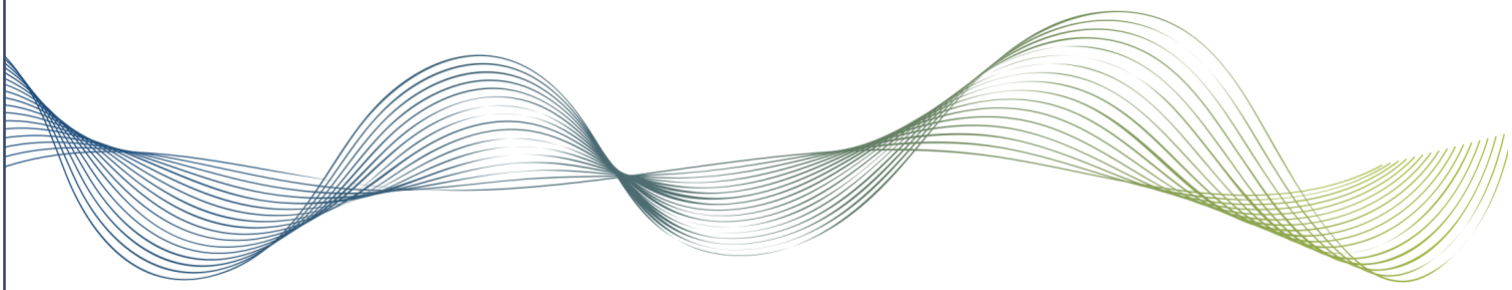
QUICK START GUIDE



How to Configure the RTU

Remote Connection, Software Upgrade & Port Configuration

RTU-300/320/600/600x

February 2021 | Rev. B00

P/N: D08-00-036

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How to Configure the RTU-300/320/600/600x

Testing with the RTU (Remote Test Unit)

Introduction

The RTU-300/320/600/600x is a rack mounted 1G-100G Ethernet test head for performance testing and monitoring Carrier Ethernet and broadband networks. The main application of the RTU-300/320/600/600x is to be used under the VeSion®performance testing and monitoring platform, where several RTU-300/320/600/600x can be added and operated for service provisioning, service activation testing, and service assurance applications.

Optionally the RTU-300/320/600/600x can be operated as a stand alone test device through VNC/web remote access. In this standalone mode, users have access to other interfaces and features that are available such as OTN, SONET/SDH, and Fibre Channel.

64K-100GE test rates are supported on the same module. These factory-installed hardware options allow flexibility to fit any additional application at a later time. For example, the addition of a second RTU-320 or RTU-600/RTU-600x module can be installed concurrently on the same test platform.

RTU-320 Test Ports:
2 x SFP+ for Ethernet, OTN & SONET/SDH
2 x RJ45 for Ethernet
2 x BNC for E1/DS3
1 x RJ45 for E1/DS1
1 x SMA for Clock Source

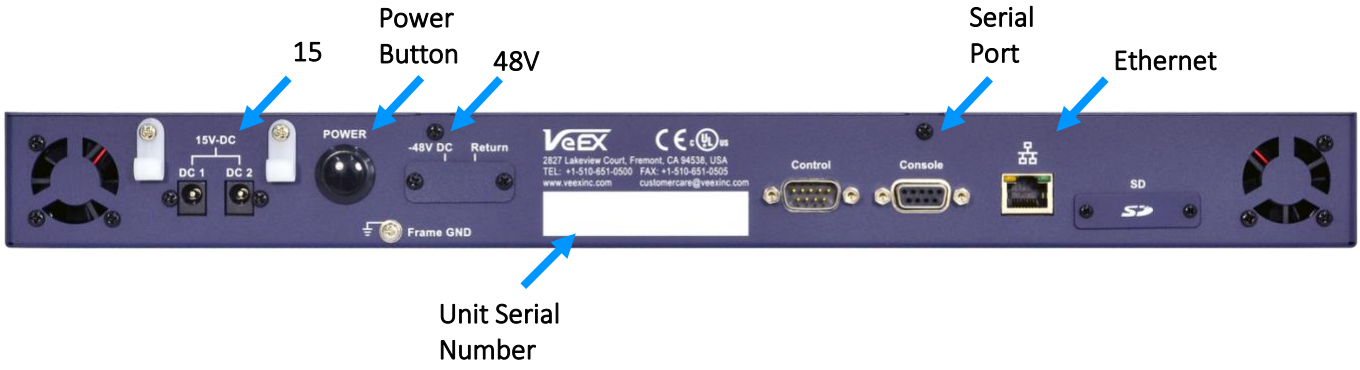
RTU-600 Test Ports:
1 x QSFP28 for 100GE and OTU4
1 x QSFP+ for 40GE, OTU3
1 x External Clock Interface

RTU-600x Test Ports:
1 x QSFP28/QSFP+ for 100GE, 40GE and OTU4
1 x SFP28/SFP+ for 25GE
1 x RJ45[1]

Space efficient 1U rackmount with built-in, dual power switching matrix ensures continuous operation if the main power supply fails.

1. *Reference the RTU-600x module spec sheet for details*

Dual power options with back up DC (15V or 48V):



Connecting to the Unit

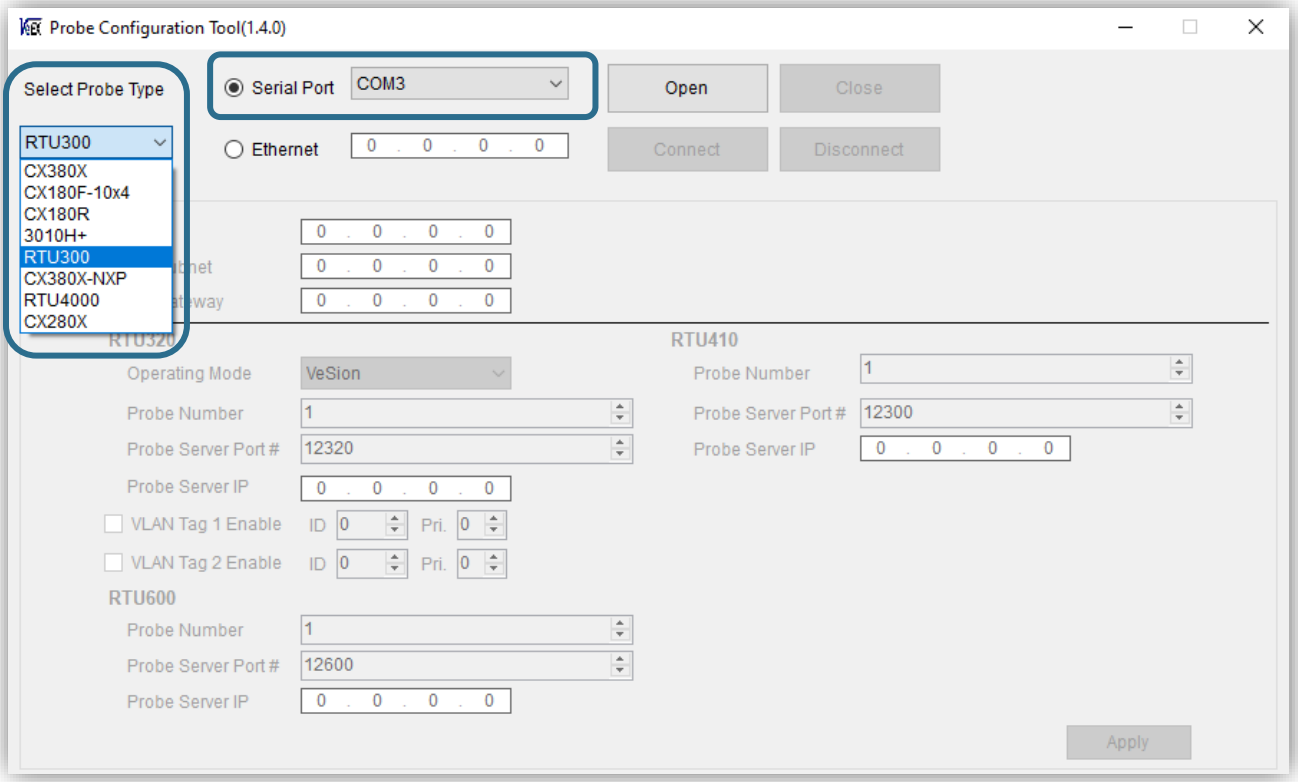
There are two ways to connect to the unit: via the serial port or via the Ethernet port using the ReVeal Probe Configurator Tool (with the factory default IP address 192.168.1.1 or when it is a known IP address to the user). If the IP address is unknown, the serial port must be used to assign/verify an IP address. Connect via VNC or VeSion to configure the unit and run tests.

1. Download the required software package from the VeEX Software Download Page:

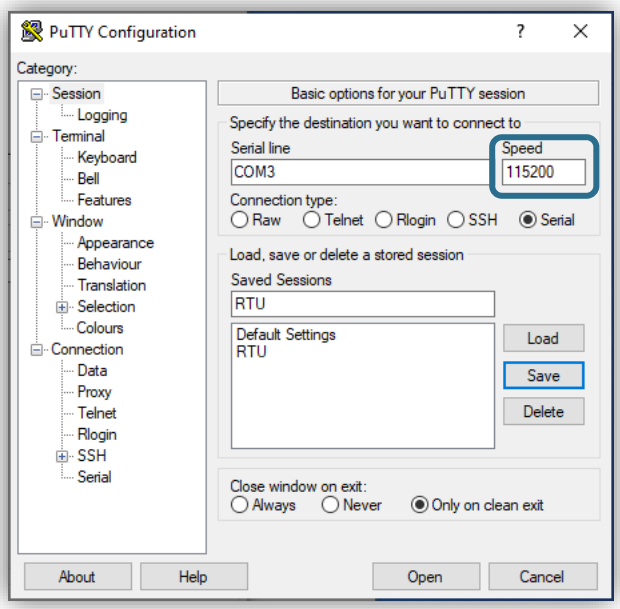
   https://www.veexinc.com/en-us/Support/Software.

   Use the unit's serial number to find the correct file.

