Course: Digital Drift System

Module 1.4:

Config Tool

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Installation – Pre-requisites

The Digital Drift/DigitalBridge Config tool is used for programming and troubleshooting.

Java runtime (>= 8)
Oracle runtime preferred, but it also works with OpenJDK

- If OpenJDK, a small hack is required to associate JAR files with OpenJDK

Java

Version 8, or above

OpenJDK

File association required

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Installation – Operating System (OS)

Target OS = Windows (due to a native library)

- Install Winpcap 4.1.3 to gain access to raw sockets
- Must be run with Local Administrator rights
- Requires permission to write to the 'temp' directory (sometimes blocked by group policy)

Alternate OS = Linux

- Must be run as root

NOTE: On-board RJ45 Ethernet is the preferred method, the tool does not work across a Wi-Fi interface and some issues have been reported with USB to Ethernet adaptors.

WinPcap **Version 4.1.3**

Windows **Must run with local Admin rights**

Linux **Must run as Root**

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Installation – Config tool JAR file

Copy the config tool's JAR file to a convenient directory

- Current version is 1.1.0
  - Available in RFI and Strata branded editions:
    - DigitalDriftCoaxConfigurator-1.1.0.jar
    - DigitalBRIDGECoaxConfigurator-1.1.0.jar

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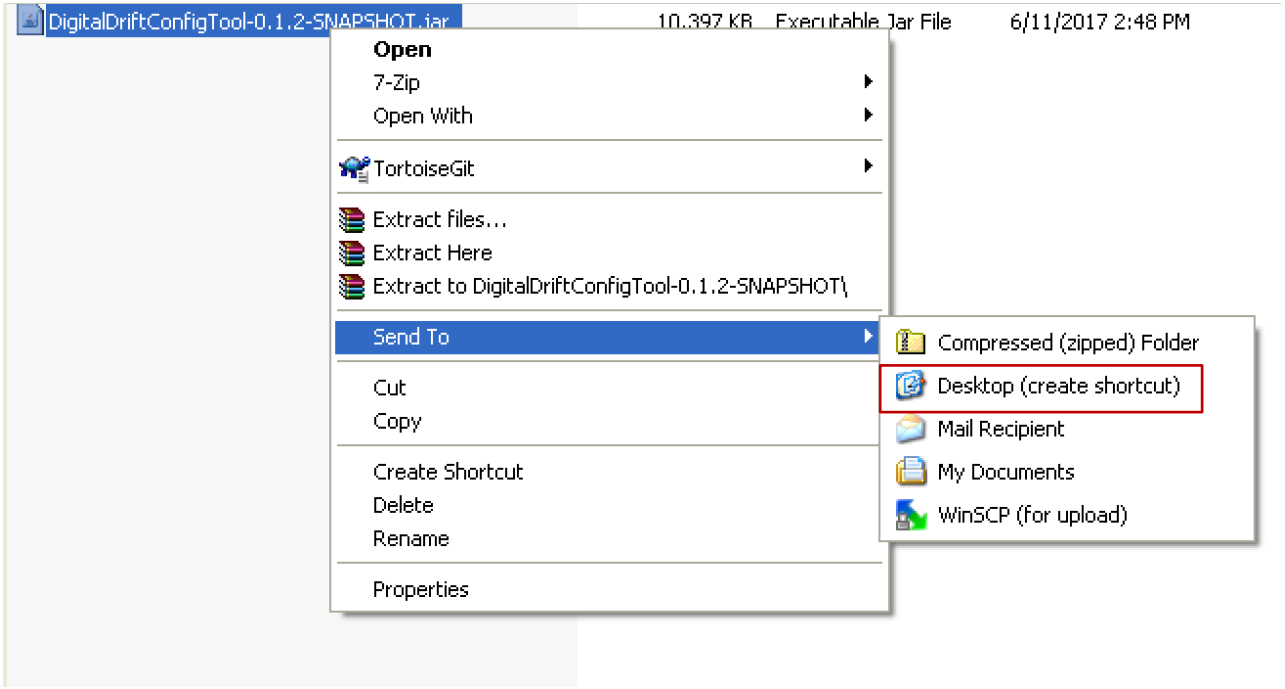
Optional - Create a shortcut on the desktop.



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Running the Config tool

Connect the PC's RJ45 Ethernet port to the network that is used to manage the DD devices (or directly into a DD device)

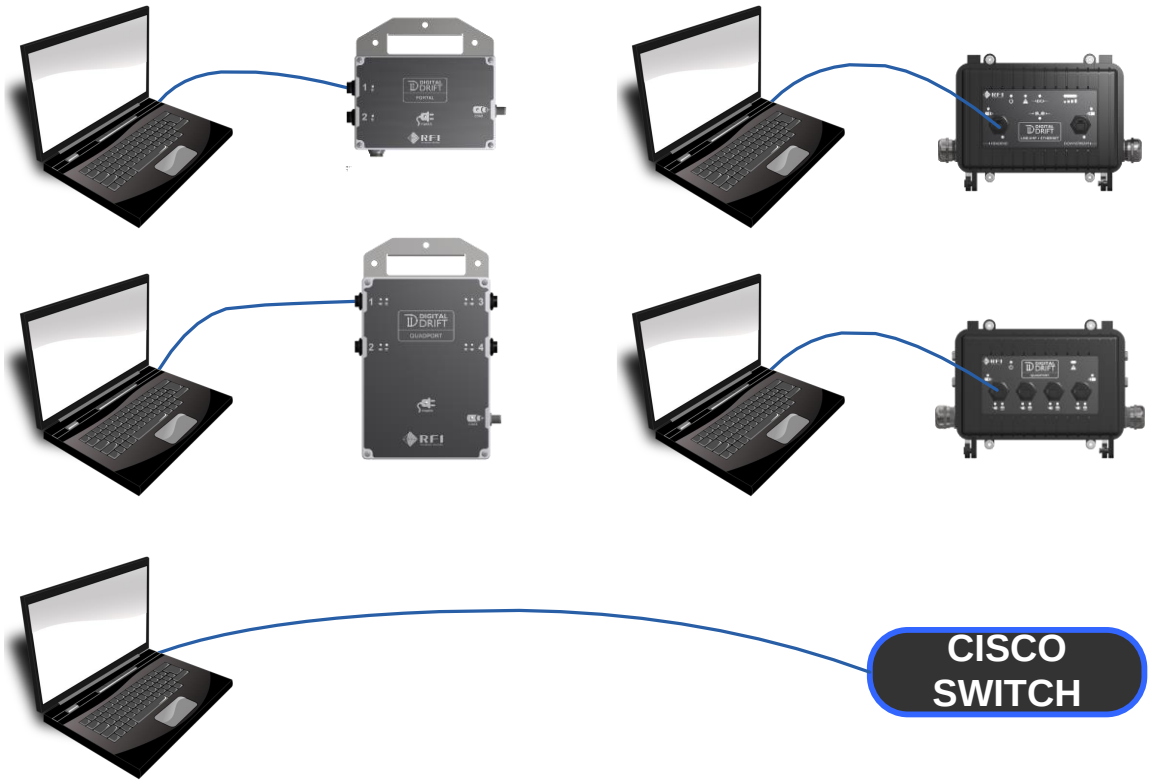
Run from the Config tool from the short cut if you created one

If not run the file form the command prompt:

java -jar DigitalDriftCoaxConfigurator-1.1.0.jar

Or for the Strata branded edition:

java -jar DigitalBRIDGECoaxConfigurator-1.1.0.jar



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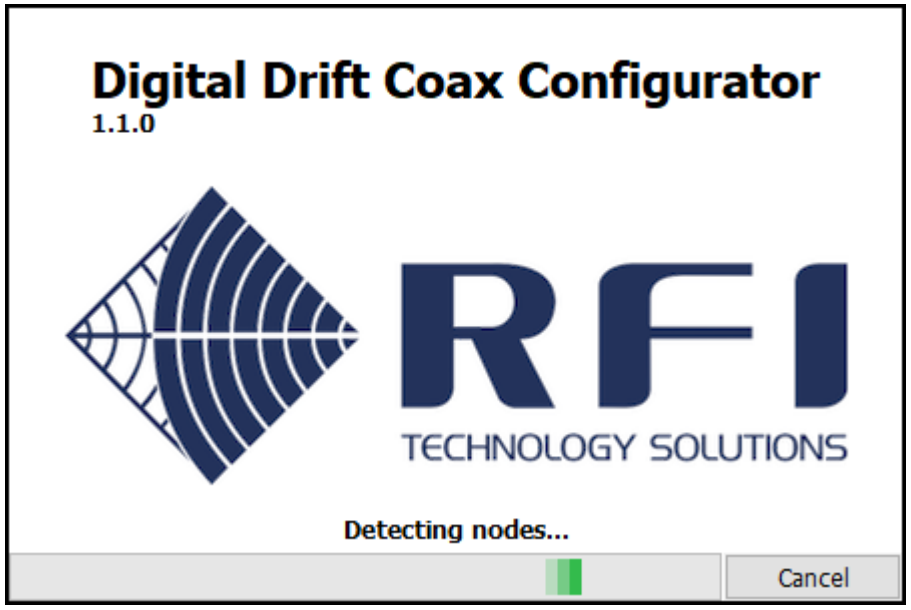
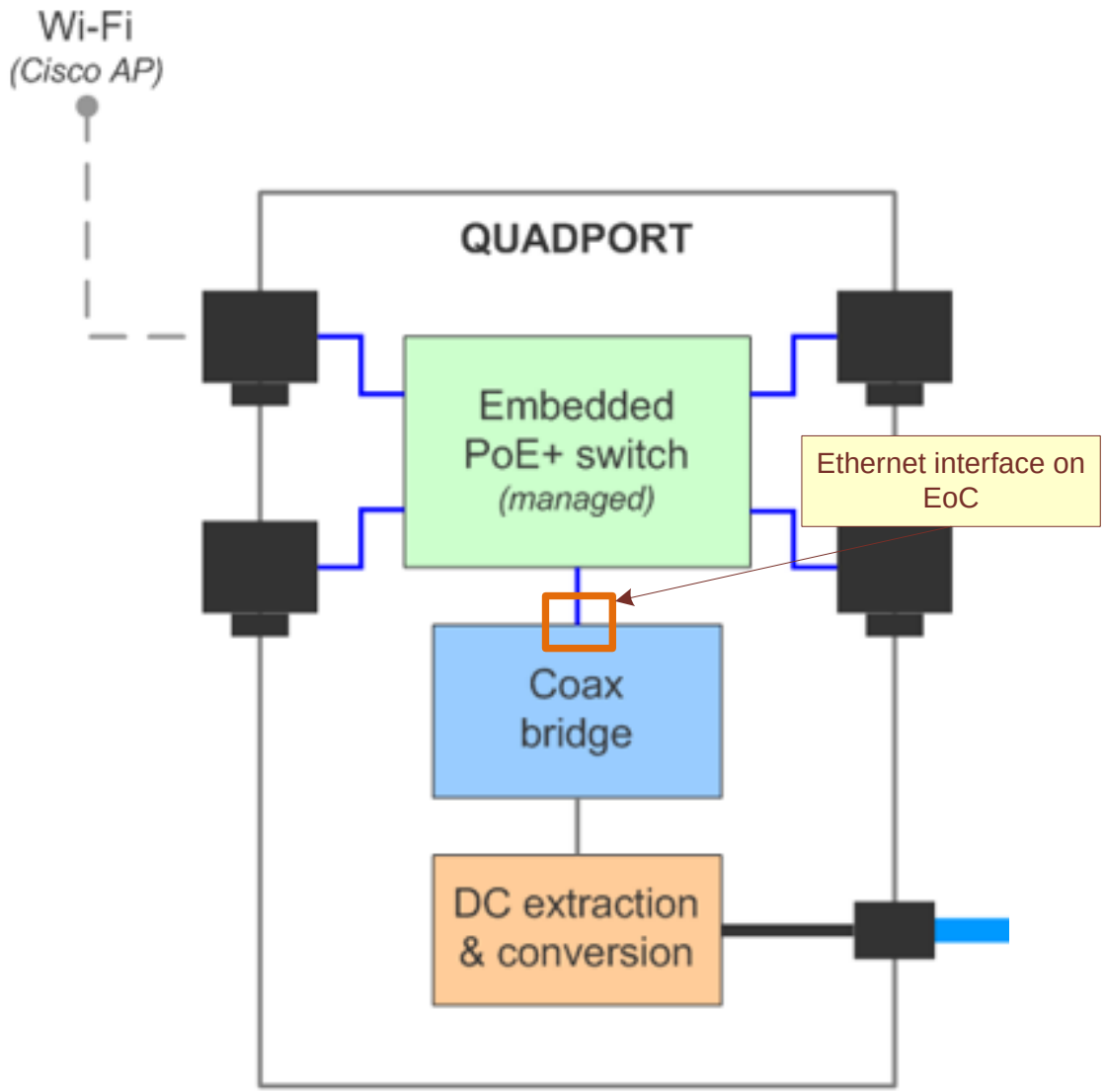
Running the Config tool - Discovery

When the tool starts it sends out multicast discovery packets to find DD devices

It is important to note devices only respond if the discovery request packet is received on its **ETHERNET** interface, not its COAX interface



