

VANTAGE™

Probably the world's best
Ethernet production line tester



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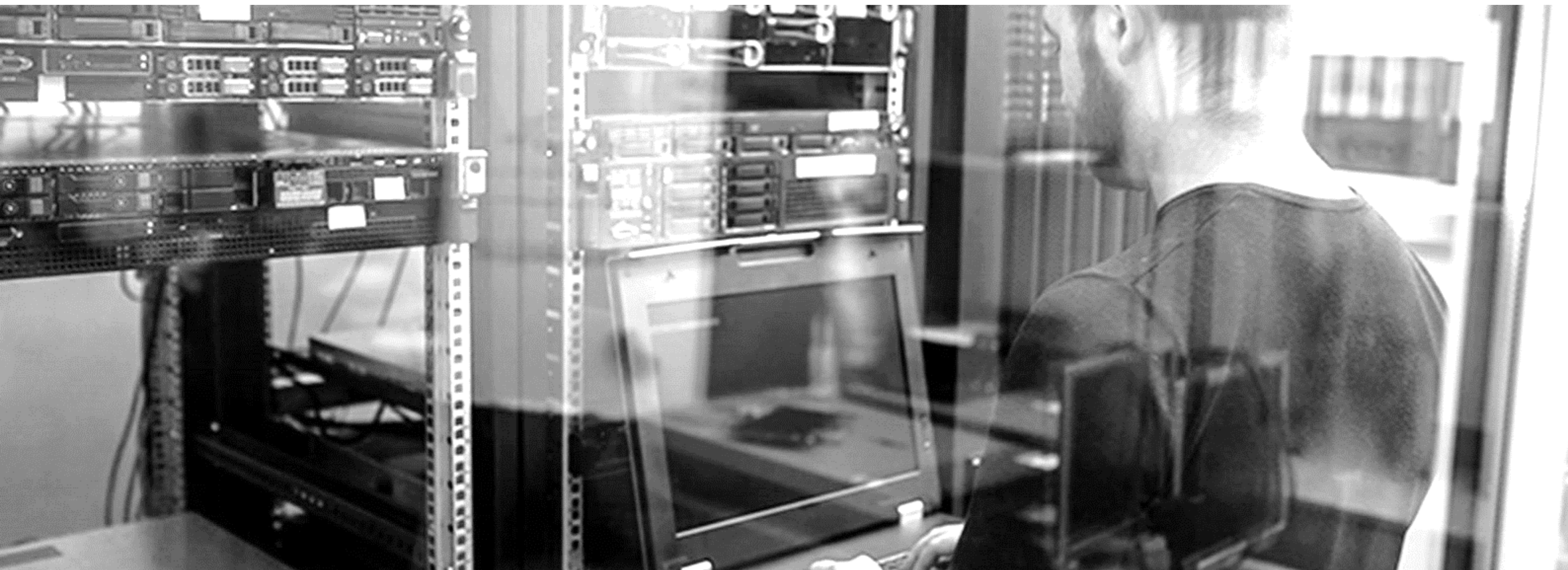
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KEY FEATURES

LEARN MORE

OVERVIEW

Vantage is a production line test solution for networking devices that use Ethernet traffic, such as switches, NICs, routers, GPON devices, cable modems, EOC, power modems and so on.



1

Vantage and you

WHO USES VANTAGE?

- ODM/OEM/EMS
- NEMs
- Government & Defense
- Automotive & Aerospace

WHAT DUTs CAN YOU TEST?

- Switches
- Network Interface Cards
- GPON Devices
- Cable modems
- Transceivers and Cables
- Ethernet over Coax (EoC)
- Power line Communication (PLC)

WHAT TYPES OF TESTING?

- Performance testing

Why choose Vantage

PRICE/PERFORMANCE

- Low HW prices
- Free SW licenses & 3 years free upgrades
- 3 years HW warranty
- Free tech support

EASE OF USE

- Intuitive SW ("2-clicks" to get a stream running)
- Simple licensing system
- Fast, smooth chassis software upgrade process

