TRAINING

FlowCAD

Bei dem hier beschriebenen Training handelt es sich um ein Cadence Standard Training. Sie erhalten eine Dokumentation in englischer Sprache. Die Trainingssprache ist deutsch, falls nicht anders angekündigt.

Allegro High-Speed Constraint Management

Description

This is an Engineer Explorer class that is designed around more advanced topics and exploration of the tool. This course does not teach basic tool operations. We require that students who are not actively using the tools first complete either the Allegro PCB Editor or the Allegro Package Designer course.

The Allegro High-Speed Constraint Management course uses a series of lectures, examples, and hands-on experience to deliver the information you need to apply and verify high-speed constraints across your design process. This one-day course will use examples to show you how to schedule nets, control impedance on nets, control the propagation delay from your drivers to receivers, match the propagation delay of driver and receiver pairs, and more.

The Constraint Manager solution provides a unified, hierarchical view of electrical constraints contained in Allegro Expert and Designer, SPECCTRAQuest and Concept HDL schematic databases.

It presents the constraints in a spreadsheet interface that enables the user to capture, manage, and validate the different rules.

The Constraint Manager is completely integrated with the Allegro design rules checking system and the SPECCTRAQuest Signal Integrity Expert. This means that the different high-speed rules can be checked in real-time as the design process proceeds, with the results presented as part of the Constraint Manager spreadsheets. Simulations can be initiated from the Constraint Manager, with results automatically compared to the constrained design values. Any design parameters that do not meet their associated constraint values are highlighted.

Features and Benefits

The Constraint Manager product provides the following key features and corresponding benefits

- Spreadsheet-style interface to constraint data: Provides an easy-to-use and understandable format, depicting views of large amounts of constraint data at one time
- ECSets consolidate associated high-speed rules: Provides a simplified mechanism for constraining related signals (usually buses) and assigning all associated high-speed design rules with a single operation
- Direct integration with physical and logical design tools: Compares design rules to actual design data in real-time to provide design status information
- Analysis tools directly integrated with spreadsheet: Enables simulation to be initiated from the spreadsheet, eliminating the need for a separate interface to perform analysis
- Hierarchical display of constraint values and override data: Enables constraint sets to be applied to groups of nets with individual net command, which is then overridden only where necessary
- Ability to specify and validate system-level constraints: Supports constraints on nets that span two or more PCBs
- Take note that the Constraint Manager is meant to be used in conjunction with Concept, Allegro and SPECCTRAQuest, while it can be used as a stand-alone tool it needs to interact with these tools to be of real value

Audience

This course is intended for both PCB designers and Electrical Engineers who use ConceptHDL, Allegro Expert or Designer, SPECCTRAQuest and Signal Explorer, and have a need to manage constraints on high-

speed nets.

Allegro and hardware designers dealing with high-speed board or moving from SpecctraQuest V13, V14 to V15.

Prerequisites

A basic knowledge of hign-speed electrical issues and the high-speed design process using Concept, Allegro and SpecctraQuest

Course Agenda

The course will introduce the Constraint Manager to new and existing clients.

The Constraint Manager is used with Concept, Allegro and SpecctraQuest to manage the flow of ever increasing Electrical Rules Sets

1 Day hands on Constaint Manager:

- Creating and managing High-Speed constraints
- Constraint Manager with Allegro
- SpecctraQuest and Signal Explorer
- Database setup for high-speed design
- Use of topology templates through some simplified real world examples
- Various techniques for managing Electrical Constraints including translation rules from pen and paper to Constraint Manager
- Analysis of routed and unrouted nets
- Net scheduling, propagation delay rules, relative propagation delay rules and differential pairs