



Cubro Vitrum Management Suite

Web GUI Guide for Version 1.1.0-3.0

January 2019


- This guide provides an overview of the navigation, usage and feature set of Cubro Vitrum.
- Cubro Vitrum is a centralized management platform that brings together a host of administrative features into one software package including automatic link discovery, centralized device management, backup, configuration, network mapping, and much more.

List of Cubro devices that are compatible with Cubro Vitrum:

Device Name	Supported (Yes/No)
Copper TAPs	No
Fiber TAPs	No
Packetmaster EX2	YES
Packetmaster EX6	YES
Packetmaster EX5-2	YES
Packetmaster EX12	YES
Packetmaster G4 family	YES
Packetmaster EX32100	Partially
Packetmaster EX48600	Partially
Sessionmaster EXA32100	Partially
Sessionmaster EXA48600	Partially
Sessionmaster EXA40	No
Sessionmaster EXA24160	No
Mobile Probe	No
FlowVista Probe	No

1. After the installation of Cubro Vitrum, connect to the system via a modern web browser of your choice.
2. Run a “Network Scan” to automatically discover Cubro devices on your network.
3. Activate the licenses for your Cubro devices.
4. Run a “Topology Scan” to automatically discover interconnected links between the licensed Cubro devices.

- Log in to the Vitrum system.
 - Default username: **admin**
 - Default password: **Cubro**
- Choose language settings before login:
 - English (en)
 - German (de)
 - Japanese (ja)
 - Chinese (zh-hans)

Vitrum  Device List

Please login to see this page.

Username

Password

Submit

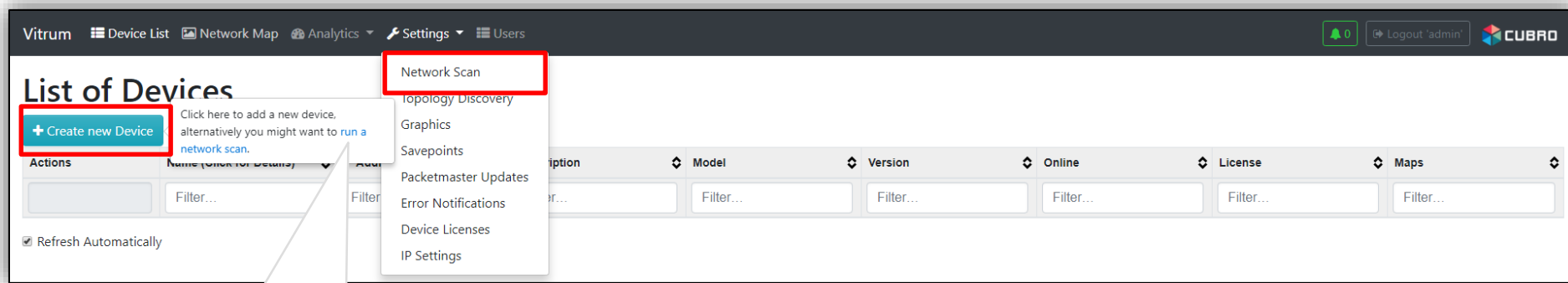
English (en)



Set Language

[→ Recover Password](#)

- Navigate to “Settings” over the tab bar and select “Network Scan” to proceed.
- Alternatively, you can also add devices manually via “Create new Network Device”.



If you have no devices in your list, this popup window will ask you to run a device scan.

Network Scan

Start IP

End IP

Scanned: 0 out of 0

Found Devices

- Click on “Start Networkscan” to start the tool.
- The Network Scan tool will go through every IP address in the chosen IP range.

Network Scan running

Start IP

End IP

Scanned: 0 out of 167

Found Devices

Please wait until the progress bar shows the scan is completed!

- After the scan is completed, click on “Filter only Cubro devices” to filter on all supported devices and click “Save”.

Network Scan finished

Start IP

End IP

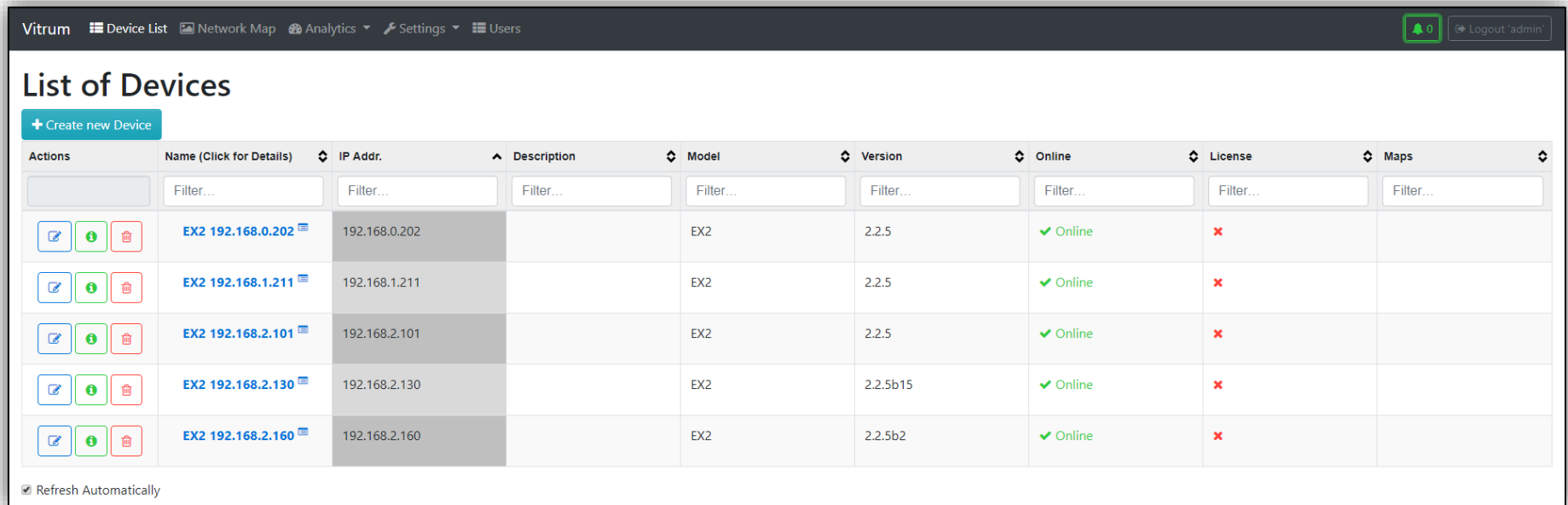
Scanned: **767** out of **767**

Found Devices
















Filter only Cubro devices

192.168.0.202	<input type="checkbox"/> Ignore Device	Name	<input type="text" value="EX2 192.168.0.202"/>
		IP Address	<input type="text" value="192.168.0.202"/>
		Description	<input type="text"/>
192.168.1.211	<input type="checkbox"/> Ignore Device	Name	<input type="text" value="EX2 192.168.1.211"/>
		IP Address	<input type="text" value="192.168.1.211"/>
		Description	<input type="text"/>
192.168.2.101	<input type="checkbox"/> Ignore Device	Name	<input type="text" value="EX2 192.168.2.101"/>
		IP Address	<input type="text" value="192.168.2.101"/>

- All scanned Cubro devices are listed in the Device List now.
- By default all devices will be unlicensed.
- Cubro devices have to be licensed to activate the full feature set of Cubro Vitrum.

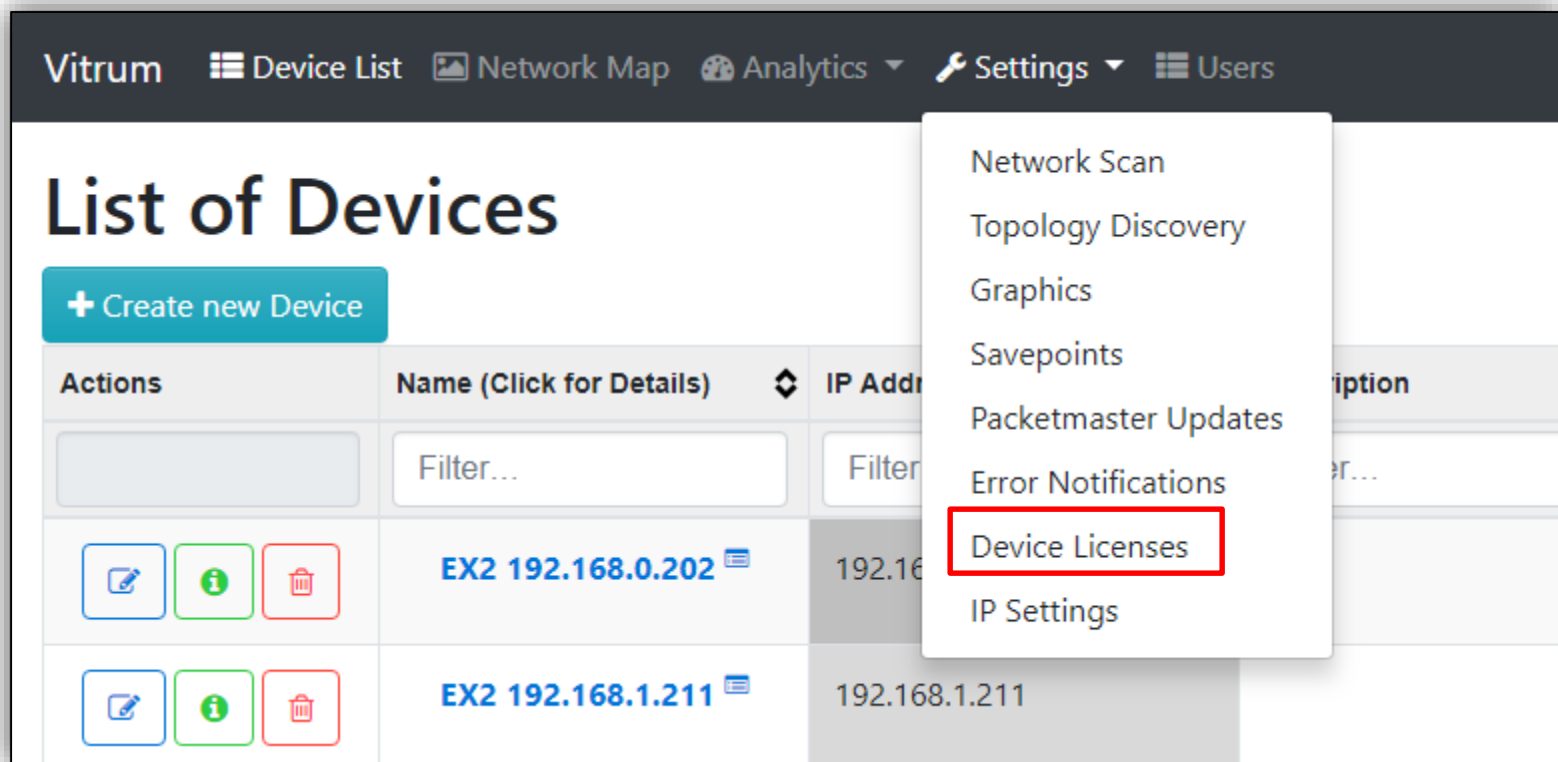


The screenshot shows the Vitrum web interface. At the top, there is a navigation bar with 'Vitrum' and several menu items: 'Device List', 'Network Map', 'Analytics', 'Settings', and 'Users'. On the right side of the navigation bar, there is a notification bell icon with '0' and a 'Logout admin' button. Below the navigation bar, the main heading is 'List of Devices'. Underneath the heading is a '+ Create new Device' button. The main content is a table with the following columns: 'Actions', 'Name (Click for Details)', 'IP Addr.', 'Description', 'Model', 'Version', 'Online', 'License', and 'Maps'. Each column has a 'Filter...' input field. The table contains five rows of device data. Each row starts with three action icons: a pencil (edit), a green circle with a white exclamation mark (warning/info), and a trash can (delete). The 'Name' column contains 'EX2' followed by the IP address. The 'IP Addr.' column contains the IP address. The 'Model' column contains 'EX2'. The 'Version' column contains the device version. The 'Online' column contains a green checkmark and the text 'Online'. The 'License' column contains a red 'x', indicating the device is unlicensed. The 'Maps' column is empty.







Actions	Name (Click for Details)	IP Addr.	Description	Model	Version	Online	License	Maps
  	EX2 192.168.0.202	192.168.0.202		EX2	2.2.5	✓ Online	✗	
  	EX2 192.168.1.211	192.168.1.211		EX2	2.2.5	✓ Online	✗	
  	EX2 192.168.2.101	192.168.2.101		EX2	2.2.5	✓ Online	✗	
  	EX2 192.168.2.130	192.168.2.130		EX2	2.2.5b15	✓ Online	✗	
  	EX2 192.168.2.160	192.168.2.160		EX2	2.2.5b2	✓ Online	✗	

Refresh Automatically

- Navigate to “Settings” and select “Device Licenses”.



The screenshot shows the Vitrum interface. At the top, there is a navigation bar with the following items: Vitrum, Device List, Network Map, Analytics, Settings (with a dropdown arrow), and Users. Below the navigation bar, the main heading is "List of Devices". Underneath the heading is a teal button labeled "+ Create new Device". Below the button is a table with the following columns: Actions, Name (Click for Details), IP Address, and Description. The table contains two rows of device information. A dropdown menu is open from the "Settings" icon in the navigation bar, listing the following options: Network Scan, Topology Discovery, Graphics, Savepoints, Packetmaster Updates, Error Notifications, Device Licenses (highlighted with a red box), and IP Settings.

Actions	Name (Click for Details)	IP Address	Description
  	EX2 192.168.0.202	192.168.0.202	
  	EX2 192.168.1.211	192.168.1.211	

- “License Overview” lists all connected Cubro devices.
- The column “Licensed Until” shows if the device is licensed or not.
- If a device is licensed it will show the expiration date of the license.