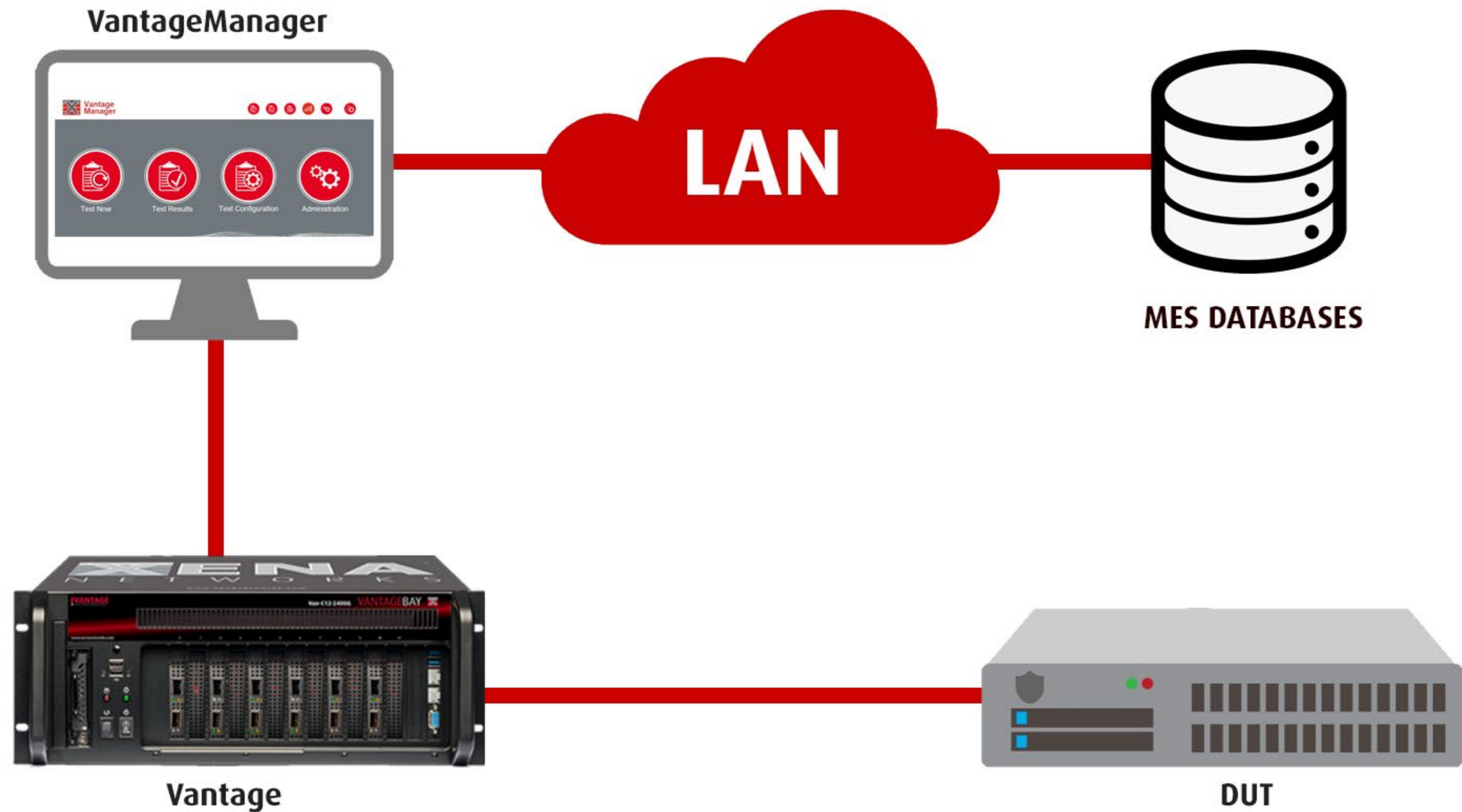
UNIQUE PRODUCT FEATURES

- Powerful production UI, "3-clicks" to complete a test cycle, and seamless parallel test case execution
- Shortest test cycle in the industry
- Web UI, no need for any local software installations
- Scriptable via CLI and RESTapi from any software environment, for integration into customers own UI applications

ROCK SOLID HW

- Industry's most stable and accurate Ethernet production test solution, based on 10 years of Valkyrie technology and know-how for R&D Ethernet performance testing
- Support for 100M to 400G Ethernet speeds
- Vantage is based on excellent Valkyrie technology and 10 years of experience, but focus on production line testing

Typical Vantage Test Setup Diagram



TYPES OF TESTS

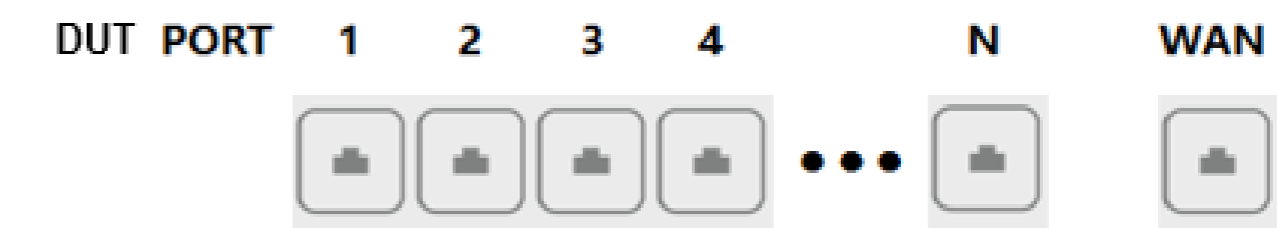
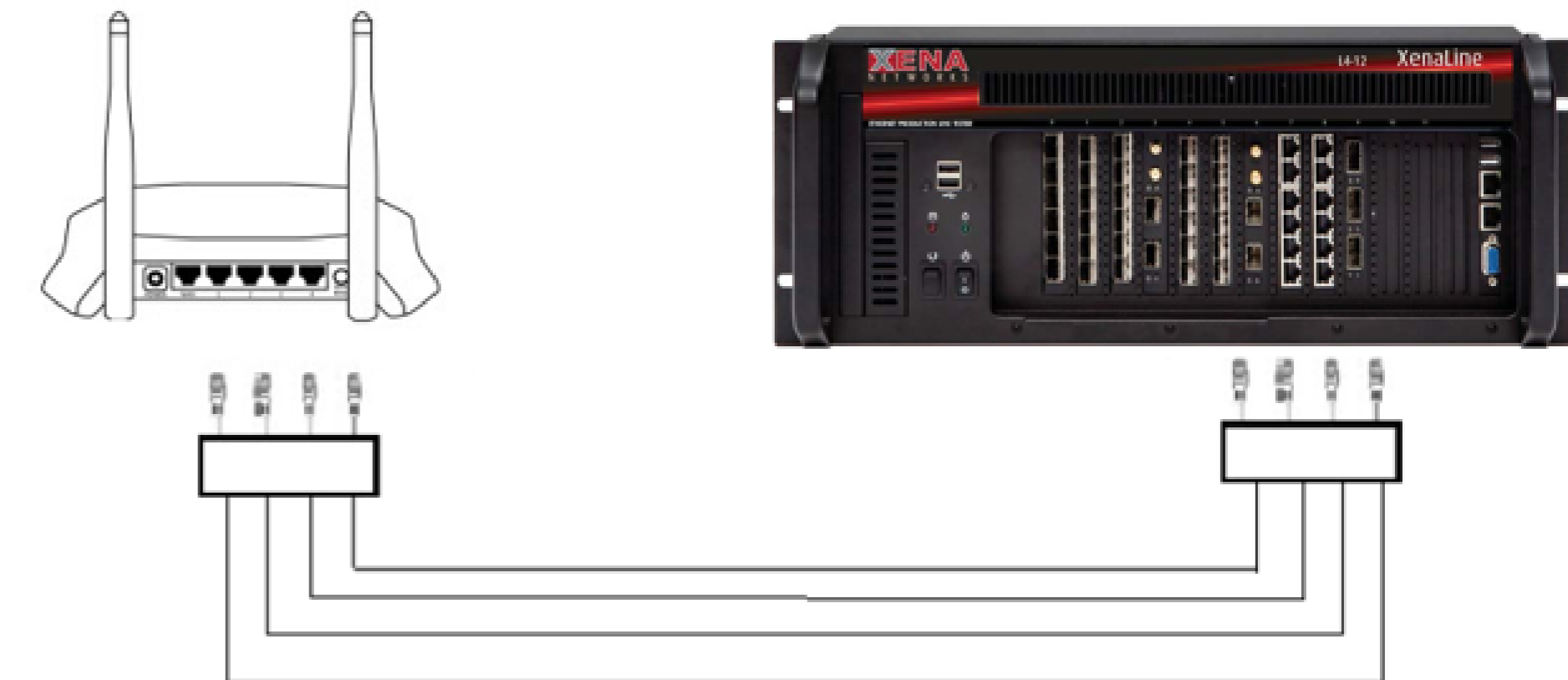
Vantage is used for performance testing through 5 types of tests.