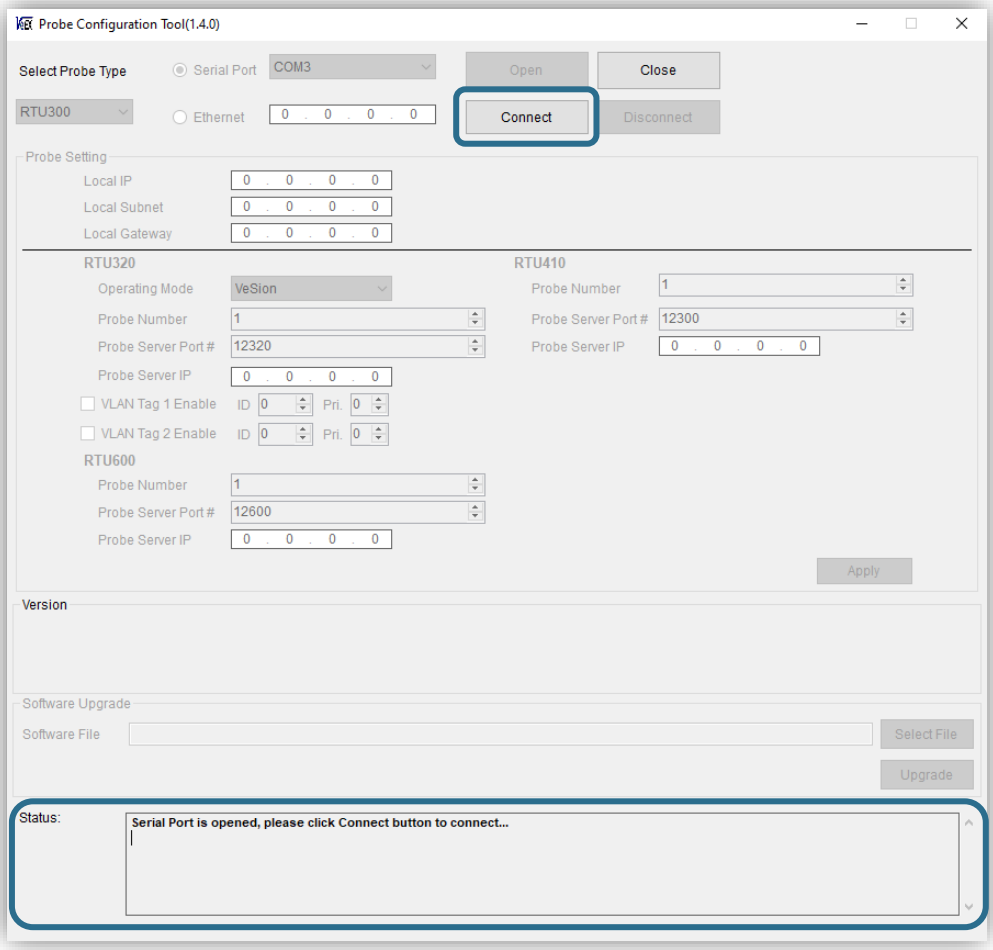
2. Launch the ReVeal Probe Configurator Tool. Select the correct port to connect via serial connection on your PC. In this case, we are using COM3. Select the Probe Type as RTU-300. Click Open.

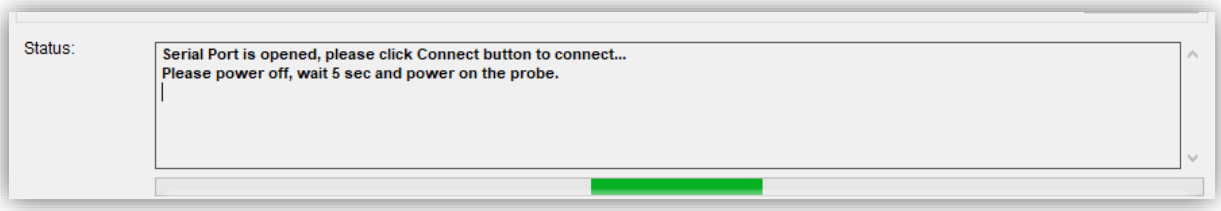

Probe Configuration Tool(1.4.0)
Select Probe Type
RTU300
CX380X
CX180F-10x4
CX180R
3010H+
RTU300
CX380X-NXP
RTU4000
CX280X
Serial Port
COM3
Ethernet
Open
Close
Connect
Disconnect
RTU320
Operating Mode
VeSion
Probe Number
1
Probe Server Port #
12320
Probe Server IP
VLAN Tag 1 Enable
ID
Pri.
VLAN Tag 2 Enable
RTU600
Probe Number
1
Probe Server Port #
12600
Probe Server IP
RTU410
Probe Number
1
Probe Server Port #
12300
Probe Server IP
Apply

Note: *If you are using Putty for example, use the following settings to connect to the RTU (115200 baud rate).*

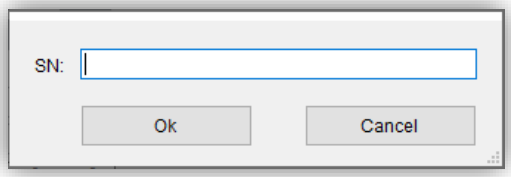


3. The Status window will indicate that the serial port is opened. Once the port is open, click Connect.



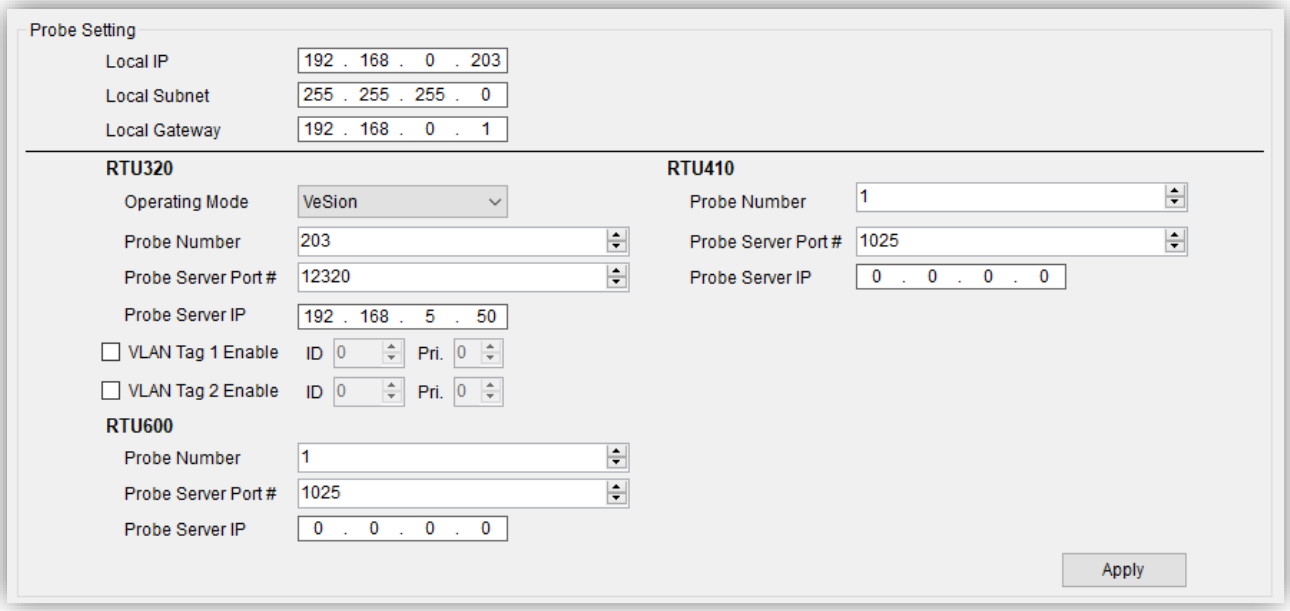


Before getting prompted to enter the S/N, the RTU must be powered off, then on again as stated in the Status window. Enter the unit's serial number when the dialog box appears and click Ok.



4. The probe's default IP address settings will be populated after the serial number is entered. The VeSion server IP address (Probe Server IP) must be assigned in order to use VeSion to log in to the unit and launch tests. The Local IP address should be modified according to your network IP settings – VNC will use this IP address to log in to the unit.

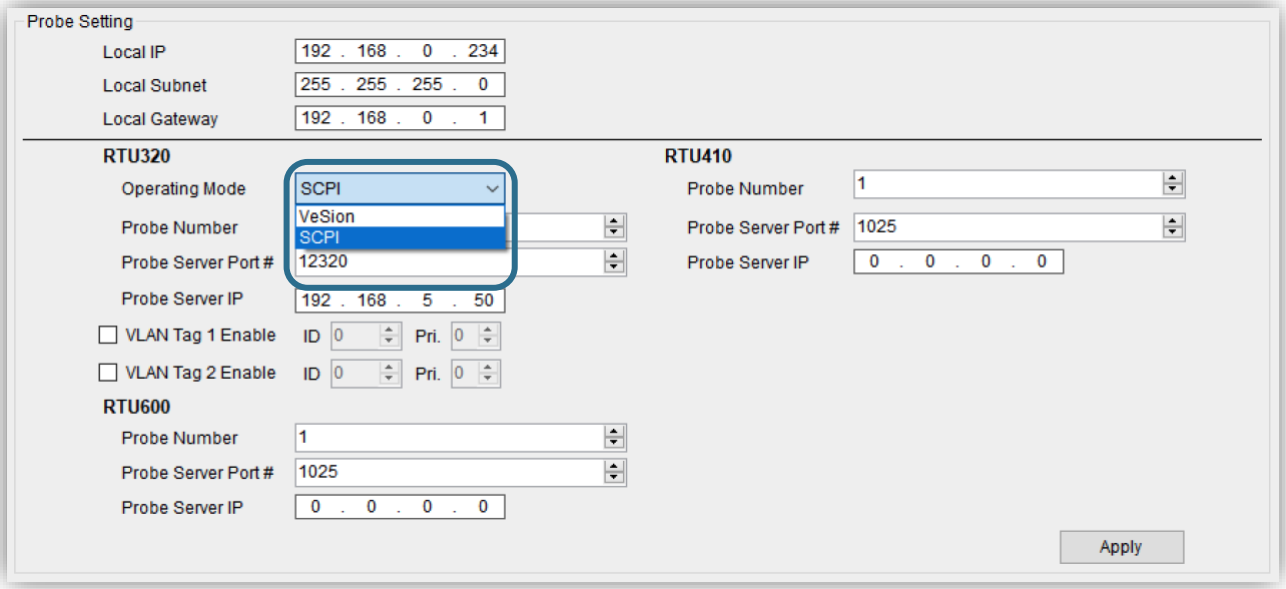
5. Make sure that Probe Server Port is 12320.



***Note**: The VeSion server IP address, the RTU-320 Probe Number, and VeSion TCP Port number need to be configured in order for the VeSion system to talk to the RTU.*

6. Modify the IP address as required under Local IP/Local Subnet/Local Gateway. Click Apply.

RTU-300/320/600/600x System Settings and Operating Mode Configuration via ReVeal Probe Configuration Tool

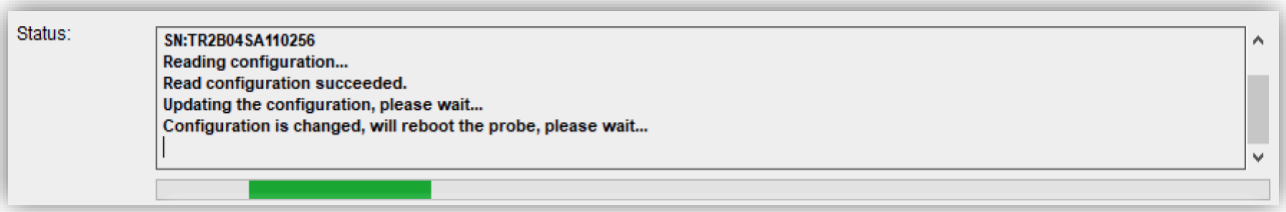


To configure RTU operating mode follow these steps:

1. Use the **RTU-320** section to select RTU-300/320 Operation Mode:
   - **VeSion** – Operate via VeSion management tool
   - **SCPI** – Operate via web browser or VNC