Ports Overview



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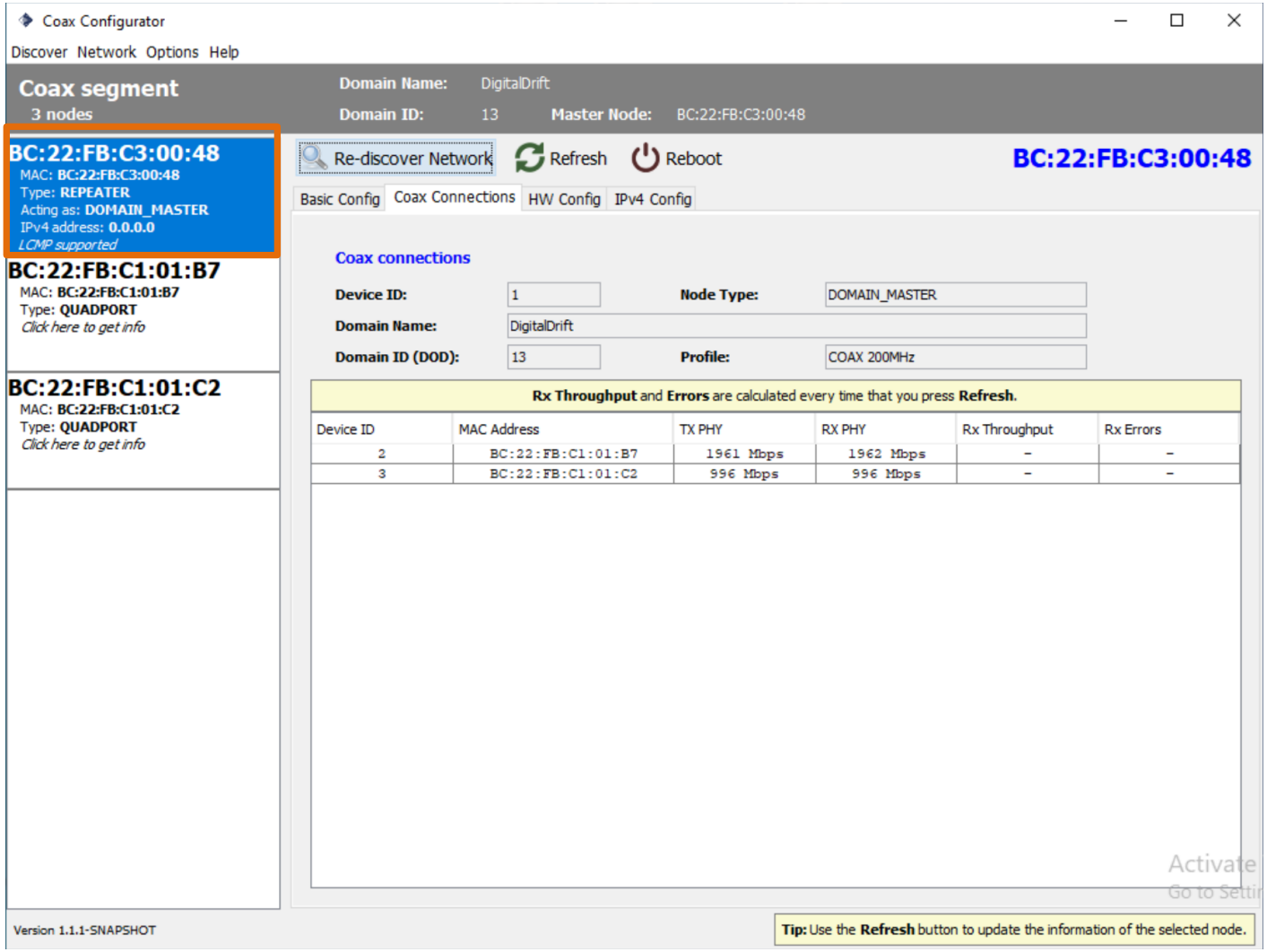
Discovered Devices – Single Device Response

If only 1 device responds to the Config Tool's discovery request:



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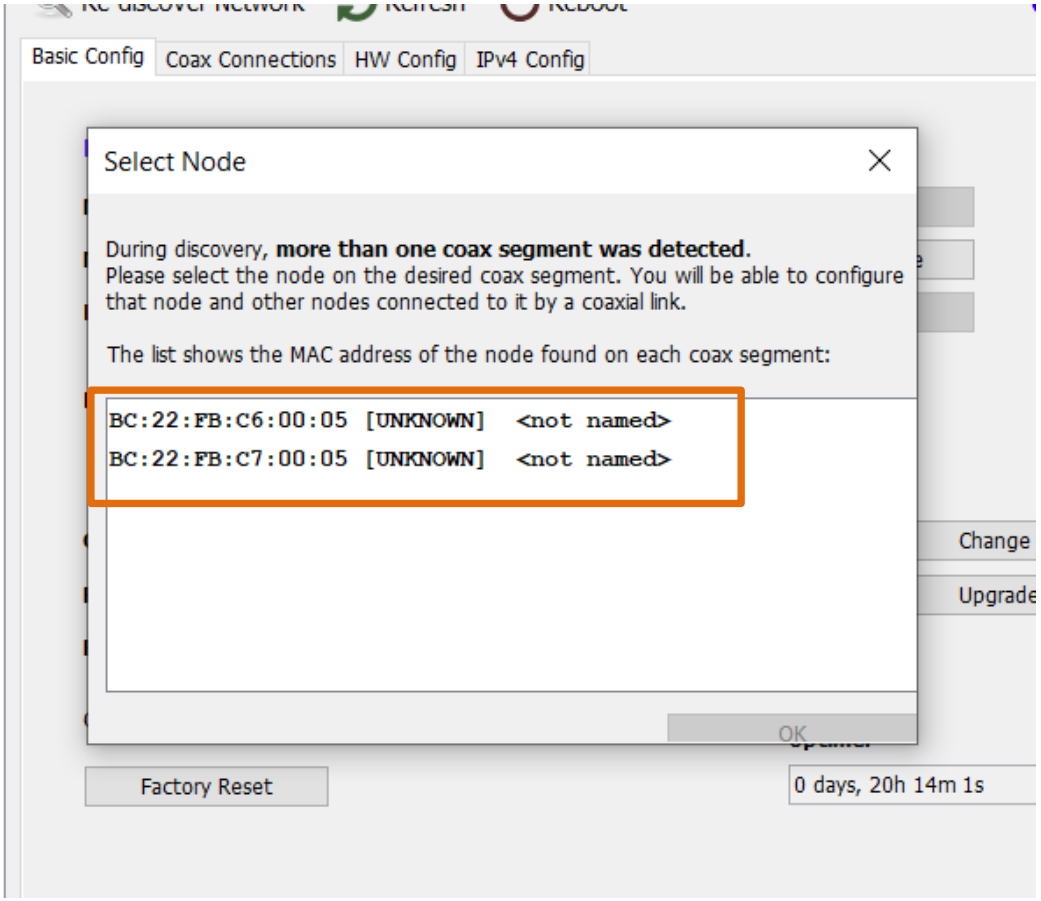
Discovered Devices – Multiple Device Response

If more than 1 device responds to the Config Tool's discovery request:

- A dialog box is displayed that requires one of the devices to be selected.



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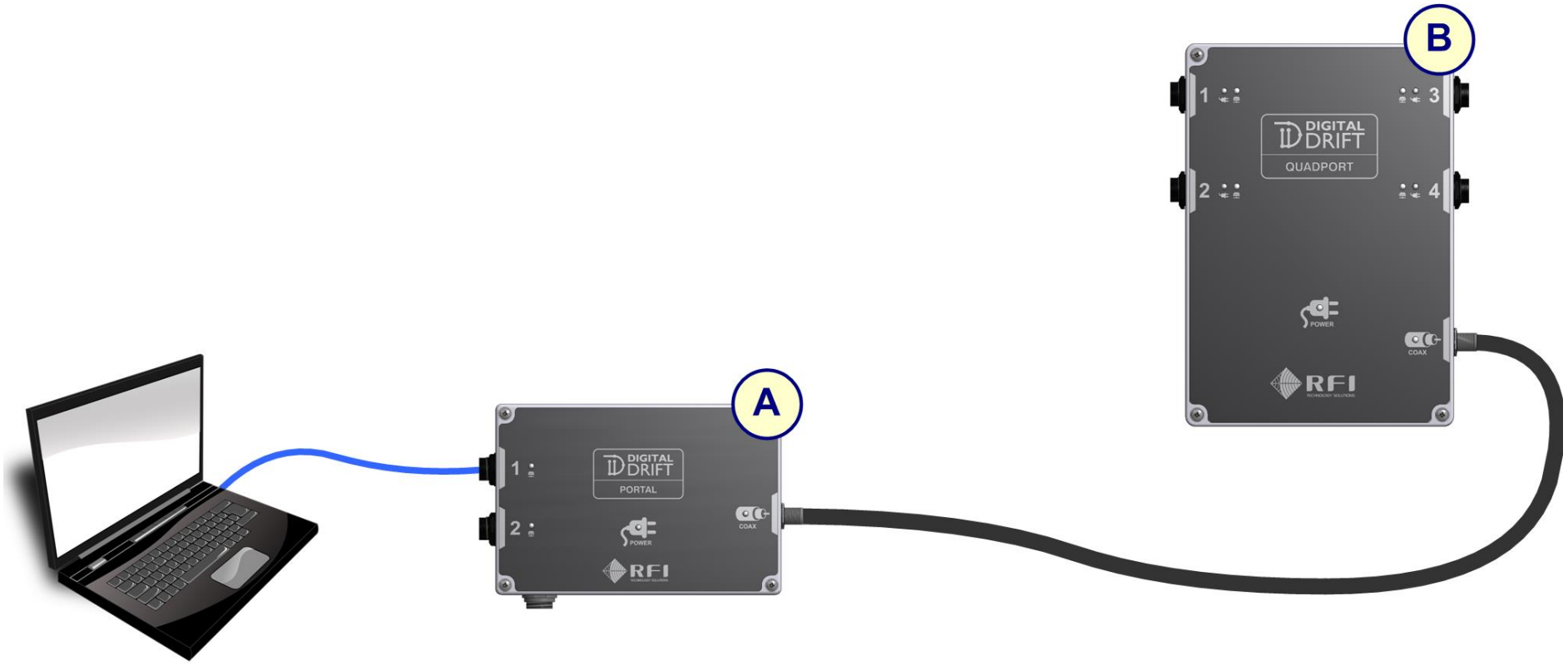
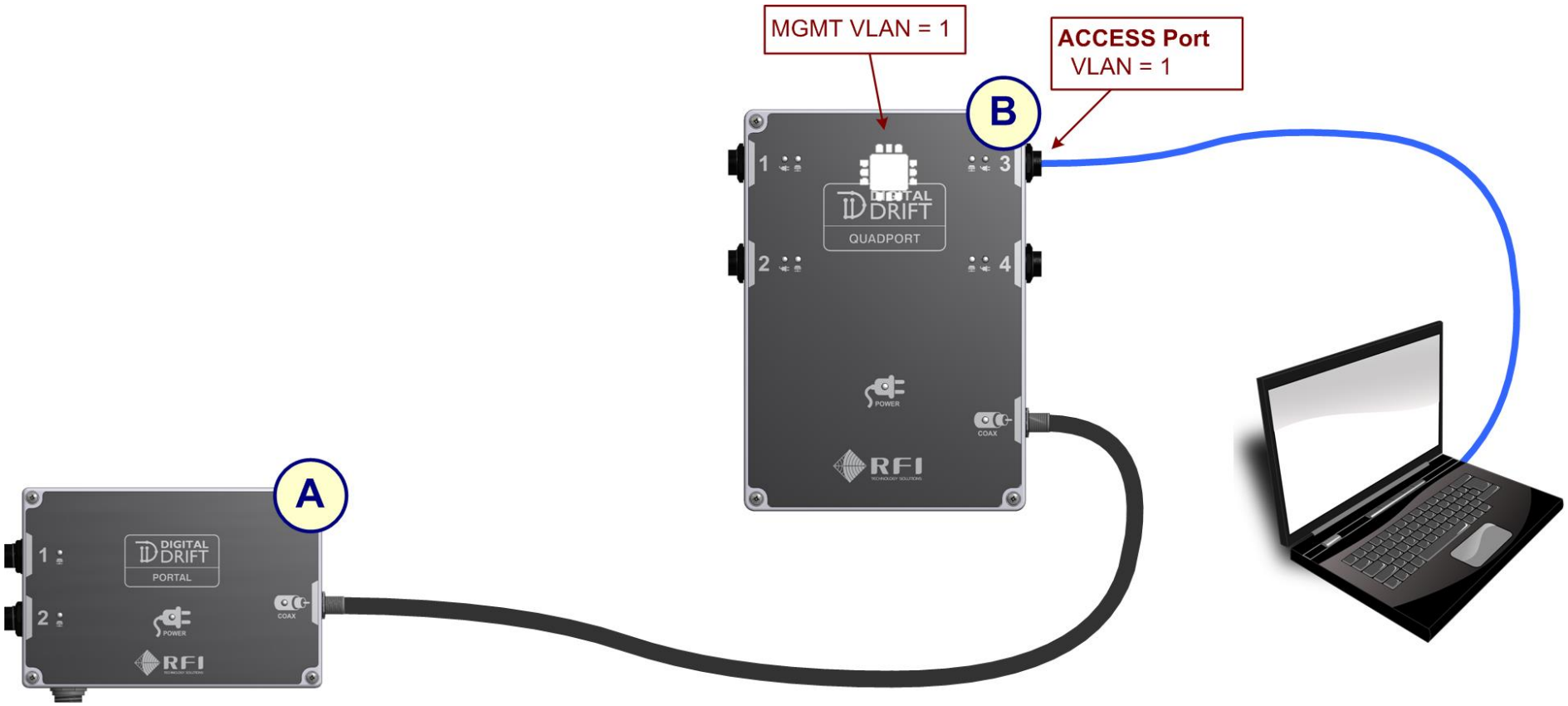
Discovery – Basic system – PO >QP

