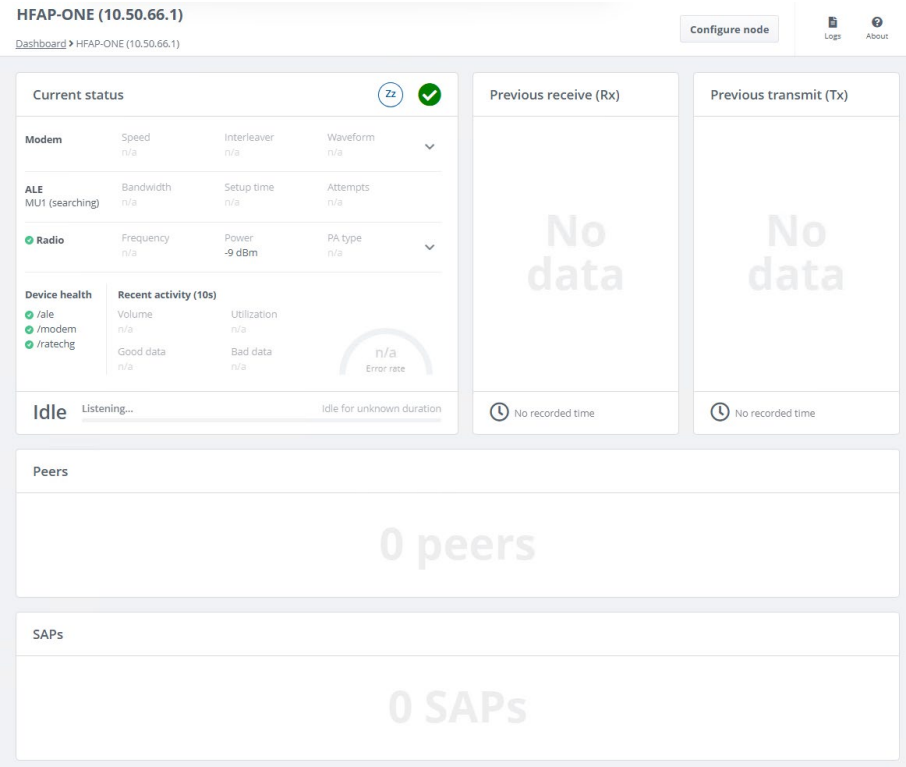
HFAP-ONE Monitor



Note the healthy green ticks on each device

On MU-ONE press “Monitor”

MU-ONE Monitor



Note the healthy green ticks on each device

Note that no Applications have connected (SAPs) and no peer connections have been made

Testing the Configuration with the S5066 Console

To test that the three nodes connect, we're going to use the S5066 Console, which was installed during the installation of Isode's M-Switch at the start of this document.

Start the S5066 Console

Start the S5066 Console on Windows by selecting it from the Windows Start menu

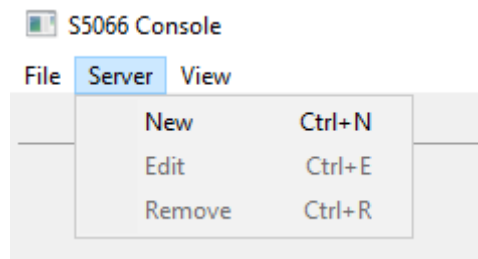
To start S5066 Console on Linux, run the command:

```
# /opt/isode/bin/s5066console
```

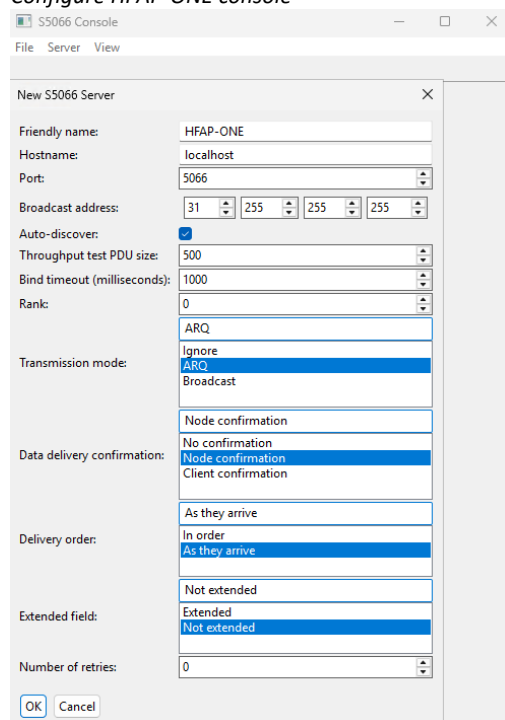
Configure the S5066 Console on HFAP-ONE

From the main S5066 Console screen select "Server > New"

Add new Server



Configure HFAP-ONE console



In "Friendly name:" type "HFAP-ONE"

In "Hostname:" type "localhost"