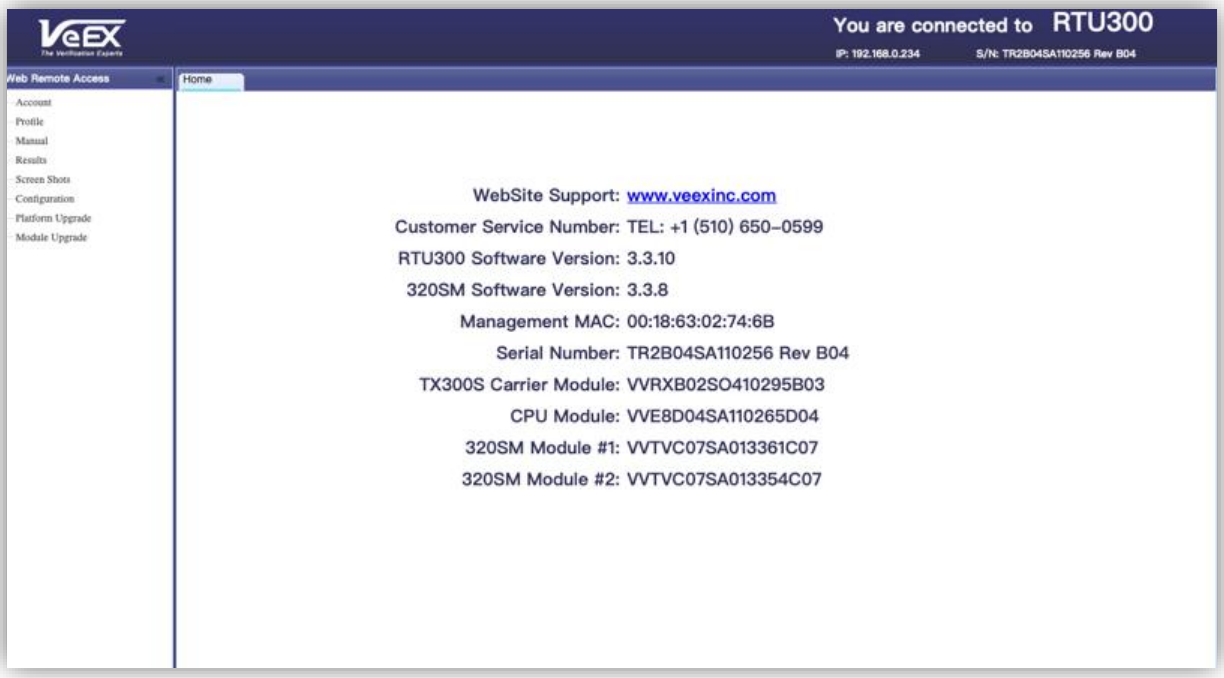
***Note**: RTU-600x module supports only operation via web browser or VNC.*

2. When the desired Operating Mode has been selected click Apply**.** The status window will indicate that the configuration has changed and the probe will be rebooted.



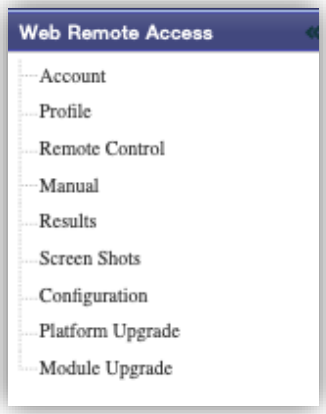
Web Remote Access Menu/VNC (Standalone Mode)

In order to operate the RTU-300/320/600/600x, launch a new web browser window and type the RTU-300/320/600/600x management IP address. Login using appropriate credentials (Default User ID – *admin* and password - *veexinc*).



When operating the RTU via web browser, multiple options are available under the Web Remote Access menu:

- **Account** – Manage user accounts. Add, Edit or Delete accounts.
- **Profile** – Manage test profiles.
- **Remote Control** – Load test applications.
- **Manual** – Open the RTU-300 user manual.
- **Results** – Manage test results.
- **Screen Shots** - Manage screen shots taken from the RTU-300.
- **Configuration** – Configure system settings such as Local IP, Subnet, etc. and RTU300 settings such as Operating Mode to be operated via VeSion or web browser.
- **Platform Upgrade** – Perform a platform upgrade.
- **Module Upgrade** – Perform a module upgrade.



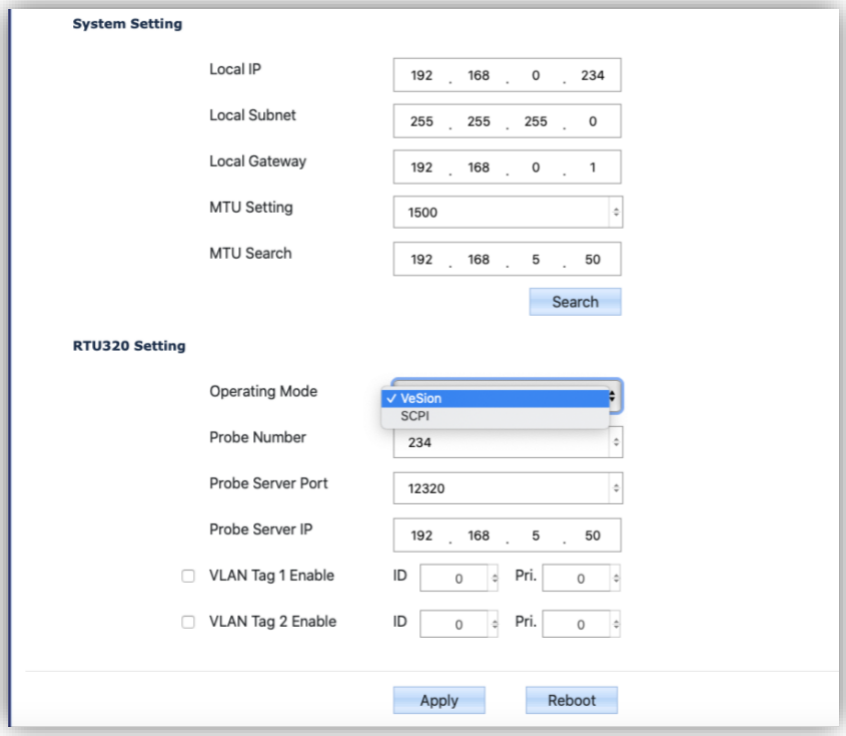
RTU-300/320/600/600x System Settings and Operating Mode Configuration via Web Remote Access/VNC (Standalone Mode)

To configure RTU operating mode and other system and module parameters click Configuration under the Web Remote Access options and follow the next steps:

3. Use the System Setting section to configure Local IP Address, Subnet, Gateway.
4. Use the RTU-320 Settings section to select RTU-300/320 Operation Mode:
   - **VeSion** – Operation via VeSion management tool.
   - **SCPI** – Operation via web browser or VNC.

***Note**: RTU-600x module supports only operation via web browser or VNC.*

5. When the desired Operating Mode has been selected click Apply and then Reboot. The new configuration will take effect after the unit reboots.



RTU Software Upgrade

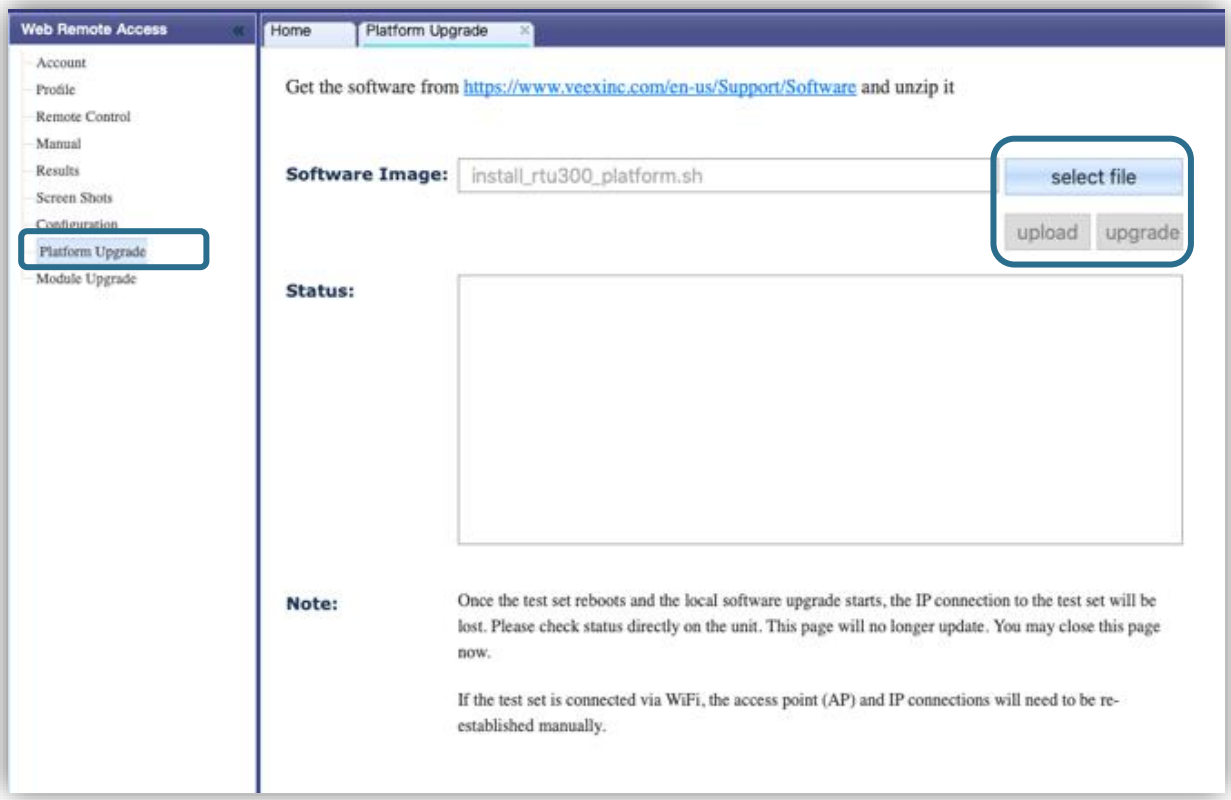
Upgrading the RTU via Web Remote Access Menu/VNC (Standalone Mode)

Platform Upgrade

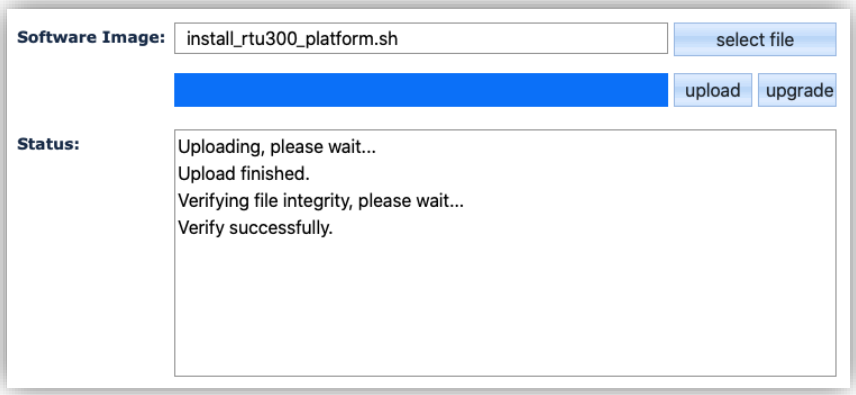
***Note**: The Platform software upgrade process is intrusive and any test will be interrupted; make sure to save any configuration or test results before proceeding.*

Click Platform Upgrade under the Web Remote Access option and perform the following steps from the Platform Upgrade tab:

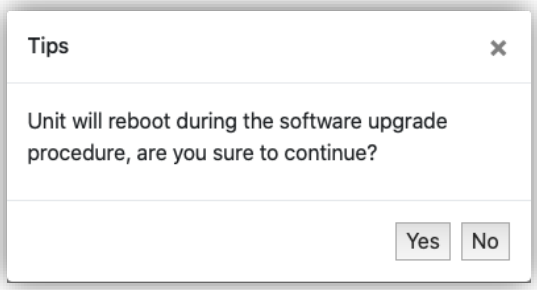
1. Download and unzip the required software from https://www.veexinc.com/en-us/Support/Software. Make sure to enter the RTU-300/320/600/600x serial number to find the correct file.
2. The Platform SW (install_rtu300_platform.sh) has to be upgraded first followed by the module software upgrade (install_rtu300_rtu320.sh/install_rtu300_100g.sh). However, if only the module SW has to be upgraded, there is no need to upgrade the platform.
3. Browse the software image file by clicking the select file button.
4. When the file is selected, click Upload to send the file to the RTU-300/320/600/600x.