Only EoC for A will be visible



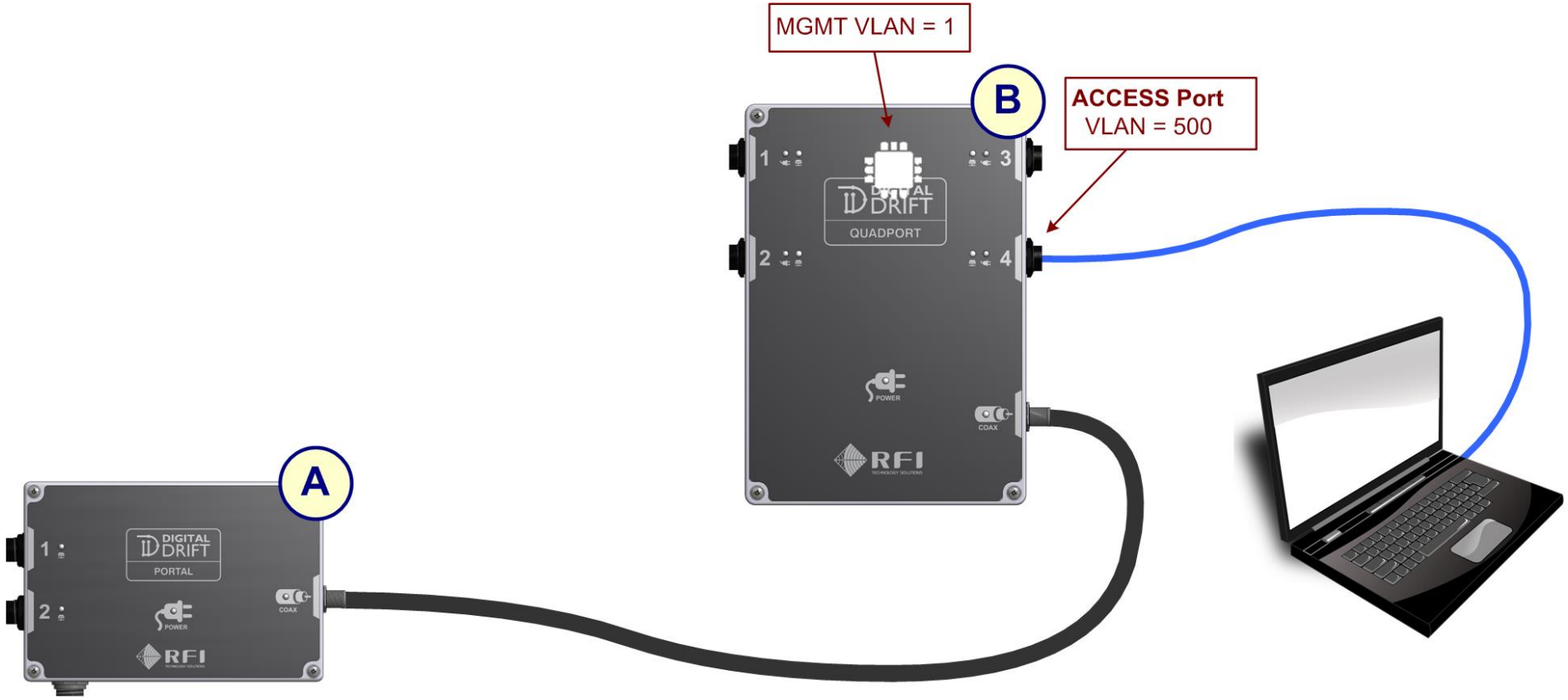
Discovery - Basic System QP>PO

Only EoC for B will be visible



Discovery– Complex VLAN

No EoC will be visible



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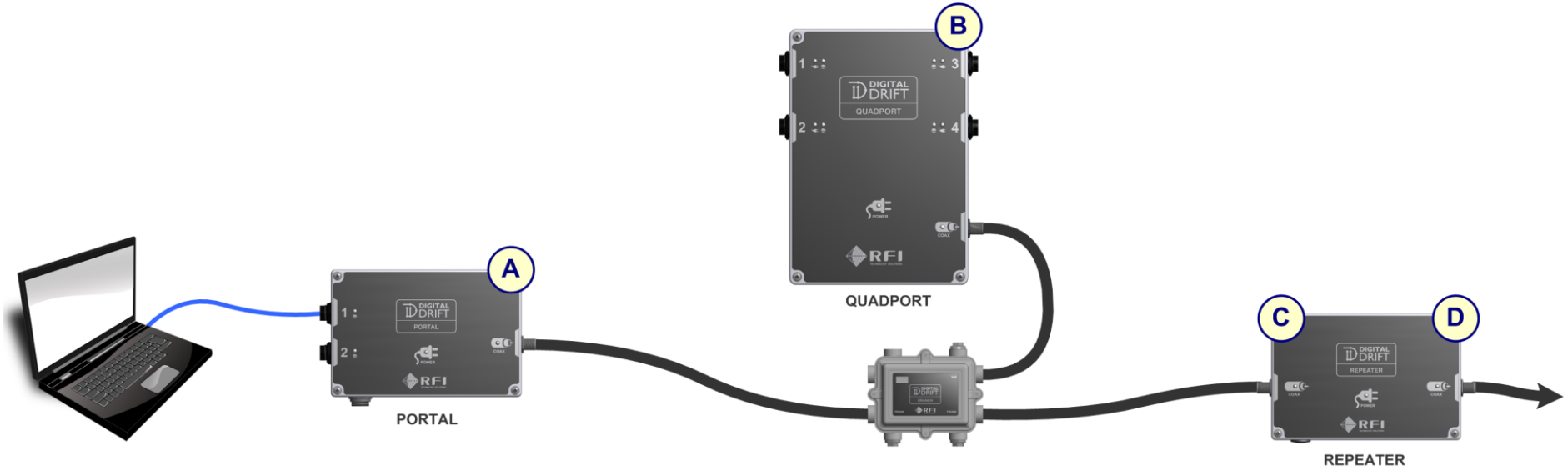
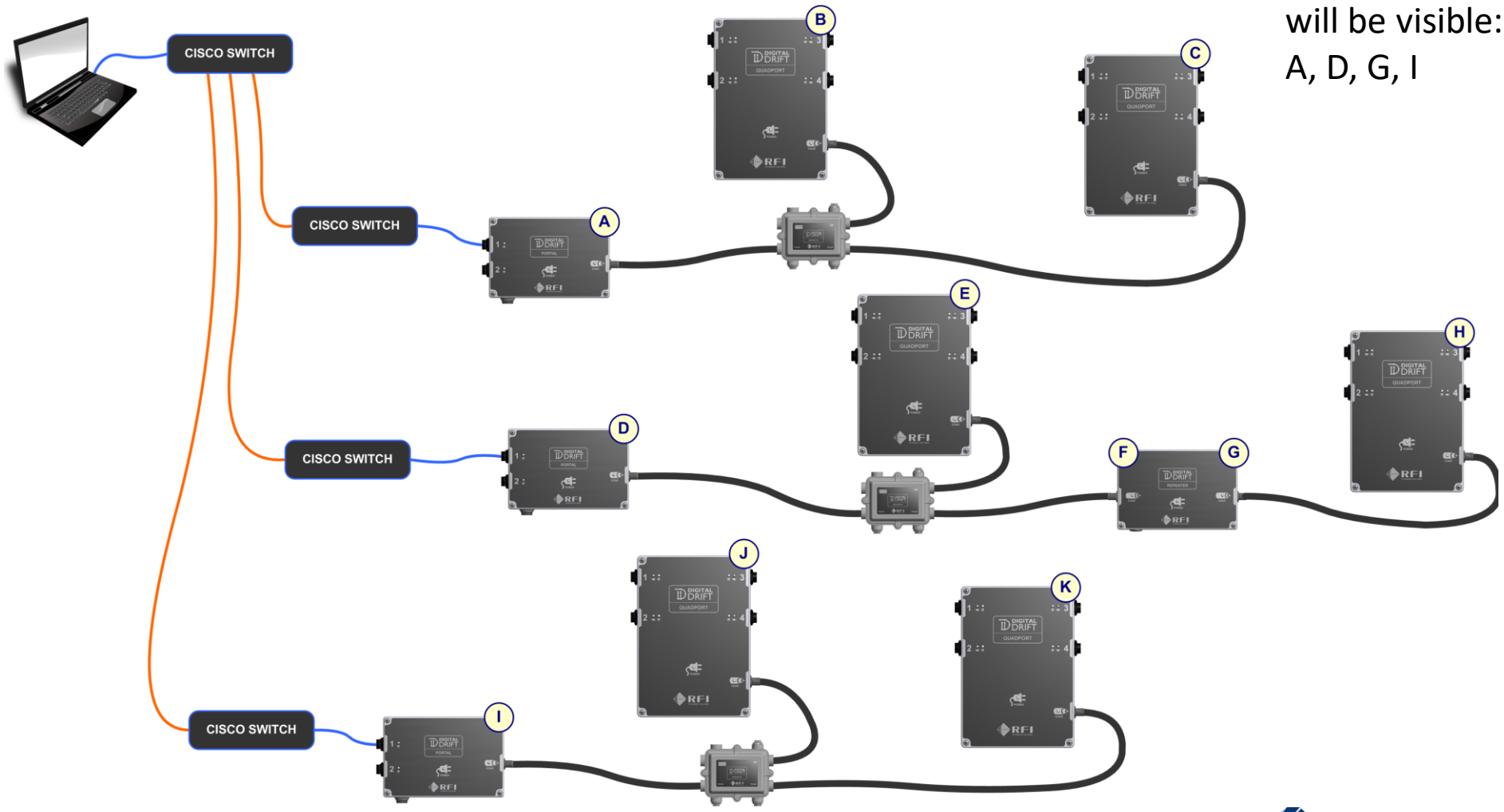
Discovery – Basic system – PO, QP and RP

Only EoC for A and D will be visible



Discovery – Full Mine Network



These EoC's will be visible: A, D, G, I

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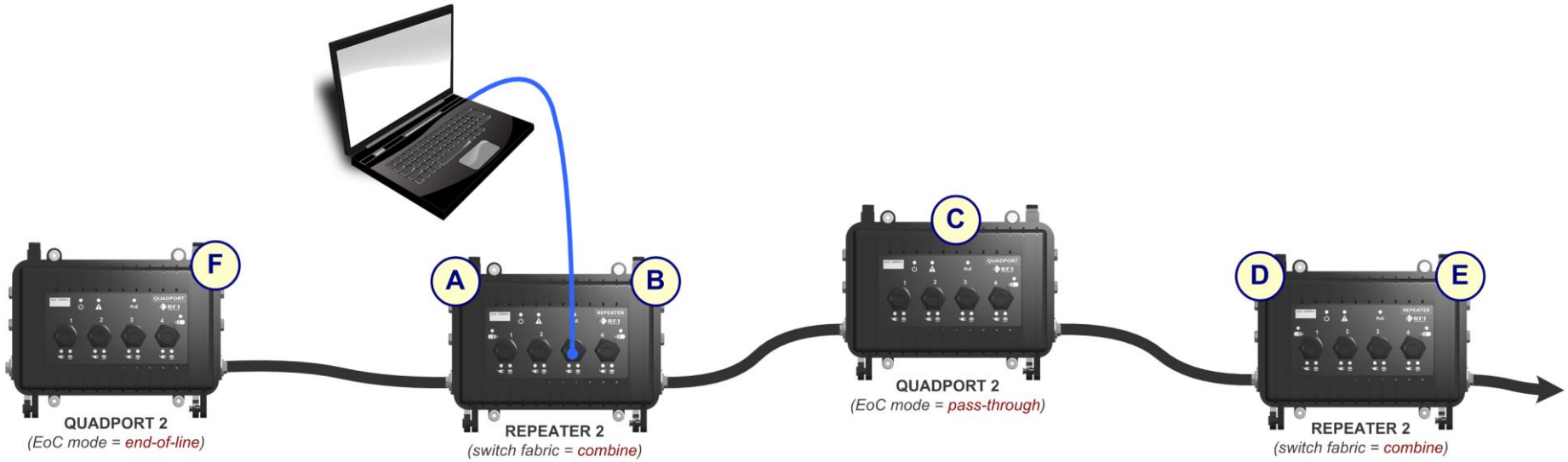
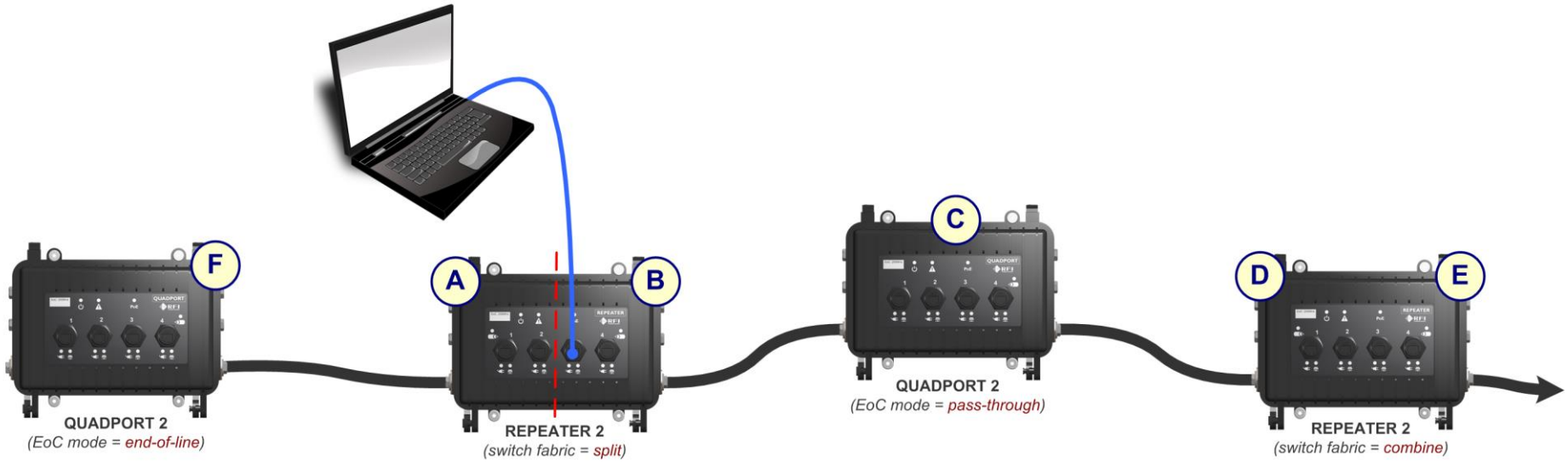
Discovery – Combined Network