License Overview

[+ Upload new Device License](#)

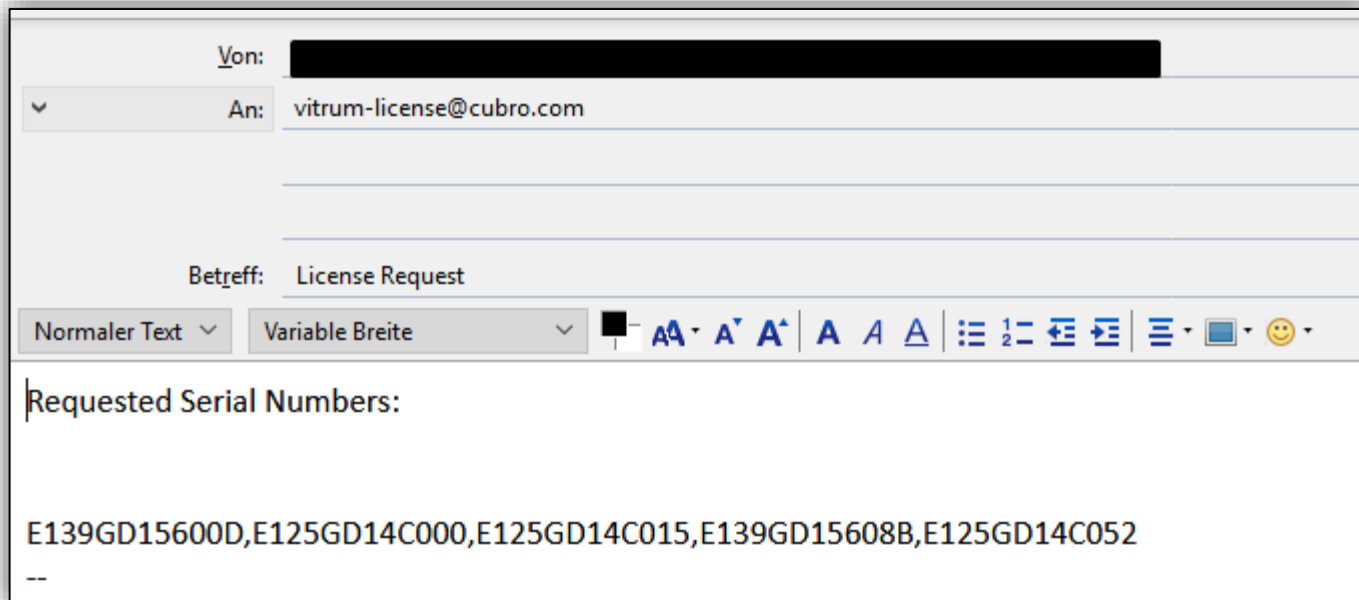
<input checked="" type="checkbox"/>	Device Name	IP Address	Serial Number	Licensed Until
<input type="checkbox"/>	Filter...	Filter...	Filter...	Filter...
<input checked="" type="checkbox"/>	EX2 192.168.2.160	192.168.2.160	E139GD15600D	✘ NOT LICENSED
<input checked="" type="checkbox"/>	EX2 192.168.2.130	192.168.2.130	E125GD14C000	✘ NOT LICENSED
<input checked="" type="checkbox"/>	EX2 192.168.2.101	192.168.2.101	E125GD14C015	✘ NOT LICENSED
<input checked="" type="checkbox"/>	EX2 192.168.0.202	192.168.0.202	E139GD15608B	✘ NOT LICENSED
<input checked="" type="checkbox"/>	EX2 192.168.1.211	192.168.1.211	E125GD14C052	✘ NOT LICENSED

Send Request [Send as mail to Cubro:](#)

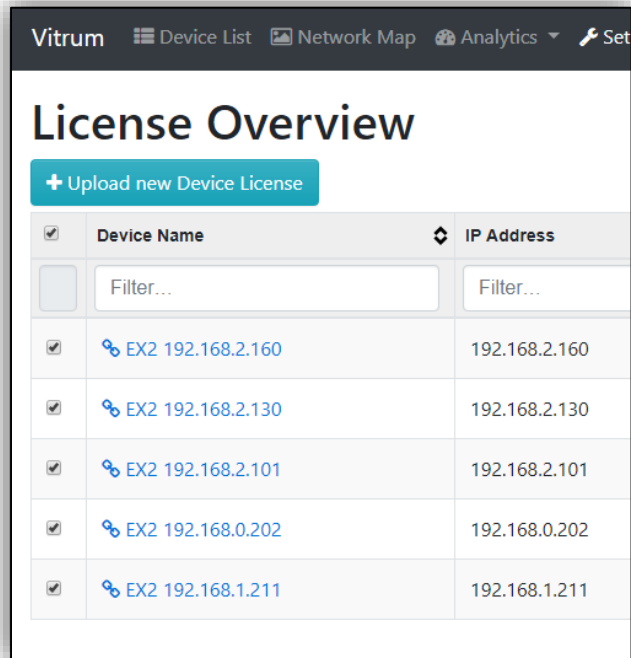
```
E139GD15600D,E125GD14C000,E125GD14C015,E139GD15608B,E125GD14C052
```

- Select all devices which need to be activated and then click on “Send as mail to Cubro”.

- A new window of the default Email program will be opened automatically.
- The default template of the content is ready for sending.
- Alternatively you can copy-paste the serial numbers of the devices which need to be activated and send an email manually to **vitrum-license@cubro.com**.

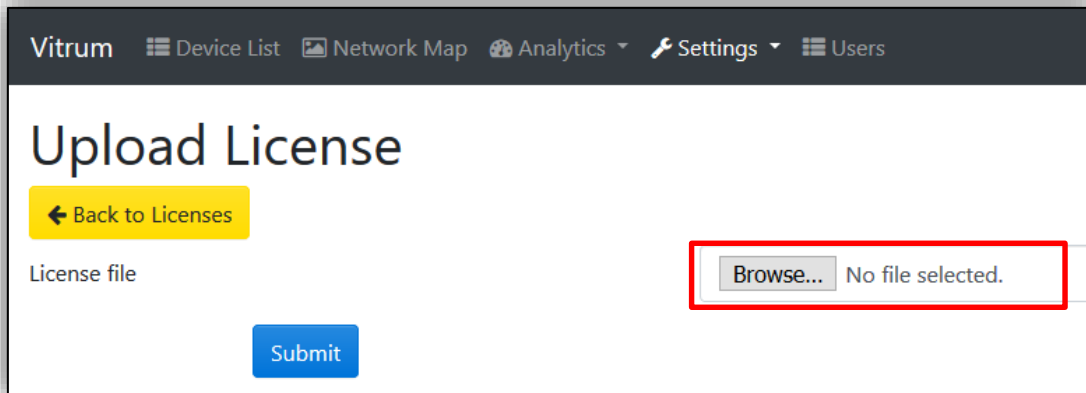


- The Cubro Support Team will check if there is a paid license for the requested serial numbers and will send back a license file which can be imported in Cubro Vitrum.



- Click on “Upload new Device License” to go to the next step.

- Click on “Browse”, upload the received license file from Cubro and press “Submit”.




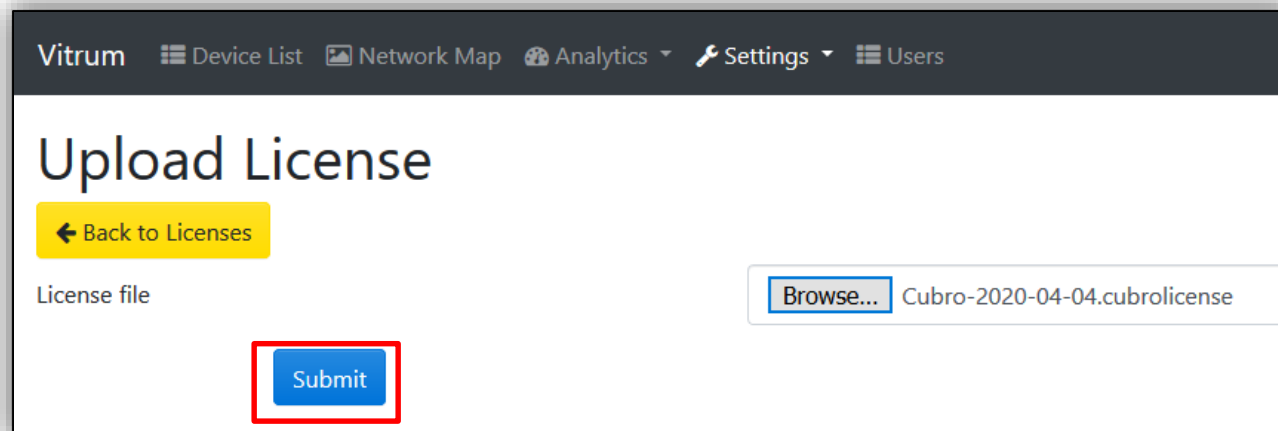
Vitrum Device List Network Map Analytics Settings Users

Upload License

[← Back to Licenses](#)

License file

 Cubro-2020-04-04.cubrolicense	06.06.2018 15:36	CUBROLICENSE-D...	6 KB
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Vitrum Device List Network Map Analytics Settings Users

Upload License

[← Back to Licenses](#)

License file

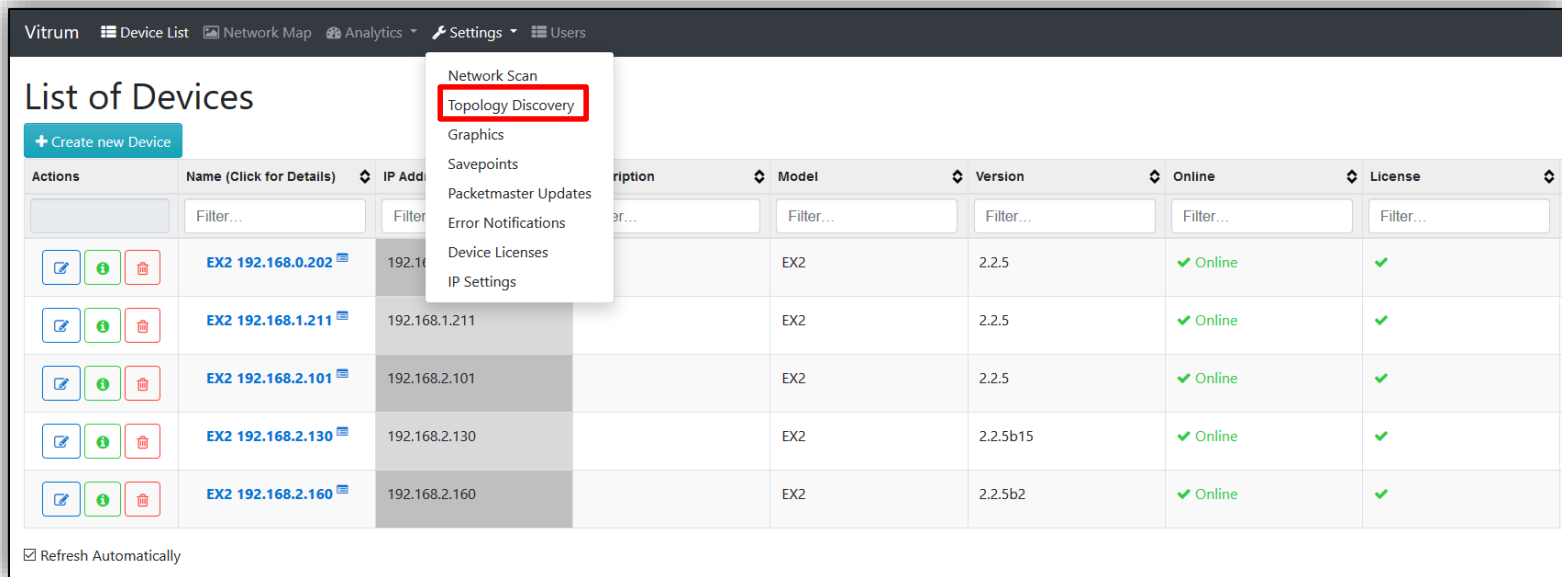
License added

License Overview
















+ Upload new Device License

<input type="checkbox"/>	Device Name	IP Address	Serial Number	Licensed Until
<input type="checkbox"/>	Filter...	Filter...	Filter...	Filter...
<input type="checkbox"/>	EX2 192.168.2.160	192.168.2.160	E139GD15600D	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.2.130	192.168.2.130	E125GD14C000	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.2.101	192.168.2.101	E125GD14C015	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.0.202	192.168.0.202	E139GD15608B	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.1.211	192.168.1.211	E125GD14C052	✓ April 4, 2020

- After the Device Licensing it is possible to run a Topology Scan on all licensed devices.
- This allows the user to see all the connections between Cubro devices.
- Navigate to “Settings” and Select “Topology Discovery”.