TYPES OF TESTING

Performance Testing

- **Router test:** Bi-directional traffic generation between WAN and LAN ports, could be multiple LAN ports to single WAN port, or one WAN port to multiple LAN ports. Test of throughput and failures. The test may be configured with values for packet size, bandwidth, packet loss and other stream parameters. The result of the test is a pass/fail message. In the case of fail details about the failure for later analysis.
- **Two-way interaction test:** Generate traffic between all ports, or between odd and even ports, or one direction traffic generation, with or without VLAN tagged frames. The result of the test is a pass/fail message and in the case of fail details about the failure for later analysis.
- **Aggregation test:** Supports one-to-many and many-to-one traffic generation
- **Loopback test:** a configurable number of ports on e.g. a DUT such as a switch or a router. The test may be configured with values for packet size, bandwidth, packet loss and other stream parameters. The result of the test is a pass/fail message and in the case of fail details about the failure for later analysis.
- **PON aggregation test:** Traffic is transmitted one-to-many and packets are sent both up and downlink. The test may be configured with values for packet size, bandwidth, packet loss and other stream parameters. The result of the test is a pass/fail message and in the case of fail details about the failure for later analysis.



Router test :

WAN IP: 192.168.5.x

LAN IP: 192.168.0.X

WAN <-----> **1**

WAN <-----> **2**

WAN <-----> **3**

WAN <-----> **4**

•••

WAN <-----> **N**

TYPES OF TESTING

Testcases Library

- Vantage's advanced software architecture allows the user to produce its own test cases.
- Xena professional service can customize the test case for clients as needed

```
JSON test configuration for id: 35aa9d41a34b43b2af8cc3b0d8882857

{
  "portcfg": {
    "port1": {
      "portcfg": {
        "paramvalues": {
          "pgateway": "192.168.99.1",
          "psrcip": "192.168.99.2",
          "psrcmask": "255.255.255.0"
        },
        "raw": {
          "1": "{module}/{port} P_IPADDRESS {psrcip} {psrcmask} {pgateway} 0.0.0.255",
          "2": "{module}/{port} P_ARPREPLY ON",
          "3": "{module}/{port} P_PINGREPLY ON"
        }
      }
    }
  }
}
```

Ok



HARDWARE

Different chassis and test modules options to fit all needs.



HARDWARE

VantageBay



Physical Specifications

High port density: 12 slots in a 4U high chassis
Multi-user: one user per port
6.7" (H) x 17" (W) x 17.9" (D) (17 x 43.5 x 45cm)
35 lbs (16 kg) with no test modules installed
Low noise: Max. 58.5 dBA

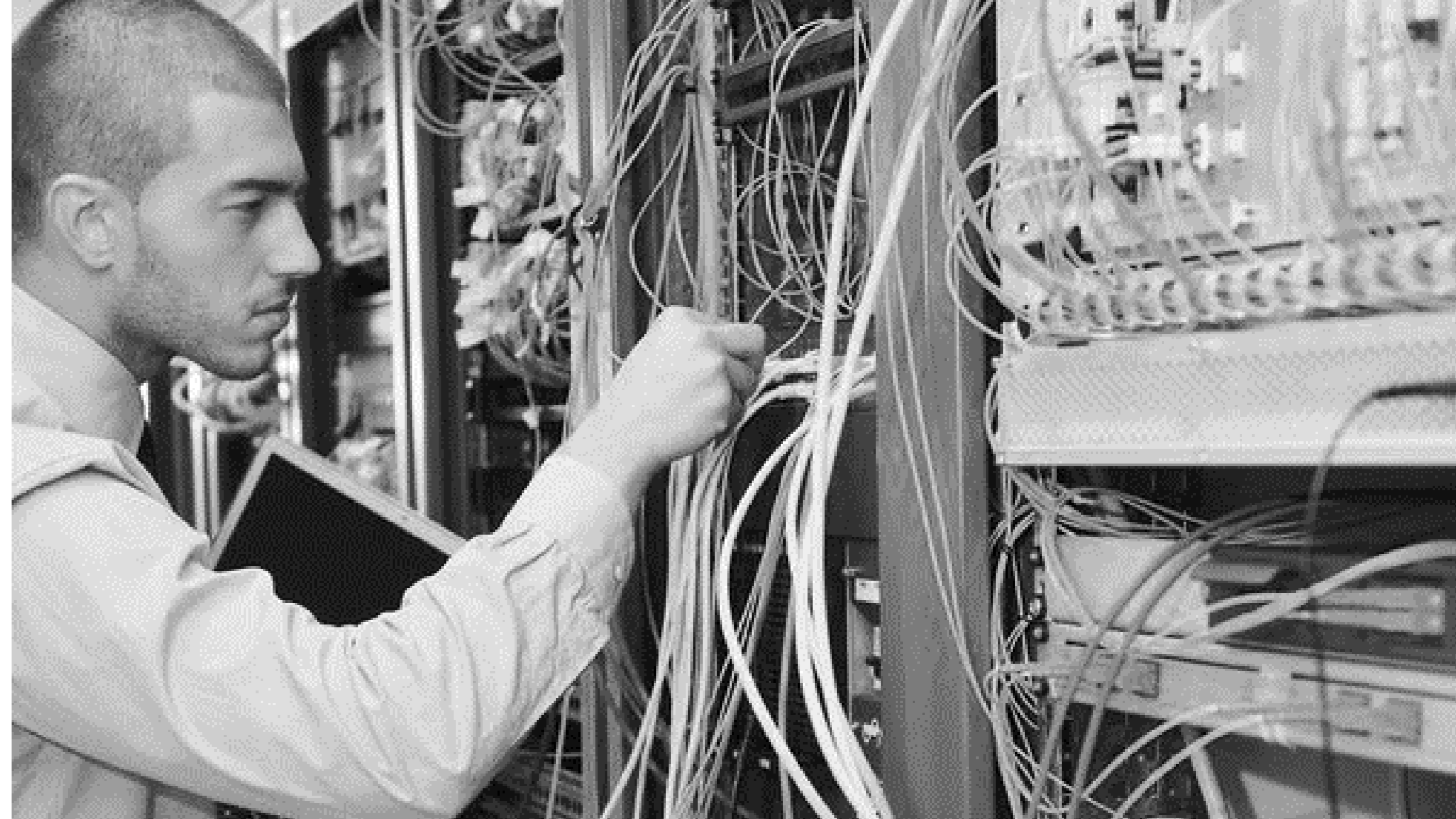


Extreme Performance

Reach 2.4 terabit test fabric in just one VantageBay Chassis.

