

W E L D

Web-based Electronic Design Environment

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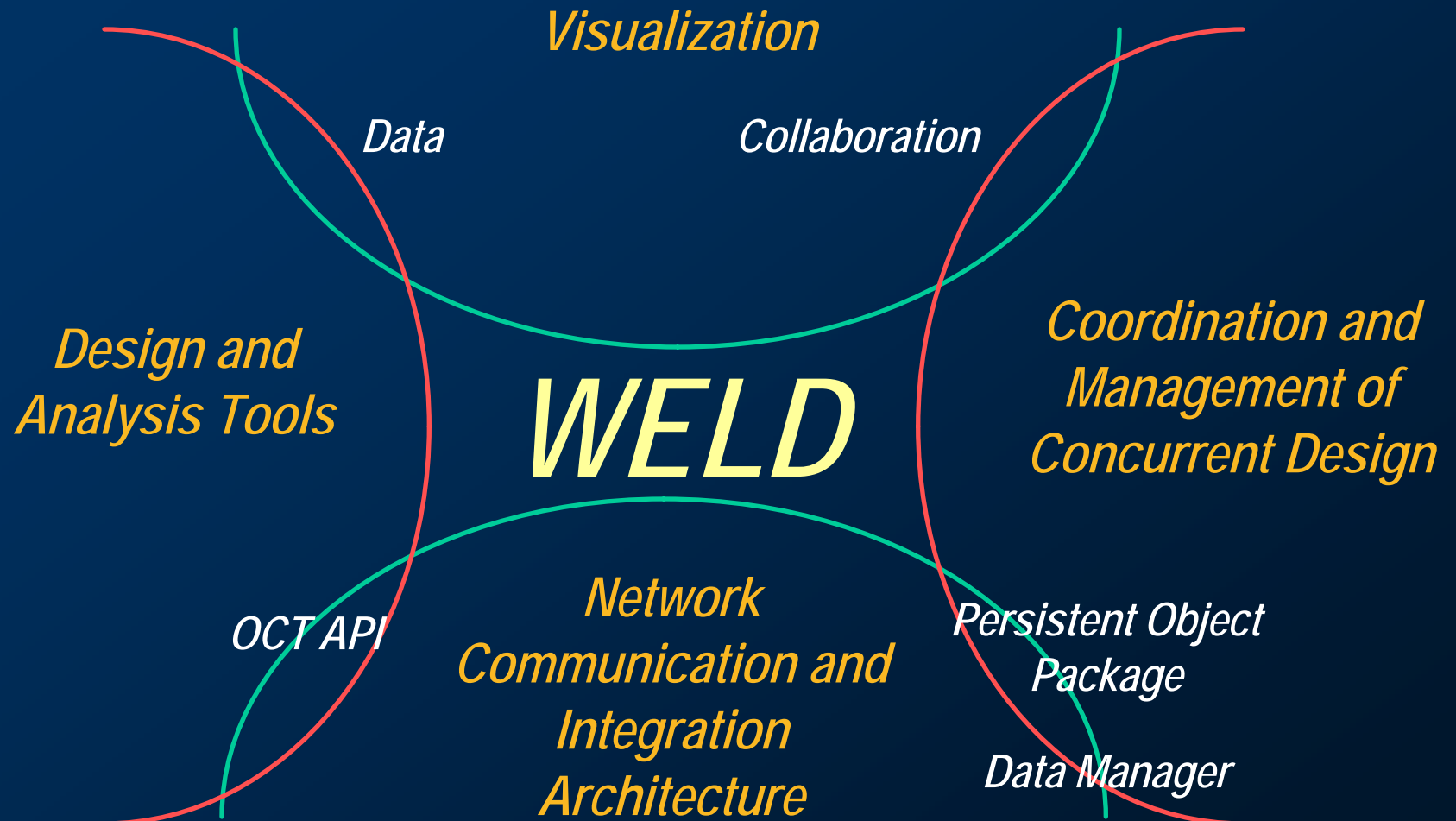
Professor A. Richard Newton