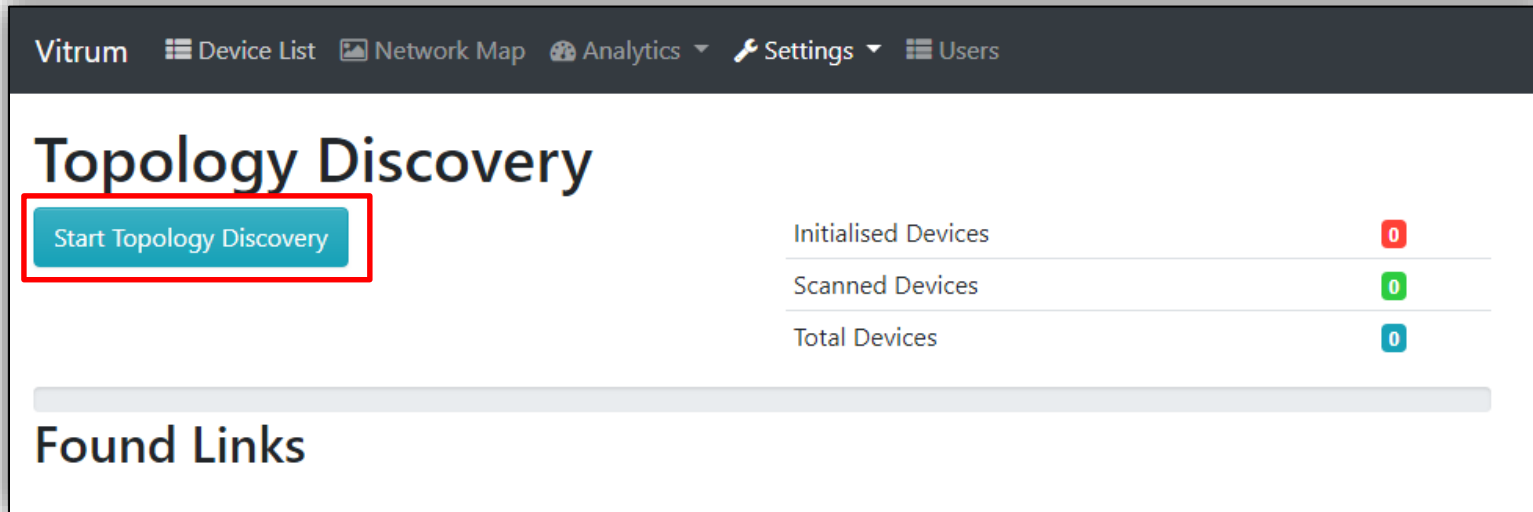


The screenshot displays the Vitrum interface with the 'List of Devices' page. A dropdown menu is open over the 'Settings' icon, with 'Topology Discovery' highlighted in red. The table below shows a list of devices with columns for Name, IP Address, Model, Version, Online status, and License.

Actions	Name (Click for Details)	IP Address	Description	Model	Version	Online	License
  	EX2 192.168.0.202	192.168.0.202		EX2	2.2.5	✓ Online	✓
  	EX2 192.168.1.211	192.168.1.211		EX2	2.2.5	✓ Online	✓
  	EX2 192.168.2.101	192.168.2.101		EX2	2.2.5	✓ Online	✓
  	EX2 192.168.2.130	192.168.2.130		EX2	2.2.5b15	✓ Online	✓
  	EX2 192.168.2.160	192.168.2.160		EX2	2.2.5b2	✓ Online	✓

Refresh Automatically

- Press “Start Topology Scan Discovery” to start the tool.



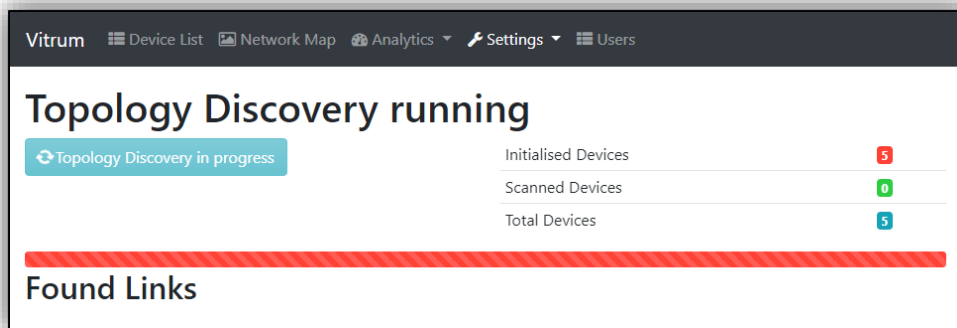
Vitrum Device List Network Map Analytics Settings Users

Topology Discovery

Start Topology Discovery

Initialised Devices	0
Scanned Devices	0
Total Devices	0

Found Links



Vitrum Device List Network Map Analytics Settings Users

Topology Discovery running

Topology Discovery in progress

Initialised Devices	5
Scanned Devices	0
Total Devices	5

Found Links

Please wait until the progress bar shows the process is complete.

Vitrum Device List Network Map Analytics Settings Users

Topology Discovery finished

[Start Topology Discovery](#)

Initialised Devices	5
Scanned Devices	5
Total Devices	5

Found Links

[Save](#)

Ignore Link

Source Port	Destination Port
eth-0-2	eth-0-2
EX2 192.168.2.101	EX2 192.168.2.160
192.168.2.101	192.168.2.160

[→](#)

Ignore Link

Source Port	Destination Port
eth-0-2	eth-0-2
EX2 192.168.2.160	EX2 192.168.2.101
192.168.2.160	192.168.2.101












[→](#)

[Save](#)





Use the checkbox to ignore specific links. Later you can re-add these links manually.

Press the "Save" button to save all links. (Links which are marked with "Ignore Link" will not be added.)

- After these steps the basic setup for Cubro Vitrum is done.
- Go to “Device List” again and check if all Cubro devices are licensed now.
- It is possible to add 3rd party devices manually or via the Device Scan Tool.
- Unlicensed or 3rd party devices will only be monitored over the ICMP protocol (ping) as to whether the network status is “Online” or “Offline”.
- Advantages of Licensed Devices:
 - Centralized Save-point backup
 - Port / Link monitoring (Alarm notifications for status changes)
 - Network Topology Discovery
 - Centralized Software Upgrade













  	EX2 192.168.1.211 	192.168.1.211	Laboratory Device	EX2	2.2.5	✓ Online	✓
  	EX5-2 192.168.1.252 	192.168.1.252	Laboratory Device	EX5-2	2.2.5	✓ Online	✗
  	Network Router	192.168.0.1	Default Gateway	N/A	N/A	✓ Online	N/A

- **Device List**
- Network Map
- Analytics
- Settings
- Users

- Click on “Device List” in the top bar to view the List of Devices.
- Click on  to add a new device to the list manually.
- Use  to edit “Name”, “IP address” or “Description of the device”.
- Use  to see all known information about the device.
- Use  to delete the device from the list.

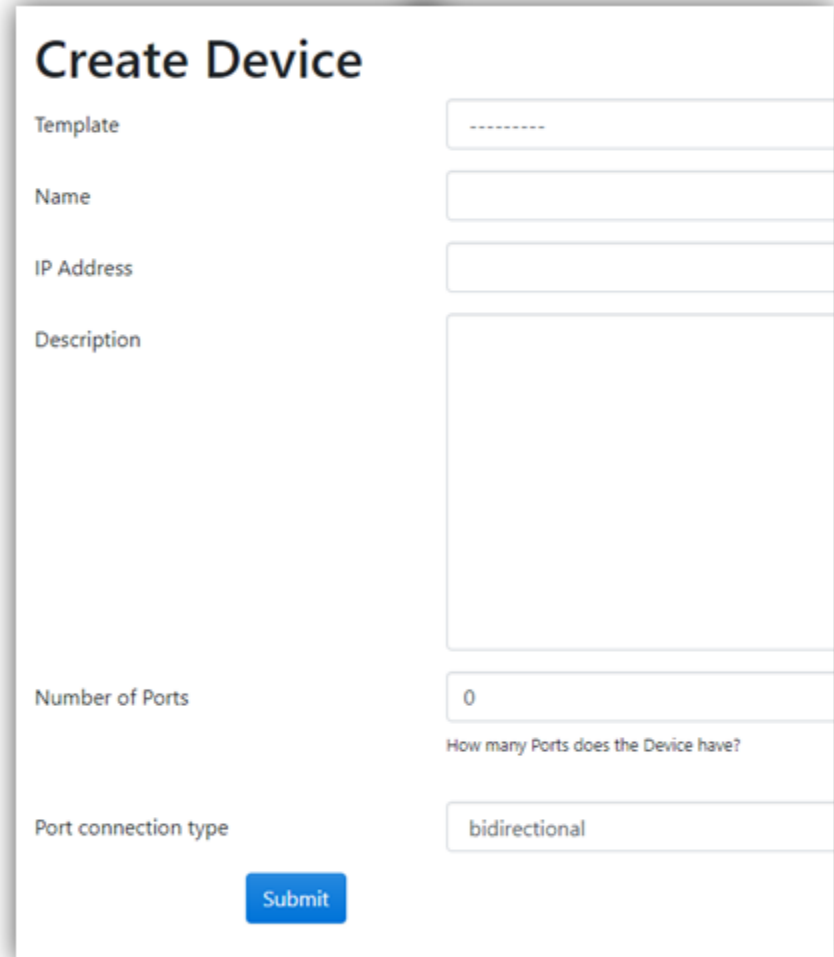
List of Devices



Actions	Name (Click for Details)	IP Addr.	Description	Model	Version	Online	License	Maps
  	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>
  	EX2 192.168.1.211	192.168.1.211	Laboratory Device	EX2	2.2.5	✓ Online	✓	
  	EX5-2 192.168.1.252	192.168.1.252	Laboratory Device	EX5-2	2.2.5	✓ Online	✗	
  	Network Router	192.168.0.1	Default Gateway	N/A	N/A	✓ Online	N/A	

Refresh Automatically

- **[Optional] Template:** Choose a device template from the dropdown menu. Number and Type of Ports are selected automatically.
 - **Name:** Choose a Name for the new device.
 - **[Optional] IP Address:** Enter a valid IP address.
 - **[Optional] Description:** Enter a description for this device.
 - **Number of Ports:** Enter the total number of network ports of the device.
 - **Port connection type:** Choose the general port type of the device's network ports.
-
- Press "Submit" to save the changes.



The screenshot shows a web form titled "Create Device". The form contains the following fields and controls:

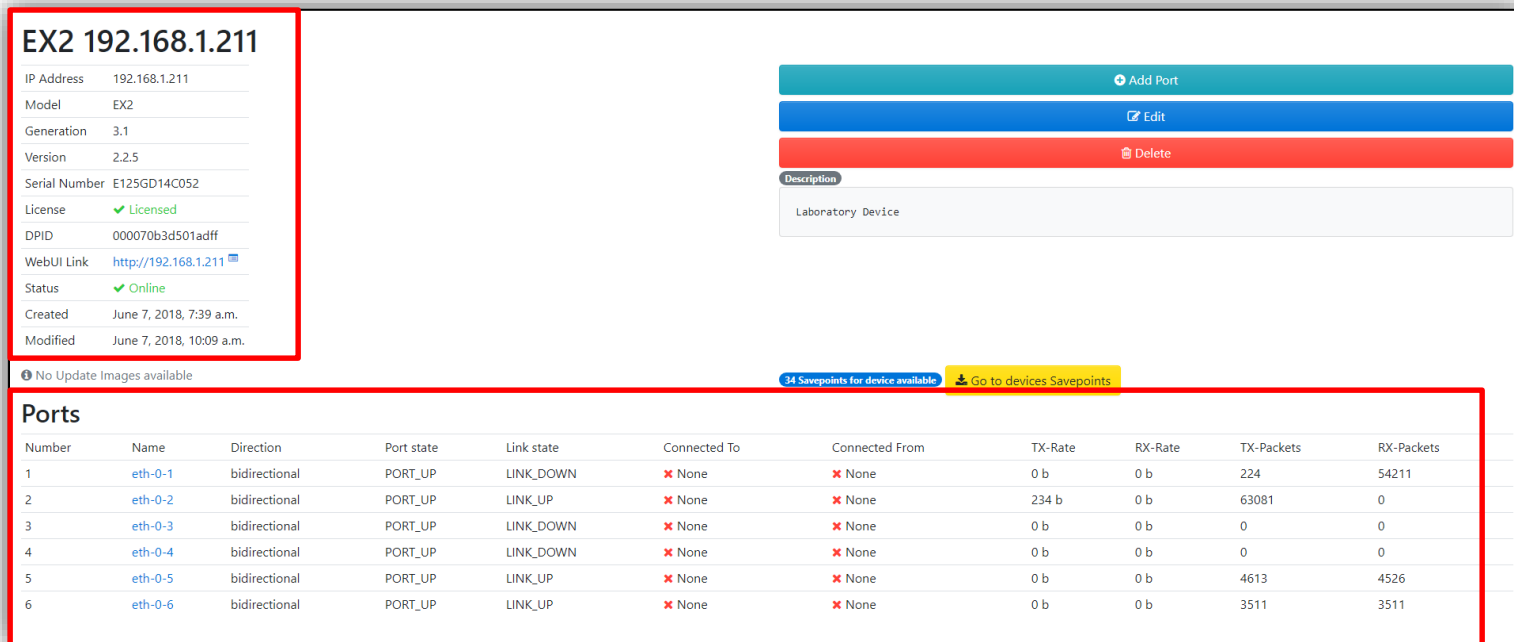
- Template:** A dropdown menu with a dashed line indicating a selection.
- Name:** A text input field.
- IP Address:** A text input field.
- Description:** A large text area for entering a description.
- Number of Ports:** A text input field containing the value "0". Below it is the label "How many Ports does the Device have?".
- Port connection type:** A dropdown menu with "bidirectional" selected.
- Submit:** A blue button at the bottom right of the form.

- In the “Edit Device” menu it is possible to edit:
 - Name
 - IP address
 - Description
- Press “Submit” to save the changes.

Edit Device : EX2 192.168.1.211 - 192.168.1.211

Name	<input type="text" value="EX2 192.168.1.211"/>
IP Address	<input type="text" value="192.168.1.211"/>
Description	<input type="text" value="Laboratory Device"/>

- The information menu displays all important details for the selected device.
- A list of all ports is shown at the bottom.
- Click on [Go to devices Savepoints](#) to view all available save points of the device.
- Click on “Add Port” to add an additional network port manually.