Only EoC for A and B will be visible
LAE, QP2, RP2 does not forward discovery message over coax

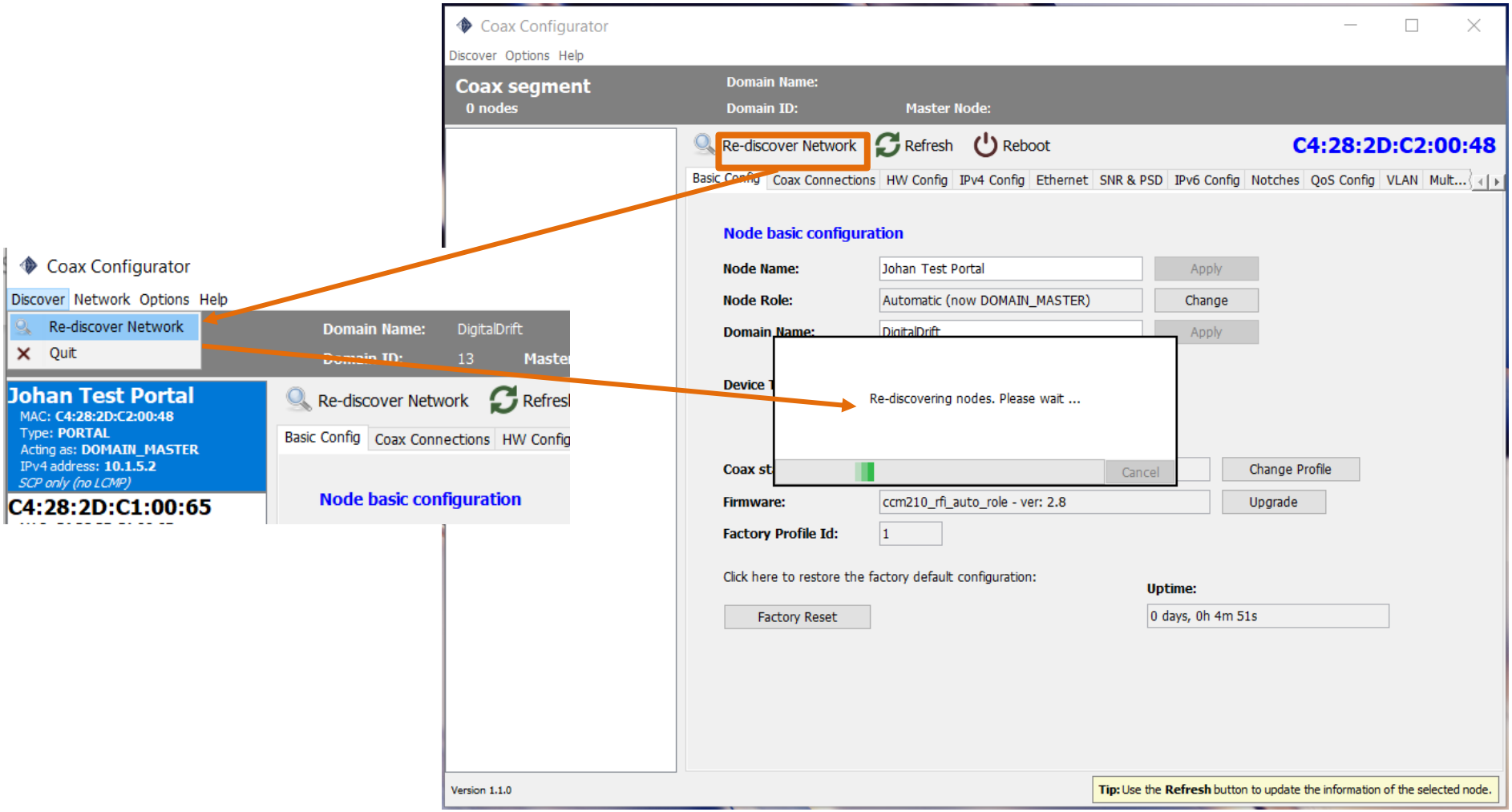


Discovery – Split Network

Only EoC for B will be visible



Re-Discover nodes



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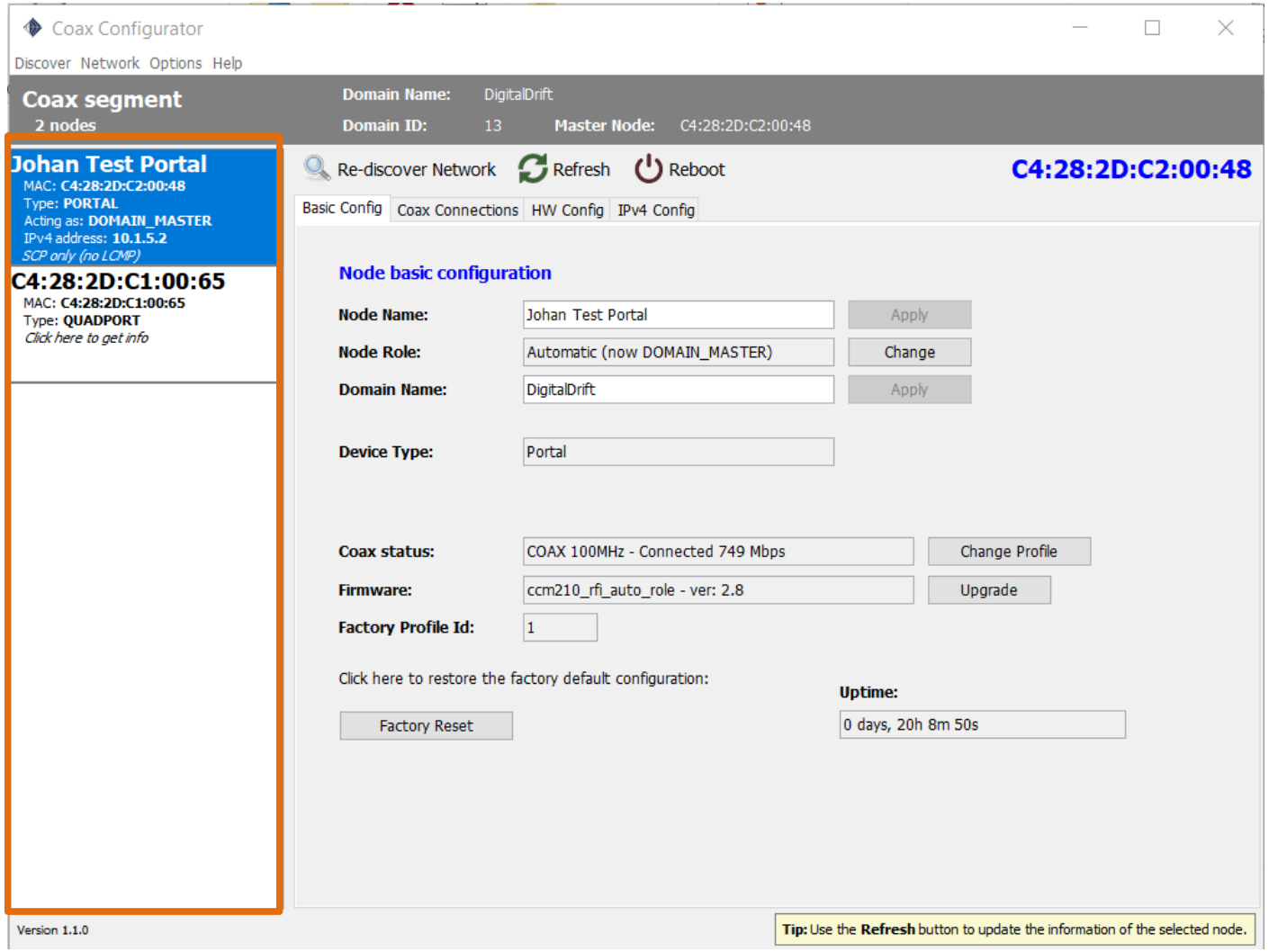
Viewing Status

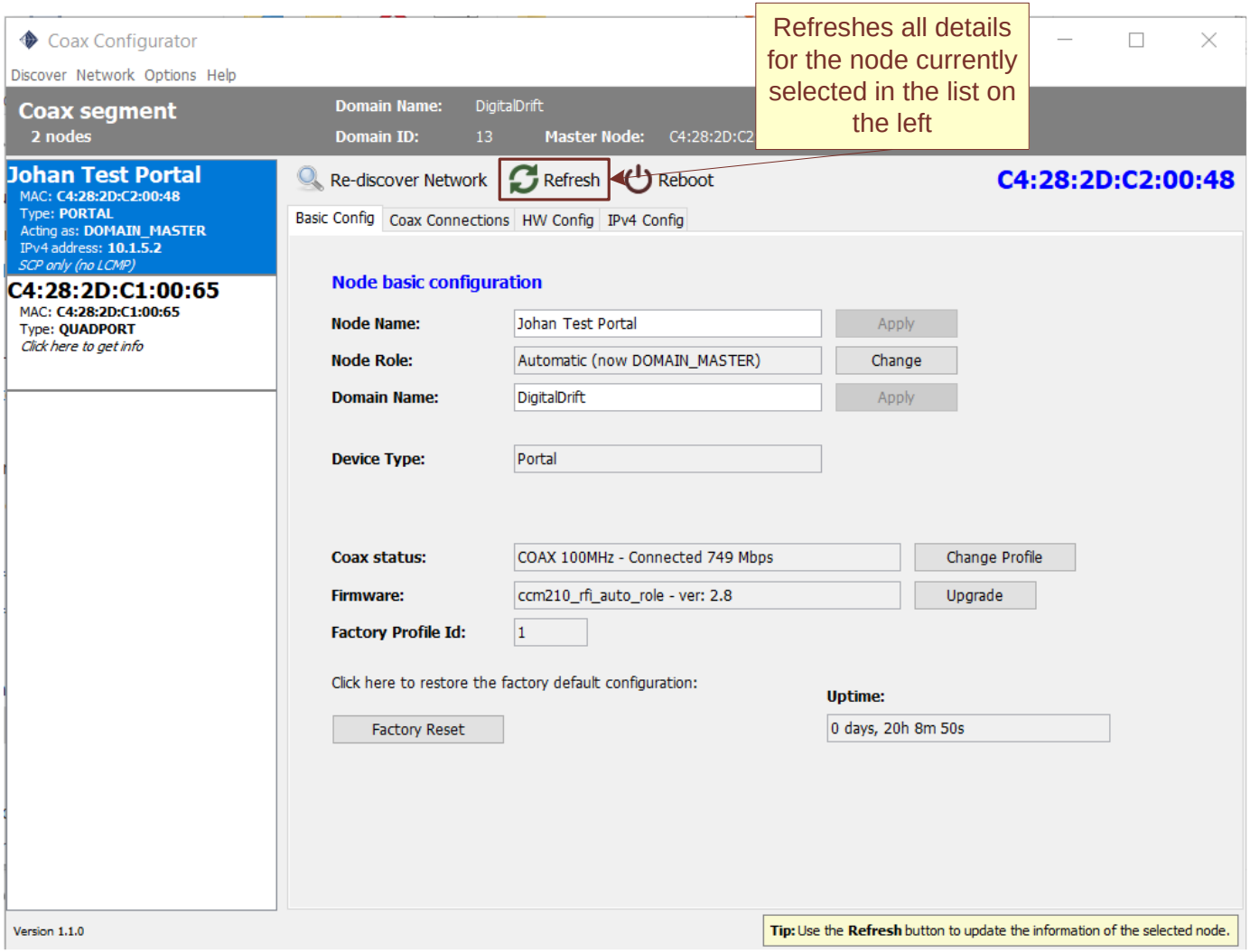
By default the tool starts in read-only mode, allowing status to be viewed

