

This setup guide shows you how to configure the Calnex Sentinel to measure PTP 2 Way Time Error in monitor mode using an external Ethernet TAP or optical splitter.

Monitor Mode: PTP 2 Way Time Error Measurement

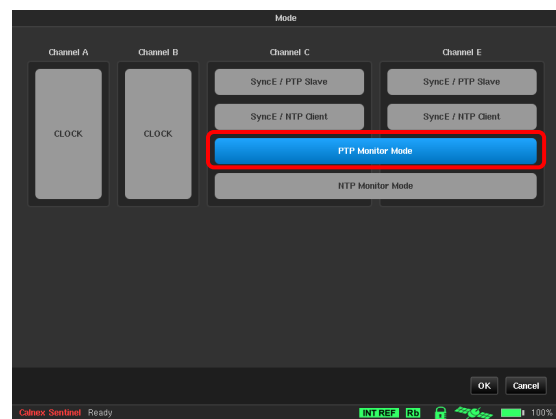
Note:

- Note this test requires at least two Ethernet modules to be present in the Sentinel and a GPS antenna connection.
- Before performing these steps, connect the Sentinel PTP ports to the TAP / Splitter monitor ports and power on the Sentinel.
- There is no requirement for the connections from the TAP / splitter to be connected to a particular PTP port.



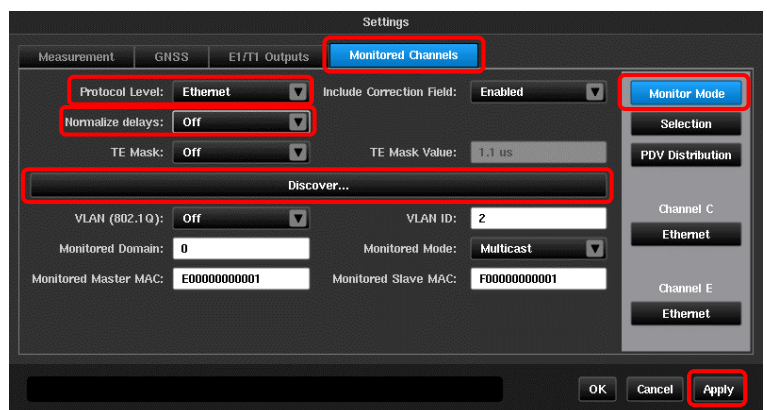
STEP 1

- In the **Settings > Measurement > Common** page set **Test mode** to **TIE + PDV** and **Duration** as required.
- On the **Settings->Measurement->Timebase** set the **Internal reference Disciplining Source** as **GPS** and the **Internal Reference Disciplining Mode** to **Always**.
- On the **Settings->Mode** page select **PTP Monitor Mode**.



STEP 2

- Select the **Monitored Channels->Monitor Mode** page.
- Set **Protocol Level:** to the type of flow to be examined (**Ethernet, UDP/IPV4 or UDP/IPV6**).
- Set **Normalize delays:** to **Off**.
- Press **Apply**.
- Ensure the PTP GM and T-TSC are configured correctly and the PTP flow is running then press **Discover**.



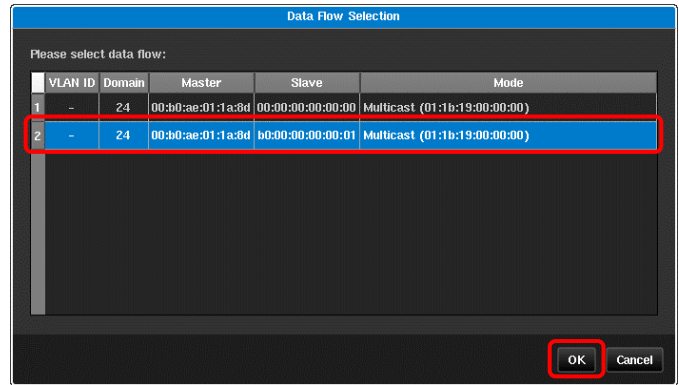
STEP 3

- Select the appropriate flow from the Discover pop-up.
- Press **OK**. The **Monitor Mode** page is now correctly populated for the selected flow.

NOTE: For multicast flows always select the flow with both Master and Slave addresses set to a non-zero value.

NOTE: If the desired flow is not shown, check all Ethernet ports have a link and are all running at the same speed. This may have to be configured manually in the **SyncE/PTP > Ethernet** settings.

Press **Cancel** then press **Discover** again.

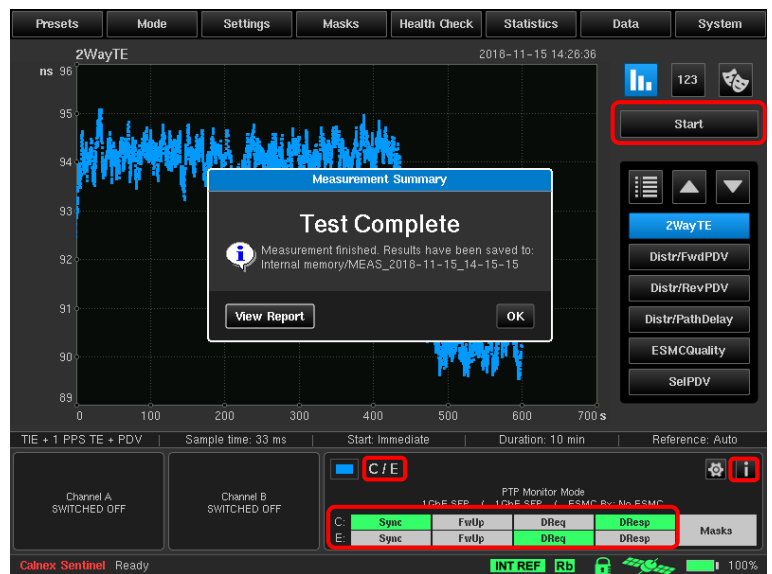


STEP 4

- Verify that a link is seen on the PTP ports connected to the TAP / splitter by pressing the **i** icon, then click on the **Start** button to initiate the test.
- Verify that the **Sync, FwUp, DReq** and **DResp** status appears in the Monitor Mode widget.

The test will automatically stop when the pre-set test duration is complete, or it can be stopped manually by pressing the **Stop** button.

NOTE: The results are always associated with the first PTP channel of the monitor mode pair. i.e. **A** if the first PTP card is populated in slot A-B or **C** if the PTP card is populated in slot C-D.



The measurement results can be loaded in to the Calnex Analysis Tool (CAT) for more in-depth analysis and to generate a report.



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