EX2 192.168.1.211

IP Address 192.168.1.211
Model EX2
Generation 3.1
Version 2.2.5
Serial Number E125GD14C052
License ✔ Licensed
DPID 000070b3d501adff
WebUI Link <http://192.168.1.211>
Status ✔ Online
Created June 7, 2018, 7:39 a.m.
Modified June 7, 2018, 10:09 a.m.

[Add Port](#)
[Edit](#)
[Delete](#)

Description
Laboratory Device

[34 Savepoints for device available](#) [Go to devices Savepoints](#)

Ports

Number	Name	Direction	Port state	Link state	Connected To	Connected From	TX-Rate	RX-Rate	TX-Packets	RX-Packets
1	eth-0-1	bidirectional	PORT_UP	LINK_DOWN	✘ None	✘ None	0 b	0 b	224	54211
2	eth-0-2	bidirectional	PORT_UP	LINK_UP	✘ None	✘ None	234 b	0 b	63081	0
3	eth-0-3	bidirectional	PORT_UP	LINK_DOWN	✘ None	✘ None	0 b	0 b	0	0
4	eth-0-4	bidirectional	PORT_UP	LINK_DOWN	✘ None	✘ None	0 b	0 b	0	0
5	eth-0-5	bidirectional	PORT_UP	LINK_UP	✘ None	✘ None	0 b	0 b	4613	4526
6	eth-0-6	bidirectional	PORT_UP	LINK_UP	✘ None	✘ None	0 b	0 b	3511	3511

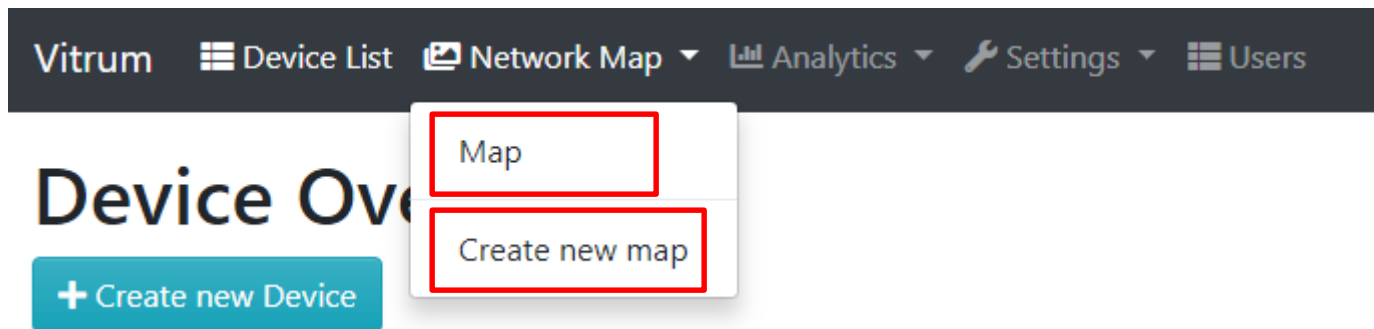
- **Device:** Choose the device that should be assigned the new port.
- **Number:** Choose an index number for the new port
- **Name:** Name of the port. E.g.: eth-0-1
- **[Optional] Custom name:** Assign a custom name for the Port.
- **[Optional] Connection Type:** Choose the type of port.
- **[Optional] Connected to device:** Choose which device is connected to this port.
- **[Optional] Connected to:** Choose a port which is connected to the new port.
- **[Optional] Description:** Enter a description.
- Press "Submit" to save the changes.

Create Port

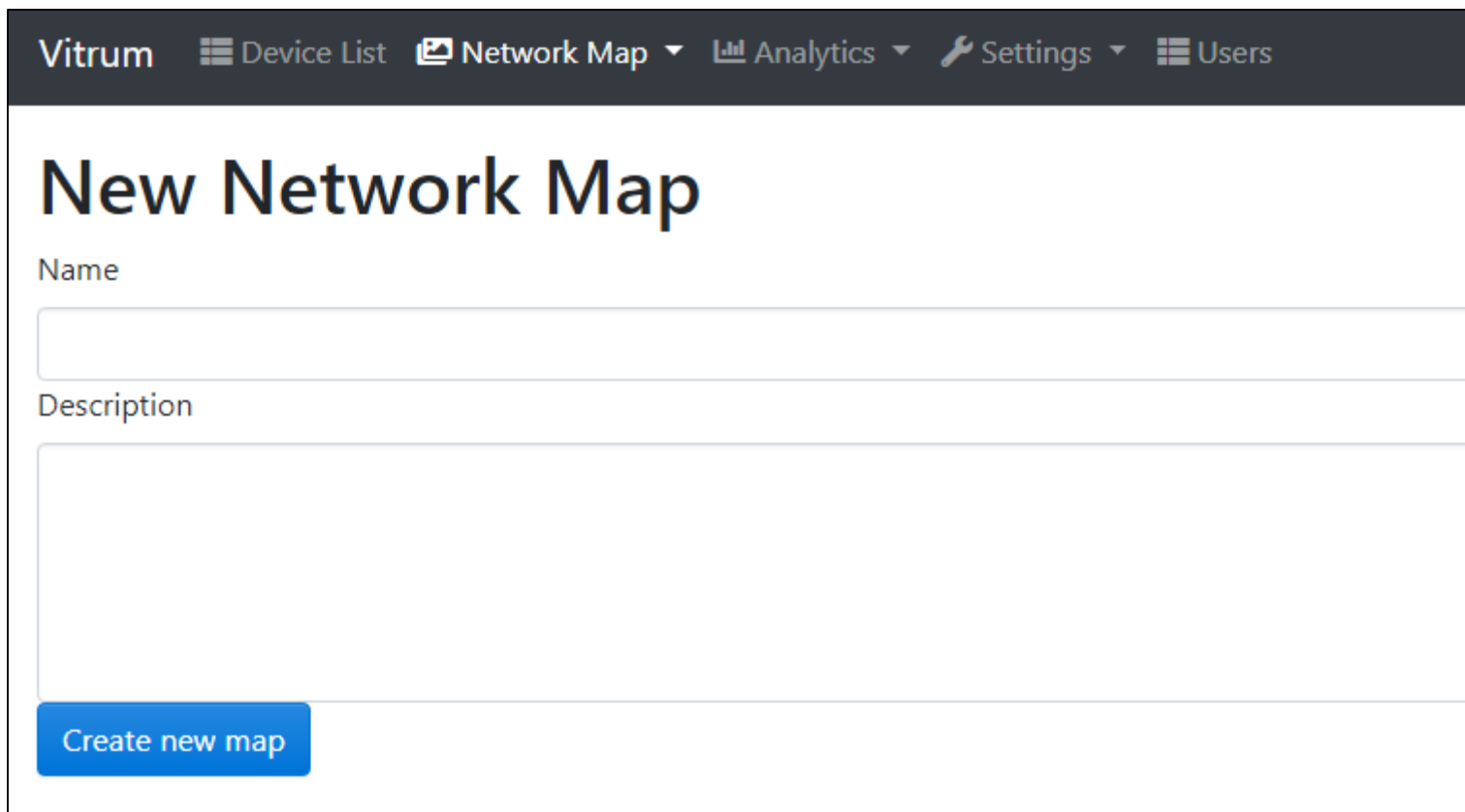
Device	EX2 192.168.1.211 - 192.168.1.211
Number	<input type="text"/>
Name	<input type="text"/>
Custom name	<input type="text"/>
Connection type	bidirectional
Connected to device	-----
Connected to	-----
Description	<input type="text"/>

- Device List
- **Network Map**
- Analytics
- Settings
- Users

- Navigate to “ Network Map” on the top bar to create or view network maps.
- Create a new map or select existing maps via the dropdown list.

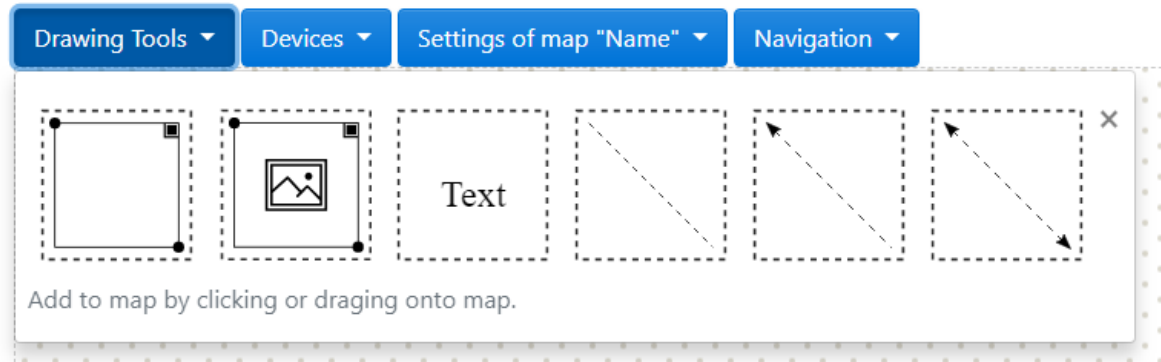


- After selecting “Create new map” enter a custom name and description to continue.

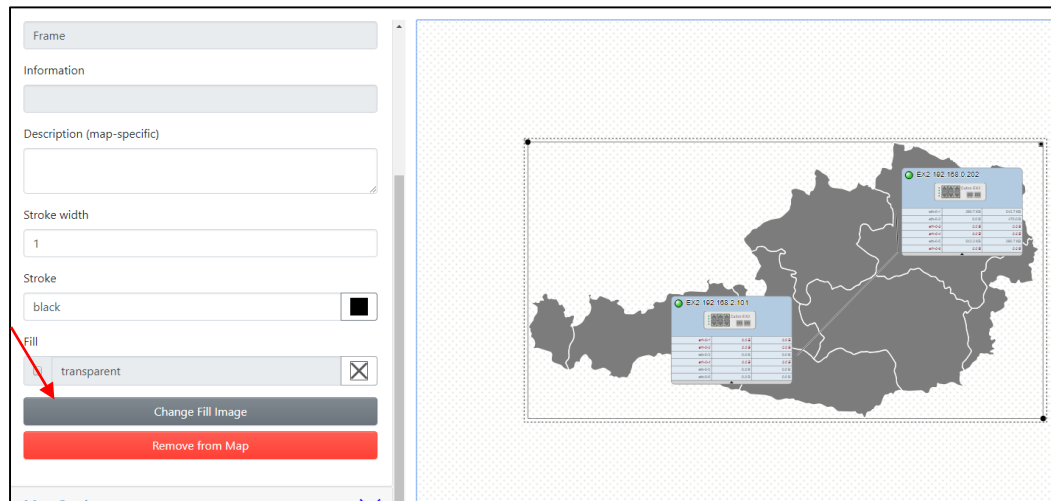


The screenshot shows a web interface for creating a new network map. At the top, a dark navigation bar contains the 'Vitrum' logo and menu items: 'Device List', 'Network Map' (with a dropdown arrow), 'Analytics' (with a dropdown arrow), 'Settings' (with a dropdown arrow), and 'Users'. Below the navigation bar, the main content area has a large heading 'New Network Map'. Underneath the heading, there are two input fields: a single-line text box labeled 'Name' and a larger multi-line text box labeled 'Description'. At the bottom left of the form, there is a blue button with the text 'Create new map'.

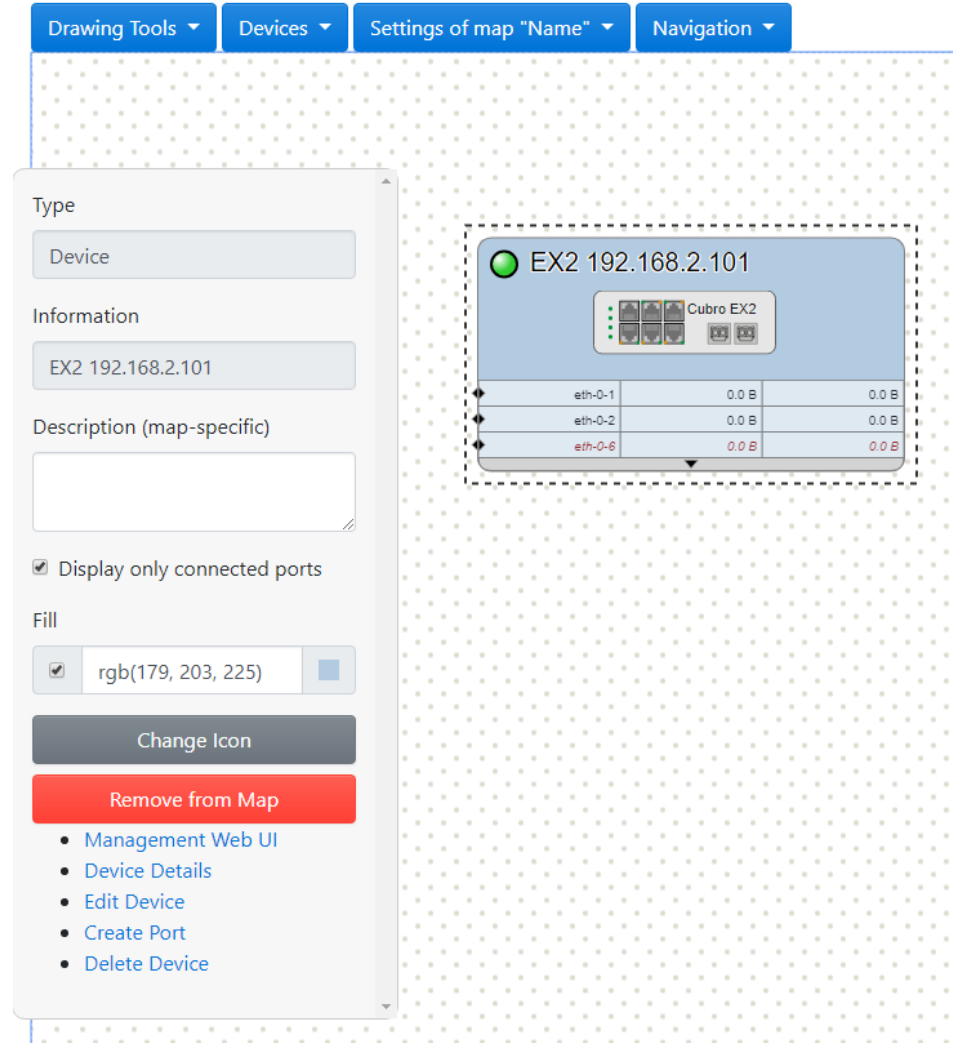
- Use the drawing tools to create customized maps.
- Click on the items to add them to the map or use the Drag & Drop function.