HARDWARE

Vantage Test Modules



Specifications

- 5 dedicated production-only test modules
- Support for all Ethernet speeds and interfaces
- Unique multi-speed / media capabilities

HARDWARE

Vantage Test Modules

| | <1GE | 1GE | 2.5GE | 5GE | 10GE | 25GE | 40GE | 50GE | 100GE | 200GE | 400GE |
|------------------|------|-----|-------|-----|------|------|------|------|-------|-------|-------|
| Van-400G-7S-1P | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Van-100G-5S-2P | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Van-10G-5S-6P-CU | | | | | ✓ | | | | | | |
| Van-10G-1S-6P | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| Van-1G-3S-6P | ✓ | ✓ | | | | | | | | | |

HARDWARE

VantageCompact



Physical Specifications

Multi-user: one user per port

1 slot and 1 rack unit (RU) high
1.7" (H) x 17" (W) x 9.8"(D) (5 x 43.5 x 25cm)

10 lbs (4.5 kg)

Low noise: Max. 49 dBa



Lightweight flightcase available

VantageCompact Chassis Versions

| | <1GE | 1GE | 2.5GE | 5GE | 10GE | 25GE | 40GE | 50GE | 100GE |
|--------------------|------|-----|-------|-----|------|------|------|------|-------|
| C-Van-100G-5S-2P | | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| C-Van-10G-1S-6P | | | | | ✓ | | | | |
| C-Van-10G-5S-6P-CU | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| C-Van-1G-3S-6P | ✓ | ✓ | | | | | | | |

SOFTWARE

We work hard to make sure your job easy. All our software is designed to be intuitive and user-friendly.



SOFTWARE

VantageManager



- The only software you need to use Vantage.
- Python based Web UI to configure and generate streams of Ethernet traffic between your Vantage tester and devices under test (DUTs) and then analyze the results.
- Included for free with every Vantage system. Latest version can always be downloaded [here](#)
- Very easy automated configuration
- Flexible software: allows tester to add more testcases as needed.

SOFTWARE

Vantage REST API

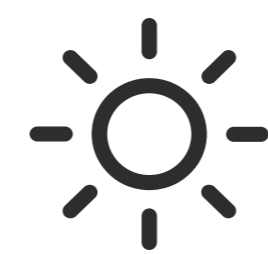


Top features

Client-less, language-agnostic, out-of-the-box, chassis embedded REST server.

Lets you build automation scripts with your choice of language, tool and client environment.

Supports all Valkyrie CLI commands and adds many more abstract operations (like returning statistics as ready-to-consume JSON) that simplify and speed up automation development.



Full Python object-oriented REST client

Enables Python developers to simply pip install it and start building automation scripts without spending time on developing the traffic generator layer.

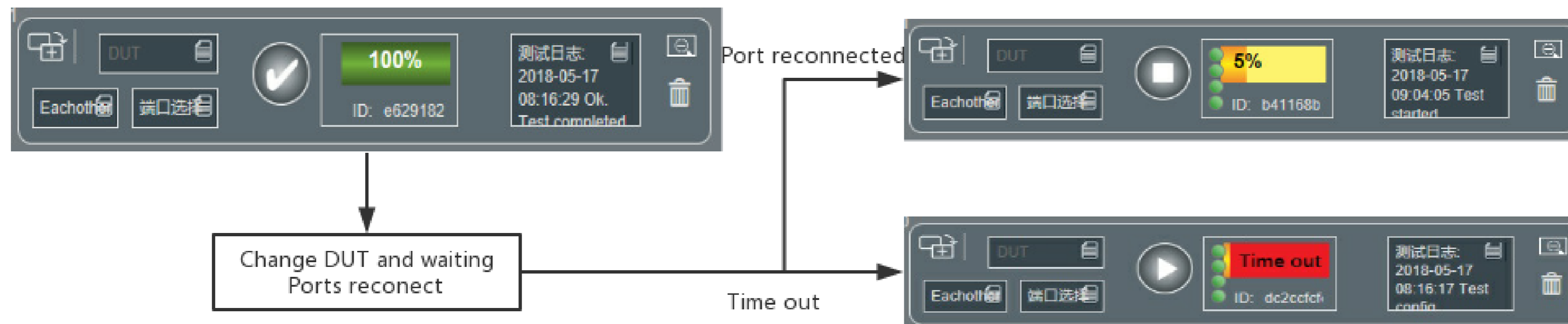
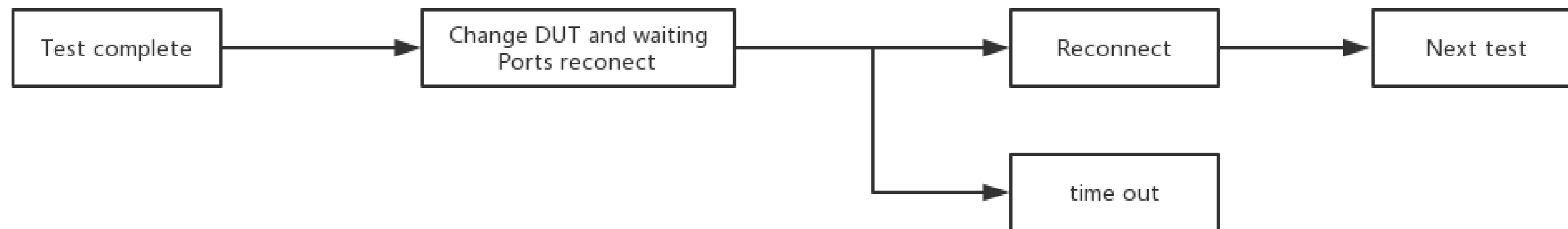


More information:

[How to build client apps using Valkyrie REST Server](#)

Intelligent Cyclic Test

Vantage will repeat the same test with no interactive operation needed, the tester will detect the port connection and link status automatically, then it will rerun the test once the link is up.

