netinsight

Zyntai Director

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Our cloud-native orchestration system manages time synchronization end-to-end across the network in a scalable and cost-efficient way. Supporting multi-vendor deployments in the IP network infrastructure makes the Zyntai solution future-proof however the network evolves over time.

The Zyntai solution is based on the technology Precision TimeNet, developed by Net Insight, that distributes time synchronization across large critical networks. It disaggregates the synchronization function from the hardware, creating a synchronization overlay across the existing IP infrastructure without requiring PTP IEEE1588 hardware support in intermediate nodes. Instead, end-nodes called Zyntai TimeNodes (see separate datasheet) are used to convert and distribute synchronization over the network, also if leased capacity is used. The solution is orchestrated by the Zyntai Director, to monitor and manage the synchronization end-to-end.

Zyntai Director is our Kubernetes-based orchestration system managing synchronization across the network. It ensures full visibility and optimized performance of the time synchronization function in real-time. Managing time on top of the existing network with a cloud-native implementation makes the solution cost-optimized, agile and scalable. Our AI-enabled functionalities ensure predictive and automatic optimization of the time network.

Telemetry metrics for real-time management

- Metrics gathered centrally from TimeNodes for advanced analytics and optimization of the network

- Nanosecond accuracy metrics for time errors, delays and standard deviations

- Group calibration for automatic real-time synchronization optimization

Enhanced life-cycle management

- Zero-touch provisioning for smoother onboarding

- Ease of operations for flexible scalability of time network to adapt to the overall network evolution

- Capable of handling hybrid and multi-vendor deployments since running on top of existing infrastructure

End-to-end security

- Security in base protocol including authentication of origin, data integrity, confidentiality, replay protection, nonrepudiation of source

- Timing flows encrypted with Strong AES encryption to prevent distortion or tampering with time

API:s

- Standardized for facilitated integration into existing OSS/BSS/ticketing systems

- Allows for retrieving real-time alarms, performance data and configurations

Cloud-native

- Flexible for scalable implementations

- Fast deployment and seamless updates

- Continuous service delivery with high availability

- **Resilient**

- **Cost-efficient**

- **Future-proof**