- Use the "rectangle frame" to add custom graphics to the map.



- Select a device to enter its configuration menu
 - Enter a description (only valid for the map)
 - Change the colour
 - Change Icon
 - Remove from Map
 - Enter Web UI or Device details directly from the map



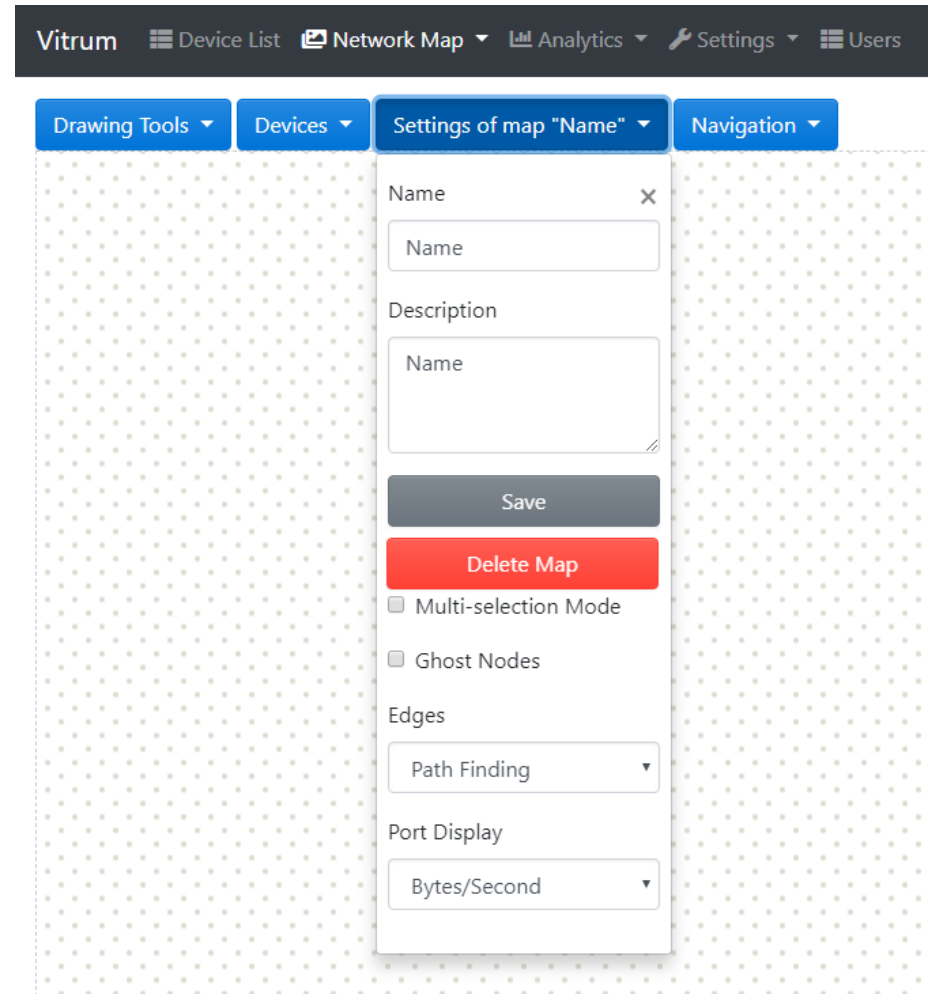
The configuration panel on the left contains the following fields and options:

- Type: Device
- Information: EX2 192.168.2.101
- Description (map-specific): [Empty text box]
- Display only connected ports
- Fill: rgb(179, 203, 225)
- Buttons: Change Icon, Remove from Map
- Links: Management Web UI, Device Details, Edit Device, Create Port, Delete Device

The device icon on the map is a blue square with a green circle and the text 'EX2 192.168.2.101'. Below the icon is a table showing port details:

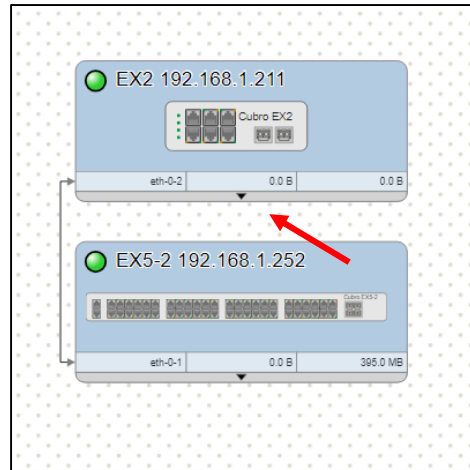
Cubro EX2		
eth-0-1	0.0 B	0.0 B
eth-0-2	0.0 B	0.0 B
eth-0-6	0.0 B	0.0 B

- Navigate to “Settings...” for changing the name and the description of the network map.
- Press “Save” to save the settings.
(It is not necessary to save the map after changing the content of the map.)
- Press “Delete Map” to remove the network map completely.
- Multi-selection Mode:
Mark multiple devices without using the CTRL key.
- Ghost Nodes:
Show the devices slightly faded
- Edges:
 - Path Finding: Intelligent path finding between nodes
 - Straight: Straight connections between nodes
- Port Display: Choose the value type of the displayed port counters.

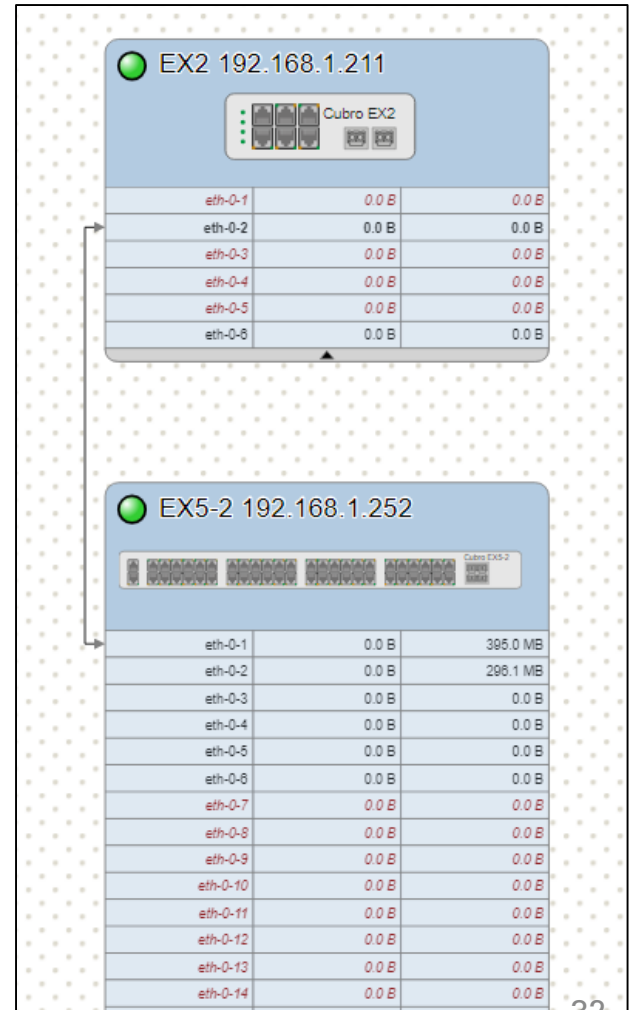


Network Map: Display Ports

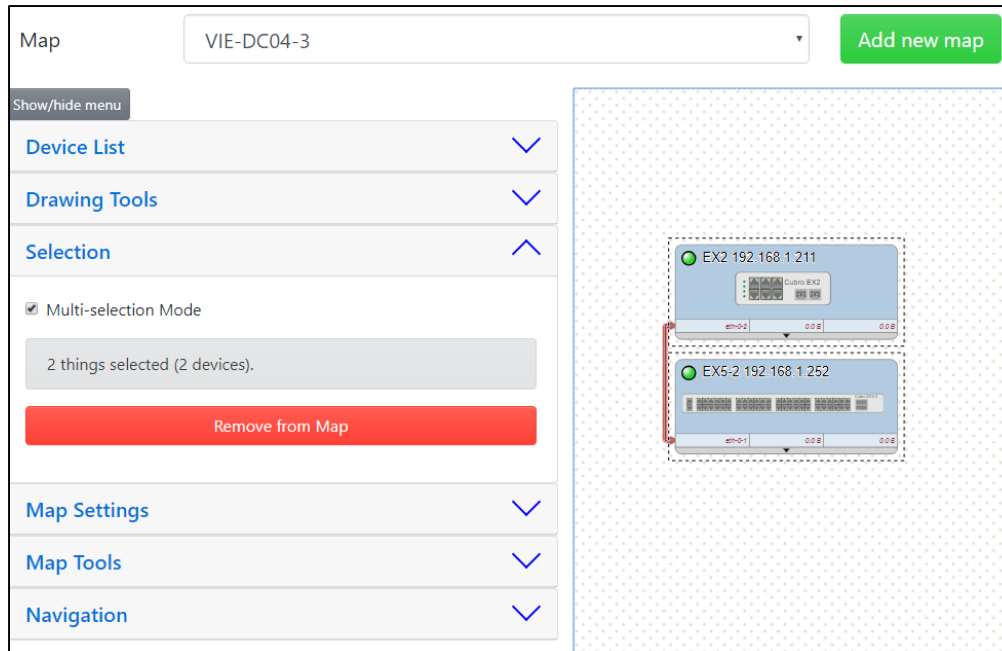
- By default only the ports that have a connected link to another device are shown.



- Click on the small arrow on the bottom of the device icon to expand the list to all the network ports on the device. Click again to collapse the list.



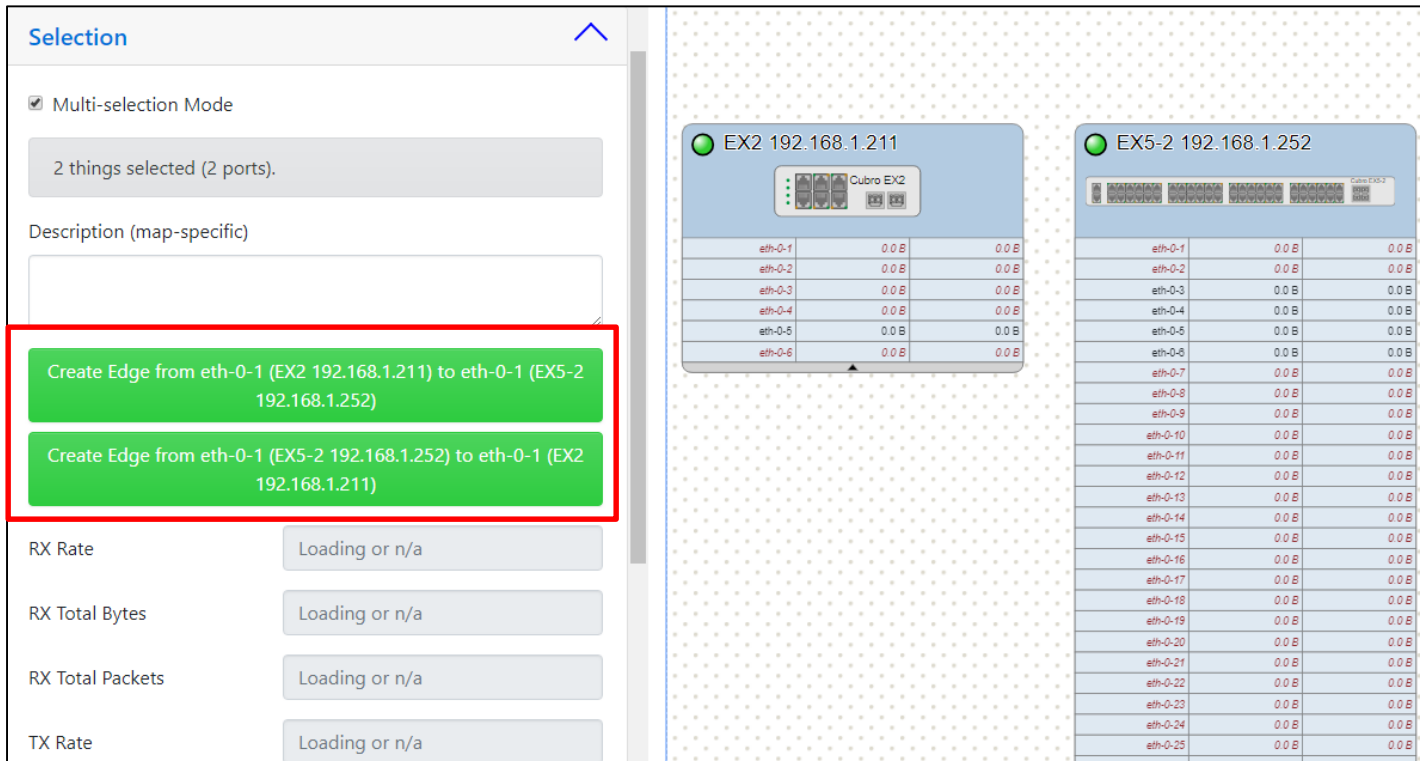
- Choose between “Multi-selection Mode” ON or OFF.
- “Multi-selection Mode” ON allows the user to select multiple ports or device.
- “Multi-selection Mode” OFF allows only to select one device or port at once. Alternatively, it is possible to hold the CTRL-Key on the keyboard while selecting devices or ports to select more than 1 item.