<http://www-cad.eecs.berkeley.edu/weld>



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WELD Research Overview



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Goals and Objectives

📁 Architecture and Infrastructure

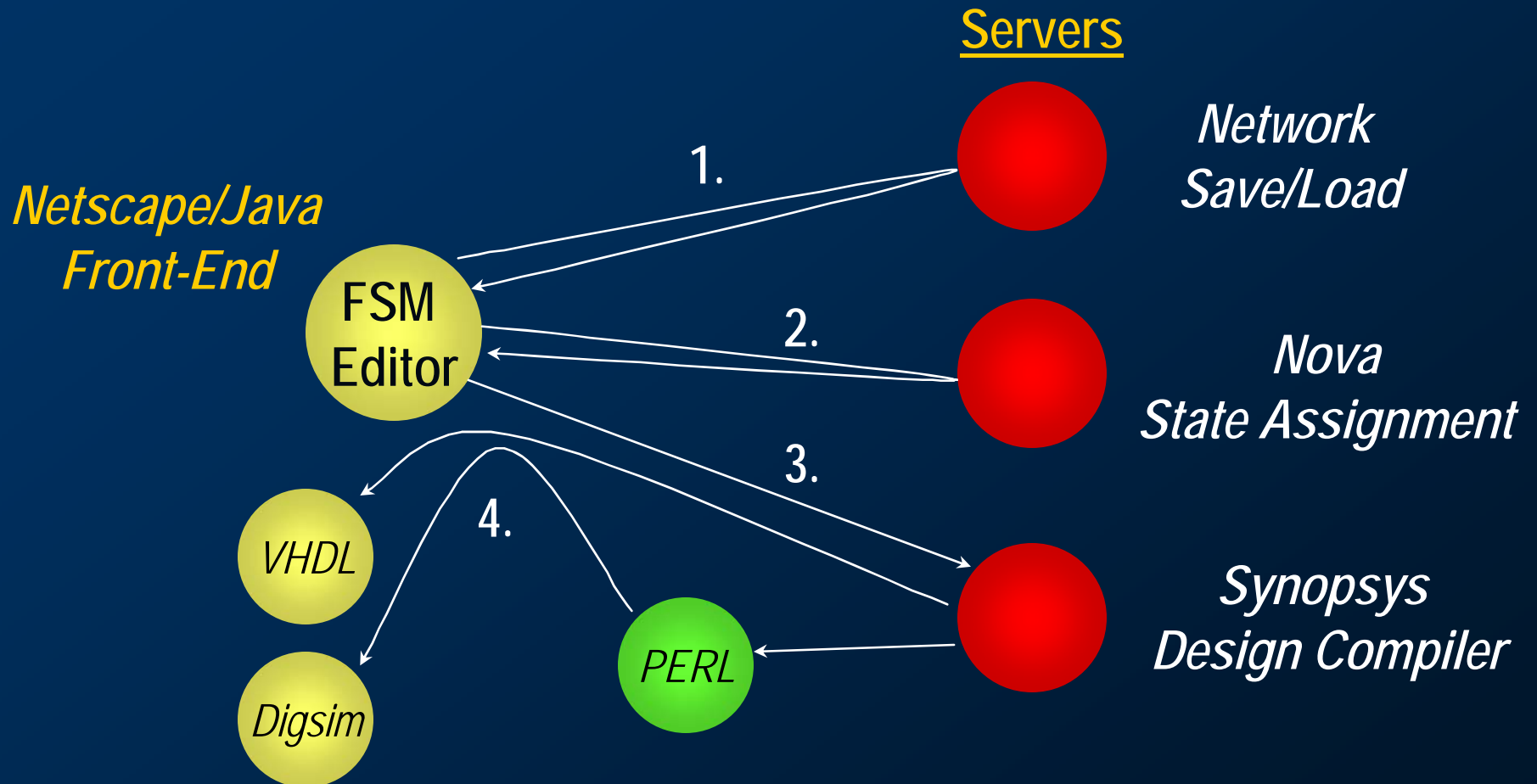
- Enable Wide-Area Collaboration
- Leverage Existing Software, Systems and Toolkits
- Scalable and Extensible

