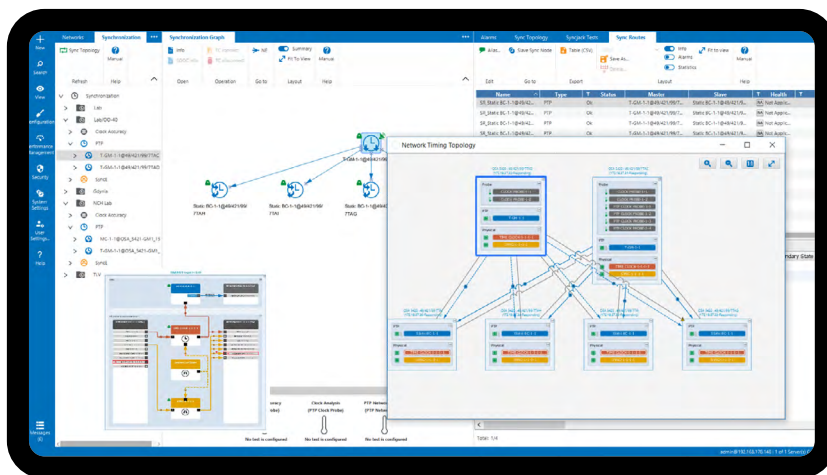# Ensemble Sync Director

Timing management and sync assurance

As synchronization becomes more important in many networks, centralized visibility and control of the mission-critical timing environment becomes essential. Our Ensemble Sync Director, in combination with our advanced Syncjack™ technology, constitutes a powerful management platform to assure perfect synchronization everywhere in the network.

Ensemble Sync Director is an advanced management platform providing centralized multi-technology control for the distribution and assurance of frequency, phase and time synchronization. Implemented in client-server architecture, Ensemble Sync Director provides the flexibility, scalability and performance required to meet even most stringent requirements in network and application synchronization. Graphical user interfaces offload the services teams from troublesome and time-consuming management processes. What's more, extended GNSS and PTP synchronization assurance capabilities provide network operators with comprehensive synchronization performance information for transparent monitoring and highly efficient operations. Our Ensemble Sync Director is part of our comprehensive Ensemble Controller solution suite.

Your benefits

⬤ **Fully integrated with Ensemble Controller**
Reliable, secure and user-friendly management and surveillance of ADVA transport and timing solutions

⬤ **Intuitive design and operational simplicity**
Self-explanatory GUI supported by a wizard-based provisioning tool and comprehensive reporting

⬤ **Synchronization topology view**
IEEE1588 PTP and SyncE map of timing network showing even internal timing architecture of devices

⬤ **Syncjack™ monitoring and assurance**
Comprehensive PTP health monitoring with Syncjack™ probes and a PTP assurance application

⬤ **GNSS Assurance**
Monitoring and analysis of GNSS status and reliability, ML/AI based prediction and prevention of obstruction, jamming and spoofing

⬤ **In-service sync delivery analysis**
Continuously monitoring, analyzing and optimizing synchronization topology for loop avoidance and highest availability

High-level specifications

General

- Comprehensive fault management, real-time and historical PMs, inventory and security management
- Backup and archiving
- High availability
- Northbound interface
- Access to local management tools

Visualization

- Intuitive point-and-click GUI
- Wizard-based provisioning
- Tree-like display of sync network topology
- Network and sync view on map
- Quick access to all parameters
- View of sync-related alarms and performance data

Syncjack™ test framework

- Efficient provisioning of Syncjack™ probes
- Graphical display of PTP standard metrics, MTIE and phase accuracy
- PTP Assurance optional extension to Sync Director for real-time and long-term TE/ TIE data collection and analysis

Security

- Multi-level password protection and encryption
- External user authentication (RADIUS, TACACS+, LDAP)
- Self-managed user restricted views
- User activity log

Sync nodes

- SyncE node
- PTP clocks for different PTP profiles
- Management of third-party vendor PTP grandmasters
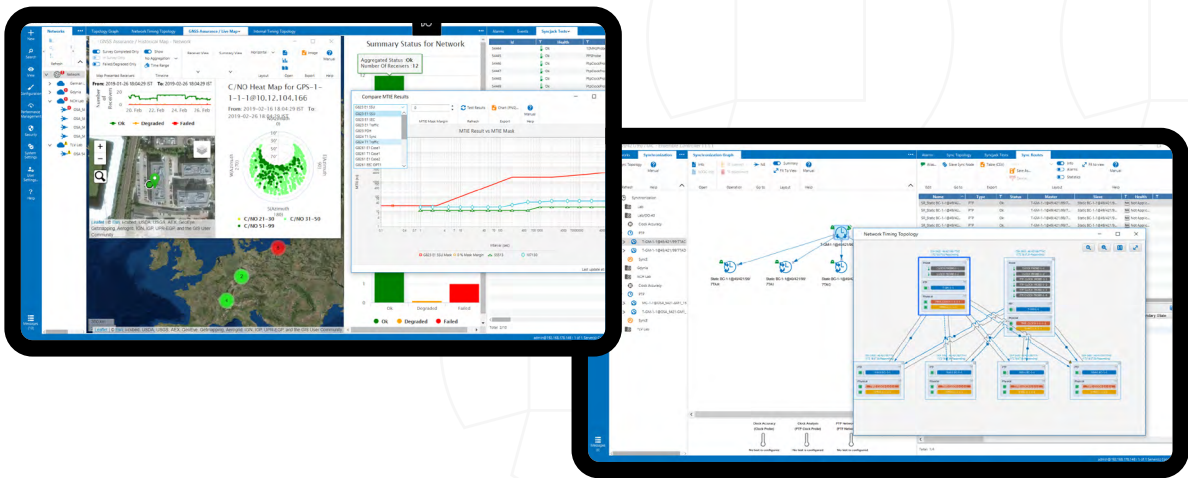- Connectivity management of remote PTP slaves, including unmanaged third-party slaves

Sync topology view

- End-to-end timing chain on map
- Active clock stream identification
- Display of physical, frequency and time&phase synchronization flows inside devices (internal timing topology) and in the network (network timing topology)

Applications in your network

Advanced management platform for synchronization monitoring and assurance

- Centralized visibility and control of network timing infrastructure
- GNSS Assurance and PTP Assurance as optional extensions of Ensemble Sync Director for continuous monitoring and improvement of synchronization network performance
- "Timing as a service" to manage precise time, phase and frequency distribution in packet networks
- Accurate phase and frequency information for mission-critical timing environments such us packet-based mobile backhaul, next-generation network technologies (LTE-A, LTE-TDD, 5G RAN networks, etc.), enterprise networks and financial data center

ADVA™