The screenshot displays the Network Map interface. At the top, the map is identified as "VIE-DC04-3" with an "Add new map" button. A "Show/hide menu" section on the left contains several expandable options: "Device List", "Drawing Tools", "Selection", "Map Settings", "Map Tools", and "Navigation". The "Selection" menu is currently expanded, showing a checked "Multi-selection Mode" option. Below this, a status bar indicates "2 things selected (2 devices)" and a red "Remove from Map" button is visible. The main map area on the right shows a grid of network devices. Two devices are highlighted with a dashed selection box: "EX2 192.168.1.211" and "EX5-2 192.168.1.252".

Network Map: Select 2 Ports

- If 2 ports are selected, it is possible to create a new link between these 2 ports.
- Multiple port statistics are also displayed.



The screenshot displays a network management interface. On the left, a 'Selection' panel shows 'Multi-selection Mode' checked and '2 things selected (2 ports)'. Below this, a description field is empty. A red box highlights two green buttons: 'Create Edge from eth-0-1 (EX2 192.168.1.211) to eth-0-1 (EX5-2 192.168.1.252)' and 'Create Edge from eth-0-1 (EX5-2 192.168.1.252) to eth-0-1 (EX2 192.168.1.211)'. Below the buttons, statistics for RX Rate, RX Total Bytes, RX Total Packets, and TX Rate are shown as 'Loading or n/a'.

On the right, a network map shows two nodes: EX2 192.168.1.211 and EX5-2 192.168.1.252. Each node has a table of port statistics. The EX2 node table shows ports eth-0-1 through eth-0-6, all with 0.0 B RX and TX. The EX5-2 node table shows ports eth-0-1 through eth-0-25, all with 0.0 B RX and TX.

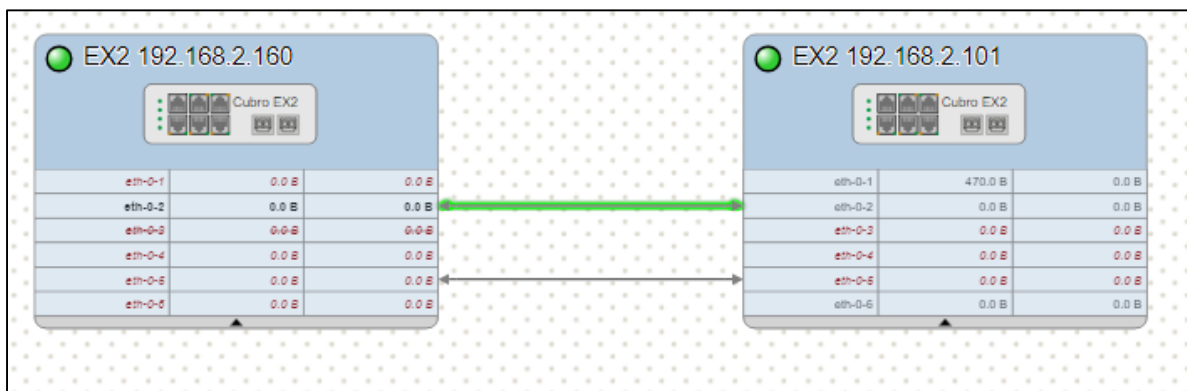
Port	RX	TX
eth-0-1	0.0 B	0.0 B
eth-0-2	0.0 B	0.0 B
eth-0-3	0.0 B	0.0 B
eth-0-4	0.0 B	0.0 B
eth-0-5	0.0 B	0.0 B
eth-0-6	0.0 B	0.0 B

Port	RX	TX
eth-0-1	0.0 B	0.0 B
eth-0-2	0.0 B	0.0 B
eth-0-3	0.0 B	0.0 B
eth-0-4	0.0 B	0.0 B
eth-0-5	0.0 B	0.0 B
eth-0-6	0.0 B	0.0 B
eth-0-7	0.0 B	0.0 B
eth-0-8	0.0 B	0.0 B
eth-0-9	0.0 B	0.0 B
eth-0-10	0.0 B	0.0 B
eth-0-11	0.0 B	0.0 B
eth-0-12	0.0 B	0.0 B
eth-0-13	0.0 B	0.0 B
eth-0-14	0.0 B	0.0 B
eth-0-15	0.0 B	0.0 B
eth-0-16	0.0 B	0.0 B
eth-0-17	0.0 B	0.0 B
eth-0-18	0.0 B	0.0 B
eth-0-19	0.0 B	0.0 B
eth-0-20	0.0 B	0.0 B
eth-0-21	0.0 B	0.0 B
eth-0-22	0.0 B	0.0 B
eth-0-23	0.0 B	0.0 B
eth-0-24	0.0 B	0.0 B
eth-0-25	0.0 B	0.0 B

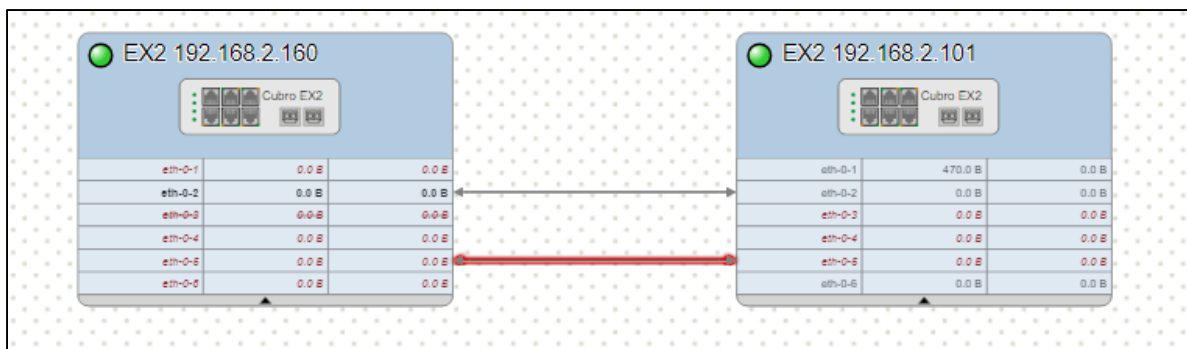
Network Map: Link UP / Link DOWN

Links will be shown in green or red during mouse over or when a device is selected.

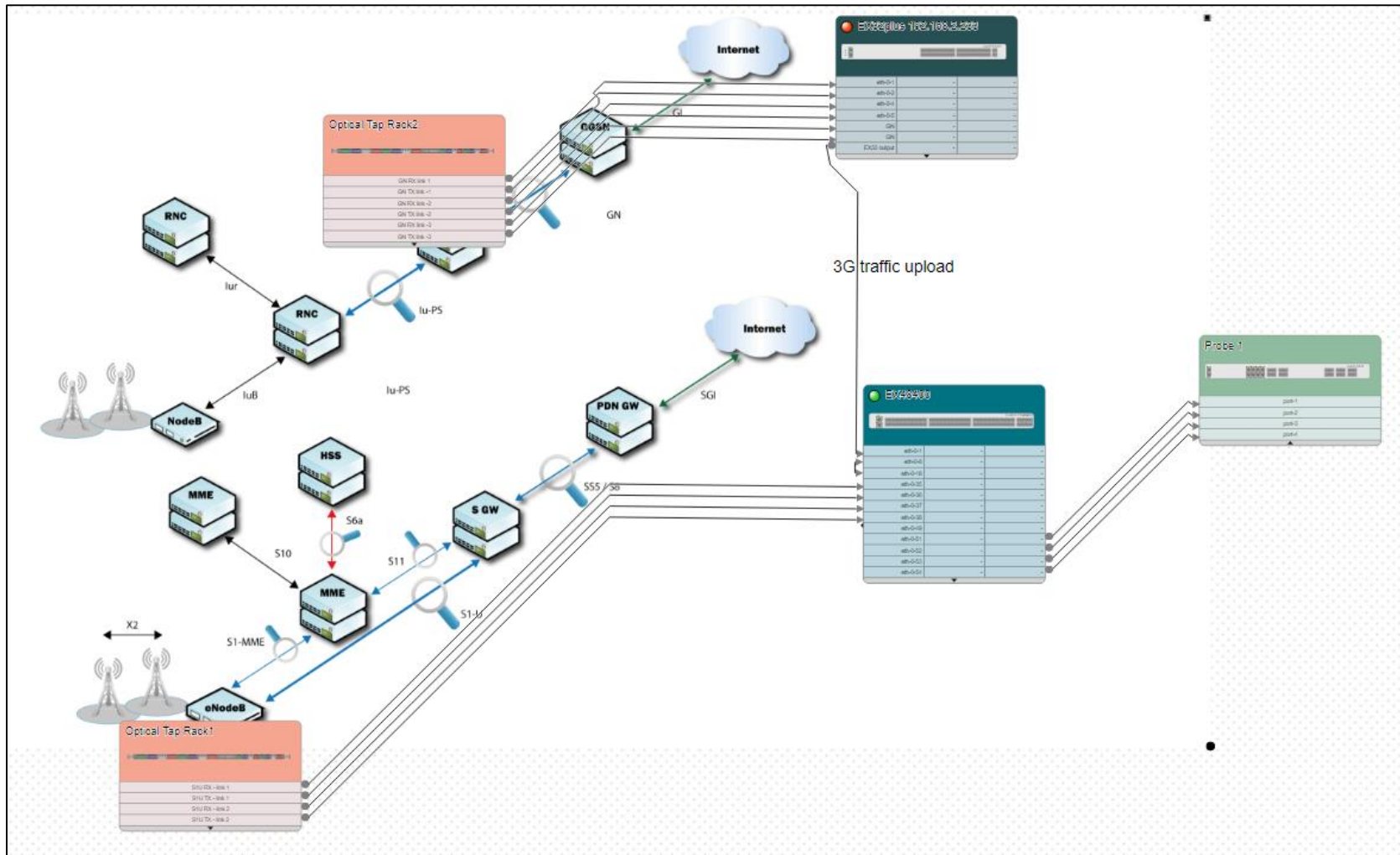
A green Link between 2 ports means that this link status is "UP"



A red Link between 2 ports means that this link status is "DOWN"

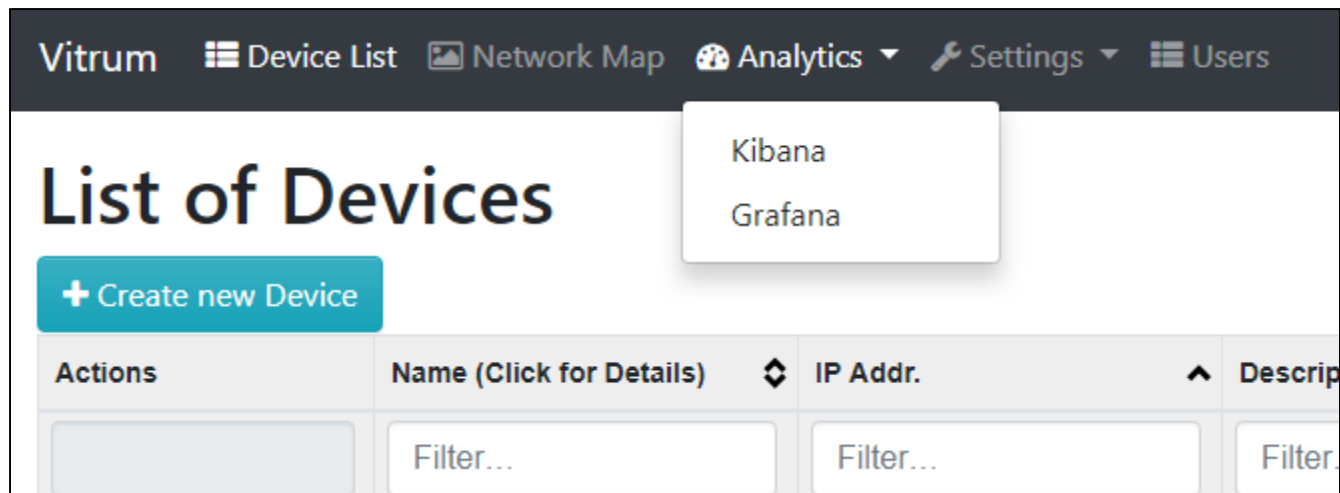


- Use the wide feature set of the network map to visualize complex applications and make it easier for others to understand the network.



- Device List
- Network Map
- **Analytics**
- Settings
- Users

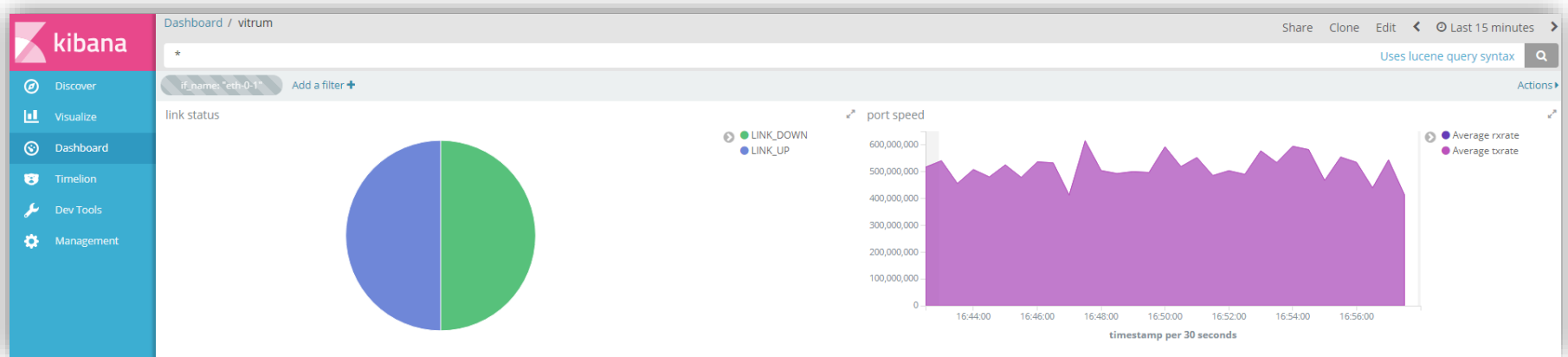
- Navigate to “Analytics” and select either “Kibana” or “Grafana”.