Node summary info

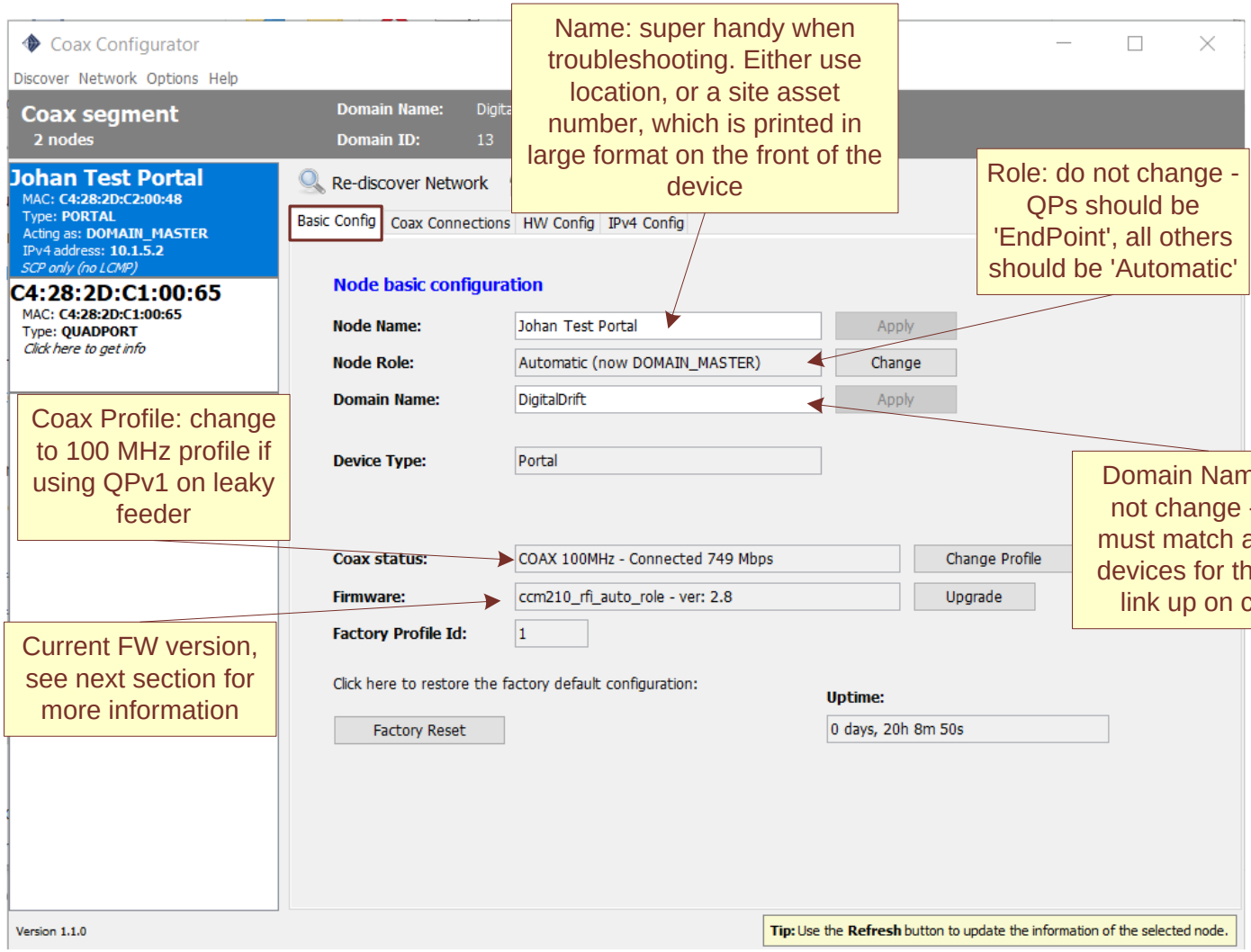
- On the left side is a summary of each node on the coax segment currently being viewed
- When a node is first selected, all of its details are retrieved, but not refreshed again



Viewing Status - Refresh



Viewing Status – Basic Config



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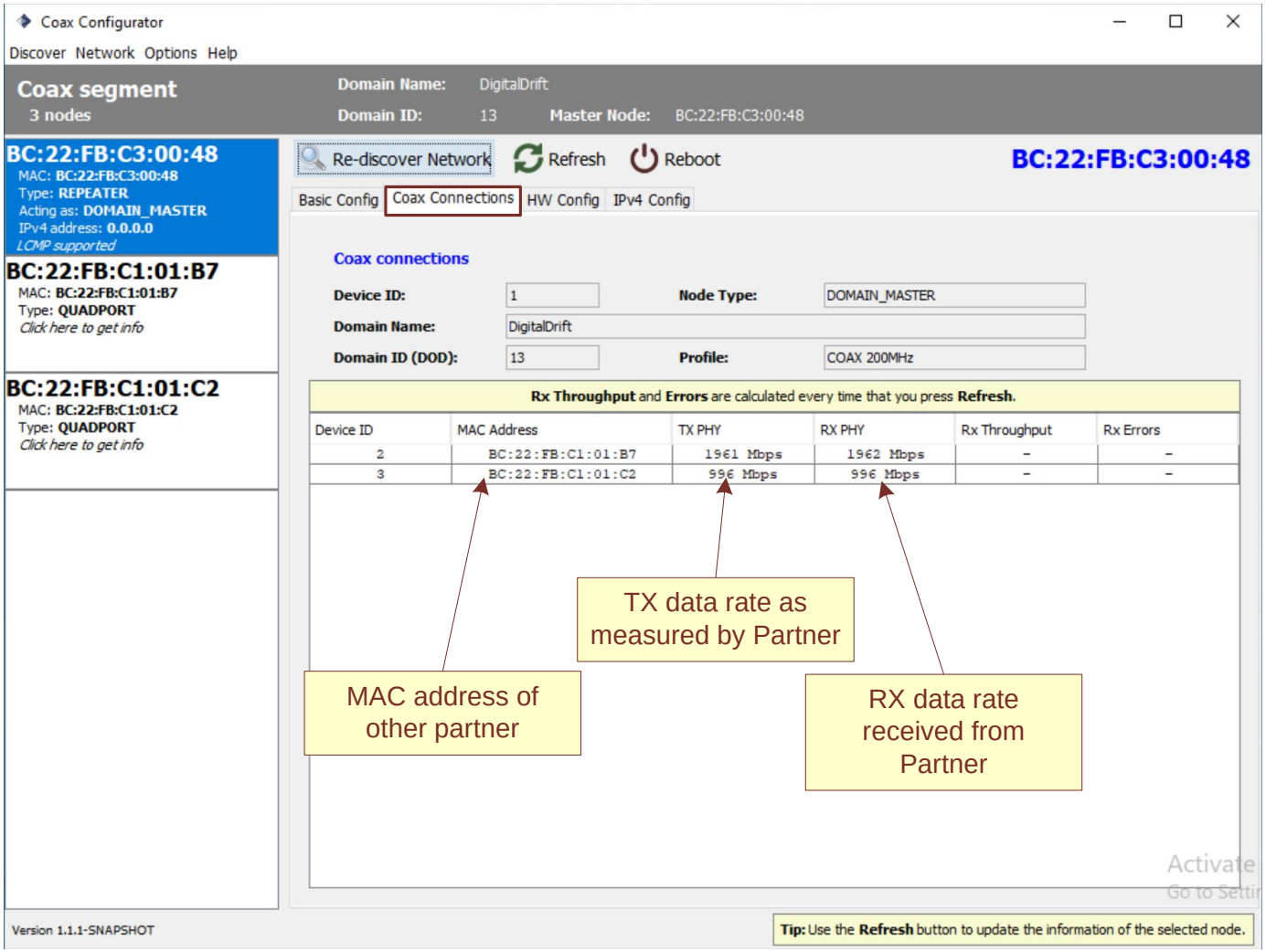
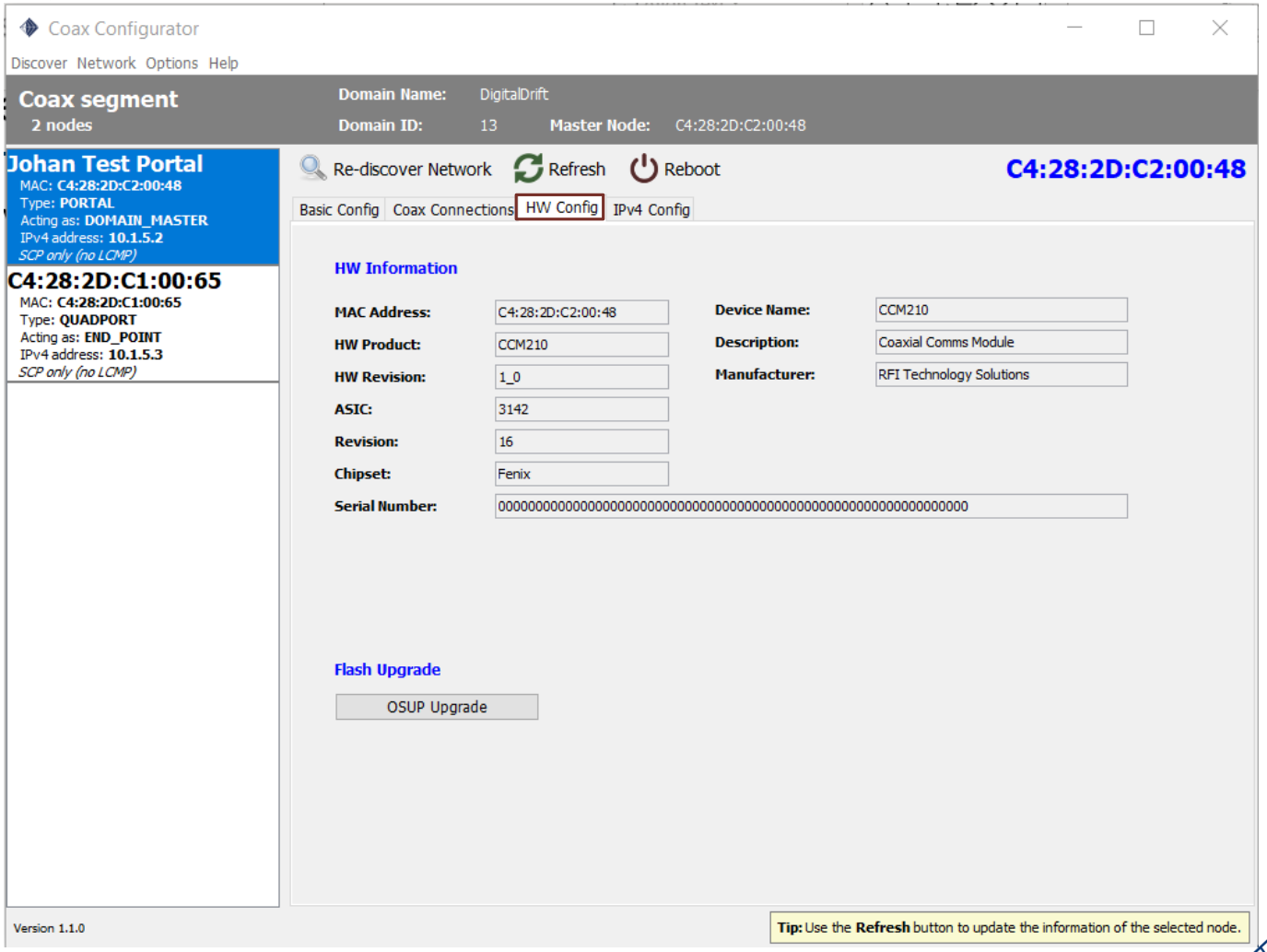
Viewing Status – Coax Connections