5. Once the upload process is completed and file verification is successful, click Upgrade.



6. Users will be asked to confirm if the upgrade procedure should continue, as a reboot will be performed at the end of the process.



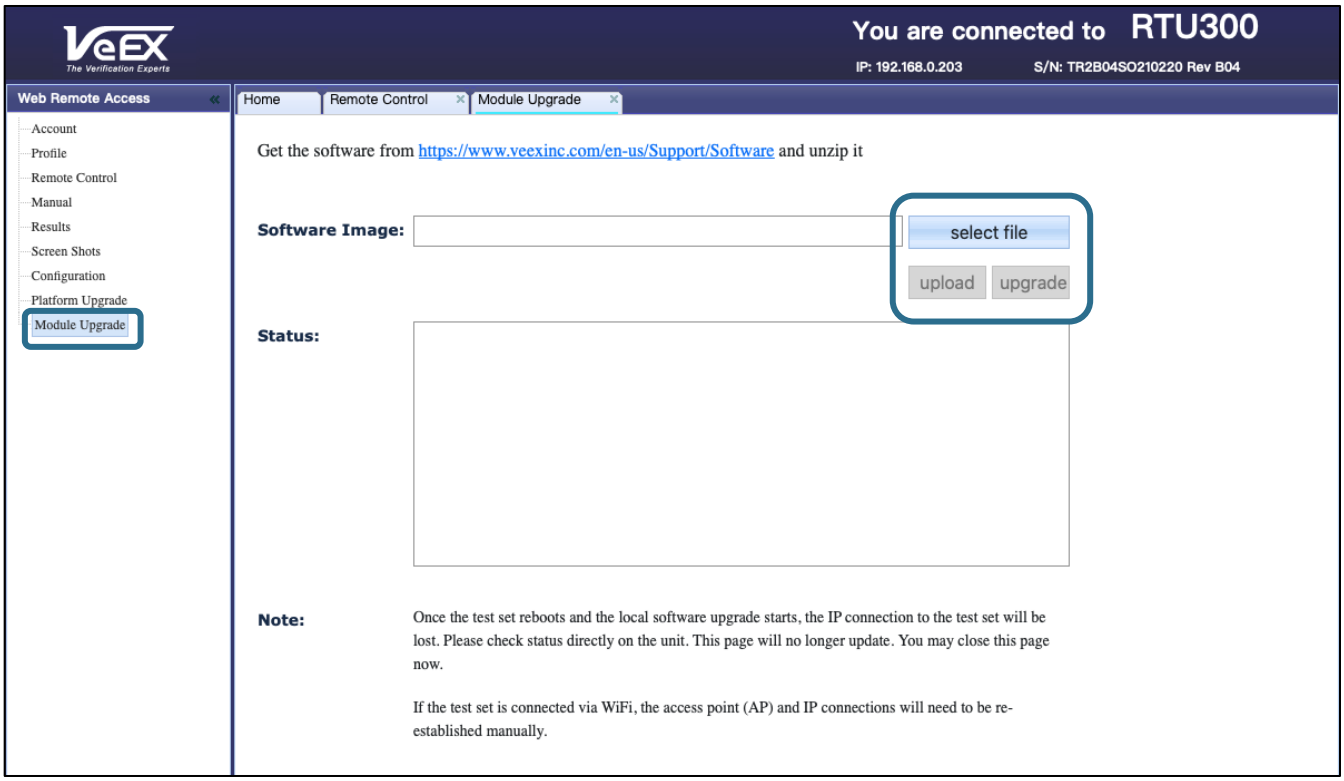
7. When the reboot process has been completed, log back in to the RTU-300/320/600/600x and verify that the platform software version was updated on the home page.

Module Upgrade

***Note**: The module software upgrade process is intrusive, and any test will be interrupted; make sure to save any configuration or test results before proceeding.*

Click Module Upgrade under the Web Remote Access options and perform the following steps from the Module Upgrade tab:

1. Download and unzip the required software from https://www.veexinc.com/en-us/Support/Software. Make sure to enter the RTU-300/320/600/600x serial number to find the correct file.

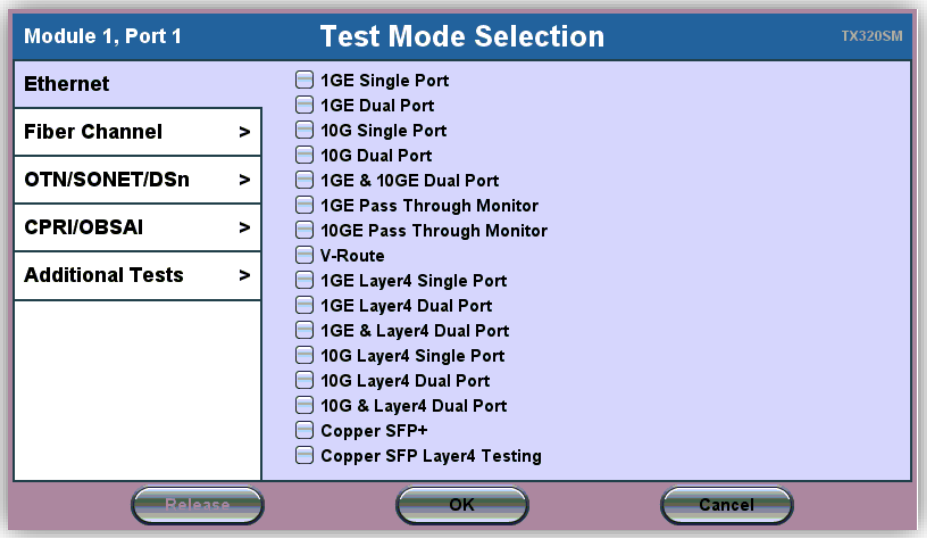


2. Browse the software Image file by clicking select file.
3. When the file is selected, click the Upload button to send the file to the RTU-300/320/600/600x.
4. Once the upload process is completed and file verification is successful, click Upgrade.
5. When the reboot process has been completed, log back in to the RTU-300/320/600/600x and verify that the module software version was updated on the home page.

Loading a Test Application via Web Remote Access/VNC (Standalone Mode)

1. Log in to the RTU using VNC. Type the IP address configured previously after launching the VNC app. The default password is pass1. To start testing, load the required test application using the New button in Port Group 1 or Port Group 2.

2. Select the desired test application and press OK to launch it.



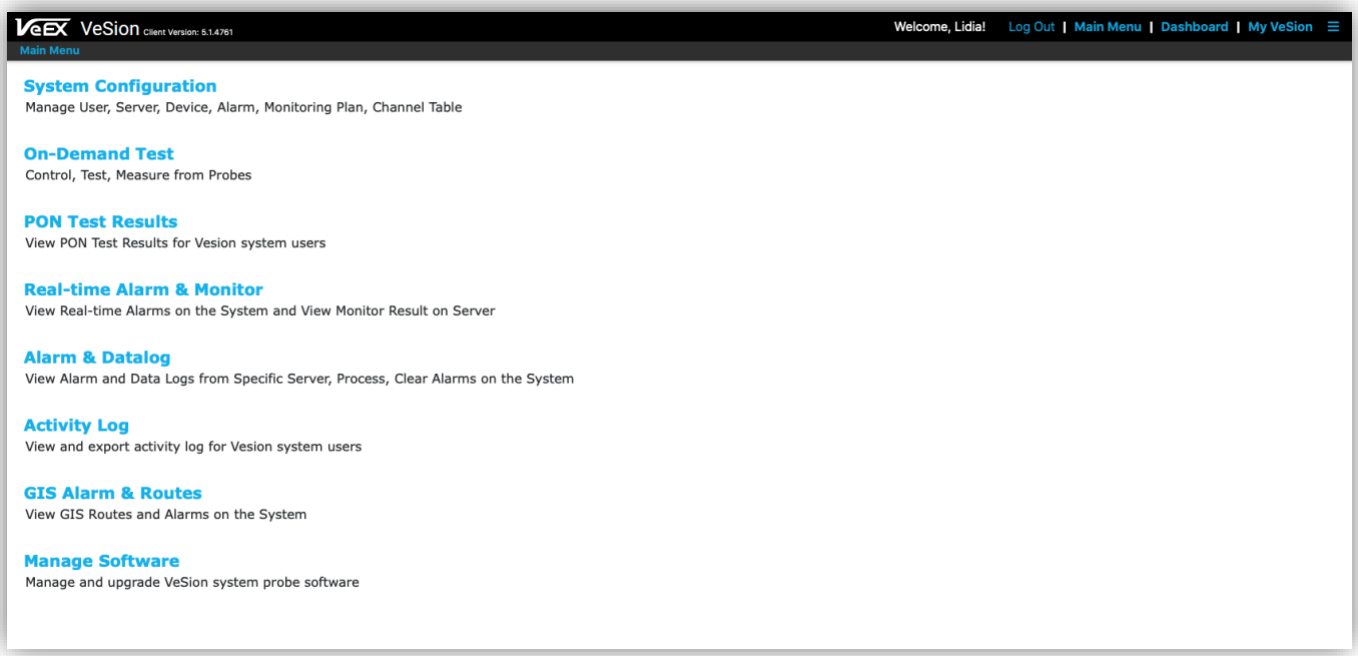
Follow the TX320s and TX300-100G User Manual instructions to set up a Loopback, Throughput, RFC-2544 or V-SAM Test. You can find them in the downloads section of the product page at https://www.veexinc.com.