- Please be aware that both Kibana and Grafana are not included in the Cubro Support contract.
- Kibana and Grafana are open source and the support is community based.
- Cubro Network Visibility only provides the infrastructure and the data to use Kibana or Grafana correctly.

- **Kibana** is an open source data visualization plugin for Elastic Search. It provides visualization capabilities on top of the content indexed on Cubro Vitrum. Users can create bar, line and scatter plots, or pie charts and maps.

<https://www.elastic.co/products/kibana>



- **Grafana** is an open source visualization tool that can be used on top of the data source of Cubro Vitrum but is most commonly used together with Graphite, InfluxDB, but also Elastic Search and Logz.io. <https://grafana.com/>



- Device List
- Network Map
- Analytics
- **Settings**
- Users

- All features of the Network Scan Tool are already explained in the Chapter: First Start.

Network Scan


Start IP

End IP

Scanned: 0 out of 0

Found Devices

- The important features of the Topology Discovery Tool are already explained in the Chapter: First Start.
- Some additional information:
 - The topology discovery will create a single flow on all scanned devices. Please do not delete this rule.

Name	Description	Priority	In Ports	Protocol	VLANs	MAC Src	MAC Dst	IP Src	IP Dst	Actions	Data/Sec.	Packets	TCAM Flows
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
 Cookie: 0x0		65535		EtherType (dl_type): 0x88cc			01:80:C2:00:00:0E			controller:65535	0.0 b	105	1

- The topology discovery should only be used in the installation phase. Cubro does not recommend to use the tool in a live system.
- If the topology discovery finds a link which destination port is already defined in Vitrum but is different then the result of the scan, it will ask which of these links to keep.

Found Links

[Save](#)

Ignore Link

Source Port

eth-0-9

EX12 192.168.0.203

192.168.0.203

Please select which Link to keep

Detected Destination Port

eth-0-5

EX2 192.168.0.204

192.168.0.204


Existing Destination Port

eth-0-1

EX20400 192.168.0.209



















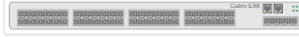







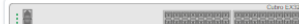
192.168.0.209

43

- Navigate to “Settings” → “Graphics”.
- Here, all graphical icons of the Vitrum System are listed.
- Press  to add a new image. This image can then be used to customize the network map.

List of Images

[+ Create new Image](#)

<input type="checkbox"/>	Actions	Name	Filename	Deviceicon	Thumbnail
<input type="checkbox"/>	  	Filter...	Filter...	Filter...	
<input type="checkbox"/>	  	Austria_map	at.svg	✗ No	
<input type="checkbox"/>	  	EX2	/fixture/ex2.svg	✓ Yes	
<input type="checkbox"/>	  	EX5-2	/fixture/ex5-2.svg	✓ Yes	
<input type="checkbox"/>	  	EX6	/fixture/ex6.svg	✓ Yes	
<input type="checkbox"/>	  	EX12	/fixture/ex12.svg	✓ Yes	
<input type="checkbox"/>	  	EX32	/fixture/ex32.svg	✓ Yes	


- Upload custom images to Vitrum.
- Choose whether the uploaded graphic is used as an icon for a custom device or as a background image for frames.

Create Image

Name

Image url Keine ausgewählt

Allow use as Device Icon?

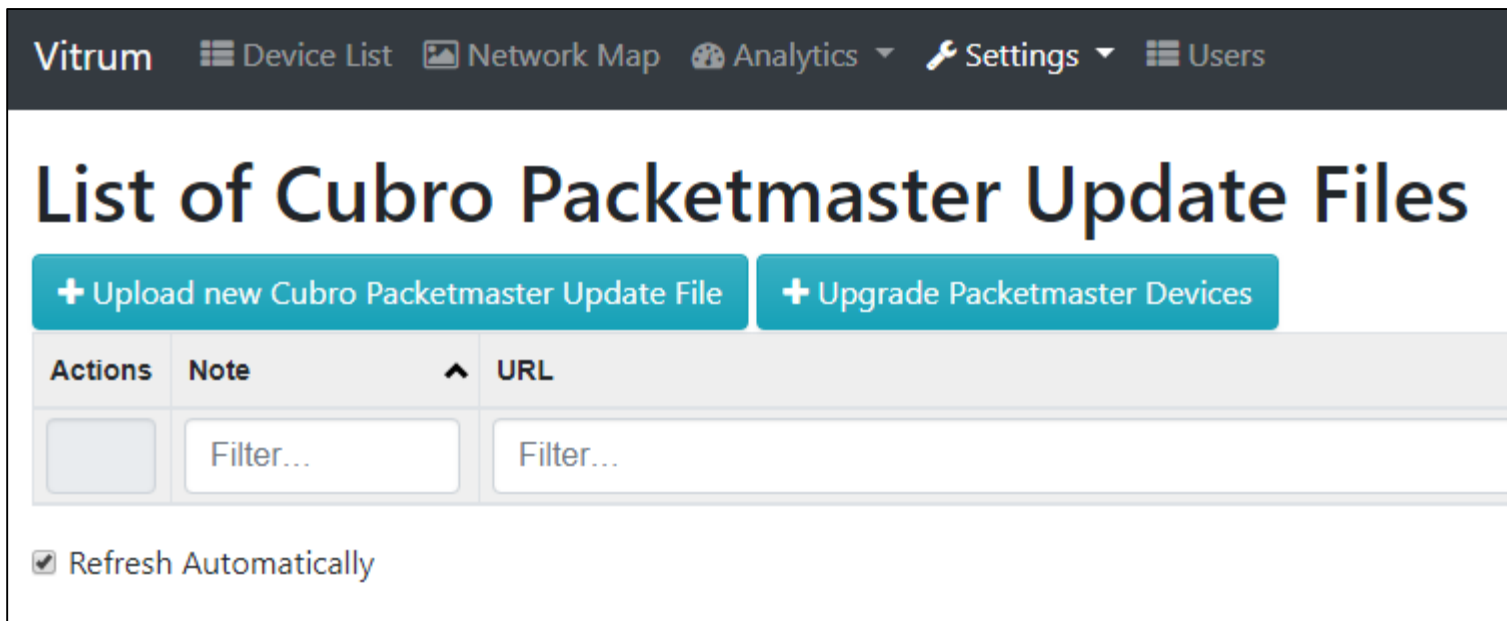
- Navigate to “Settings” → “Savepoints”.
- By pressing  all Savepoints of all licensed Cubro devices will be backed up to Vitrum and listed here.
- A Savepoint includes all rule & group or all port configuration.
- A Savepoint has to be created manually on the Packetmaster itself before it can be backed up to Vitrum.
- Only Savepoints from licensed devices will be backed up.

List of Savepoints



<input type="checkbox"/>	Actions	Name	^	Type	◇
<input type="checkbox"/>		<input type="text" value="Filter..."/>		<input type="text" value="Filter..."/>	

- Navigate to “Settings” → “Updates”.
- Cubro Vitrum allows the user to perform software upgrades to all Cubro Packetmasters from this interface with a single click.
- Click on **+ Upload new Cubro Packetmaster Update File** to upload a software package.



The screenshot shows the Vitrum interface with a dark header containing navigation links: Vitrum, Device List, Network Map, Analytics, Settings, and Users. The main content area is titled "List of Cubro Packetmaster Update Files" and features two prominent teal buttons: "+ Upload new Cubro Packetmaster Update File" and "+ Upgrade Packetmaster Devices". Below these buttons is a table with columns for Actions, Note, and URL. The Note and URL columns contain "Filter..." input fields. At the bottom left, there is a checkbox labeled "Refresh Automatically" which is checked.

Actions	Note	URL
<input type="checkbox"/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>


Refresh Automatically

- Upload the needed software package.
- It does not matter if it's a hotfix or a full update package.
- Press "Upload" to continue.

Upload new Packetmaster Update

Image File



Note

- The uploaded software package is shown in the “Update file list” now.
- You can download the file again if you click on the filename.
- Also, the file size and the “MD5 value” is shown in the list.
- Click on  to select the devices which should be updated.

List of Cubro Packetmaster Update Files

[+ Upload new Cubro Packetmaster Update File](#)


[+ Upgrade Packetmaster Devices](#)

Actions	Note	URL	Size	MD5
	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>
	EX2 hotfix 2.2.5-1	EXG2hotfix_2.2.5-1.tar.gz	1.8 MB	3179c2f4eb7a050a861d5cf60ae6db62

Refresh Automatically

Settings: Upgrade Cubro Devices



- Updates can run immediately or at a scheduled time.
- Select the software package via the drop down menu.
- Select all Packetmasters that should be upgraded.
- Click on  to perform the upgrade procedure.

Upgrade Cubro Devices

⚠ Upgrade to image involves rebooting for non-hotfix updates

Run Upgrade now
 Schedule Upgrade

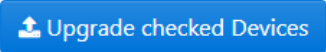
EX2

Select Update Image for EX2

EX2update_latest.tar.gz

Status	Name	IP Address	Current Version
<input type="checkbox"/>	Online EX2	192.168.0.202	192.168.0.202 2.2.5
<input checked="" type="checkbox"/>	Online EX2	192.168.1.211	192.168.1.211 2.2.3
<input type="checkbox"/>	Online EX2	192.168.2.101	192.168.2.101 2.2.5b2
<input type="checkbox"/>	Online EX2	192.168.2.130	192.168.2.130 2.2.5b15
<input type="checkbox"/>	Online EX2	192.168.2.160	192.168.2.160 2.2.5b2

EX5-2



Planned Upgrades

No upgrades planned

2018-06-13 11:48

See all planned updates here.

Select time and date if you want to schedule a upgrade.

Choose between "Schedule upgrade" and "Run upgrade now".

Select the software package.

Select one or multiple devices that should be upgraded.

Settings: Upgrade Cubro Devices



- The update file will be uploaded.

Status	Name	IP Address	Current Version
<input type="checkbox"/> Online	EX2 192.168.0.202	192.168.0.202	2.2.5
<input checked="" type="checkbox"/> Uploading image	EX2 192.168.1.211	192.168.1.211	2.2.3
<input type="checkbox"/> Online	EX2 192.168.2.101	192.168.2.101	2.2.5b2
<input type="checkbox"/> Online	EX2 192.168.2.130	192.168.2.130	2.2.5b15
<input type="checkbox"/> Online	EX2 192.168.2.160	192.168.2.160	2.2.5b2

EX5-2

Upgrading...

- The device is rebooting.

Status	Name	IP Address	Current Version
<input type="checkbox"/> Online	EX2 192.168.0.202	192.168.0.202	2.2.5
<input checked="" type="checkbox"/> Updating Device	EX2 192.168.1.211	192.168.1.211	2.2.3
<input type="checkbox"/> Online	EX2 192.168.2.101	192.168.2.101	2.2.5b2
<input type="checkbox"/> Online	EX2 192.168.2.130	192.168.2.130	2.2.5b15
<input type="checkbox"/> Online	EX2 192.168.2.160	192.168.2.160	2.2.5b2

EX5-2

Upgrading...

- The device is online again.




Status	Name	IP Address	Current Version
<input type="checkbox"/> Online	EX2 192.168.0.202	192.168.0.202	2.2.5
<input checked="" type="checkbox"/> Updated	EX2 192.168.1.211	192.168.1.211	2.2.3
<input type="checkbox"/> Online	EX2 192.168.2.101	192.168.2.101	2.2.5b2
<input type="checkbox"/> Online	EX2 192.168.2.130	192.168.2.130	2.2.5b15
<input type="checkbox"/> Online	EX2 192.168.2.160	192.168.2.160	2.2.5b2















EX5-2

Upgrade checked Devices

Note:

Even if the browser or the tab will be closed the upgrade procedure will continue.

- Navigate to “Settings” → “Error Notification”.
- Multiple events are displayed in this list.
- “Acknowledged Error” means that there was an error but it was acknowledged by a user.
-  “Past Error” means that there was an error in the past but the status is okay now.
-  “New Error” means that there is currently a problem.
-  gives detailed information about the error.

	 OK	Acknowledged by admin	2018-06-12 13:48	19 hours, 14 minutes	1
 	 Past Error	Link was DOWN: eth-0-5 EX2 192.168.1.211	2018-06-13 08:23	40 minutes	14
 	 Past Error	EX5-2 192.168.1.252 is now online	2018-06-13 08:23	39 minutes	11
 	 New Error	LINK DOWN: eth-0-49 EX5-2 192.168.1.252	2018-06-13 09:00	2 minutes	2
 	 New Error	EX2 192.168.1.211 offline	2018-06-13 09:01	2 minutes	18


- The Device Licensing is already explained in the Chapter: First Start.