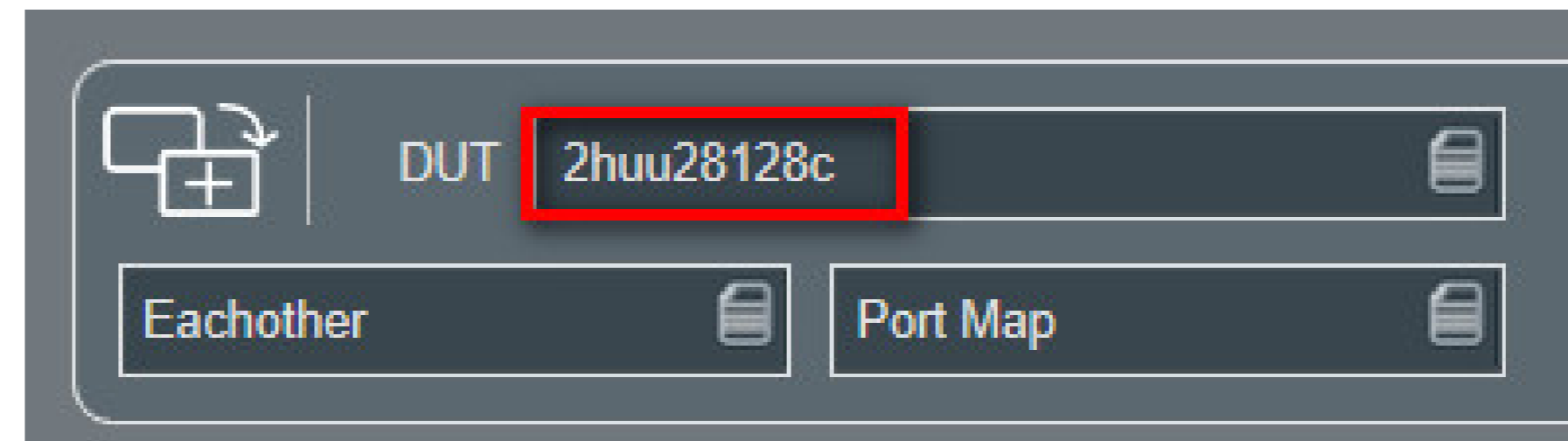


SOFTWARE

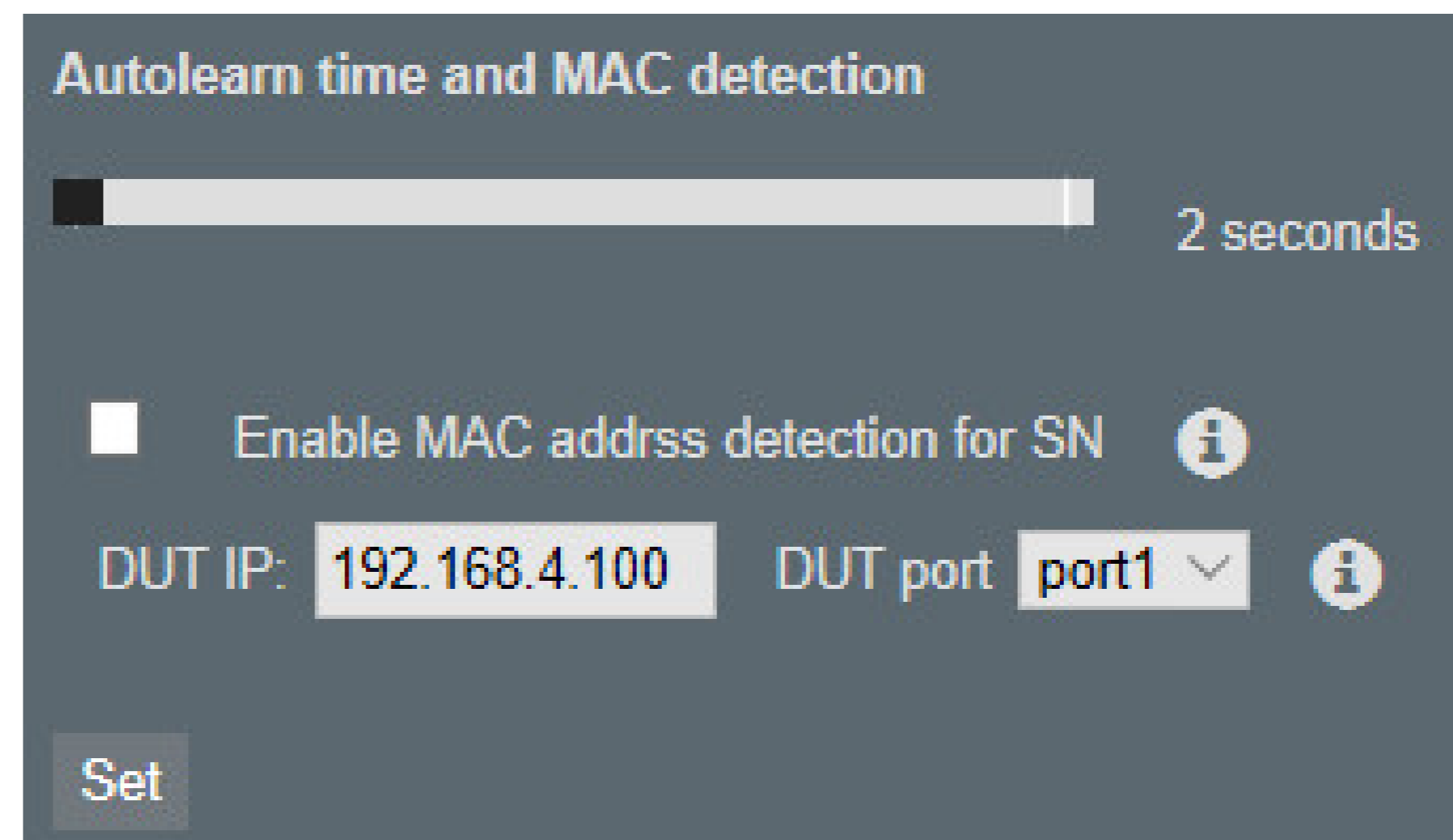
DUT Serial Number

Two ways to acquire DUT Serial Numbers:

