

# SyncWatch

Monitoring frequency & time for the Broadcast/DVB



*Qualifying the latest sync and timing technologies*

## TIMING AND SYNCHRONISATION SOLUTIONS

### Background

A National Carrier's Digital Video Broadcasting (DVB) transmitter network requires 10MHz & 1PPS (1PPS to within 1uS) to operate efficiently across a large European country. The carrier is using a transmission network that has the capability to distribute frequency and a 1PPS signal over SDH.

Some transmitters in the north of the country are already driven from the distributed 10MHz/1PPS but the carrier currently has no way of measuring the performance except dedicated bench-top type testers which is a costly exercise. Initial measurements have shown that the transmission network can deliver 1PPS to within 300nS in the extreme north of the country.

They require a network of low-cost probes that can be installed at strategic locations and permanently record performance to a centralised server. The carrier also requires a few portable probes that can be carried to site by engineers to aid with fault-finding at trouble spots should they arise.

### Solution

Chronos installed SyncWatch probes at a few strategic transmitter locations to monitor this distributed 10MHz/1PPS timing signal - 10MHz is not so critical but the 1PPS is essential.

SyncWatch measured the absolute 1PPS deviation from UTC and immediately raised alarms if this strayed outside a settable threshold. When an exception to the MTIE mask occurs on any one of the SyncWatch probes, an immediate notification of the event is uploaded to the SyncWatch Server. The server in turn can raise an alarm to an Element Management System and send an SMS and/or email alert to the Carrier's NOC engineer as predetermined.

The Carrier also has some fibre based distribution that has asymmetric delays, but the asymmetry can be calibrated out. SyncWatch checks whether the asymmetry changes and if it needs to be recalibrated.



### Client Quote

*"We very much like the low-cost probes/centralised server solution. There is nothing on the market today that promises this combination of functionality except the Chronos SyncWatch solution. Due to the geography of our country, a very significant cost to us is sending a man to site so the idea of the 'easy to install' and remotely upgradeable probe is key."*

Manager of Radio Systems

CASE STUDY

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