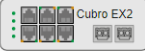







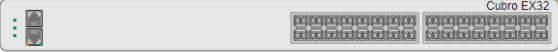




License Overview

[+ Upload new Device License](#)

<input type="checkbox"/>	Device Name	IP Address	Serial Number	Licensed Until
<input type="checkbox"/>	Filter...	Filter...	Filter...	Filter...
<input type="checkbox"/>	EX2 192.168.2.160	192.168.2.160	E139GD15600D	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.2.130	192.168.2.130	E125GD14C000	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.2.101	192.168.2.101	E125GD14C015	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.0.202	192.168.0.202	E139GD15608B	✓ April 4, 2020
<input type="checkbox"/>	EX2 192.168.1.211	192.168.1.211	E125GD14C052	✓ April 4, 2020
<input type="checkbox"/>	EX5-2 192.168.1.252	192.168.1.252	E101ZB14701F	✓ June 8, 2019

Settings: Device Templates

- Navigate to “Settings” → “Device Templates”.
- Here, all device icons of the Vitrum System are listed. To upload a new template use the menu option “Graphics”.
- To replace an existing icon click on  and then “Edit”.

Actions	Name	Description	Icon	Model
	EX2	Cubro Packetmaster EX2 with 4 copper ports and 2 SFP+ ports		EX2
	EX5-2	Cubro Packetmaster EX5-2 with 48 copper ports and 4 SFP+ ports		EX5-2
	EX6	Cubro Packetmaster EX6 with 48 SFP ports and 4 SFP+ ports		EX6
	EX12	Cubro Packetmaster EX12 with 8 copper/SFP ports and 12 SFP+ ports		EX12
	EX32	Cubro Packetmaster EX32 with 32 SFP+ ports		EX32
	EX32Plus	Cubro Packetmaster EX32+ with 32 SFP+ ports and 2 40G QSFP ports		EX32Plus
	EX484-3	Cubro Packetmaster EX484-3 with 48 SFP+ ports and 6 40G QSFP ports		EX484-3

- Navigate to “Settings” → “IP Settings”.
- Choose between static IP settings or automatic settings via DHCP protocol.

IP Settings

DHCP Warning!
When changing IP Settings to DHCP automatic redirection is disabled! Make sure the assigned IP is already known!
Hardware MAC Address: **08:00:27:9C:15:CA**

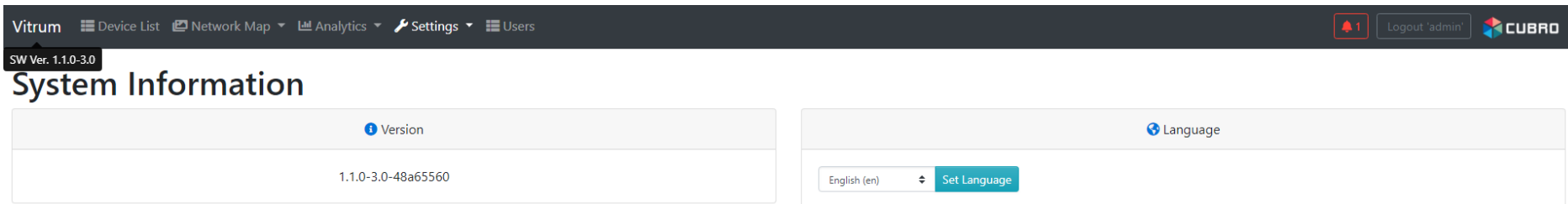
DHCP
 Static IP

Static IP

Static IP Netmask

Static IP Gateway

- Navigate to “Settings” → “System Information”.
- The detailed Vitrum software version is displayed in this menu.
- Scroll over the Vitrum logo in the top right corner with the cursor to get a short form of the software version on every screen.
- Change the system language accordingly.



The screenshot shows the Vitrum user interface. At the top, there is a navigation bar with the Vitrum logo, menu items for Device List, Network Map, Analytics, Settings, and Users, a notification bell with '1', a 'Logout 'admin'' button, and the CUBRO logo. Below the navigation bar, the 'System Information' section is displayed. It contains two panels: 'Version' and 'Language'. The 'Version' panel shows the software version '1.1.0-3.0-48a65560'. The 'Language' panel shows the current language 'English (en)' and a 'Set Language' button.

Vitrum Device List Network Map Analytics Settings Users

SW Ver. 1.1.0-3.0

System Information

Version


1.1.0-3.0-48a65560

Language

English (en) Set Language













- Device List
- Network Map
- Analytics
- Settings
- **Users**

- Navigate to “Users” on the top bar to access the user configuration.


Vitrum Device List Network Map Analytics Settings **Users** 0 Logout 'admin' 

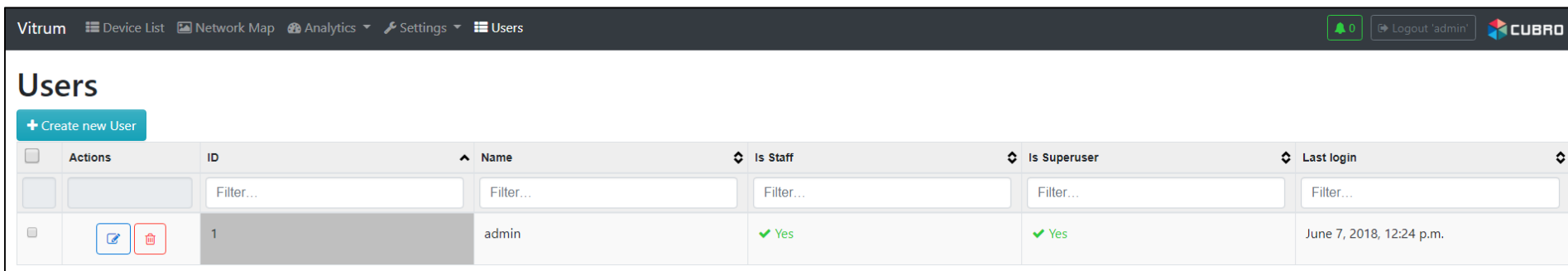
List of Devices

[+ Create new Device](#)



Actions	Name (Click for Details)	IP Addr.	Description	Model	Version	Online	License	Maps
  	EX5-2 192.168.1.252	192.168.1.252	Laboratory Device	EX5-2	2.2.5	✓ Online	✓ Yes	New Map (8.6.2018 09:48:04)
  	EX2 192.168.1.211	192.168.1.211	Laboratory Device	EX2	2.2.3	✓ Online	✓ Yes	New Map (8.6.2018 09:48:04)
  	EX6 192.168.1.206	192.168.1.206		N/A	N/A	✓ Online	N/A	
  	Network Router	192.168.0.1	Default Gateway	N/A	N/A	✓ Online	N/A	

Refresh Automatically

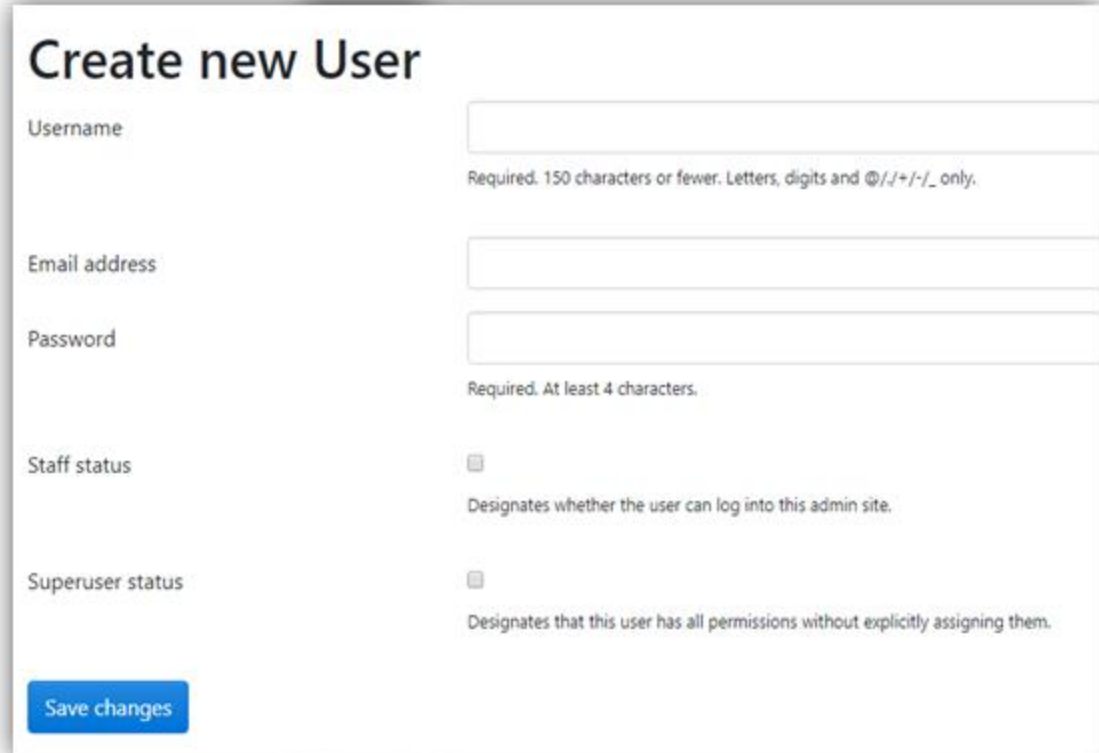
- All user accounts are listed in this menu.
- The default user is “admin” with the password “cubro”
- Click on  to add a new user.



The screenshot shows the Vitrum web interface for user management. The top navigation bar includes 'Vitrum', 'Device List', 'Network Map', 'Analytics', 'Settings', and 'Users'. A notification bell icon shows 0 alerts, and a 'Logout: admin' button is visible. The main content area is titled 'Users' and features a '+ Create new User' button. Below this is a table with columns for Actions, ID, Name, Is Staff, Is Superuser, and Last login. The table contains one entry for the 'admin' user.

Actions	ID	Name	Is Staff	Is Superuser	Last login
 	1	admin	✓ Yes	✓ Yes	June 7, 2018, 12:24 p.m.

- **Username:** Choose a name for the new user.
- **[Optional] Email address:** Enter a valid mail address.
- **Password:** Enter a password.
- **[Optional] Staff status:** Only staff users can edit IP settings.
- **[Optional] Superuser status:** Only superusers can edit user settings.
- Press “Save Changes” to save the changes.



Create new User

Username
Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email address

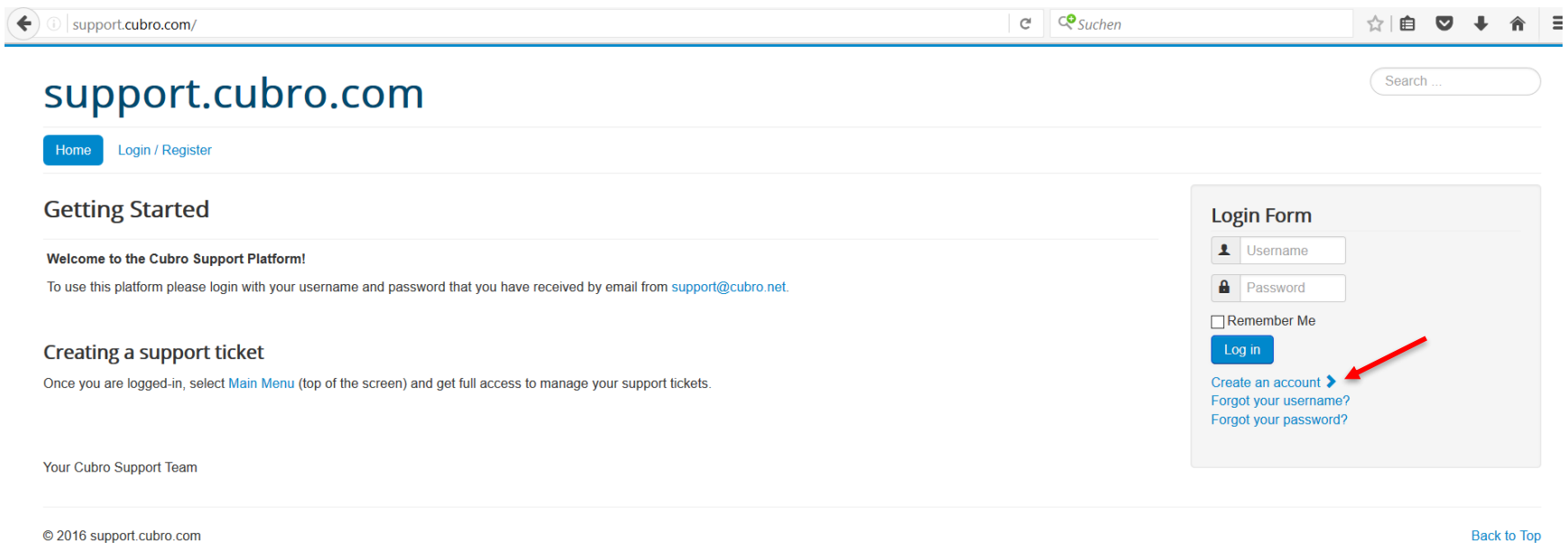
Password
Required. At least 4 characters.

Staff status
Designates whether the user can log into this admin site.

Superuser status
Designates that this user has all permissions without explicitly assigning them.

Cubro Support Portal

- Register at the Cubro Support Portal –
<http://support.cubro.com>
- Get access to our technical support engineers



The screenshot shows the Cubro Support Portal website. The browser address bar displays "support.cubro.com/". The page features a navigation bar with "Home" and "Login / Register" buttons. A search bar is located in the top right corner. The main content area is titled "Getting Started" and includes a "Welcome to the Cubro Support Platform!" message. Below this, there is a section for "Creating a support ticket" with instructions on how to access the platform. A "Login Form" is positioned on the right side of the page, containing fields for "Username" and "Password", a "Remember Me" checkbox, and a "Log in" button. A red arrow points to the "Create an account" link below the login form. The footer of the page includes the copyright notice "© 2016 support.cubro.com" and a "Back to Top" link.

Thank you

EMEA



North America



APAC



Japan



HongKe
虹科



hkaco.com



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