WP1: White Rabbit Switch VLAN Command Line Interface integration

Maciej Lipinski, Adam Wujek, 2017-11-29, CERN

The supply is a source code (e.g. set of scripts) needed to integrate the ATTEST-based VLAN-S Conformance tests with the Command Line Interface (CLI) of White Rabbit Switch (WRS) to allow automated testing of WRS. The tests to be integrated are a subset of the VLAN-S conformance tests that is applicable to the WRS. The developed tests are intended for regression tests of the White Rabbit Switch (WRS) that is the Device Under Test (DUT). The manuals of WRS can be found in [1].

Technical requirements for the supply

1) It shall integrate a subset of the VLAN-S conformance tests that (final list to be agreed)
   a) exclude the VLAN-S tests that verify operation of (Rapid) Spanning Tree Protocol, Group VLAN Reservation Protocol and Port-and-protocol VLAN classification (these features are not yet implemented in WRS) with the exception in point b),
   b) include all the other tests along with the tests that verify port to be set in “Forwarding State” by STP.

2) It shall include configuration of the ATTEST VLAN-CTS test suite that disables verification of port state to be in “Forwarding State” (e.g. FDG_MUST_11).

3) It shall allow configuration of the WRS as needed by the included VLAN tests, this includes:
   a) Mapping of configuration used in the tests to the CLI-based configuration provided by the switch,
   b) Using SSH to call WRS-specific CLI commands (e.g. wrsw_vlan, rtu_stat),
   c) Parsing of the output of the WRS-provided commands to conclude the state, where needed by the test.

4) It shall be accompanied by
   a) Technical documentation
   b) Instructions/assistance how to update CERN test system (Xenabay C4-12 with M6SFP Test modules and Veryx Attest framework with VLAN-S Conformance) to run the developed solution (the supply)

CERN will make all supply available under the GPL license. The supply will accepted provided it successfully works on CERN test system.

VLAN Test Case Groups and the tests to be integrated (initial list, based on information in the ATTEST package provided to CERN):

- BMG – tests 2,3;
- FDG – tests 2,5,6,7,8,9,11,14, (maybe 18, 29);
- IER – tests 1,2,5,6,7,8,9,14,15,16,17,18,20,21, (maybe 3,4).

The execution of this work package shall include weekly conf-calls to discuss its progress. This work package shall be executed as follows:

1) At launch, CERN provide Veryx with a WRS and provides all the necessary information.
2) Veryx confirms that it has all the input to start the work
3) Veryx verifies the list of tests proposed for integration and provides mapping of needed configuration to WRS-specific CLI commands indicating missing commands in the WRS, if any, within 1 week.
4) CERN and Veryx agree on the final list of tests to be integrated and on any developments needed to be done by CERN on the WRS.
5) CERN provides the agreed input within 1-4 weeks.
6) Within 3 weeks, Veryx integrates the agreed tests verifying them with the provided WRS. Veryx provides CERN with the product along with instructions how to use it using CERN’s setup.
7) CERN verifies the supply within 2 weeks to trigger the payment.

[1] White Rabbit Switch Software – current release (v5.0.1)