Using VeSion to Configure the RTU User Access

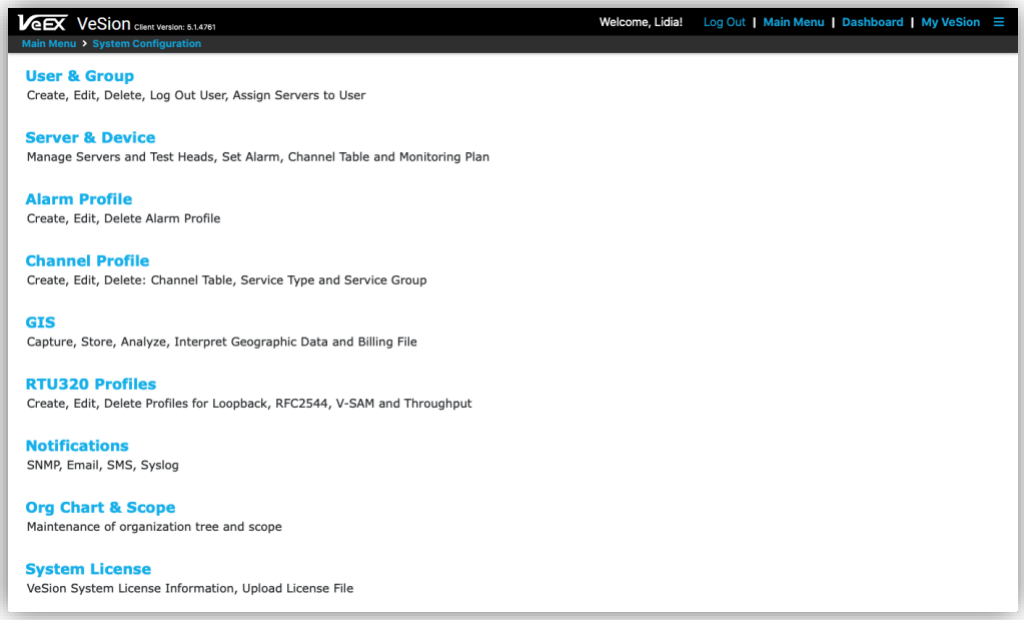
This section will focus on creating new users and assigning credentials to tester types in VeSion, a web-based management tool.

1. Launch your web browser and type the VeSion server IP address. Type your User ID and password to login.

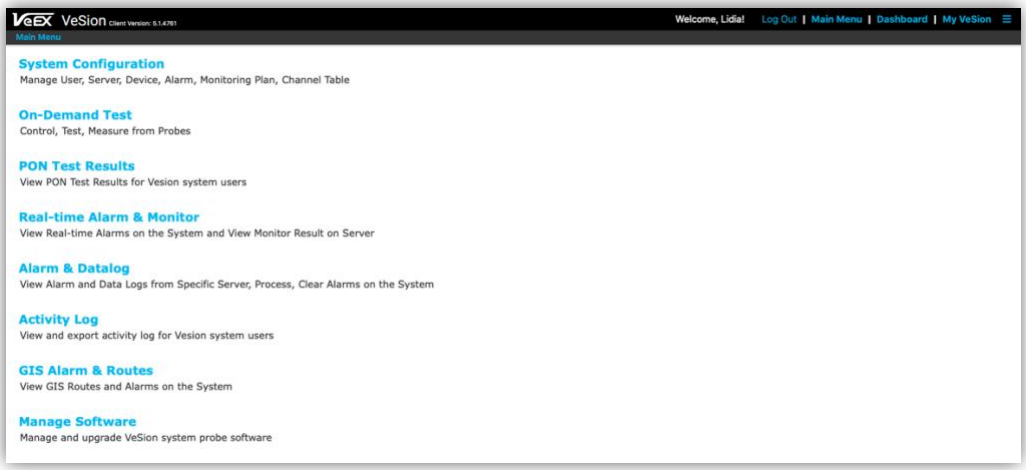
2. Manager level credentials display System Configuration settings as shown below.



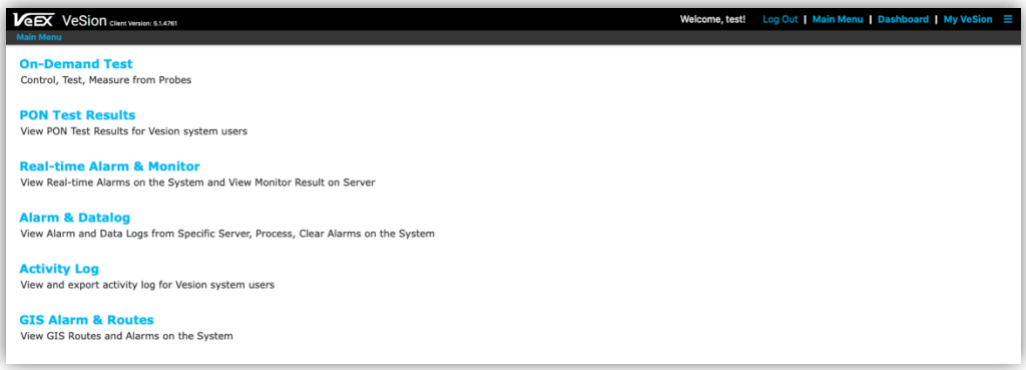
3. Under the System Configuration menu, the user can configure the RTU test ports and IP settings.



4. **Tester level credentials** enable users to run tests. Privileges are limited to running tests and viewing configurations only.
5. Notice the difference between User access privileges and Manager level privileges as shown below.



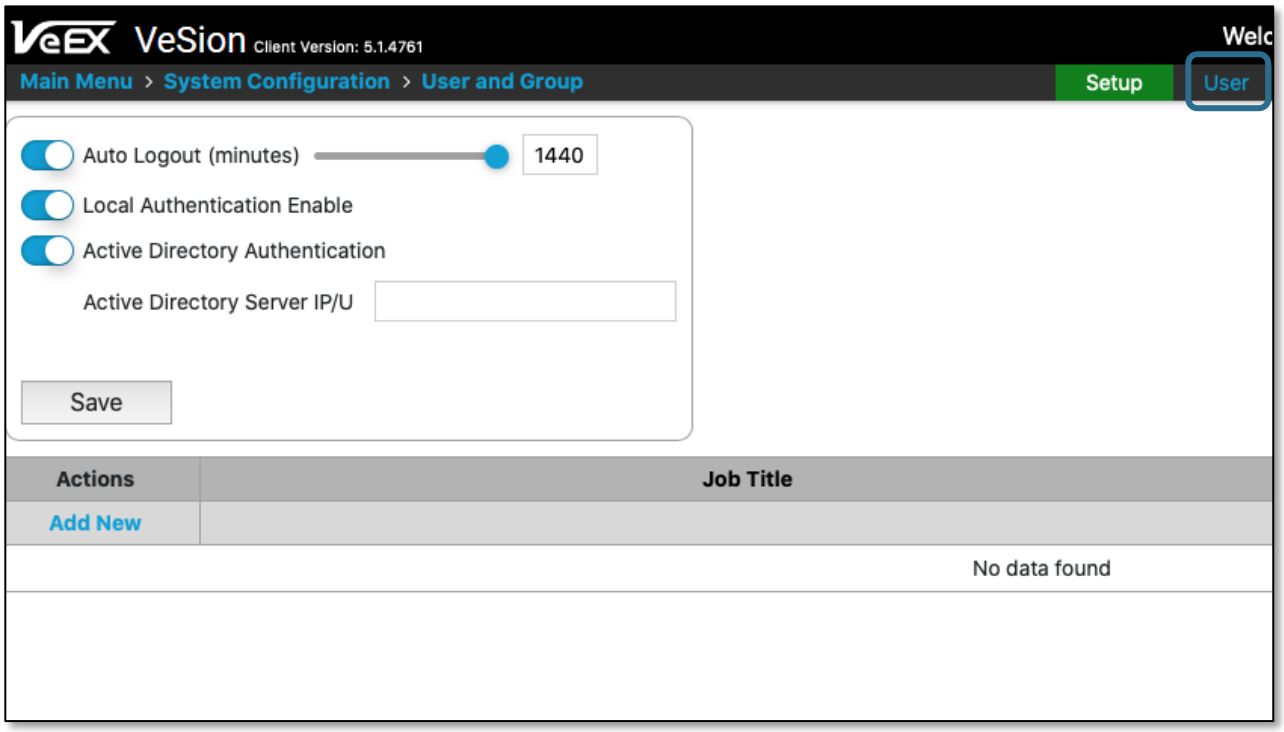
Manager level privileges



User level privileges

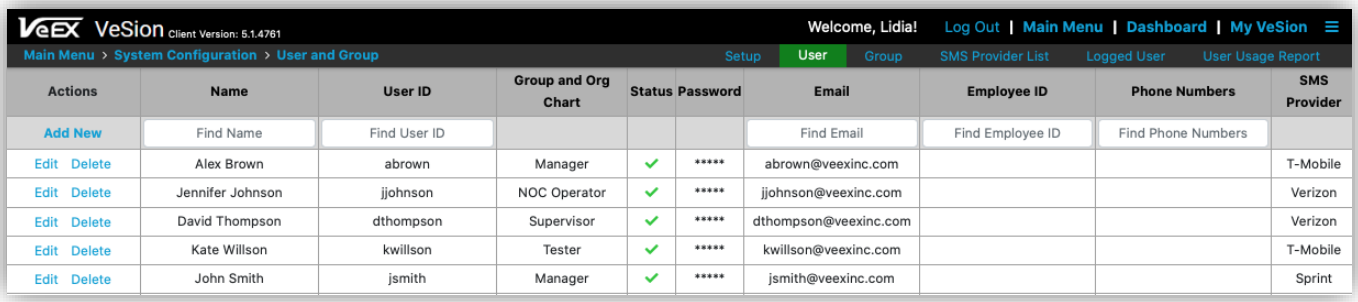
Adding/Removing Users

1. Click on System Configuration > User & Group > User



A list of current users and their group will be displayed.

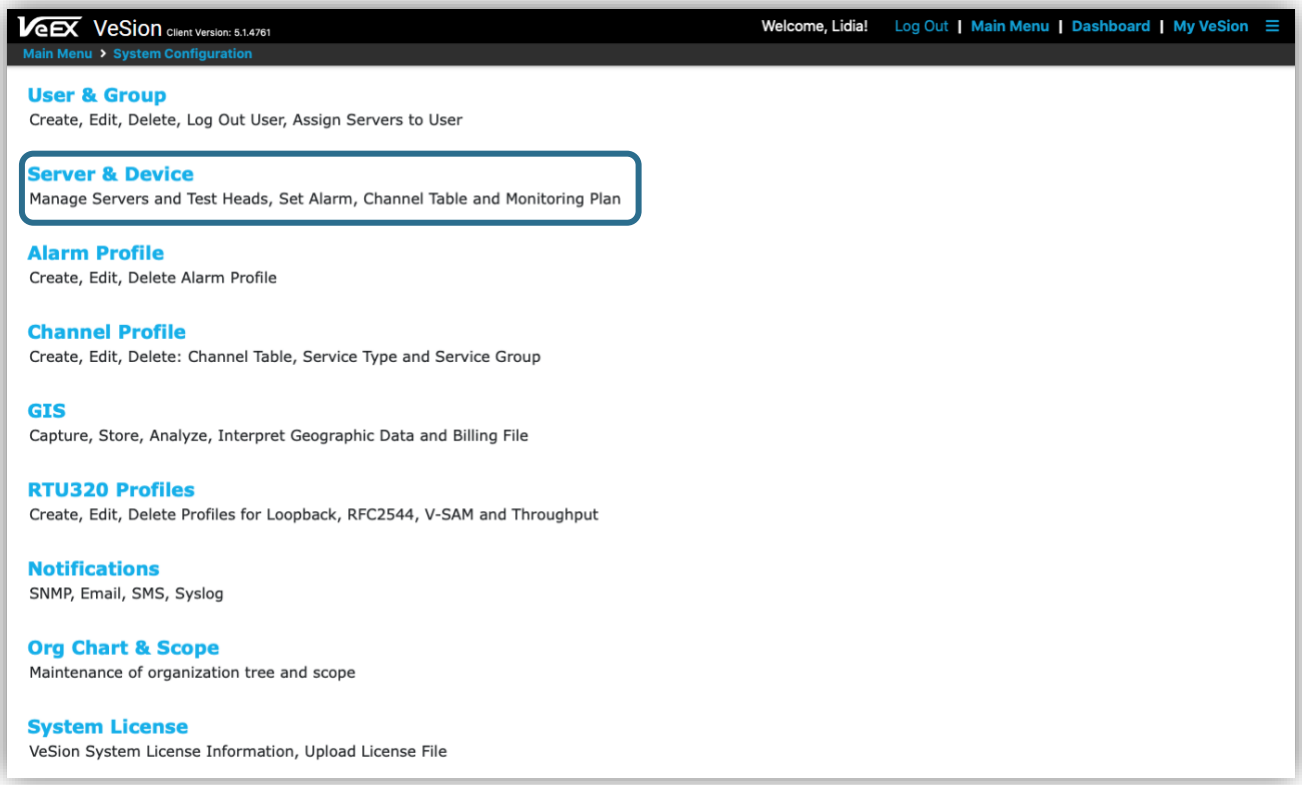
2. To create a user with Tester privileges, testing and viewing results only:
   - Click on Add New. Select Tester from the Group drop-down menu.
   - Input the Name, User ID, and Password, and click Save.
   - To test the newly created user, log out and log back in using these new credentials to make sure only Tester privileges are available.