1. Input SN via keyboard or a scanner devices



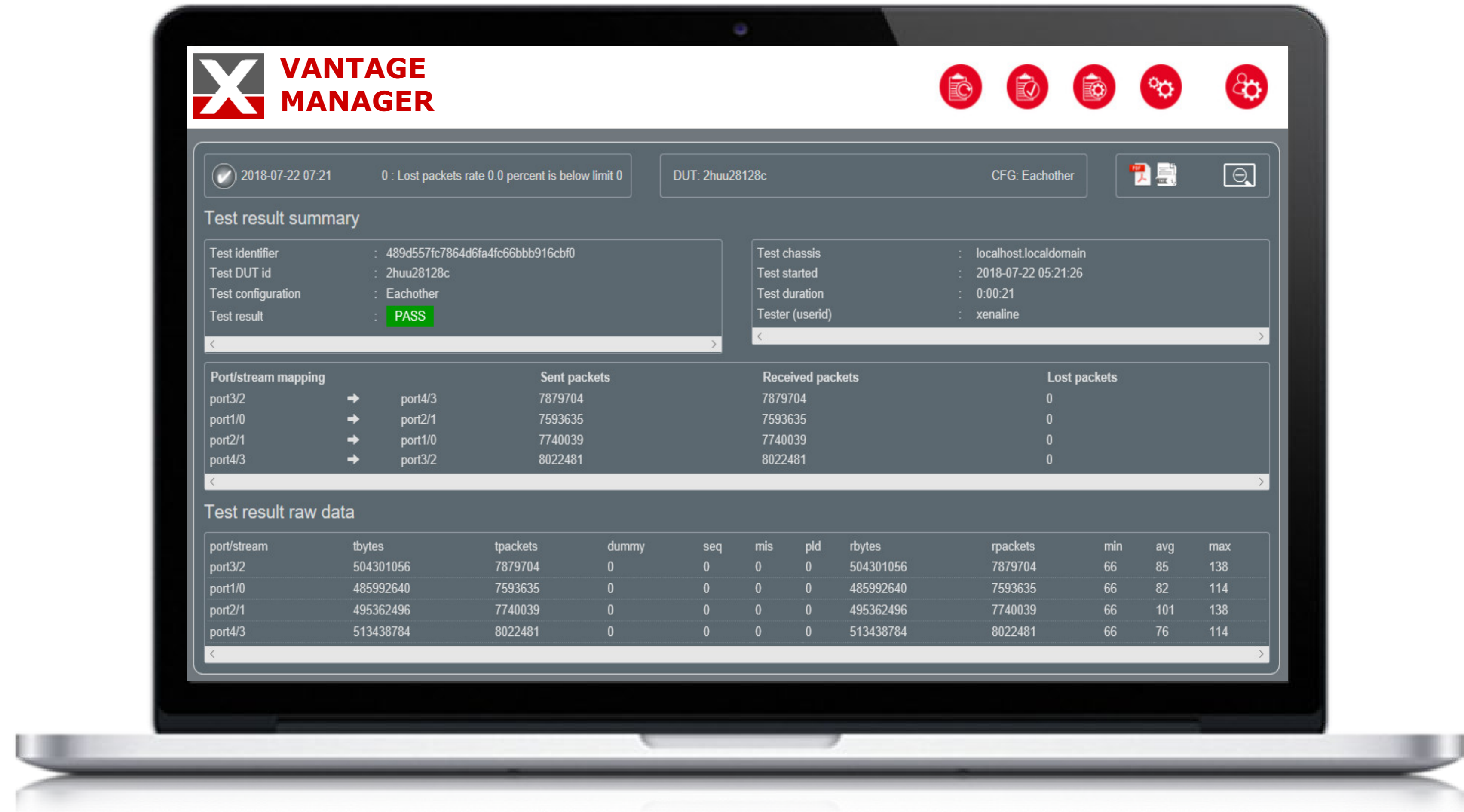
2. Use DUT's MAC address as SN



SOFTWARE

Test Result UI


- Tx packets
- Rx packets
- Latency
- Test date
- SN number
- Tx bytes
- Rx bytes



Reporting

PDF Test Report

Vantage Test Report



Test Identifier : ee5d86b1a5984d61836ce6eded6d1cef
 Test DUT id :
 Test configuration : TestXena
 Test chassis : localhost.localdomain
 Test started : 2019-04-04 15:04:21
 Test duration : 0:01:11
 Tester (login) : demoa

Test result : FAILED!
 Failure reason : [port1, '1'] -> [port2, '3'] Lost packets rate 100.0 is above limit 0.1

Test result details

| Port mapping | Sent packets | Received packets | Lost packets |
|--------------------|--------------|------------------|--------------|
| port2/3 -> port1/1 | 52335 | 0 | -52335 |
| port1/1 -> port2/3 | 522032 | 0 | -522032 |
| port3/4 -> port1/2 | 52466 | 0 | -52466 |
| port1/2 -> port3/4 | 522032 | 0 | -522032 |

| Port mapping | Min | Avg | Max |
|--------------------|-------------|-------------|-------------|
| port2/3 -> port1/1 | -2147483648 | -2147483648 | -2147483648 |
| port1/1 -> port2/3 | -2147483648 | -2147483648 | -2147483648 |
| port3/4 -> port1/2 | -2147483648 | -2147483648 | -2147483648 |
| port1/2 -> port3/4 | -2147483648 | -2147483648 | -2147483648 |

Test log

```

2019-04-04 16:58:03 Test created
2019-04-04 16:58:03 Test config is "TestXena"
2019-04-04 17:04:21 Test started
2019-04-04 17:04:30 Waiting for link sync. on port(s): port1,port2,port3
2019-04-04 17:04:52 Learning network addresses ...
2019-04-04 17:04:53 Starting test traffic ...
2019-04-04 17:04:53 Test executing time is 35 seconds ...
2019-04-04 17:05:28 Stopping test traffic ...
2019-04-04 17:05:28 Collecting results ...
2019-04-04 17:05:32 Failure. [port1, '1'] -> [port2, '3'] Lost packets rate 100.0 is above limit 0.1
  
```

Text Test Report

Vantage Test Report

 Test Identifier: 457e662996b649a1a7946bf742e7f4bb
 Test DUT id:
 Test configuration: olt
 Test chassis: demo.xenanetworks.com
 Test started: 2019-11-15 05:43:15
 Test duration: 0:03:18
 Tester (login): demoa
 Test result: PASS

Test suite subresults

 Test Identifier: 2671b62d670a4d98945a6e28dfa333c0
 Test configuration: 10GE-pair
 Test result: PASS
 Test Identifier: 60684af896b348d1a730cbe04cd8d5a7
 Test configuration: 10GE-pair
 Test result: PASS
 Test Identifier: 9e5821c5d3b04f2cad011324388c9978
 Test configuration: 10GE-pair
 Test result: PASS