📁 Applications

- Design and Analysis Tools
- Information Visualization



DAC '96 Design Flow



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Last Year's Demo

📁 Simple Data Storage and Transformation

📁 Components

- Java Tool
- Legacy C Tool
- Commercial Tool

📁 Workflow using PERL and C to support Java Front-End



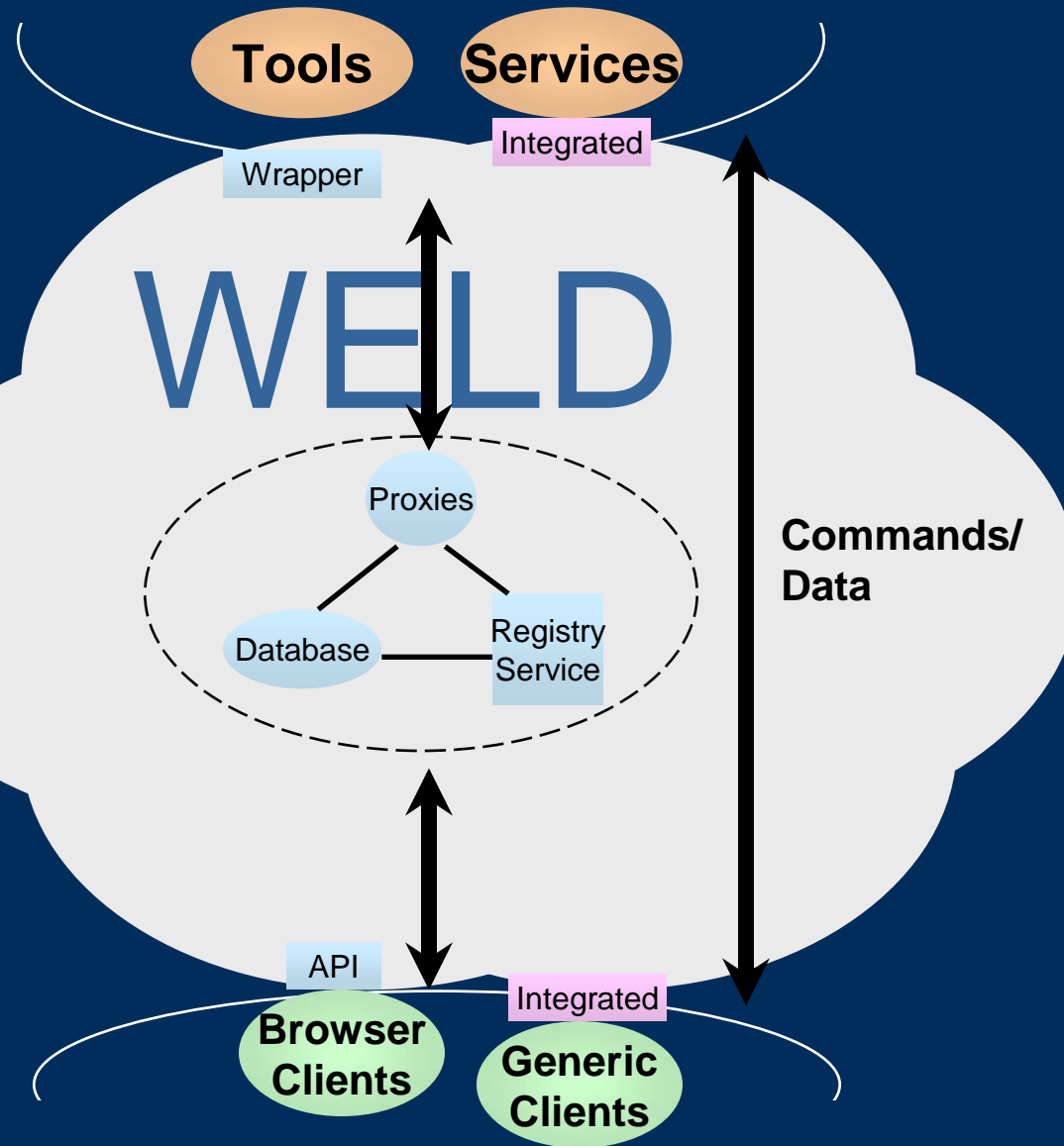
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WELD System Architecture

