

Enhanced Noise Transfer Script Release Notes

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Introduction to ENT

The Enhanced Noise Transfer (ENT) Tcl script for Paragon-X allows users to test noise transfer in line with ITU-T G.8273.2 (Clause 7.3).

Release 08.00

New Settings / Capabilities

- Added support for uncoupling of interfaces to allow mixed rate or interface type testing.
- Now 2 modes of operation: coupled and uncoupled

User Settings

- New parameters **Port1Config** and **Port2Config** with sub-parameters of **LineRate/Interface/AutoNegotiate setting**

Defaults

- **Port1Config** and **Port2Config** are not enabled by default

Bug Fixes

- None

Release 07.01

New Settings / Capabilities

- Added support for selection of which Ethernet Multicast Address should be used at the Master and Slave, either Forwardable (01:1B:19:00:00:00) or Non-Forwardable (01:80:C2:00:00:0E)

User Settings

- New parameters **MasterMcastAddress** and **SlaveMcastAddress** with values of **FORWARDABLE / NONFORWARDABLE**

Defaults

- MasterMcastAddress and SlaveMcastAddress set to FORWARDABLE

Bug Fixes

- None

Release 07.00

New Settings / Capabilities

- Updated with changes to limits as specified in ITU contribution SG15-C0768
- Improved handling of instrument reset (incorporating changes that already exist in the paragon.tcl wrapper). This makes the script more robust when previous executions have terminated abnormally.

User Settings

- No change

Defaults

- No change

Bug Fixes

- The limit for SyncE-XXX at 0.06156Hz was lower than it should be

Release 06.01

New Settings / Capabilities

- For SyncE-XXX transfer, the 5 lowest frequencies now use an increased amplitude. The amplitudes used are low enough for the DUT to tolerate but provide for a better signal-to-noise ratio at these frequencies. See the **Getting Started Guide** for details.
- A Tcl file is now generated that records the stimulus list used. This allows for re-processing data regardless of the version of the script used.
- A capture is now taken during the device setting period. This can be used to help debug any issues that may arise in the test.
- Added 120 seconds of PTP/1pps measurement before applying the noise stimulus. This provides more information for results analysis. In addition, this capture is used to try to verify that the test configuration is correct. The number of PTP Delay-Response messages in the capture is compared with the number that would be expected. If there are fewer messages in the capture then a message will be displayed on the console. This allows for earlier detection of configuration issues.
- Added further error checking.

- Modified the UI width and the image capture. This may resolve issues when taking the snapshot of the UI when there are overlapping windows.

User Settings

- No change

Defaults

- Graphing now defaults to GraphingYAxis=GAIN (rather than AMPLITUDE).

Bug Fixes

- The limit calculation for graphing was wrong when YAxis was set top GAIN
- Filter=NONE did not work (terminated the script) when measuring 1pps

Release 06.00

New Settings / Capabilities

- The limits for SyncE-XXX transfer now use $N=25$
- Additional checking has been added for set-up problems e.g. checking for links being up, for packets being received and to ensure that there is sufficient captured data. This provides more useful error messages when there are test setup issues (CSAM-49)

User Settings

- Limits can now be disabled using the LimitsEnabled argument.
- When Graphing is enabled, the Y axis on the bode plot can now be configured as either Amplitude(ns) or Gain(db) using the GraphingYAxis argument (CSAM-35)

Defaults

- Graphing is now DISABLED by default. This helps avoid issues with the installation of Tcl libraries

New Settings / Capabilities

- ESMC generation now started before MSE and device settling time (CSIND-56)
 - Previously ESMC was not being generated until after MSE was started. Some DUTs will lock more quickly when ESMC is already present.
- Added setting to allow sub-set of points to be executed
 - This is useful for debugging when there are issues at specific frequencies
- Added setting to configure for 2-step DUT
- LSQ estimator now being used for 1pps (as well as PTP)
- PTP and 1pps measurements can now be combined into one test
 - Both PTP and 1pps measurements can be performed in one test run using Type PTP-BOTH and SyncE-BOTH (default changed to PTP-BOTH). See the ENT Getting Started Guide (CX5036) for more details
- Graphing capability updated to present 1pps and PTP measurements when PTP-BOTH or SyncE-BOTH is used.

User Settings

- Re-worked mechanism for making script settings. See the ENT Getting Started Guide (CX5036) for full details.
 - Command line options still work but settings can also be made using a specified config file
 - This has been added so as to avoid forcing users to type long command lines

Defaults

- The default settings now use a similar mechanism to user settings - they are stored in a separate Tcl file. See the ENT Getting Started Guide (CX5036) for full details.
 - This allows users to change the defaults file without having to edit the main script
 - This has been changed to allow users to define their defaults and then execute the script with no arguments. This is of particular benefit to users integrating the script into their own test programs
- Type now defaults to PTP-BOTH

Bug Fixes

Fix to resolve issue where error is generated when UI window is obscured during screengrab.

Release 04.00

- Increased default DUT recovery time from 20s to 50s
- Increased high frequency capture durations from 200s to 250s
- PTP measurement now being performed on T4 so as to guarantee sample rate
- Modified limits to use N=10 (rather than N=5)
- Added GUI port as a parameter
- Updated graphing support



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