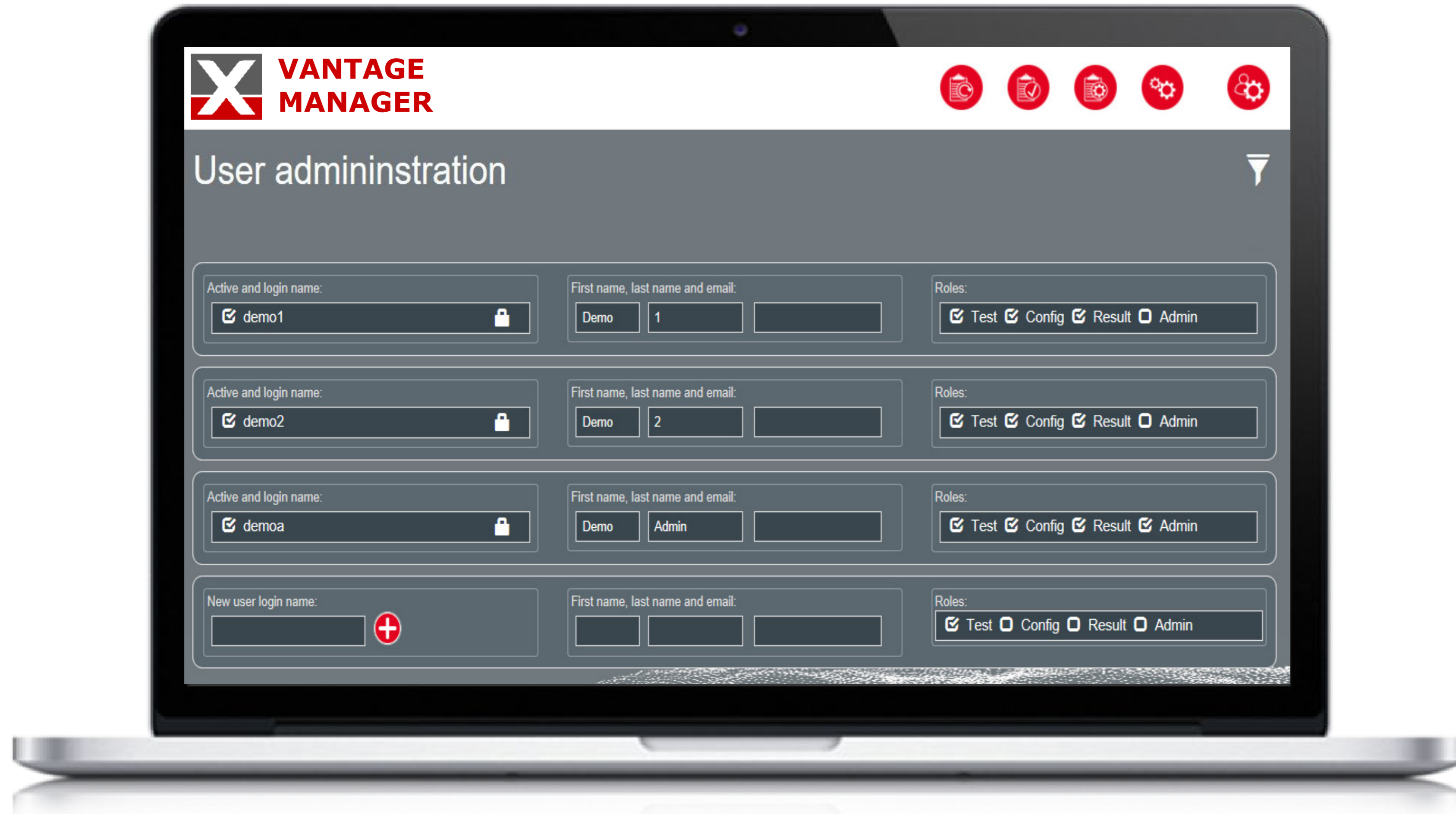
Test log

 2019-11-15 06:46:33 Ok. Test suite completed successfully
 2019-11-15 06:46:33 All subtest terminated
 2019-11-15 06:45:27 Starting subtest with ID 9e5821c5d3b04f2cad011324388c9978
 2019-11-15 06:44:21 Starting subtest with ID 2671b62d670a4d98945a6e28dfa333c0
 2019-11-15 06:43:15 Starting subtest with ID 60684af896b348d1a730cbe04cd8d5a7
 2019-11-15 06:43:15 Test suite started
 2019-11-15 06:43:02 Test config is "olt"
 2019-11-15 06:43:02 Test suite created
 Report created 2019-11-20 08:15:10

(C) Xena Networks 2019 - <http://xenanetworks.com>

SOFTWARE

User Management



- Vantage support multiple users in the one chassis
- Different users with different administration rights

Key Features

These are Vantage's most powerful technical features.



