Status WR Switch, Current (v3)

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White Rabbit
COLLABORATION

Agenda

1. Release v6.1

2. Release v7.0

Release v6.1 (07-06-2023)

Release v6.1 (07-06-2023)

New features:

- In wr_mon
  - Display information about GrandMaster:
    - Grand Master Id
    - stepsRemoved
    - clockClass
    - timeSource
    - accuracy
    - logVariance
  - Informing about SFP match to the database (+/- in front of interface name)

Release v6.1 (07-06-2023)

New features:

- Support of disabling SFPs' TX laser with wrs_sfp_dump
- In SNMP, addition of subset of OIDs:
  - IP-MIB (IP related)
  - BRIDGE-MIB (output of rtu_stat)
  - QBRIDGE-MIB (output of wrs_vlans)
- Improved reporting of an offset between NTP and WR time via SNMP
- Implementation of sysObjectID value to reflect WRS manufacturer and HW version
- Detection whether a switch is a low-jitter version (displayed in wrs_version, SNMP)
- Implementation of radius-802.1X for MAC authentication (subset of IEEE 802.1X)

New document "WRS: Radius Vlan"

https://ohwr.org/project/wr-switch-sw/wikis/uploads/5f86a996d29a2fb21a389c27da7781db/wrs-radiusvlan-v6.1.pdf

Release v6.1 (07-06-2023)

Important bug fixes:

- Fixes in handling of SFP's diagnostics (if SFP's diagnostic is used with firmware v6.0.x it can corrupt SFP's eeprom!)

This release uses exactly the same FPGA bitstream as the v6.0.x, thus the same calibration parameters apply!

More:
https://ohwr.org/project/wr-switch-sw/wikis/Release-v61
https://ohwr.org/project/wr-switch-sw/milestones/1

Release v7.0 (soon)

Release v7.0

When we talk about White Rabbit it may mean:

- A rabbit
- A PTP Profile
- A PTP Extension
- An Implementation

Profile vs. Extension

PTP Extension:

Refers to an enhancement or addition to the core PTP protocol (e.g., L1Sync optional feature), developed to address specific use cases or requirements that are not covered by the base protocol.

PTP Profile:

Definition of set of parameters with their allowed ranges and which extensions (optional feature) can be used with it.

More in Maciej Lipinski's talk about standardization.

Profile vs. Extension

In WRS v6.1, you can configure:

- Per instance/port:
  - Default Profile or WR (implies extension)

In WRS v7.0, you can configure:

- Globally:
  - Profile (e.g., value of priority1)
- Per instance/port:
  - Profile (e.g. put constraints on PTP message rates)
  - Extension (e.g. L1Sync)

Release v7.0

- Added support of High Accuracy (HA) PTP profile with L1Sync extension (IEEE1588-2019)

  - Still beta, but we encourage people to try!

- Added support of HA/L1Sync to Wireshark 4.2 (e.g. in Ubuntu 24.04LTS)

- Extension autonegotiation between WR and L1Sync

Release v7.0, Extension autonegotiation

- Plans for long time support:
  - WR switch: HA <u>and</u> WR (at the same time)
  - WRPC (node): HA <u>or</u> WR (one at the time)
- Extension autonegotiation priority:
  - L1Sync
  - WR
  - No extension

Release v7.0, runtime reconfiguration

- ppsi
  - PTP related:
    - announce-interval, delay-req-interval, priority1/2, sync-interval
  - Profile/extension related:
    - global-profile, profile, extension, extension autonegotiation
  - Other:
    - diags (globally and per port), tracking, alpha
- hal (PPS in-out offset in GM mode)

More in next releases

Release v7.0

- Software:
  - Support of fan-less version of a switch from SyncTechnology
  - Support building the firmware on Ubuntu 22.04
  - Cosmetic updates in SNMP (MIB)

- Gateware:
  - Support of Fan-Less switch from SyncTechnology
  - Bug fix for Jumbo frames
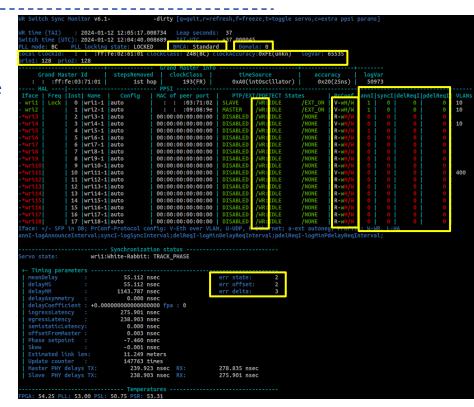- NOTE: Changed bitstream! Will require new calibration values!

We published Application Note for calibration
https://ohwr.org/project/white-rabbit/wikis/uploads/11f29675590d6d62b296064bd4e87921/WR_Calibration-Application_Note_1_v0.4.pdf

Release v7.0

- Important bug fixes:
  - Fix wrong behavior of BMCA with redundant passive links
- Bug fixes (less important):
  - Don't allow setting ports to slave for GM

- Number of non-backward compatible changes in dot-config:
  - Related to the PTP parameters (if not using standard values)
  - Related to setting BMCA/external port configuration
  - Selection of PTP profile/extension

Release v7.0

- wr_mon:
  - add "c" keypress to display some more config options (PPSi)
  - freeze + refresh
  - display number of errors from servo
  - display domain number
  - display info about the used BMCA
  - display configured profile/extension/ extension autonegotiation
  - add which extension is used (displayed before extension state)

Thank You!