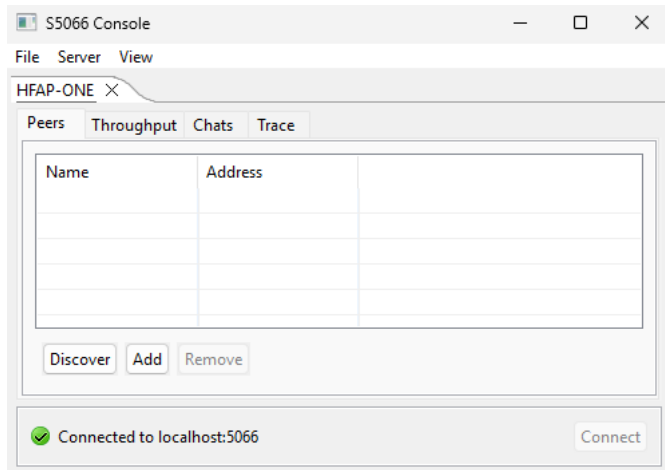
In "Port:" type "5066"

Tick the "Auto-discover" checkbox

Click "OK"

Select the tab "HFAP-ONE"

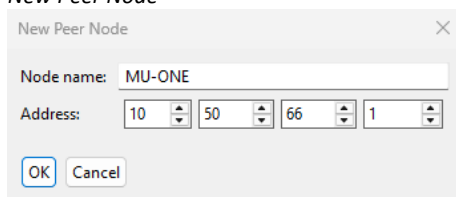
Node Connected



Note the green "Connected" tick.

Press "Add"

New Peer Node

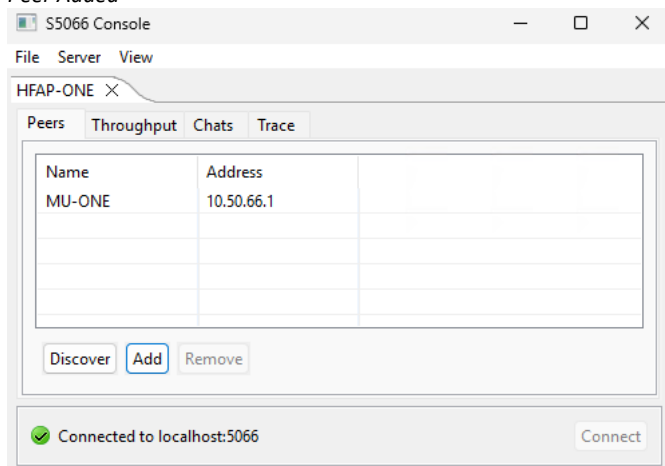


In "Node name" type "MU-ONE"

In "Address" provide the address "10.50.66.1"

Press "OK"

Peer Added



Configure the S5066 Console on MU-ONE

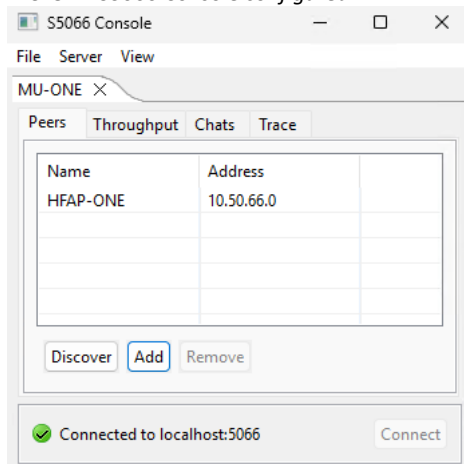
Repeat the steps in the previous section on server MU-ONE but change the following:

Friendly name: “MU-ONE”

Node name : “HFAP-ONE”

Address : “10.50.66.0”

MU-ONE S5066 Console configured



Testing with the S5066 Console

You may like to show that the connectivity exists by running a throughput test

On HFAP-ONE select the “Throughput” tab

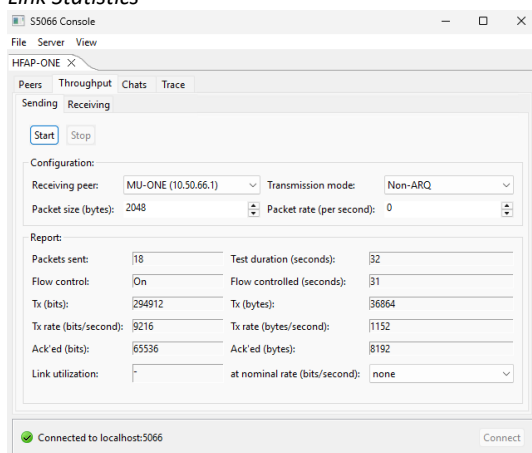
Click “Start”

Wait a while

Click “Stop”

The GUI reports pertinent link statistics

Link Statistics



Looking at the Icon-5066 monitor at HFAP-ONE:

HFAP-ONE populated monitor

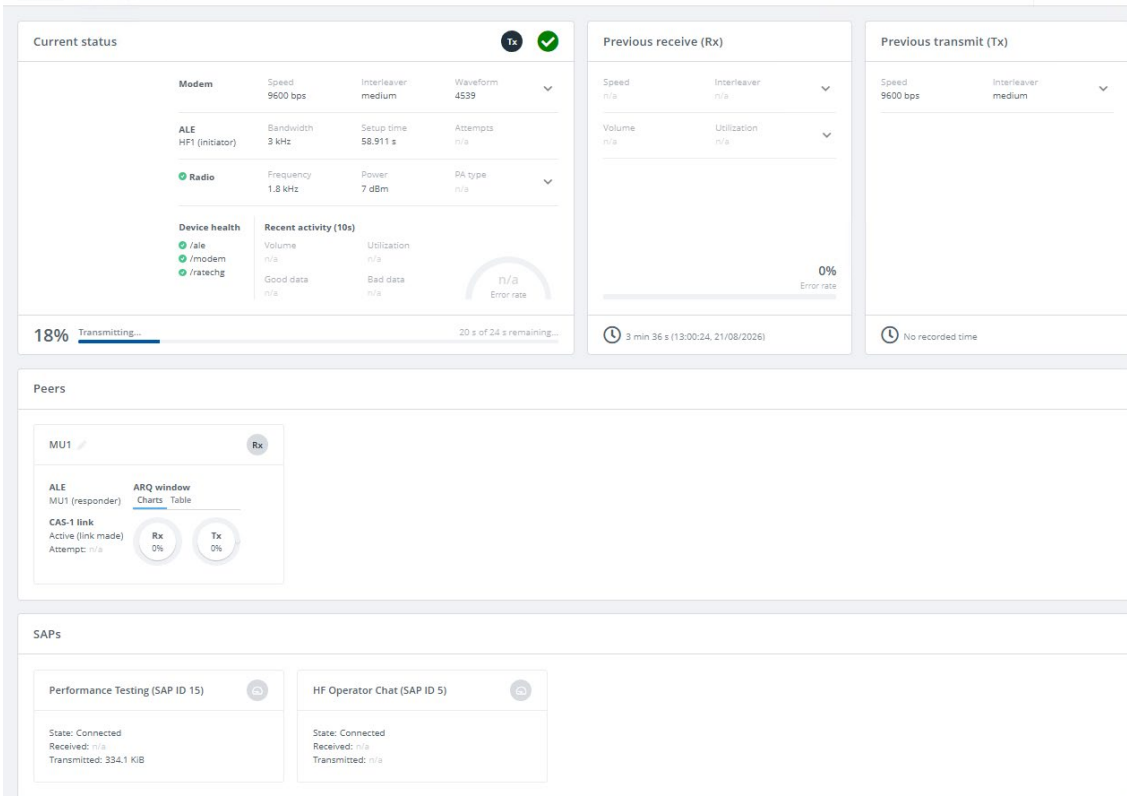
HFAP-ONE (10.50.66.0)

Dashboard > HFAP-ONE (10.50.66.0)

Configure node

Logs

About



You can see:

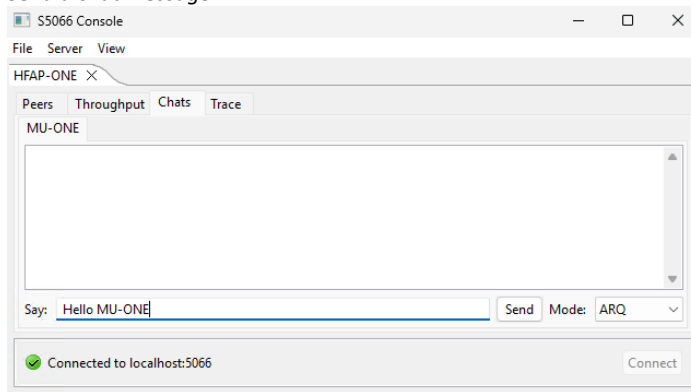
- Statistics related to link setup
- The state of transmitted data
- Link status with peers
- Connected SAPs

You may also like to use the operator chat functionality to message between nodes.

On both servers, select the “Chats” tab

Type your message in “Say” at HFAP-ONE

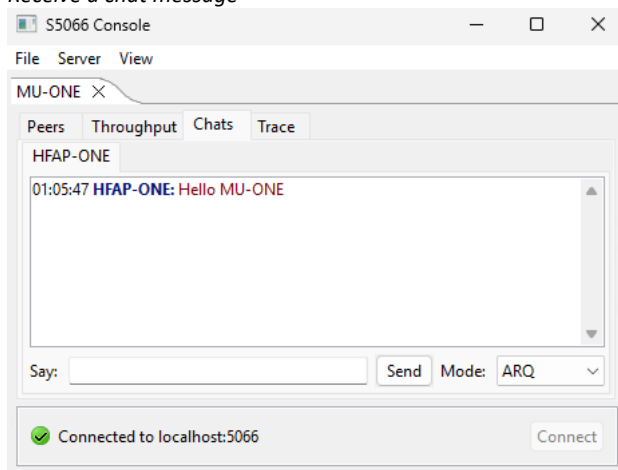
Send a chat message



Press “Send”

Your message will be received at MU-ONE

Receive a chat message



What Next?

More information on Icon-5066 can be found on the Isode website at <https://www.isode.com/product/stanag-5066-server/>

Whitepapers

Isode regularly publishes white papers on technical and market topics related to its products. A full list of these can be found at <https://www.isode.com/whitepapers/>

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