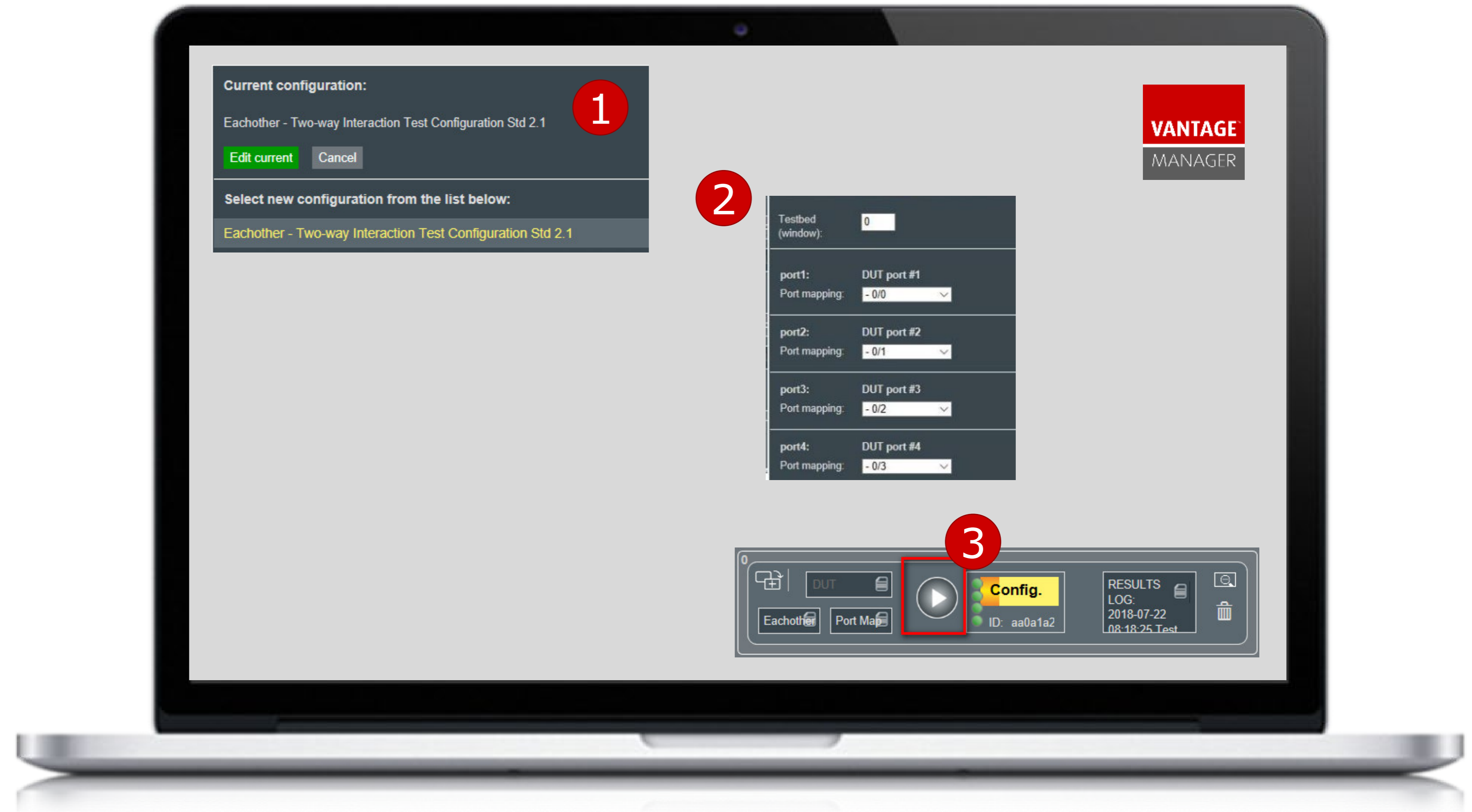
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KEY FEATURES

User Friendly UI

Only 3 buttons to complete a test!

1. Select the test Configuration
2. Select the port
3. Click the Start button



KEY FEATURES

Fastest test cycle in the industry

Vantage proves to be the fastest Ethernet tester in extensive production line trial with one of China's largest contract manufacturers:

| | Duration | Preheat time (Wait until the DUT runs up) | Time to get serial number | Total time in Seconds |
|--------------------------|----------|---|------------------------------|--------------------------|
| Other industry leader | 10 | 15 | More than 20 | More than 45 |
| Xena | 10 | 15 | 5 | 30 |



KEY FEATURES

DUT port LED status displaying

Port status of each test; Port status on the "Test Now" Page:

The screenshot displays a control panel for a test configuration. On the left, there are icons for adding a new test and a list of existing tests including 'test1'. In the center, a large play button is visible. To its right, a status indicator shows 'Configured' with a yellow background and two green dots below it. Further right, a 'RESULTS LOG' section contains two entries: '2019-11-13 02:39:54 Test config is "test1"' and '2019-11-13 02:39:54 Test'. On the far right, there are icons for zooming in/out and deleting the configuration.



KEY FEATURES

Powerful Telnet feature via test ports

Vantage Telnet API and UI script allows users to retrieve its DUT ports info through Vantage test ports, for example: Regedit status checking, USB checking LED checking, DUT configuration uploading (PON test) etc.

Telnet DUT check config:

Enable Telnet DUT configuration check via test port before test start ⓘ

DUT IP: DUT port: ⓘ

Telnet script

ⓘ

KEY FEATURES

Test suite Combination

Allows the user to program its task list by combining multiple test cases - up to 10 - and to implement them in sequence, on the same test ports and DUT.

The screenshot displays a test suite management interface with four test cases listed. Each case includes a '序号' (Serial Number) field containing 'DUT', a '端口选择' (Port Selection) field containing 'olt', a status indicator (a square with a white dot), a progress bar, and a 'LOG信息' (Log Information) field.

| 序号 | 端口选择 | Status | Progress | LOG信息 |
|-----|------|-----------|----------|---|
| DUT | olt | Running | 60% | 2019-11-15 06:45:27 Starting subtest with ID 9e5821c5d3b04f2cad011324388c9978 2019-11-15 06:44:21 Starting subtest with ID 2671b62d670a4d98945a6e28dfa333c0 2019-11-15 06:43:15 Starting subtest with ID 60684af896b348d1a730cbe04cd8d5a7 |
| DUT | | Running | 57% | 2019-11-15 06:46:01 Progress stream port4/4 -> port3/3: Sent packets: 4616497 |
| DUT | | Completed | 通过 | 2019-11-15 06:45:27 Ok Test completed successfully |
| DUT | | Completed | 通过 | 2019-11-15 06:44:21 Ok Test completed successfully |

KEY FEATURES

Simple and easy to read test Report

- Pass or fail test result
- TXT, PDF, HTML Test Report
- Real time test logs
- DUT (s/n, id, testcase) and Tester Info
- Over 10 years test result storage



KEY FEATURES

Industry's best

- Based on 10 years of Valkyrie technology and know-how in R&D Ethernet performance testing.
- Industry's most stable and accurate Ethernet production test solution.



Cost effective with the best class performance!

- Most accuracy and stable production test tool, with the technology from 10 years RnD testing
- Full coverage with all port speeds, Market only support from 1GE up to 400GE
- Local customization and scripting support
- Multi-language UI (Chinese, English, Danish, Thai and Japanese if needed)

Vantage – making production-line staff lives easier 😊



- ✓ "Powerful production UI, ""3-clicks"" to complete a test cycle, and seamless parallel test case execution
- ✓ Shortest test cycle in the industry
- ✓ Web UI, no need for any local software installations
- ✓ Support for 100M to 400G Ethernet speeds
- ✓ Feature rich UI, with display of test status, progress, and real time logs.
- ✓ Scriptable via CLI and RESTapi from any software environment, for integration into customers own UI applications
- ✓ Telnet feature to allow customer check into DUT status such as LED, USB and REGEDIT status, also DUT configuration modification.
- ✓ Interface with customer Manufacturing Execution System (MES) system via DLL/SQL/HTTP, to store test results into its database
- ✓ Industry's most stable and accurate Ethernet production test solution, based on 10 years of Valkyrie technology and know-how for R&D Ethernet performance testing"

Test. Improve. Repeat.

THANK YOU



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Want more?

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