

Calnex Paragon - *x*



Software Release 28X Update (X.10.41.1x)

NEW FUNCTIONALITY AND ENHANCEMENTS




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1 Software Release Overview

Release 28X Update (X.10.41.1x) adds the following features to Paragon-X

SUS (Software Upgrade Service)



Enhancements to existing options	Base product enhancements
<p>Peer-to-Peer MSE (Option 252):</p> <ul style="list-style-type: none">• 802.1AS-2020 Profile <p>SMPTE Profile (Option 283):</p> <ul style="list-style-type: none">• AES67+SMPTE Profile <p>End-to-End MSE (Option 250):</p> <ul style="list-style-type: none">• AES67 Profile	<p>Defect Fixes</p>

 To check the current software version installed, select Help > About Paragon Remote Client on the Paragon-X GUI.

2 Features and Benefits

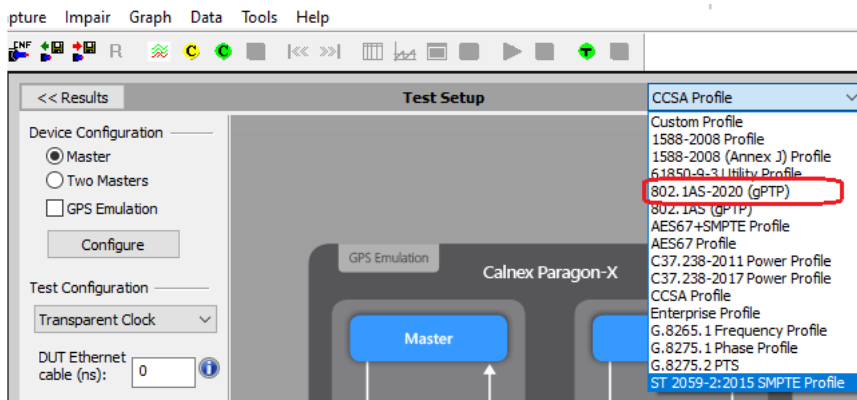
Paragon-X	Benefit
<p>Peer-to-Peer MSE (Option 252):</p> <ul style="list-style-type: none"> • 802.1AS-2020 Profile <p>End-to-End MSE (Option 250):</p> <ul style="list-style-type: none"> • AES67 Profile <p>SMPTE Profile (Option 283):</p> <ul style="list-style-type: none"> • AES67+SMPTE Profile 	<p>Extends the ease-of-use of PTP profile drop-down selection to the latest official and updated profiles available in Industrial/Automotive, Audio and Media applications.</p> <p>Applications such as compatibility checking with current and previous versions of profiles can be confidently carried out with automatic field setting in Paragon-X, and user guidance when parameters are outwith allowed ranges.</p>
PFV	Benefit
<ul style="list-style-type: none"> • 802.1AS-2020 Profile • AES67 Profile • AES67+SMPTE Profile 	<p>Increased range of PTP profile message conformance capabilities, suitable for interoperability testing, troubleshooting and more.</p>

3 Enhancements to Existing Options

3.1 IEEE 802.1AS-2020 (gPTP) support (requires Option 252: Peer-to-Peer PTP Emulation)

The IEEE 'gPTP' profile has a revised version, 802.1AS-2020, which defines the fundamental settings and parameters for the use of PTP in network environments such as for industrial automation, and is a pre-requisite for applying other Time-Sensitive Networking capabilities, such as scheduled windows. Robust definition of generated message parameters is essential in confirming compliance and interoperability.

802.1AS-2020 is now available as an 'auto-configure' drop-down option in the PTP emulation configuration page. Users can also adjust parameters, and will be notified if they have moved outside of the acceptable ranges of values, as the Profile selection will move to 'Custom'.

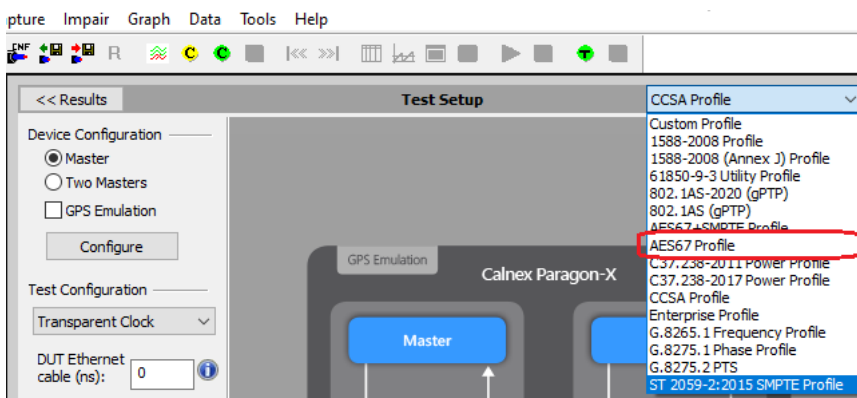


Note that the previous 802.1AS selection is also available, useful for testing interoperability and performance issues in devices and systems in the event of mismatching implementations being used.

3.2 AES67 (Audio Profile) support (requires Option 250: End-to-End PTP Emulation [or Opt270+Opt272])

AES67 defines audio over IP and audio over Ethernet (AoE), including provision for interoperability with layer 2 technologies such as Audio Video Bridging (AVB). AES67 uses 1588 for synchronisation, with specific defined parameters and ranges for the application.

