

DATAMINER PRODUCT SHEET

# DATAMINER PTP APP

PRECISION TIME PROTOCOL



**DISCOVER PTP  
DEVICE CONFIGURATIONS**



**CONSTANTLY MONITOR  
ALL PTP NODES**



**INTERFACE WITH  
PTP NETWORK ANALYZERS**



**RELY ON  
PTP FAULT ANALYSIS**

## Keep your PTP network service under control

PTP (Precision Time Protocol) is used by broadcasters, media network operators and service providers to deliver precise time to all slave devices in a PTP stack. PTP enables slaves locked to a PTP master to synchronize their clocks for any kind of media infrastructure. That includes SMPTE ST-2110 media and broadband access networks, DOCSIS 3.1 architectures and 4G/5G infrastructures.

The DataMiner PTP app collects and correlates data from each PTP device and interfaces with third-party PTP network analyzers to achieve a true 360° real-time PTP monitoring solution. The app immediately informs about network degradations or any PTP state changes, originating from GNSS (global navigation satellite system) down to every PTP slave device to ensure a stable and reliable PTP environment.

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# PRECISION TIME PROTOCOL

Complex underlying network architectures, PTP-aware switches, a vast number of PTP slave devices from multiple vendors and the best master clock algorithm (BMCA): this combination makes it a challenge to properly configure and maintain a stable and reliable PTP ecosystem. 24/7 in-depth PTP monitoring, keeping track of the PTP configuration, behavior and performance of every single PTP node over time has become a must. And that's exactly what the DataMiner PTP app enables you to do.

## APP KPIs\*

### GrandMaster

#### PTP General

- Clock ID
- GM Name
- Profile
- Domain
- Clock Source
- Communication Mode
- Delay Mechanism
- Step Mode
- PTP State

#### PTP BMCA

- Priority 1
- Clock Class
- Clock Accuracy
- Clock Variance
- Priority 2

#### PTP Message Rates

- Announcement Message Rate
- Sync Message Rate
- Delay Request Message Rate
- Delay Response Message Rate
- Announce Receipt Timeout Rate

#### PTP Time Properties

- Current UTC Offset
- UTC Offset Valid
- Leap 59
- Leap 61
- Time Tracing
- Frequency Tracing
- TimeScale

### Slave

- Domain
- GM Clock ID
- GM Clock Name
- Slave Only
- Lock Status
- Offset

### Boundary Clock

#### PTP Source

- IP Address
- GM Clock ID / Name
- GM Priority 1
- GM Clock Class / Accuracy / Variance
- GM Priority 2
- Parent Clock ID / Name
- Port Number
- Parent Stats
- Observed Parent Clock Variance
- Observed Parent Phase Change Rate

#### PTP Local Clock

- Clock ID
- Domain
- Steps Removed
- Offset
- Mean Path Delay
- Skew
- Step Mode
- PTP Ports
- Priority 1
- Clock Class / Accuracy / Variance
- Priority 2

#### PTP Time Properties

- Clock Source
- Current UTC Offset
- UTC Offset Valid
- Leap 59
- Leap 61
- Time Tracable
- Frequency Tracable
- TimeScale

#### PTP Interfaces

- State (master / slave / passive / disabled ...)
- Transport Protocol
- Delay Mechanism
- Delay Request Interval
- Announce Receipt Timeout
- Admin State
- PTP Role
- Sync Test
- Sync Interval
- PTP Mode
- Announce Messages Sent
- Announce Messages Received
- Sync Messages Sent
- Sync Messages Received
- Follow Up Messages Sent
- Follow Up Messages Received
- Delay Request Messages Sent
- Delay Request Messages Received
- Delay Response Messages Sent
- Delay Response Messages Received
- Peer Delay Request Messages Sent
- Peer Delay Request Messages Received
- Peer Delay Response Messages Sent
- Peer Delay Response Messages Received
- Peer Delay Response Follow Up Messages Sent
- Peer Delay Response Follow Up Messages Received

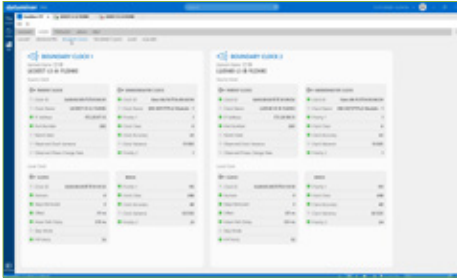
\* The above list shows the most important PTP KPIs supported by the DataMiner PTP app (subject to third-party API support)



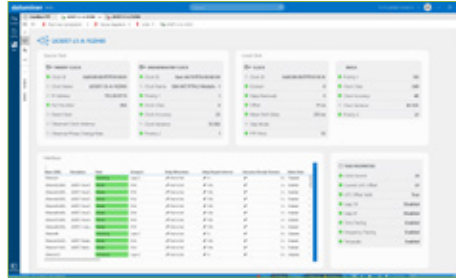
PTP Topology



PTP Summary



PTP Boundary Clocks



PTP Boundary Clock Details

## KEY FEATURES

- in-depth 24/7 PTP-centric monitoring of all PTP nodes in a PTP stack
- interfaces with any PTP grandmaster (e.g. Meinberg M3000, Tektronix SPG8000, Evertz 5700MSC), PTP boundary clock (e.g. Cisco Nexus, Arista 7000-series), PTP transparent clock and PTP slave device, independent of protocol or vendor
- integrates third-party PTP network analyzers (e.g. Tektronix Prism)
- out-of-the-box deployment (installation wizard, comprehensive set of information and alarm templates) facilitates rapid deployment
- create multiple PTP domains, easily add PTP nodes to one of them, and get granular insight into the different domains
- easy navigation using multiple pre-configured tab pages to drill down to every single PTP metric and PTP statistics
- monitor current grandmaster, its profile, configuration (e.g. BMCA values & PTP message rates) and performance (e.g. mean path delay, offset)
- PTP topology viewer indicating the current grandmaster and most severe alarm of every PTP node including alarms related to the network links
- track all PTP-related changes such as GNSS loss, grandmaster change, PTP port changes (master, slave, passive)
- consolidated view on all PTP-related alarms from all PTP nodes
- compare settings between multiple grandmasters or boundary clocks
- track master, slave or passive state for each network interface on every boundary clock
- track configured and actual PTP message rates on each PTP interface
- track network degradations
- monitor PTP behavior and performance over time, store historical PTP data
- monitor PTP lock state and the reported grandmaster ID of each PTP slave node
- force "master only" setting on boundary clocks to avoid slave devices not supporting "slave only" becoming a grandmaster
- can be combined with DataMiner IDP (Infrastructure Discovery and Provisioning) to automatically detect and configure new PTP nodes and their connectivity (via LLDP) in the media network

## ORDER INFO

### SLC-DMS-APP-PTP

DataMiner PTP Application V1.1. Charge per DMS. Monitoring & Management of your PTP infrastructure including grandmaster, boundary, transparent, slave clocks & third-party PTP analyzers (does not include device drivers).

## PLATFORM COMPATIBILITY

DataMiner Professional, Enterprise and SVE (System Volume Equipment) editions

Requires DataMiner version 10.0.3 or above

## CONTACT

Request a webinar session on the DataMiner PTP App via [www.skyline.be/webinars](http://www.skyline.be/webinars) at a day and time of your choosing, or contact [sales@skyline.be](mailto:sales@skyline.be) for more information.



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