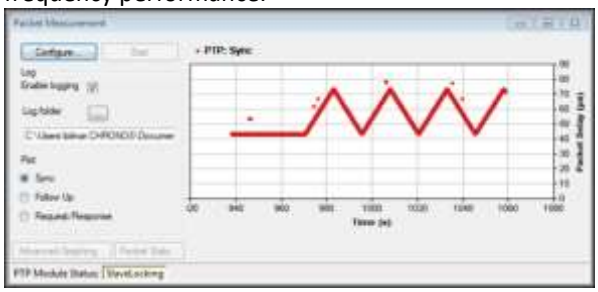
Design & Test

Radio Links Fit and Ready for 5G Backhaul

The Issue
Network synchronisation is no longer a requirement of transport (SDH/SONET) infrastructure, and synthesising E1 clock outputs from packet arrival times will not suffice at the edge of 5G supporting networks.

PTP clients in Carrier Ethernet networks quickly became very resilient to Packet Delay Variation; certainly resilient enough to deliver 50ppb at the air interface for frequency synchronisation.

Beyond assuring yourself and your customers that your radio links would not significantly affect PTP flows—that you were "PTP Agnostic" - you could be confident your links would maintain network edge frequency performance.



On Path Support for Phase
For phase delivery though, on-path support (both SyncE and PTP) is required if microsecond phase is to be delivered to the network edge.

ITU-T standards currently recommend the use of Boundary Clocks at each network hop. A Boundary Clock effectively terminates the PTP flow and the element input, and generates a fresh PTP flow at its output.

This seems to be the solution for fixed network elements, but cannot really be applied to radio links as the largest contributor to Packet Delay Variation in a link is the air between the elements!

Design & Test delivers:

- Design phase support
- Prototyping support
- Performance verification
  - SyncE clock quality and jitter
  - Transparent clock PDV reduction
  - Output phase sync

The solution therefore seems to be to treat the whole link as a Transparent Clock; adding data on packet traverse time in to the PTP packets to assist the clients.

No Longer Just PTP Agnostic
This means then that you will have to interact with your customer's PTP packets if they are to deliver microsecond phase at the edge.

You know the way your links work better than anyone, but do you really understand the customer's requirements and the steps needed to achieve and verify that performance?

Premium Service
Chronos has over 30 years' experience in delivering and supporting synchronisation systems for both fixed and wireless carriers; a wealth of experience in equipment and system design that can help you deliver PhaseReady™ links; and a hard won reputation in the timing world.

Chronos' "Design and Test" gives you access to our team of system, product and test engineers, working at both Chronos' base in and in your lab environment.

Together we can deliver PhaseReady™ links for 5G applications, and assurance from a world leader in the industry of product performance.

DATASHEET