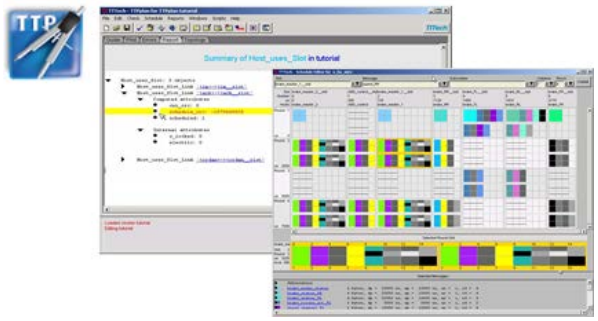
Ensuring Reliable Networks TTTech

TTPPlan

The TTP Network Design Tool



Key Benefits

- High-level modeling of the network
- Extensive consistency checks of user input
- Automatic network scheduling
- Visualization of network schedule
- Flexible programming/scripting interface
- DO-178B verification tool for network verification tool available
- GUI and batch mode

TTPPlan is a comprehensive tool for design of distributed real-time systems using TTP®. Based on the concepts of state messages and temporal firewalls, it allows the precise definition of global timing and communication patterns on the TTP bus. All input is checked for consistency with the time-triggered architecture and a complete TTP communication schedule is automatically created. As a result, the cluster design serves as a central database for subsequent node designs, monitoring and other purposes.

Specifying Communication Parameters

The composability and modular testability of systems based on the time-triggered approach relies on a correct and complete specification of the system-wide communication schedule in both value and time domains. TTPPlan creates such a schedule by using a powerful object-oriented data model that can be accessed via an intuitive graphical user interface or import/export interfaces. The graphical user interface approach offers a step-by-step guide, a pilot navigation window for advanced users and easy-to-use forms.

Consistency and Correctness Checking

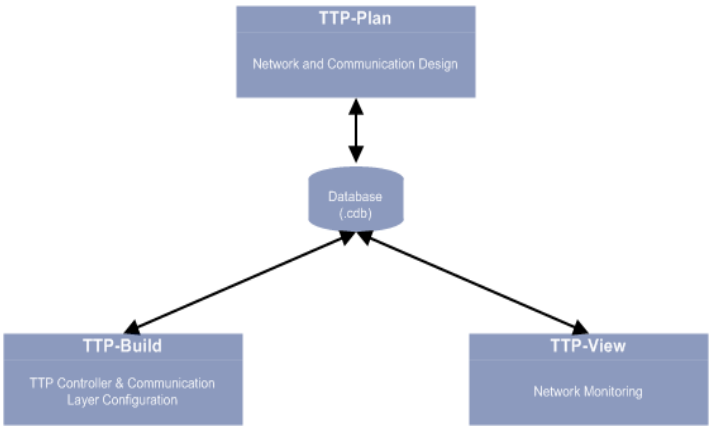
Once the cluster has been specified, TTPPlan checks the design for correctness. The error browser offers detailed explanations and hyperlink functionality. By simply clicking on an error message, the appropriate form is opened and the error can be corrected. The automatic scheduler translates the communication design into a TTP communication schedule which can be edited graphically. Significant schedule properties, e.g. bus utilization and spare bandwidth, message update frequencies, etc. – can be viewed immediately. The schedule is the basis for the generation of the configuration data files, which are needed to configure the TTP communication controllers of the cluster for proper operation.

Application Fields

- Technology Evaluation
- Product Testing
- Architecture Development

Related Products

- TTPBuild generates the MEDL and the COM Layer configuration based on the cluster design.
- TTPView offers real-time monitoring based on the input from TTPPlan.



General Product Features	Clear and easy-to-understand object model Check of input data against object model Optimal scheduling algorithm automatically generates a message structure for the TTP bus (MEDL), the message structure and configuration can be verified by TTPVerify TTP multiplexing support Virtual TTP controller Support for array-type messages Schedule editor with graphical representation of messages on the bus Schedule display options (e.g. net utilization and free bandwidth) Error browser with hyperlink functionality for quick and easy debugging Report of scheduling statistics Customizable report generator Guided mode for first-time users, object browser for experienced users Drag-and-drop editing of generated schedule Batch mode execution for automated usage via script files Flexible programming/scripting interface (Python) Support for the ams AS8202B TTP communication controller
System Requirements	Standard PC with Windows; 1.5 GHz or above; 1 GB RAM
Order Number	12008: TTPPlan 12015: 1 year software maintenance service for TTPPlan

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