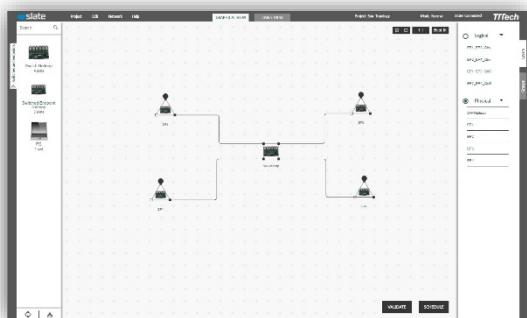




Slate XNS

TSN Network Scheduler with Browser-based Topology Modeling



Key Benefits

- ✓ Intuitive graphical topology modeling
- ✓ Incremental scheduling of new components and data streams
- ✓ Open, standard configuration for any TSN device
- ✓ One-click scheduling for complex networks
- ✓ Optimized bandwidth use for non-scheduled traffic

Slate XNS is a browser-based, user-friendly software that makes it easy to model topologies, create schedules and deploy configurations for TSN networks. Offline network configuration is made possible by the intuitive GUI which provides a topology view or table-based editor for managing components and data streams. Schedules are calculated with just one click via TTTech's built-in scheduling engine, and network components are configured using open, standard YANG models.

Topology Modeling

Graphical

The graphical view is ideal for modeling small and medium sized network topologies. New components can be added by dragging and dropping into the topology. Data streams can also be represented as logical connections between components.

Table-Based

The table editor is designed for modeling large network topologies and mass editing. Components, data streams and other parameters can be inputted into tables and viewed in the graphical mode.

Network Scheduler

One-Click Scheduling

TTTech's high performance scheduling engine is built-in to the Slate XNS software. After building the topology and defining the data streams, the schedule can be created with just one click. Schedules can even be updated incrementally when new components or data streams are added.

Slate XNS schedules IEEE 802.1Qbv and 802.1Qbu traffic as well as supporting cut-through data streams. Scheduling can be adjusted to optimize bandwidth for non-scheduled traffic.



Application Fields

- Factory Automation
- Process Automation

Product Features

Operating Systems	Windows 7 Linux, Ubuntu 14.04
Requirements	Java - 1.7_x64 for Windows or Linux Intel-based CPU
Topology builder	<p>Browser based graphical user interface with central project storage and two operating modes:</p> <p>Graphical builder</p> <ul style="list-style-type: none"> - Toggle between physical and logical topology view - Drag and drop from the component list into the topology - Add new devices to the component list - Specify single data streams or multiple data streams as part of a group - Check consistency of user input (unconnected components, endpoints not sending/receiving) - Copy and paste components in the topology - Undo and redo, zoom and scroll - Scheduling progress bar - Instant ring or star topology generation <p>Table-based builder</p> <ul style="list-style-type: none"> - Edit and delete components in the component table - Copy and paste data streams in the data stream table - Specify relevant SFP timing parameters in physical link table
Supported topologies	Star, tree, daisy chain, ring and mesh
Supported component categories	Switches, endpoints or switched endpoints that support the following derived YANG models
Derived YANG models	<p>IEEE 802.1Qbv Scheduled Traffic</p> <p>IEEE 802.1Qbu Frame Preemption</p> <p>IEEE 802.1Qcp Bridges and Bridged Networks (VLAN support)</p> <p>IEEE 802.1CB Frame Replication and Elimination (Available 2018)</p> <p>IEEE 802.1Qci Filtering and Policing (Available 2018)</p>
Netconf	Netconf 1.0/1.1 client
Encoding	XML JSON
IEEE 802.1Qbv scheduler	<p>Support for different user defined constraints</p> <ul style="list-style-type: none"> - Receiver time - Sender time - End-to-end latency - Precedence between data streams - Gap constraints between receiving and sending data stream <p>Assign queues by traffic class (8 per port), minimum of 2 queues for non-scheduled traffic</p> <p>Optimize bandwidth reservation for non-scheduled streams via packing scheduled data streams</p> <p>Incremental scheduling mode enables adding of new data streams and new devices without affecting existing scheduled data streams</p> <p>Incremental scheduling mode enables adding of new receivers for existing scheduled data streams e.g. for OPC UA Pub/Sub</p>
Delivery package	<p>GUI installer for Windows</p> <p>Installation guide</p> <p>User manual</p>



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