Viewing Status – HW Config

This view only screen is useful for advanced firmware upgrades



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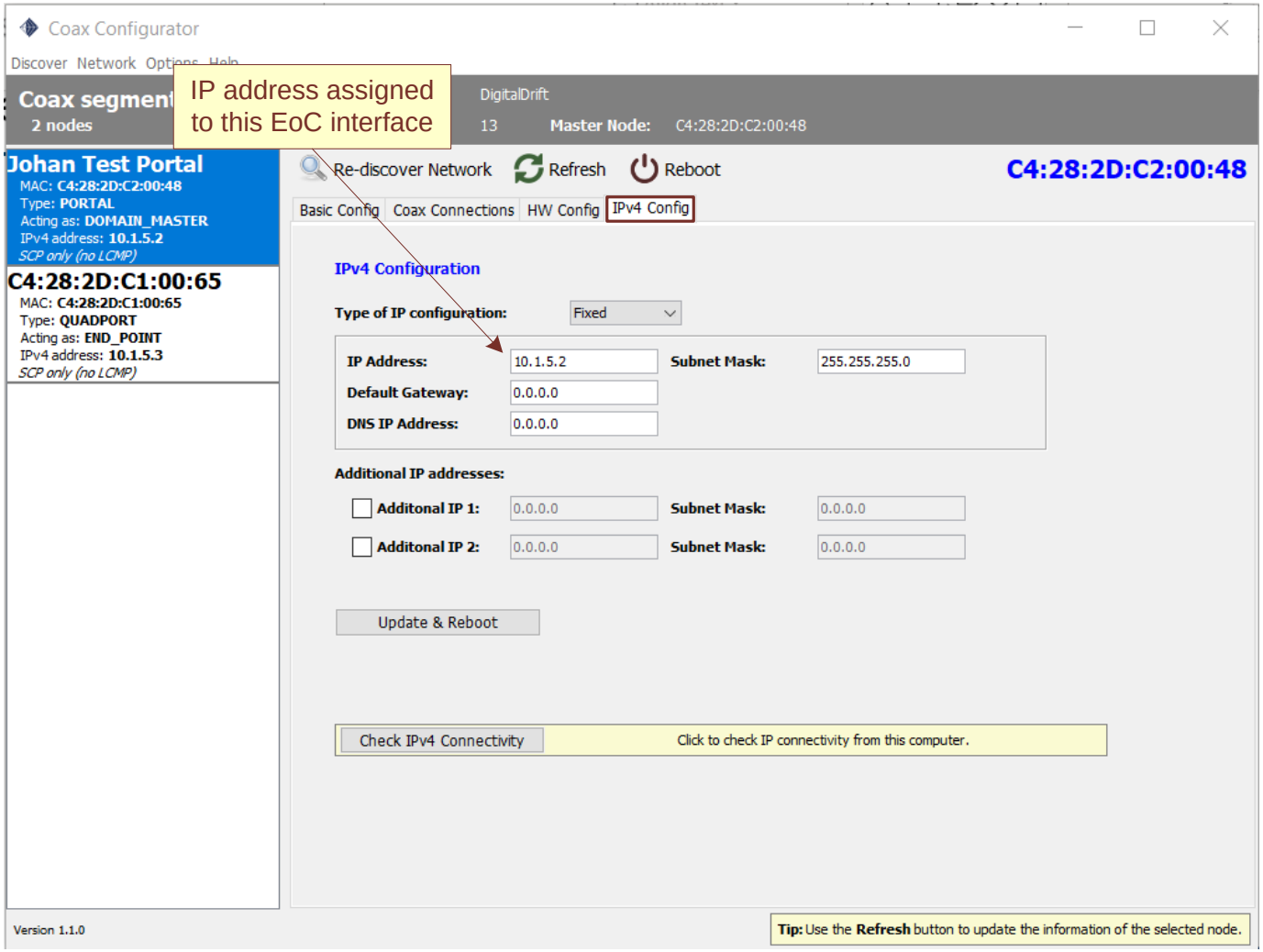
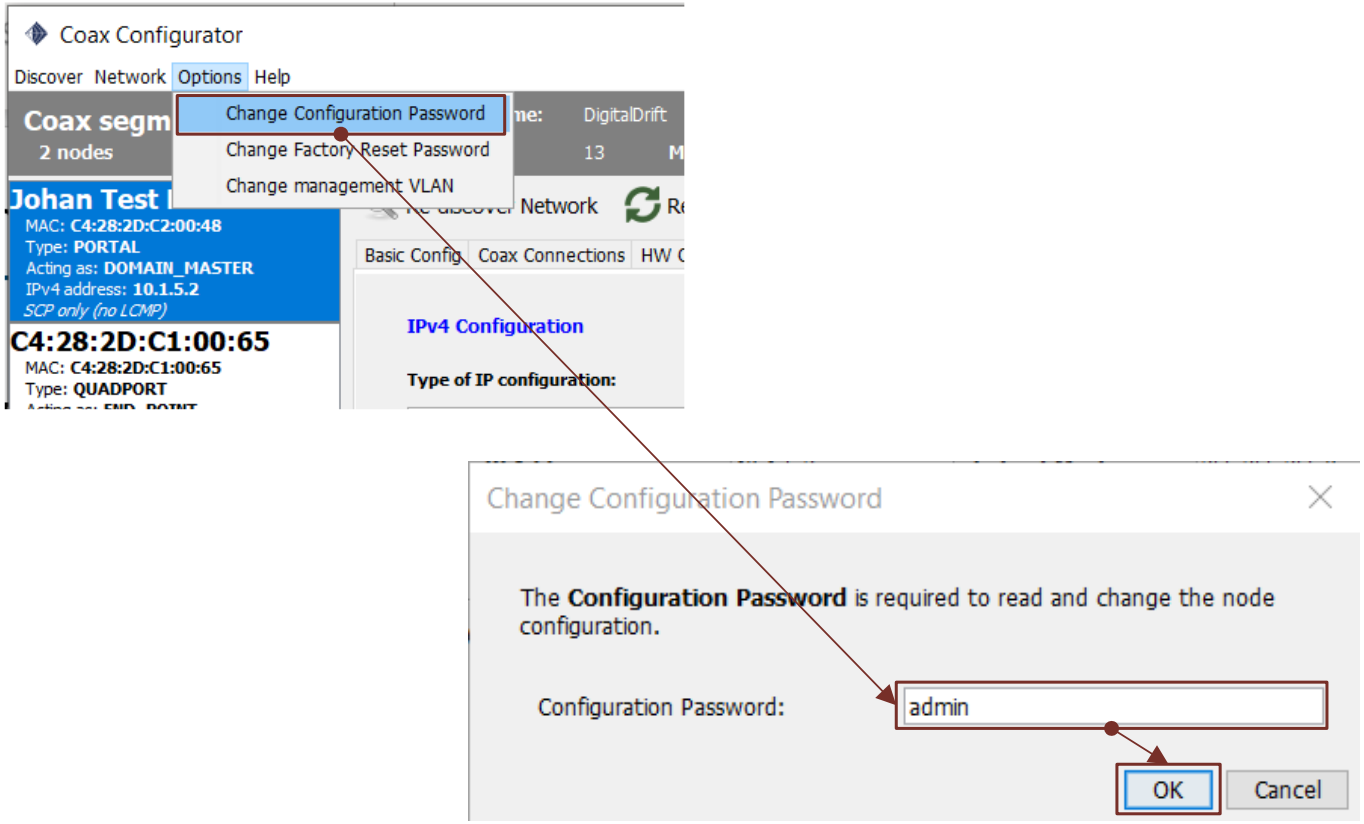
Viewing Status – IPv4 Config



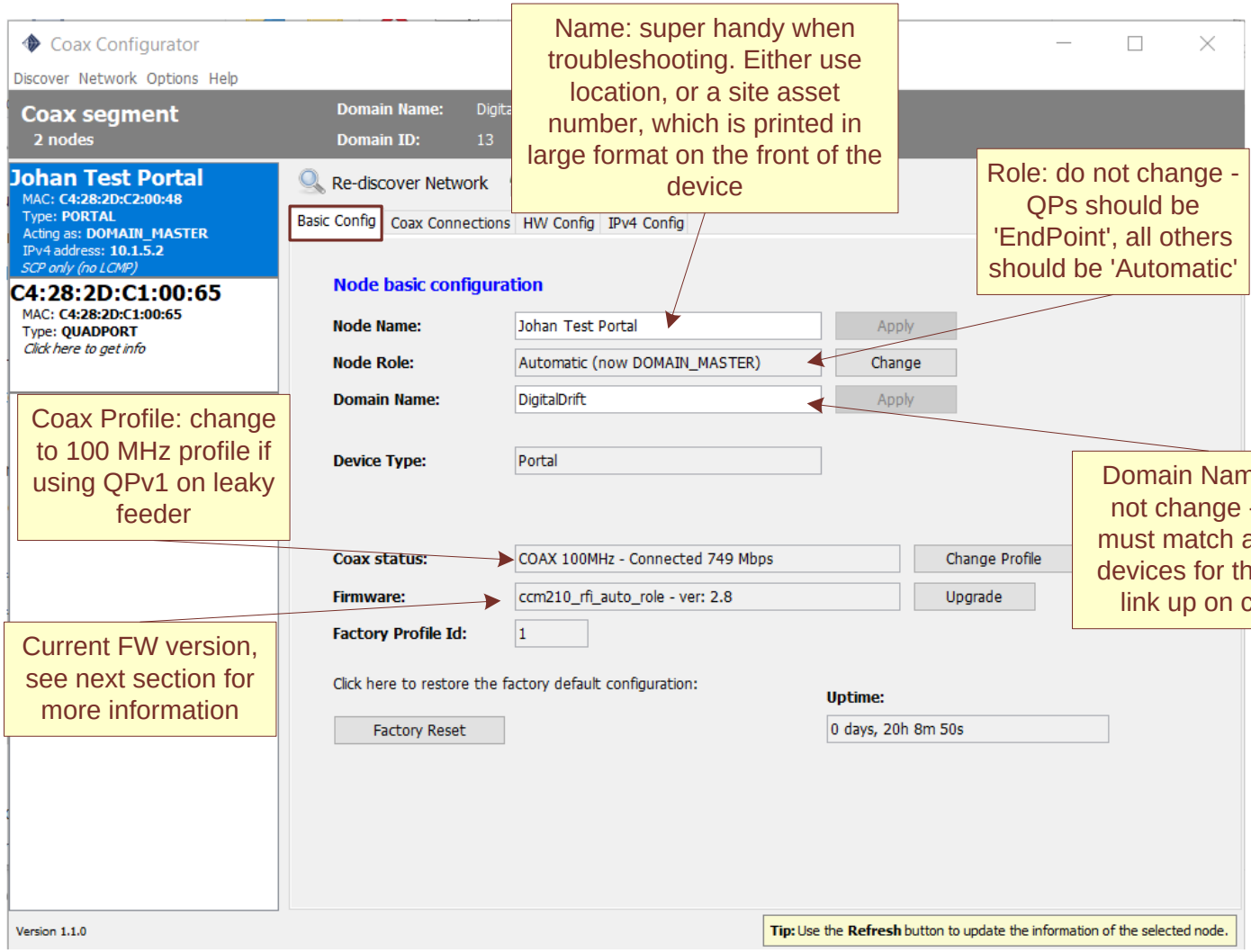
Changing Device Config

From the menu bar change the Configuration password to "admin“

N.B. This only applies to the current session of the Config Tool. If it is closed and re-opened, it reverts to read-only mode



Changing Device Config – Basic Config



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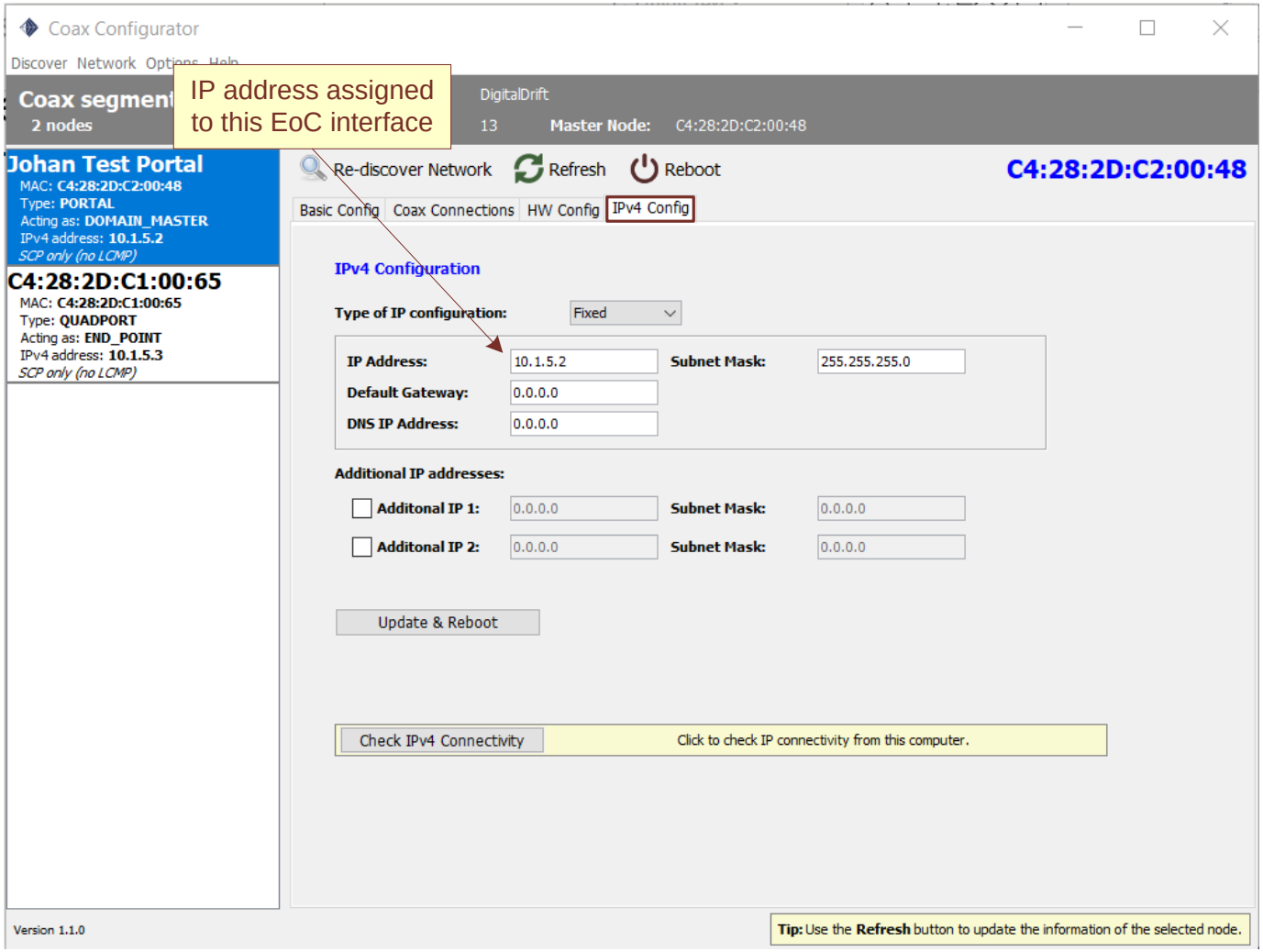
Changing Device Config – IPv4 Config



