



I/O Fabric Management

spinner

SOCRATES

Modern System-on-Chip (SoC) devices typically support multiple static and dynamic operating modes. This can result in thousands of top-level signals that need to be mapped to hundreds of I/O pins according to the target application. Socrates Spinner manages this increasingly complex area by specifying and auto-generating all of the logic associated with the chip I/O layer.

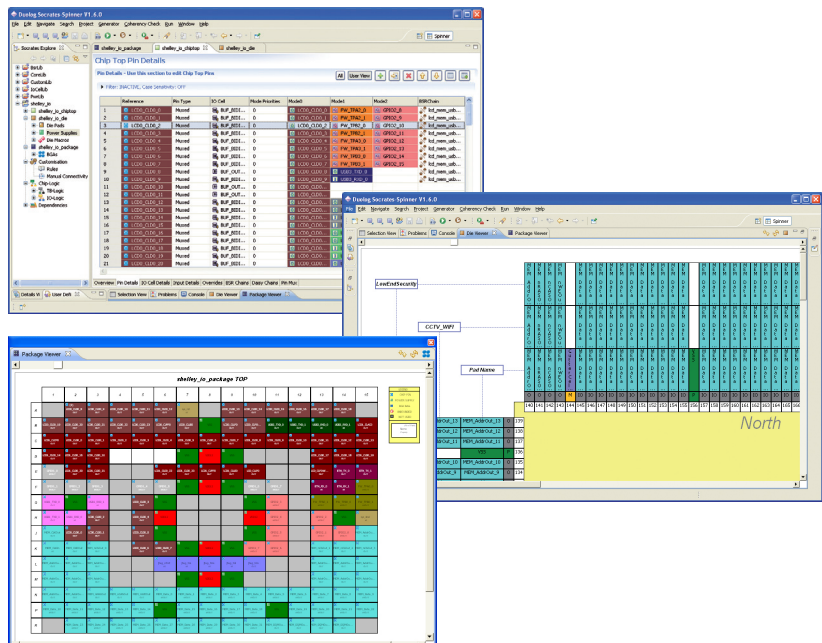
The Problem

Increasing SoC complexity and hardware and software configurability has resulted in functional and test signals that are heavily constrained within a pin-limited package. This leads to extensive sharing of pins for functional and test purposes, and consequently highly complex I/O layer functionality. A single bug in the I/O layer can be fatal, often resulting in a chip respin. Designing and verifying the I/O layer, and communicating I/O information between all stakeholders, has become a full-time task for I/O subsystem teams.

Your Solution

Socrates Spinner is an award-winning tool that specifies the complete I/O layer, auto-generates multiple design views and enables seamless integration of the I/O fabric with the rest of the system.

Spinner simplifies and automates the specification and verification of the I/O subsystem, slashing development schedules, enhancing inter-team communications and virtually eliminating the risk of I/O bugs.



World-Class Support

Duolog's Socrates tools are complemented by Duolog's best-in-class support team that boasts a 99% customer satisfaction rating. Through our support and our design/verification services teams, Duolog is dedicated to helping our customers achieve their goals throughout the design cycle.

Benefits

Reduced development costs through automation of time-consuming, tedious and error-prone tasks

Elimination of I/O bugs with rigorous coherency checks and self-checking testbench

Immediate turnaround time for late I/O changes and management of iterative design flow

Cost-effective commercial replacement for legacy in-house solutions

Efficient reuse of I/O fabric information and **accelerated derivative** development

Guaranteed quality of design views due to **correct-by-construction methodology**

Features

- Provides a complete I/O solution in a single-source specification
- Support for standard formats including IP-XACT, Excel and VHDL / Verilog, in addition to customizable importer technology for customer-specific or legacy formats
- Complete I/O data model and comprehensive checks to guarantee data coherency
- Data model extension via user-defined properties to support customer-specific data and constructs
- Complex I/O cell control including user-defined logic equations
- Automatic insertion of test and power isolation logic
- Full support for boundary scan cell definition, insertion and interconnection
- Support for digital and analog I/O
- Suite of I/O-related output view generators including RTL, documentation, IP-XACT and self-checking testbench
- Supports customization of standard generators or creation of customer-specific generators
- Effective color-coded visualization of multiplexing schemes plus die and package views
- Eclipse-based product supporting a powerful and intuitive GUI and command-line operation; runs on Windows or Linux platforms

Socrates Platform

Spinner is underpinned by Duolog's renowned Socrates integration platform. The Socrates platform is the most complete solution in the industry for IP integration and system assembly, providing a correct-by-construction integration environment that can transform the quality and efficiency of your SoC designs.

About Duolog

Duolog Technologies is a leading developer of EDA tools that address the design challenges engineers face in complex IP integration. We enable our customers to deliver integrated systems more quickly and cost effectively than their competitors. Our innovative products and solutions allow for maximum productivity and control throughout the entire SoC lifecycle.

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