

Veryx ATTEST™ OF Switch Conformance Test Suite DATASHEET

Veryx ATTEST Conformance Test Suite (CTS) for OpenFlow Switch is ideal for equipment manufacturers, who desire an easy and efficient solution for verification of **OpenFlow™ Protocol (Open Network Foundation OpenFlow Specification Version 1.3.3)** implementation in their OpenFlow switches, deployable in **Software-defined Networking (SDN)**. OpenFlow Protocol allows direct access to and manipulation of the forwarding plane of network devices such as switches and routers, both physical and virtual (hypervisor-based) by moving network control out of the networking switches to logically centralized control software.

Veryx has automated test cases that comprehensively test for OpenFlow Protocol conformance to *ONF OpenFlow Specification Version 1.3.3*. These test cases are grouped into convenient test groups for each category of functions.

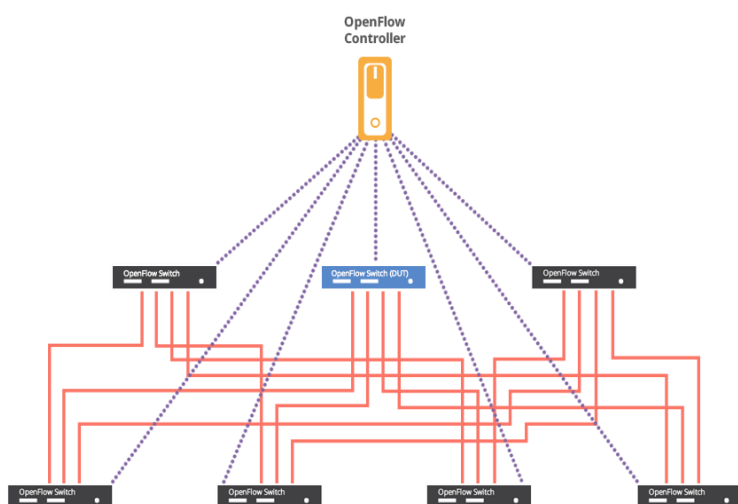


Figure 1: An example of Topology with OpenFlow switches

HIGHLIGHTS

- Verifies OpenFlow-compliant switch implementations – *OpenFlow-only* and *OpenFlow-hybrid* switches
- Verifies connections setup and interruption using TCP/TLS
- Verifies the communication with multiple controllers
- Verifies auxiliary connections
- Verifies all mandatory and optional match fields and related actions
- Verifies traditional switching and routing functionality at *OpenFlow-hybrid* switches

BENEFITS

- Enables significant speeding up of testing cycles and reduces the “time-to-market”
- Test suites written in industry standard TCL scripts. Well defined APIs provide the flexibility to customize the test cases for specific requirements
- Built in Automation and Reporting Capabilities

SPECIFICATIONS

- ★ ONF OpenFlow Switch Specification 1.3.3

KEY TESTS

- ★ Channel Connection using TCP/TLS
- ★ Message format validation
- ★ All OpenFlow messages handling
- ★ Insertion, deletion and modification of entries across OpenFlow Tables – Flow Tables, Group Tables and Meter Tables
- ★ Pipeline processing of Flow tables
- ★ Verification of all mandatory and optional tuples
- ★ Counters and Statistics verification
- ★ Validation of error messages
- ★ Operation of Ethernet switching, VLAN isolation and L3 routing in hybrid switches
- ★ Validation of support and working on reserved ports

PLATFORM REQUIREMENTS

- ★ VT-400
- ★ ATTEST 6.x Framework
- ★ 4 Ethernet ports
- ★ Serial or additional Ethernet port for DUT management

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OF Switch (Total test cases – 400*)

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|---|--|
| <ul style="list-style-type: none"> • Supports version 1.3 • Message format verification • Creation, Modification and deletion of Flow, Group and Meter tables entries verification • Table statistics and switch statistics verification • Timer and counter verification • Querying and configuration support • Multiple controllers verification | <ul style="list-style-type: none"> • Validating support for establishing auxiliary connections • Test is performed for different OpenFlow switches – <i>OpenFlow-only, OpenFlow-hybrid</i> • Error handling • Connections using TCP/TLS • All messages verification – Controller-to-switch, Asynchronous, Symmetric |
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Veryx ATTEST OF Switch is designed for conformance testing of OpenFlow functions in OpenFlow switches. Veryx also provides Conformance test solution for OF controllers and PktBlaster SDN Controller Test solution for verification of performance and functionality of OF controllers.

ATTEST Test Suites are written in industry standard Tcl scripts. Well defined APIs and source files provide the flexibility to add, customize, or modify the test cases for specific requirements.

Veryx ATTEST OF Switch test suite relies on ATTEST – a powerful test framework that requires minimal time for set-up and enables efficient use of time and resources

Veryx ATTEST Framework helps customers to easily integrate device under test for automation – using CLI / SNMP (v1 / v2 / v3). It also provides a standard interface to integrate with home-grown automation systems.

For more information, kindly visit our website or contact us.

ORDERING INFORMATION

PRODUCT	PART NUMBER
ATTEST Conformance Test Suite – OpenFlow Switch	CTS-SDN-OFS-B

Veryx also offers **PktBlaster SDN Controller test solution** that offers Performance Benchmarking of SDN controllers and real-time emulation of SDN networks. To know more about this product, please visit <http://sdn.veryxtech.com/>

About Veryx Technologies

Veryx Technologies (formerly Net-O2 Technologies) provides innovative Verification and Measurement Solutions for the global communications industry. ATTEST solutions verify networking equipment being used for Access, Carrier Ethernet, Data Center, Edge, Enterprise, Industrial and Security. The unique offerings from Veryx enable customers to reduce the “time-required-to-test” and enhance their “time-to-market”.

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