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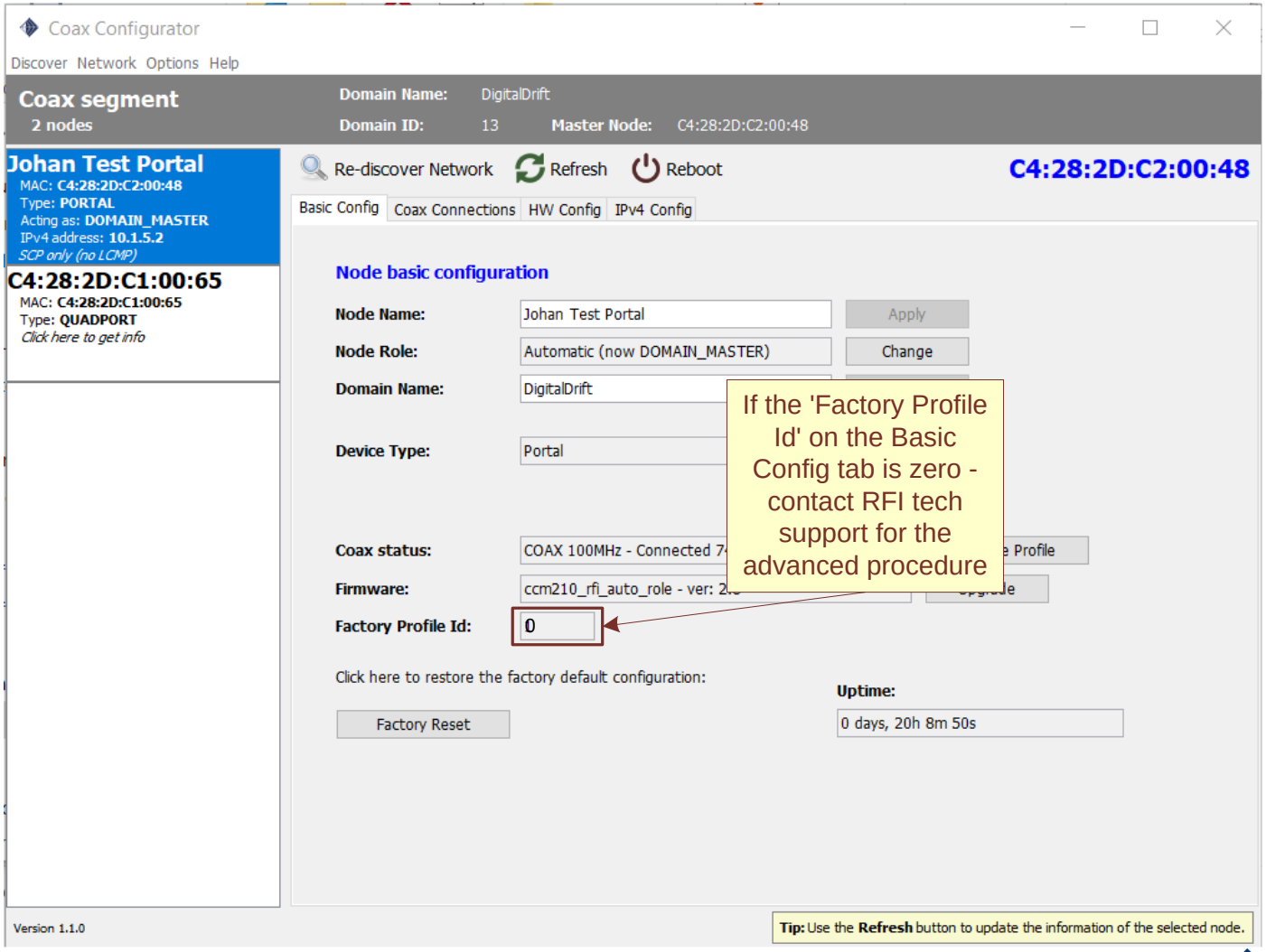
Firmware Upgrade



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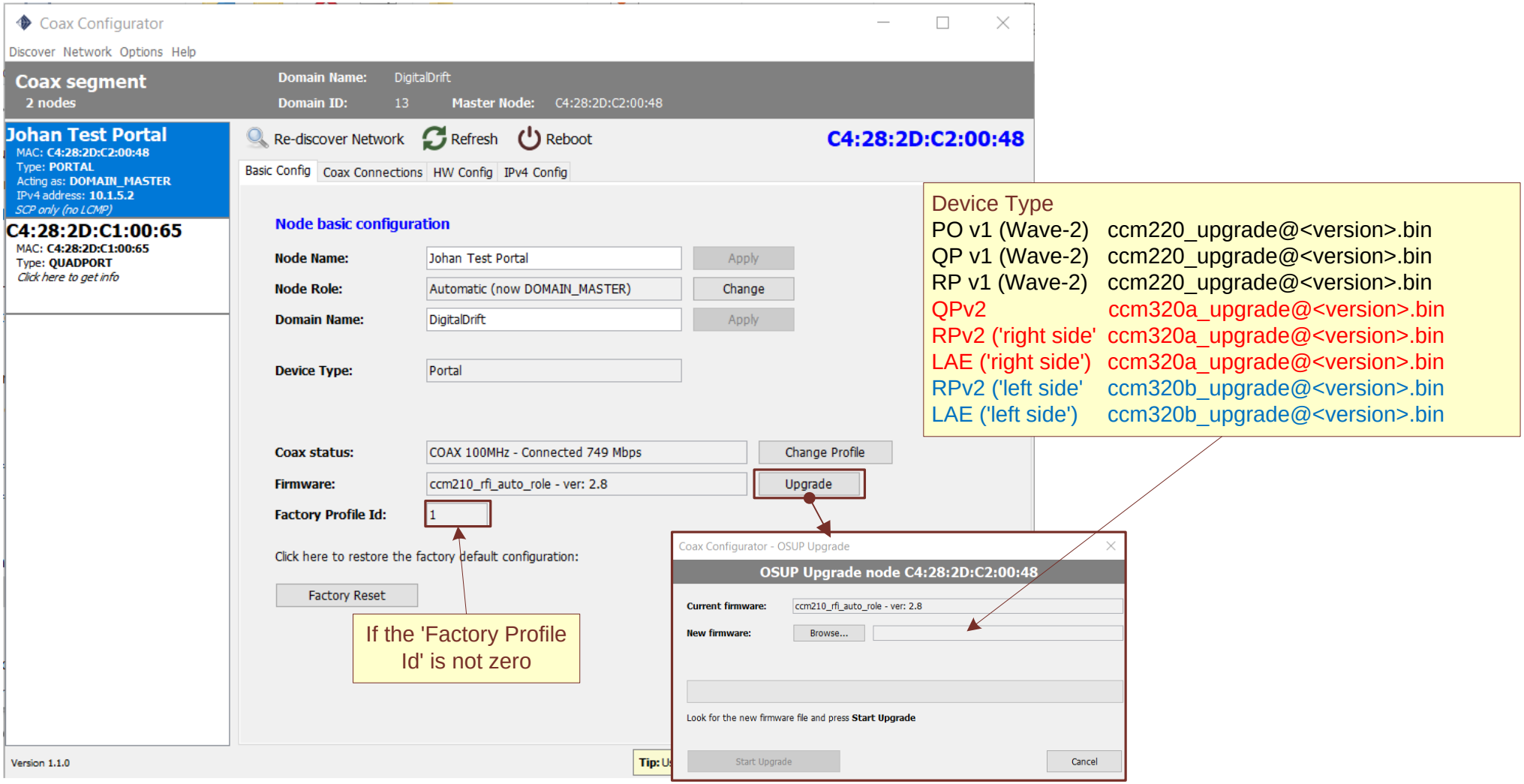
Firmware Upgrade – Cont.



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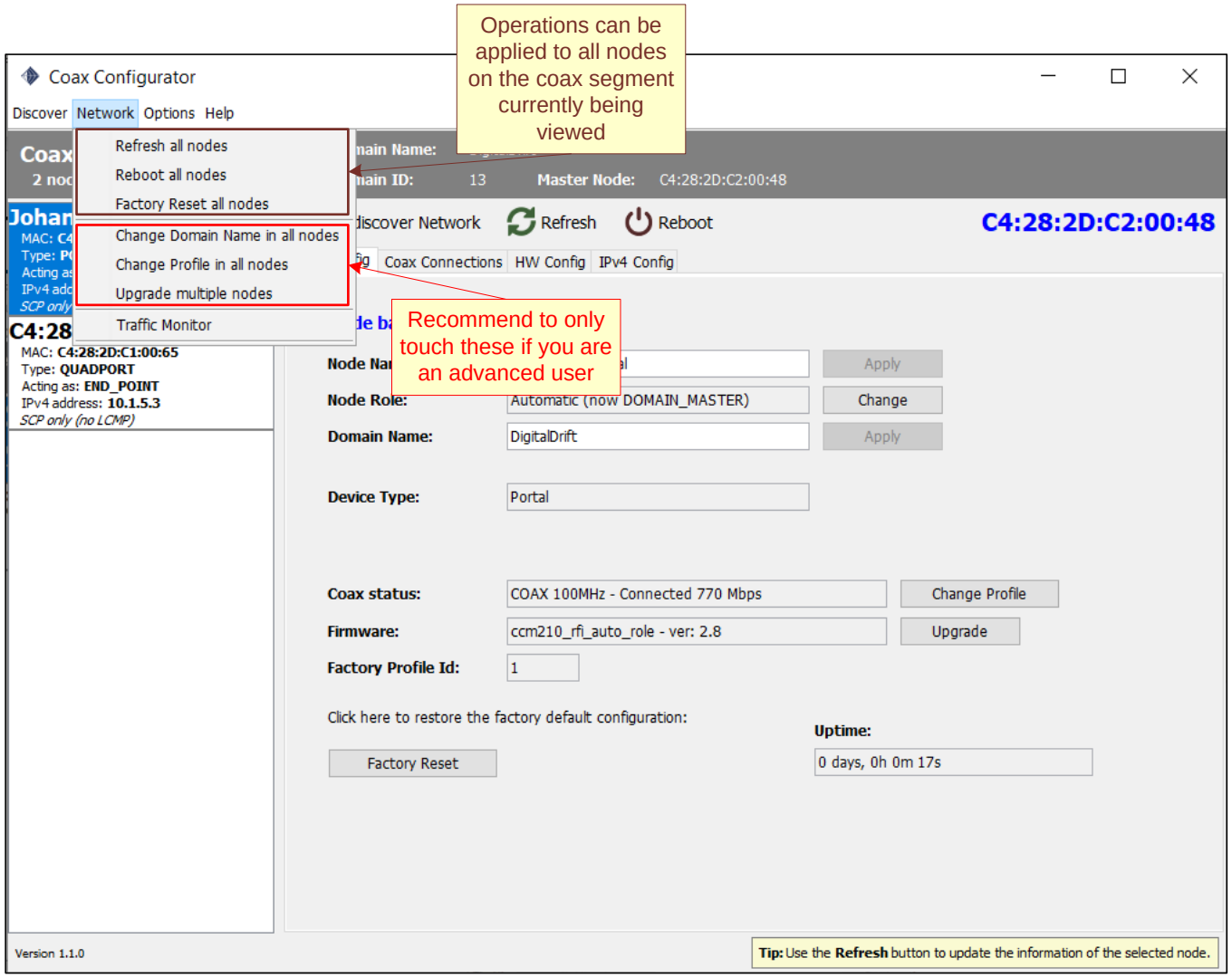
Batch operations



Expert Mode – For advanced trouble shooting

Browse to the appropriate file location in a command prompt window and run:

- java -jar DigitalDriftCoaxConfigurator-1.1.0.jar expert

OR

- java -jar DigitalBRIDGECoaxConfigurator-1.1.0.jar expert

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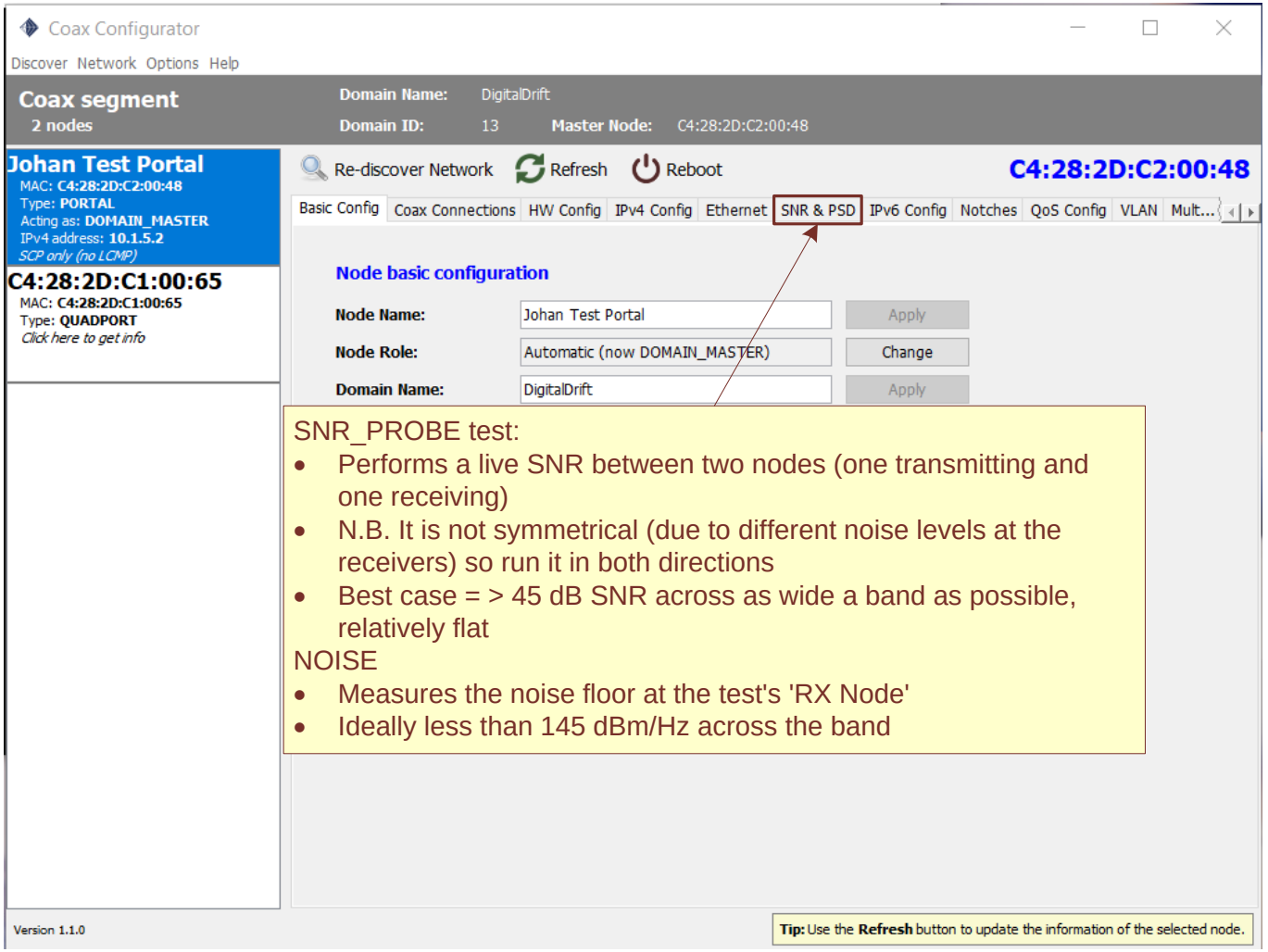
Expert Mode – For advanced trouble shooting