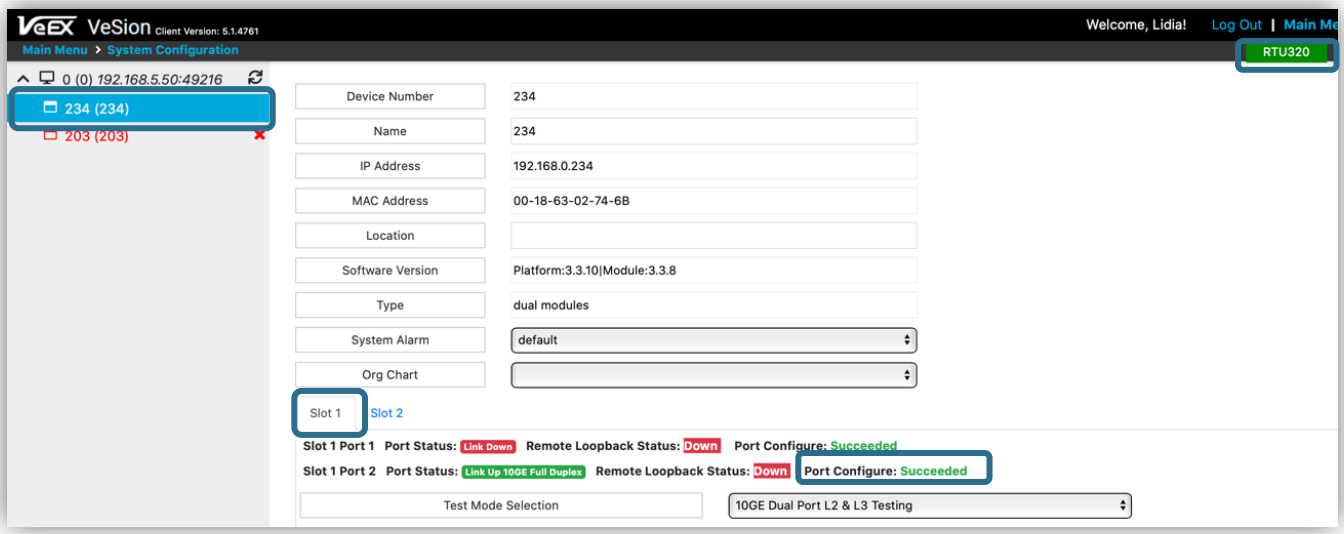
Configuring the Test Ports

This section will focus on configuring the physical test ports. In the System Configuration menu, the user can configure the RTU test port and IP settings.

1. Log in with a user that has Manager privileges. Click System Configuration > Server & Device. All available sub-menus are shown below.



2. Make sure the RTU-300 is selected if other devices are also being used by this VeSion server. Select a module (Slot) as shown below and a Test Mode.

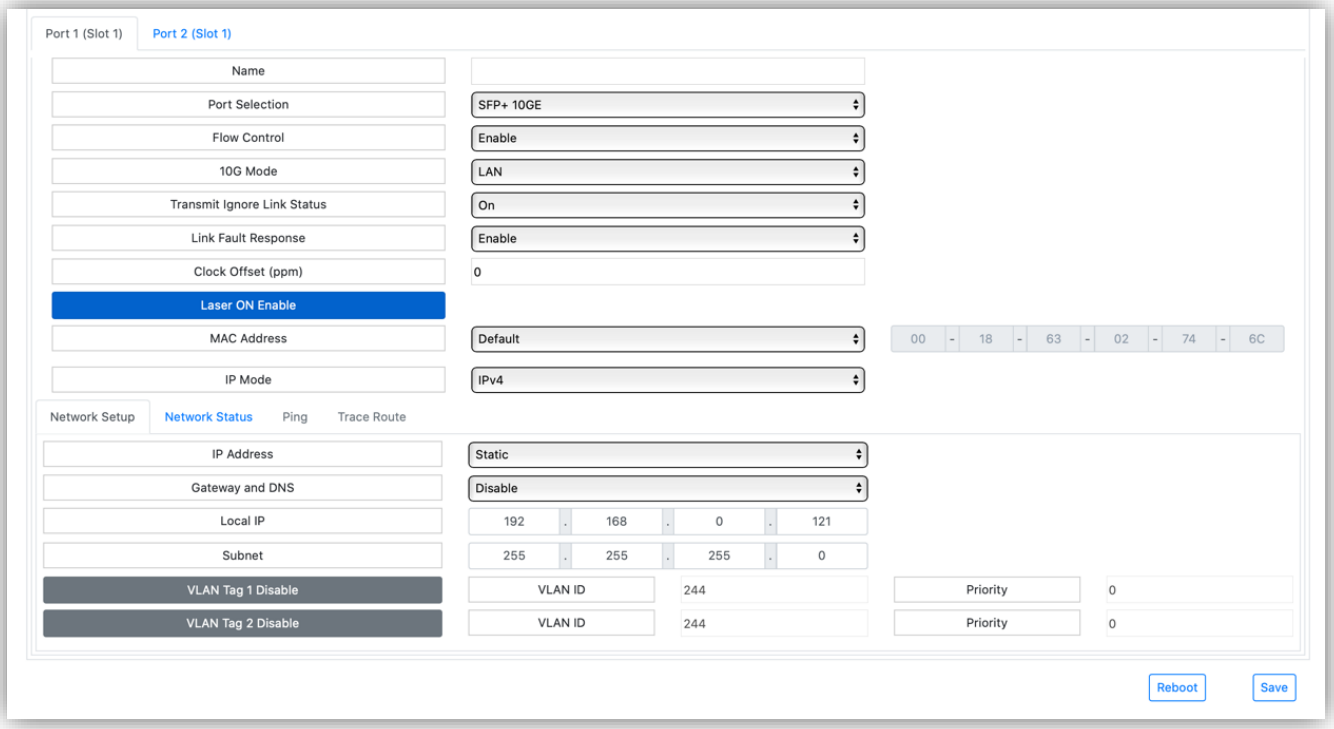


The following test modes are available:

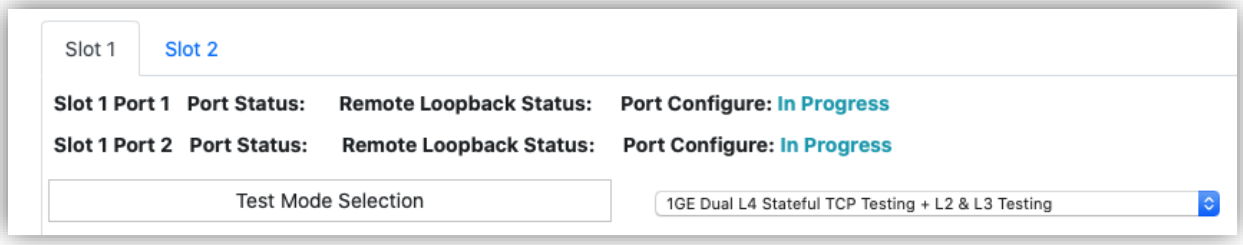
- 1GE Dual Port L2 & L3 Testing – Enables running the 1GE Loopback, Throughput, V-SAM, and RFC2544 tests on both ports
- 1GE Dual L4 Stateful TCP Testing – Enables running the 1GE V-PERF test on both ports
- 1GE Dual L4 Stateful TCP Testing + L2 & L3 Testing – Enables running 1GE Loopback, Throughput, V-SAM, and RFC2544 tests on one port and 1GE V-PERF test on another

- **10GE Dual Port L2 & L3 Testing** – Enables running 10GE Loopback, Throughput, V-SAM, and RFC2544 tests on both ports
- **10GE Dual L4 Stateful TCP Testing** – Enables running 10GE V-PERF test on both ports
- **10GE Dual L4 Stateful TCP Testing + L2 & L3 Testing** – Enables running 10GE Loopback, Throughput, V-SAM, and RFC2544 tests on one port and 1GE V-PERF test on another
- **1GE/10GE Dual Port L2 & L3 Testing** – Enables running 1GE Loopback, Throughput, V-SAM, and RFC2544 tests on one port and 10GE Loopback, Throughput, V-SAM, and RFC2544 tests on another

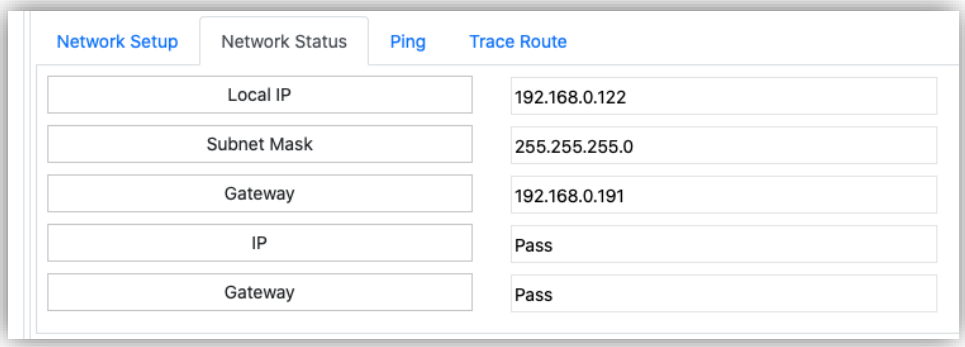
3. Scroll down the page to modify any Test Port IP settings. Change the Port Settings, IP address information, VLAN ID, Priority bit as required. Click Save.



While the changes are taking places, you will see In Progress status for Port Configure. When the configuration is done, the Succeeded status should appear instead.

