White Rabbit Switch Testing

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Outline

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2. Overall Design of the Test System
3. Production Test
4. Compliance and Performance Test
5. WR Test System Software Framework
6. Status, Organization and Planning
Goal of the Test System

Goals

- Creation of a testing protocol for the White Rabbit Switch
- Creation of a testing framework that automatizes the testing protocol
- The testing protocol guarantees that a White Rabbit user gets a "healthy switch" from the manufacture and designers: good hardware/gateware quality/stability and foreseen network performance

A Healthy WR Switch

- A healthy Hardware → Production Test
- A healthy Networking Device → Compliance and Performance Test
- WR Switch manufactures shall carry out the Production Test Protocol
- WR IT Managers (Control System) shall carry out the Compliance and Performance Test
Overall Design of the Test System

Test System Design

Test System Software Framework

Production Tests

Compliance Performance Test

Physical Connection to the DUT

WR Switch
Seven Solution
Please hold a second! Javier Diaz
Goals and Design

Set of tests that proves the compliance of the WR Switch with IEEE standards, WR PTP and the performance under high traffic conditions etc...

- The test are based on the RFC 1242 and 2544
- Specific tests for White Rabbit (WR PTP, synchronization stability etc..)
- The platform of the "WR Testbencher" based on WR Swicht v3 (We need first to have a "healthy v3")
- The test are downloaded and executed by the WR Testbencher
- Either the tests and result are stored in a external data base
Goal Design

- Loads, executes, controls and gathers the inputs and results of a test
- Platform independent, Unittest library from python
- High level of automatization and control of the test flow
- Checking that the hardware interfaces are connected before the execution of the test.
- Console/GUI interface for loading and presenting results
- Scalability, new tests shall be easy to add by the test developer and network managers.
Organization

- Production Test Protocol → Seven Solution, CERN support
- Test System Software Framework → GSI
- Compliance and Performance Test → GSI, CERN
- Open to new collaborators!

Status

- Production Test Protocol: 25%
- Test System Software Framework: 0%
- Compliance and Performance Test: 25%
Planning for the next Workshop

- First things first! We need a stable version of the Switch
- Basic Production Test with simple level of automatization
- Release of the Production Test Protocol
- Test System Software that supports the Basic Production Test
- Release of the Compliance and Performance test
- If there is time and energy, Testbencher demo
- It is possible, isn’t it?