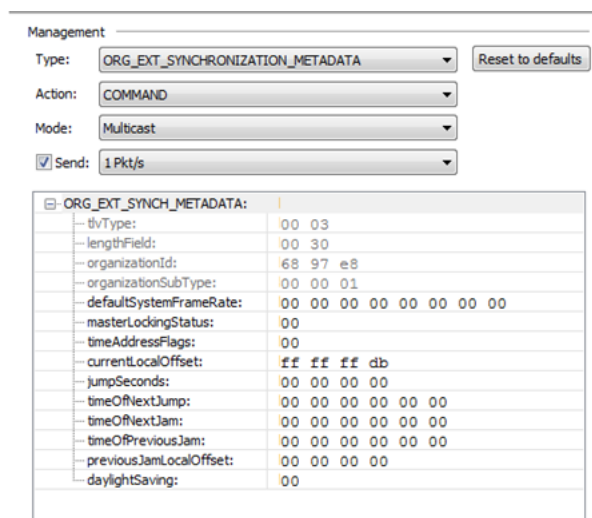
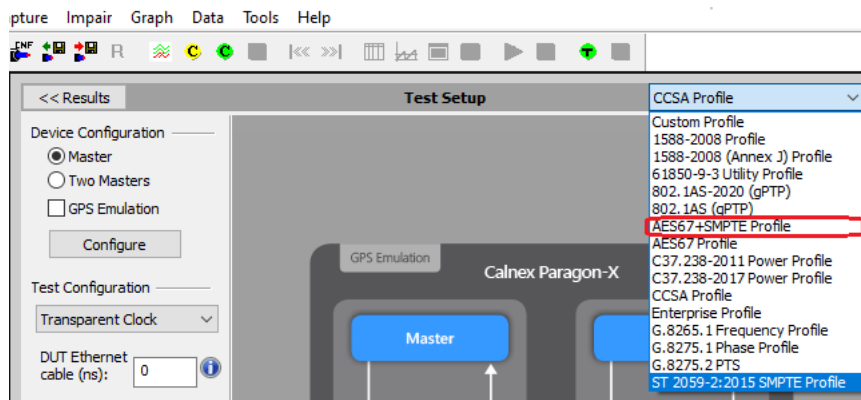
AES67 is now available as an 'auto-configure' drop-down option in the PTP emulation configuration page. Users can also adjust parameters, and will be notified if they have moved outside of the acceptable ranges of values, as the Profile selection will move to 'Custom'.



3.3 AES67+SMPTE Profile support (requires Option 283: SMPTE Profile Support and Option 250: End-to-End PTP Emulation [or Opt270+Opt272])

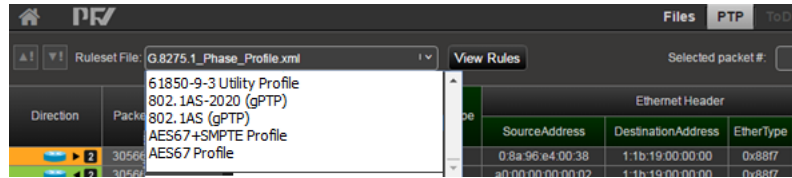
For some media applications (e.g. those involving video) a set of default parameters and ranges are defined that allow PTP to be deployed in a manner consistent with both AES67 and SMPTE ST 2059-2 PTP profiles, referred to as the AES67+SMPTE profile. This includes the use of the SMPTE required Synchronization Metadata TLV.

In addition to the profiles mentioned earlier in this document, AES67+SMPTE profile is now also available as a PTP emulation auto-configuration. Changes to setup will be identified as compliant or non-compliant in the manner indicated in earlier sections, with the additional capability to make required changes to the management message SM_TLV



3.4 PFV: New Profile support (requires Option 950: PFV)

As mentioned in the above section, this release enables support for the IEEE 802.1AS-2020 (gPTP) Profile, AES67 Audio Profile and AES67+SMPTE Media profile – this also applies to the message decode and Pass/Fail analysis capability of **PFV**:



For more information on PFV, please refer to the documentation available through the Paragon-X GUI.

4 Appendix A: Software Advisory Notes

- For more information on features and fixes in this Release, along with other user information on Calnex products, please visit the Knowledge Base at: <https://calnexsolutions.atlassian.net/wiki/spaces/KB/overview>
- Enhancements have been made in this release to the calculation of Turnaround Time in Peer-to-Peer PTP emulation mode, removing the potential for results of an incorrect magnitude in approximately 1/100 test runs. It should be noted that the issue provided results which were clearly in error.
- When measuring time error at 100M, MSE should be started **before** the capture is started. If MSE and capture are started at the same time, then a time error offset of 40ns may occasionally be measured.

To start MSE separately from capture, in MSE, configure the filters required and press "Set"; **then** start MSE. After a few seconds, start the capture.

- Port 2 link must be up (Rx connection in place to port 1 Tx) in order to allow Port 2 Tx to function in Packet Generation mode.
- Script recorder does not support manual setting of filters through 'flow filter' in Through Mode operation. This can be addressed by saving filter settings and then recalling the saved settings in your script.

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