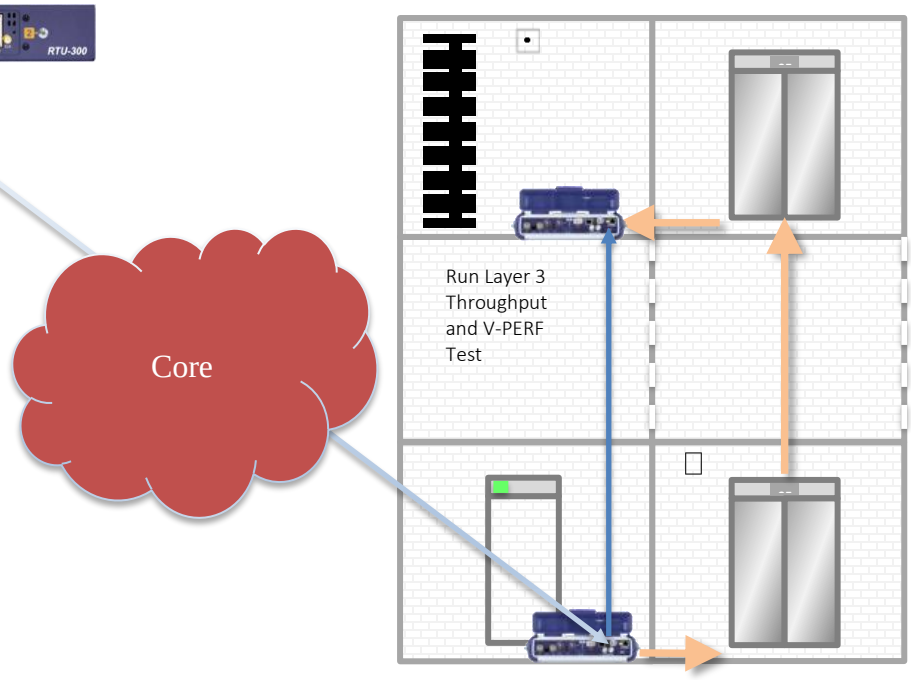


Click on the Network Status tab to verify that the IP Configuration status is OK. It should say *PASS* for IP & Gateway.



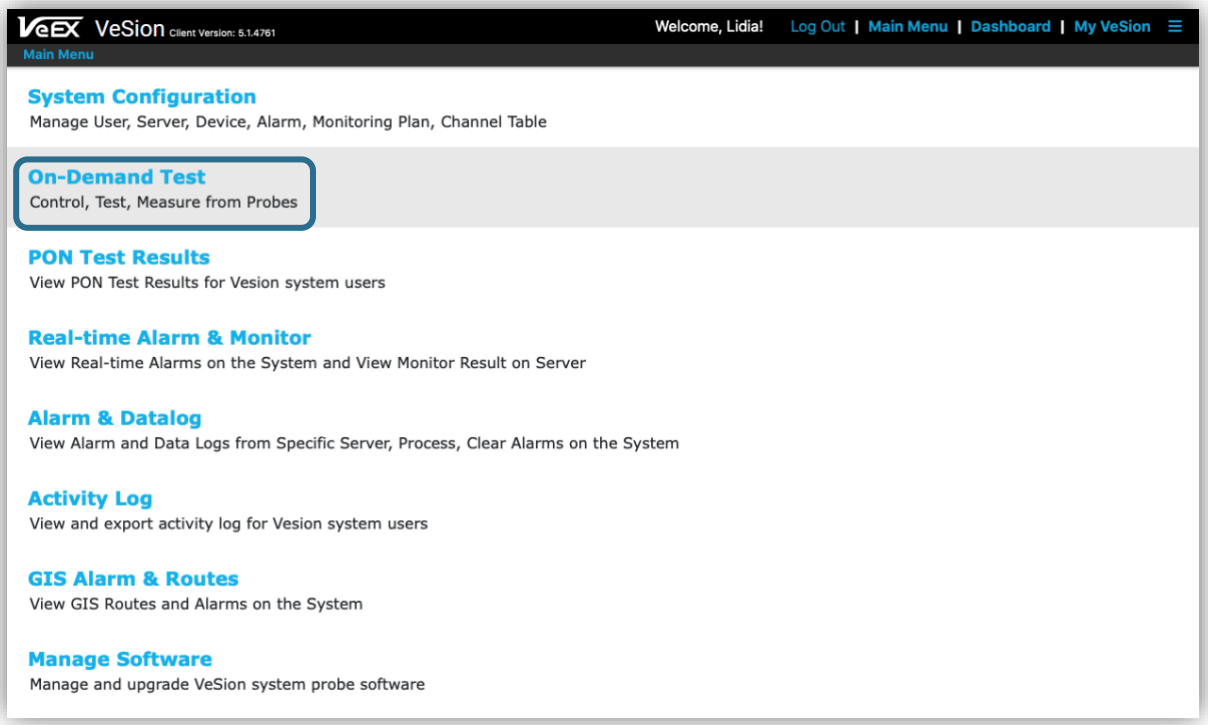
Running a Throughput Test via VeSion

- Run RFC-2544 Throughput Test
- Run V-SAM Test

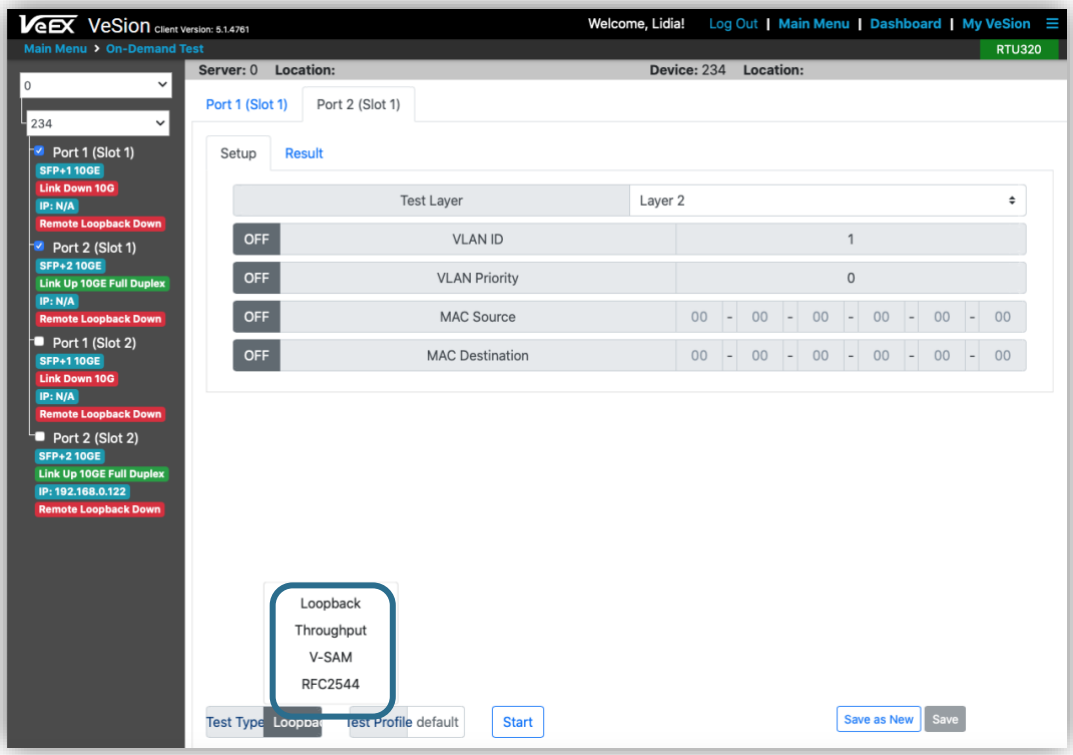


To start the Throughout Test via VeSion follow the next steps:

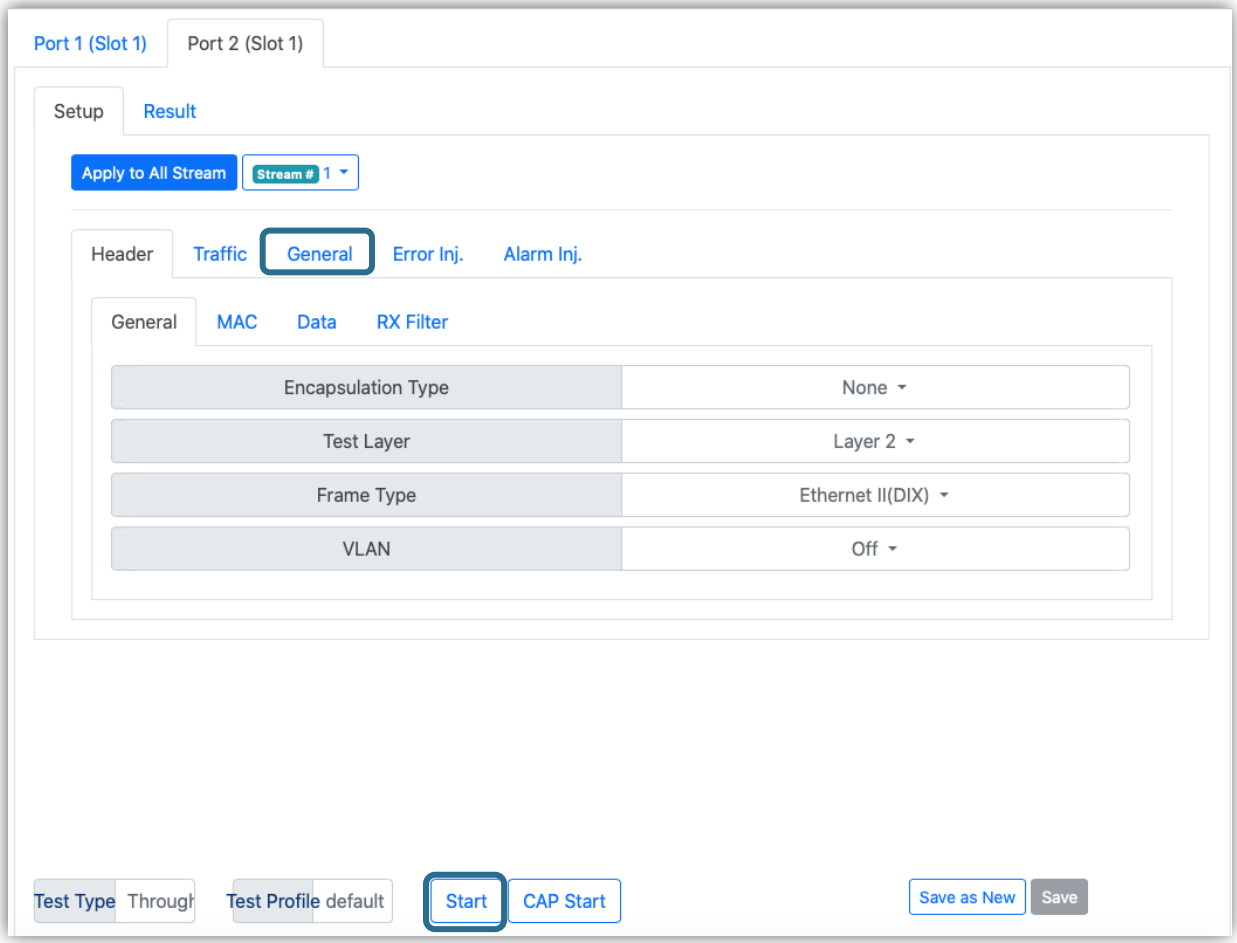
1. From the home page, click On-Demand Test.