Useful for troubleshooting communications problems between nodes on a coax segment

Requires the PC running the Config Tool to have IPv4 connectivity to each node under investigation

To test IP connectivity to each node under investigation, use the 'Check IPv4 connectivity' button on the IPv4 Config tab for each node

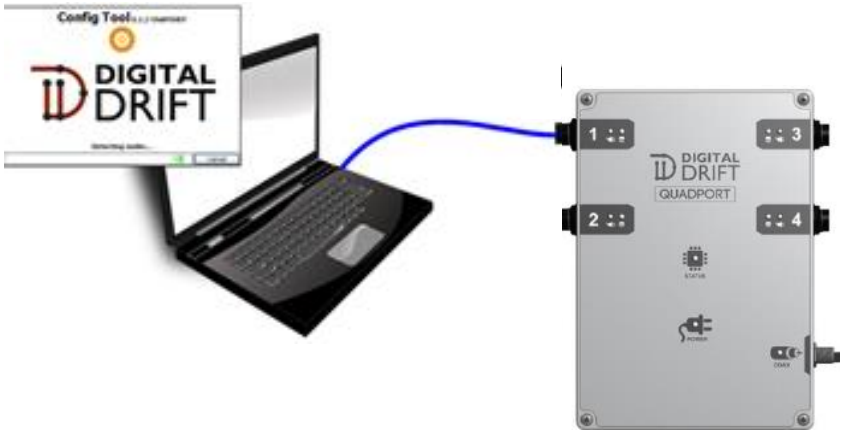


Accessing the Ethernet Switch in the Managed Quadport

rfi.com.au

QuadPort Managed Switch Configuration

The default access details for the switch is:
IP: 10.1.1.1
Username: admin
Password: blank (no password)



The menu of most use will be:

- VLAN
- PoE
- SNMP
- Security menu (for TACACS, etc)

- If the IP of the switch is unknow there are two ways to access it:
- "SwitchConfigurator" is a software package which can discover the switch as long as its management interface is on the port you are plugged into and it is untagged
- Second way is to:
  - power it off
  - plug a patch lead between port 1 and 2.
  - power it on
  - wait until the switch boots up ..... it will cause a loopback obviously. When you se it flashing crazy unplug the patch lead
  - The switch is now at defaults until you power cycle it
  - This means you can plug into any of the four ports and access 10.1.1.1
  - You can now reconfigure it, but you must Save to flash before power cycling - otherwise it will boot up with the previously saved config

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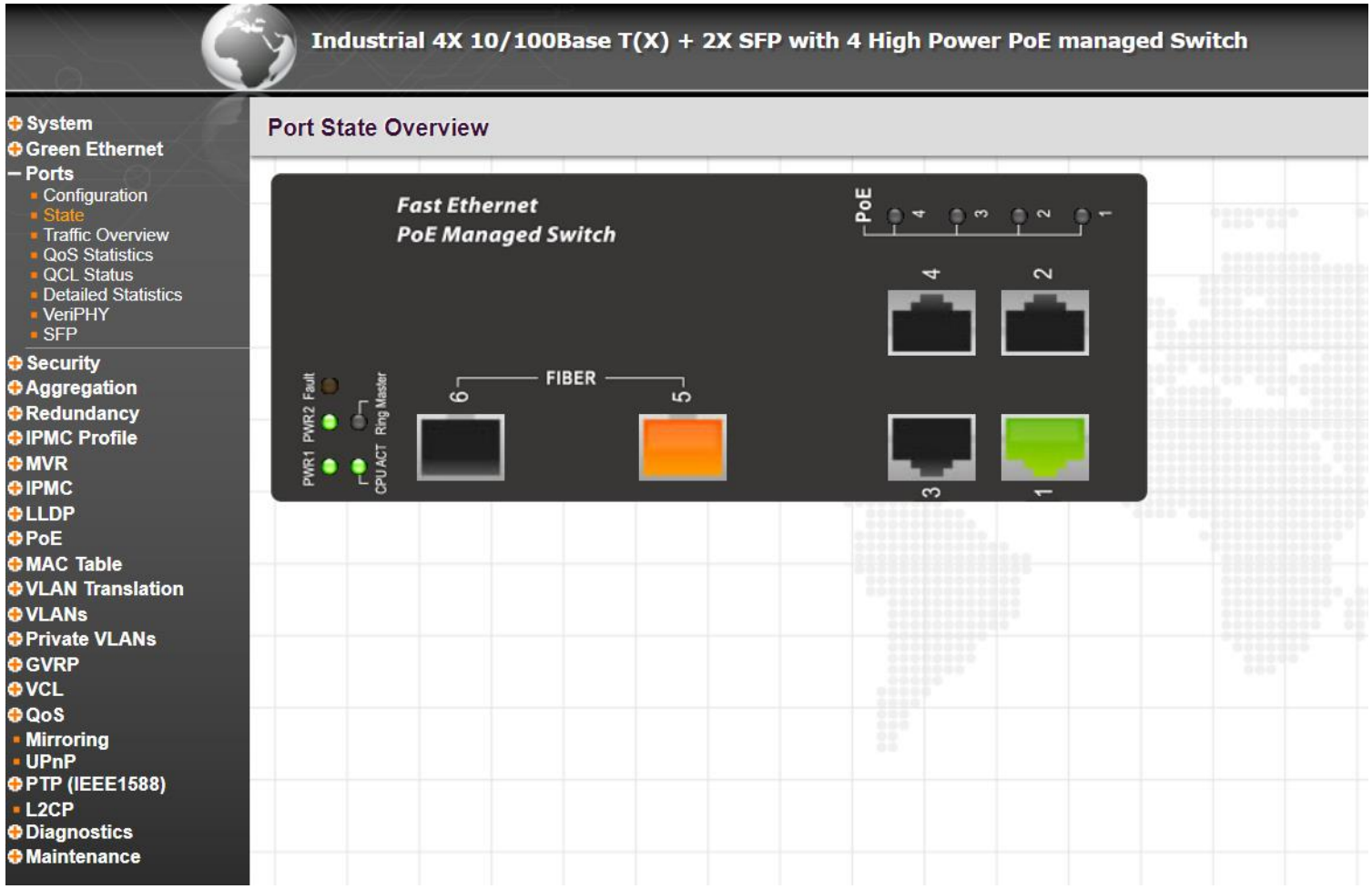
QuadPort Managed Switch Configuration

The default IP address for the embedded switch in the QP is 10.1.1.1



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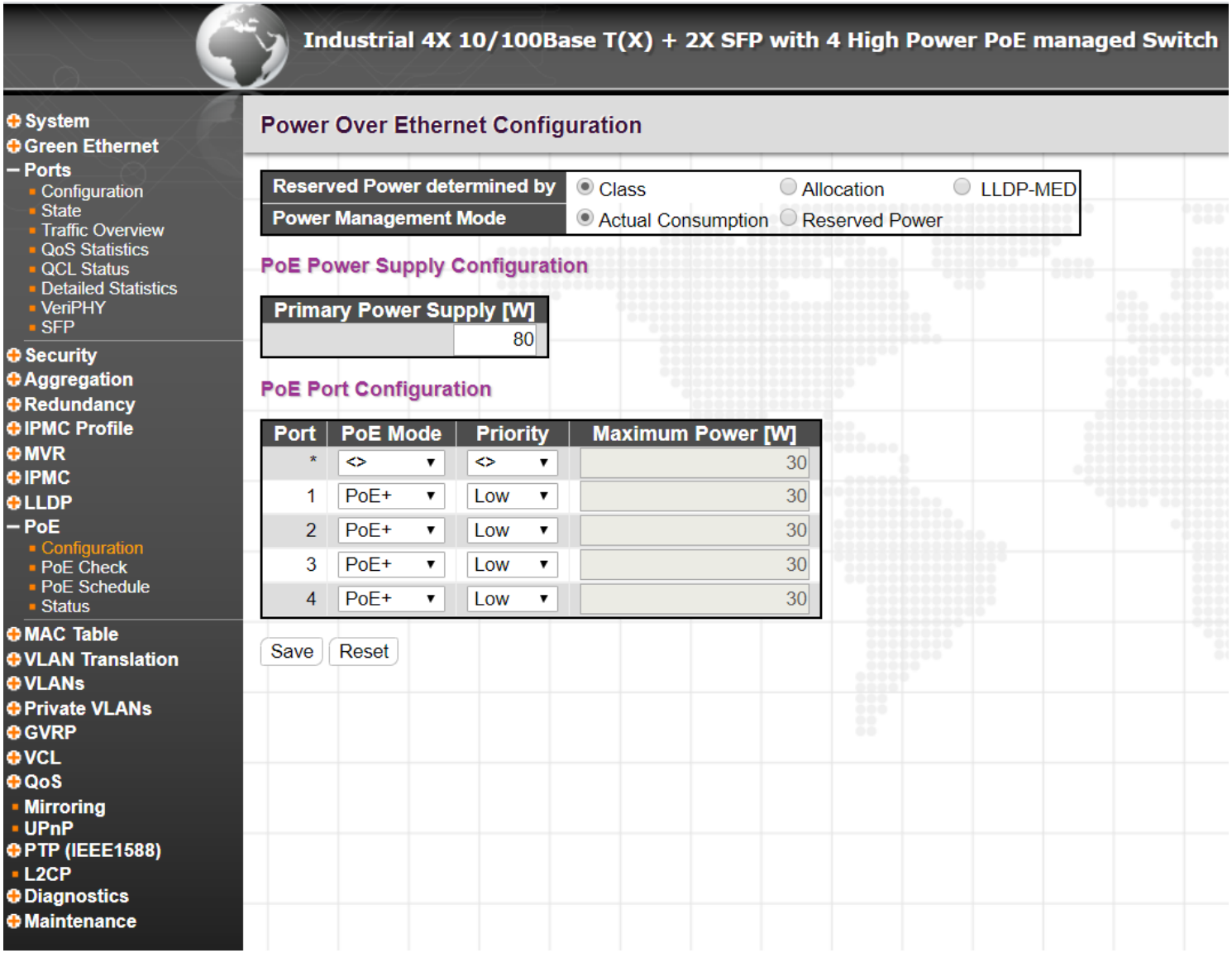
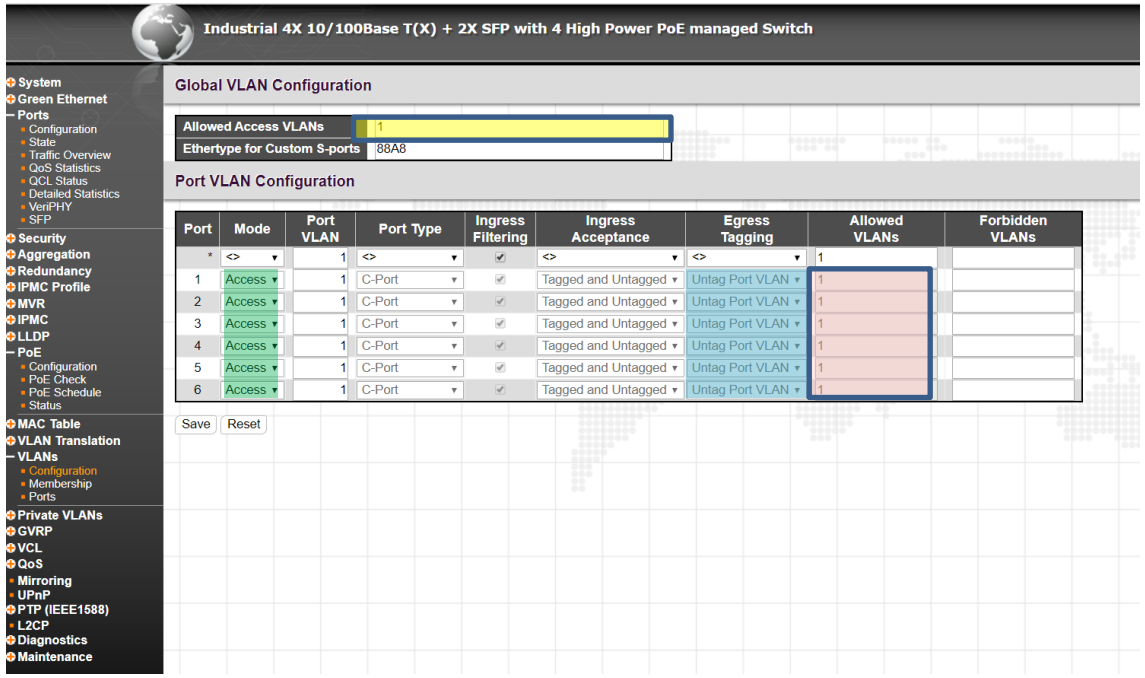
QuadPort Managed Switch Configuration



QuadPort Managed Switch Configuration

- Ports 1-4 is the QP ports, port 5 is the trunk port - it is important to make your trunk port (Port 5) a trunk port with the same settings as the trunk port on your ethernet switch connecting to the Portal
- Allowed access VLANs - list all VLANs you want on the switch, comma separated
- Select trunk or access,
  - If selecting Access, all you need to do next is select the appropriate Port VLAN
  - If selecting Trunk, the "Port VLAN" column should be the VLAN that is to be 'native'
- In egress tagging, ensure that untag port vlan is selected
- Lastly, in allowed VLANs, list the VLANs to be allowed on the trunk, including the native VLAN number



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QuadPort Managed Switch Configuration

Make sure you go to the maintenance tab at the bottom and save the start up configuration, otherwise all your settings will be lost when the switch restarts

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