2. Make sure the right RTU-300 is selected if other devices are also being used by this VeSion server. Select the test ports to be used on the left-hand side. Toggle in between the Port 1 & Port 2 configuration using the tabs as shown below.
3. Select Throughput from the Test Type drop-down menu at the bottom.



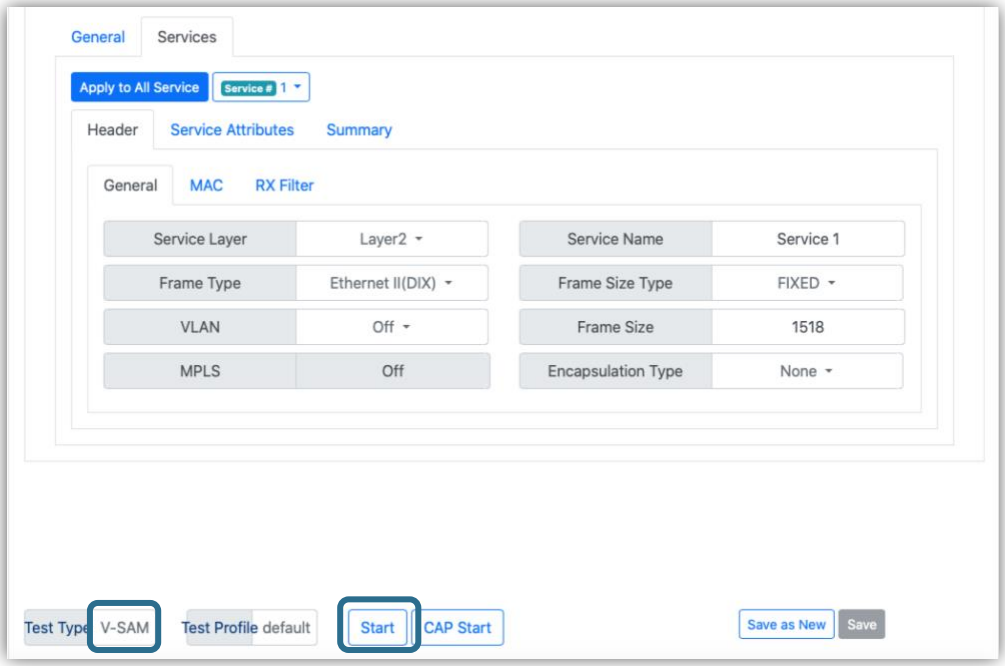
4. Configure the Header/Traffic/General and other parameters and click Save. Use the Save as New to save this profile for future testing. Use a relevant name to easily select a test that has to be run. Click Start to start a test. Test results are displayed dynamically. Click Stop if you need to stop the test.



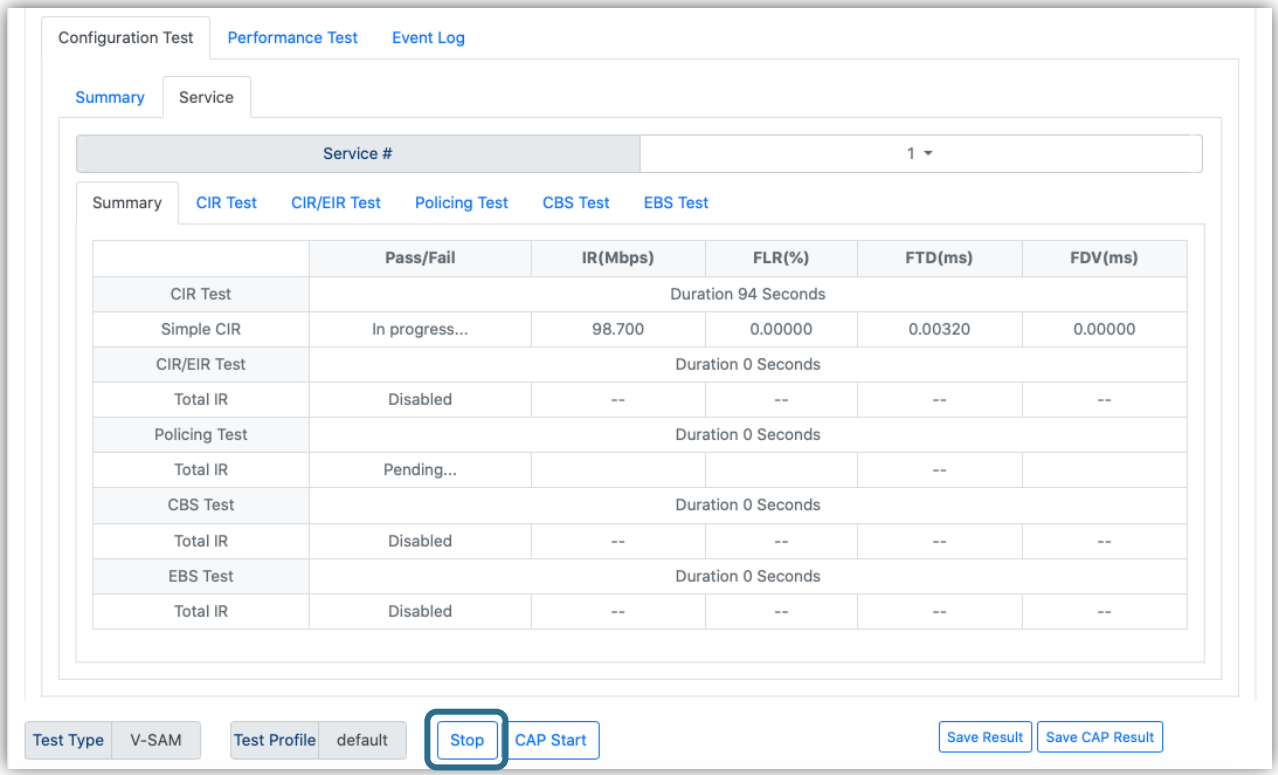
Running a V-SAM Test via VeSion

To start the V-SAM Test via VeSion:

1. Select V-SAM from the Test Type drop-down menu.



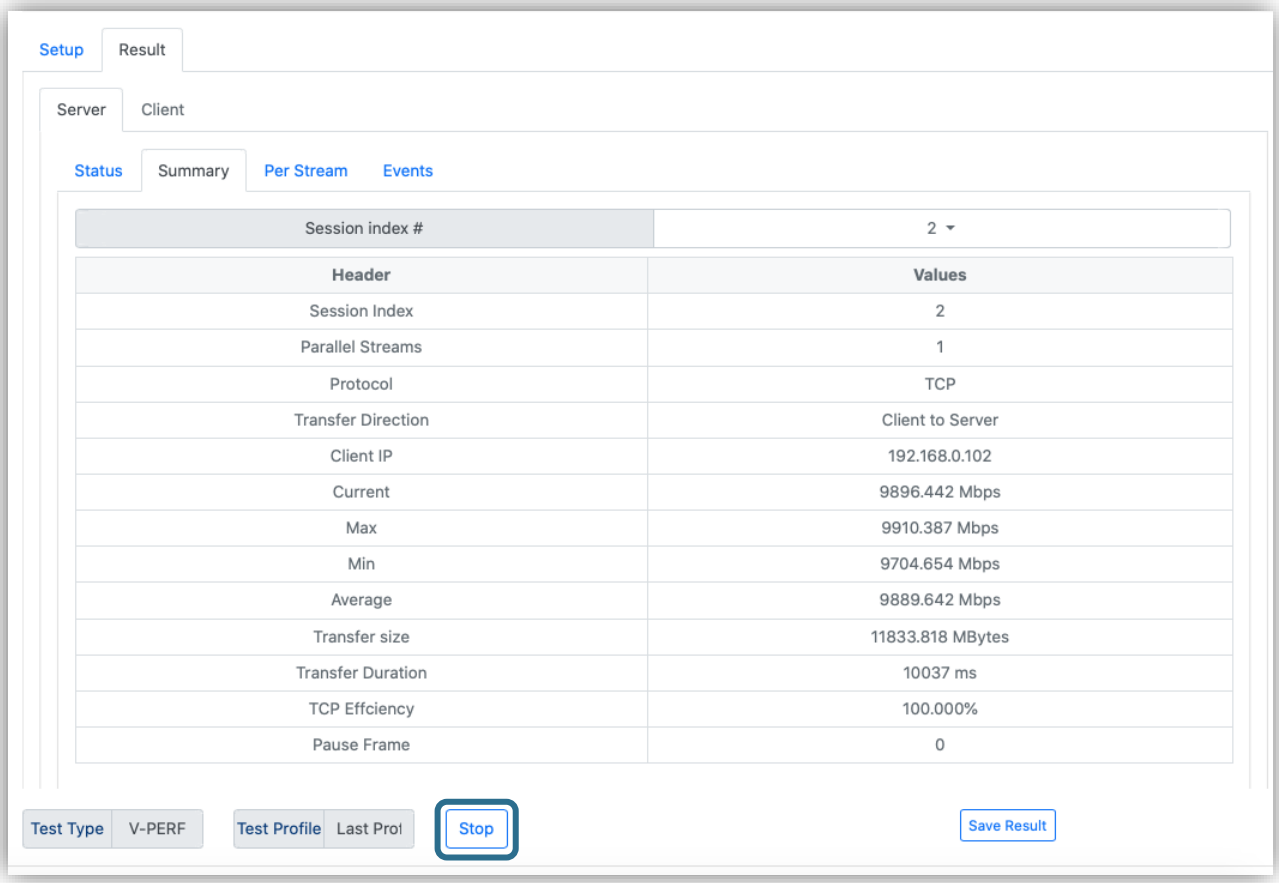
2. Once all the General and Service parameters are set, save the profile for future use by clicking on Save as New. Use a relevant name to easily select a test to be run later on.
3. Click Start to start a test. Click Stop if you need to stop the test. Test results are displayed dynamically. To view the different KPIs click on the different test results tabs.



Running a V-PERF Test via VeSion

To start the V-PERF Test via VeSion:

1. Make sure that the selected port is configured for L4 Testing and select V-PERF as a Test Type in the drop-down menu.
2. Set the mode to be Server, Client, Bidirectional Server, or Bidirectional Client.
3. Configure the TCP Port number and Start the test. Test Results are displayed dynamically. Click Stop if you need to stop the test.



Notes

About VeEX Inc.

Founded in 2006 by test and measurement industry veterans and strategically headquartered in the heart of Silicon Valley, VeEX Inc. provides innovative Test and Measurement solutions for next generation networks, services and communication equipment.

With a blend of advanced technologies and vast technical expertise, VeEX has developed products that diligently address all stages of network deployment, maintenance, and field service turn-up and integrate service verification features across DSL, fiber optics, CATV/DOCSIS, mobile 4G/5G backhaul and fronthaul (CPRI/OBSAI), next-generation transport network, fiber channel, carrier and metro Ethernet technologies, WLAN, and synchronization.

The VeEX team brings simplicity to verifying tomorrow's networks.

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