Remote Servers

Network Services

Clients



WELD Infrastructure

- 📁 Data Manager
- 📁 Java, C++ Client API
- 📁 Server Wrapper
- 📁 Communication Protocols
 - Client-Server
 - Client-Database



Available Applications

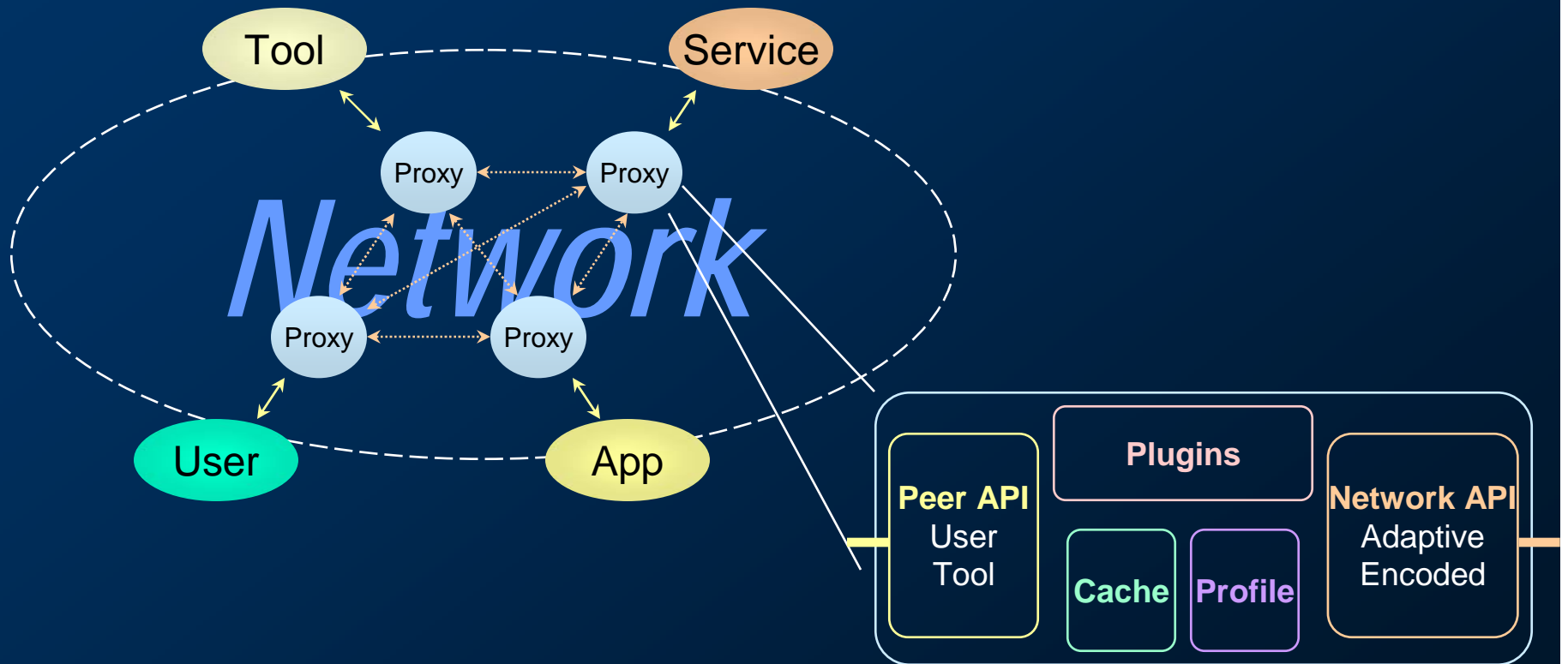
- SpecChart Editor - Java EDA Application
- Tool Flow Manager - Engineering Application
- Java-Based OCT - CAD Data Manager
- Polis, VIS, SIS, Nova - University EDA Tool
- Synopsys Design Compiler - Commercial Tool



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Future Directions

Proxy-Based Architecture



DAC 97 Demos

- ✚ SpecChart Editor
- ✚ Interactive Network-Design Session Using JavaSIS
- ✚ Distributed Tool Flow Manager

Related Demos

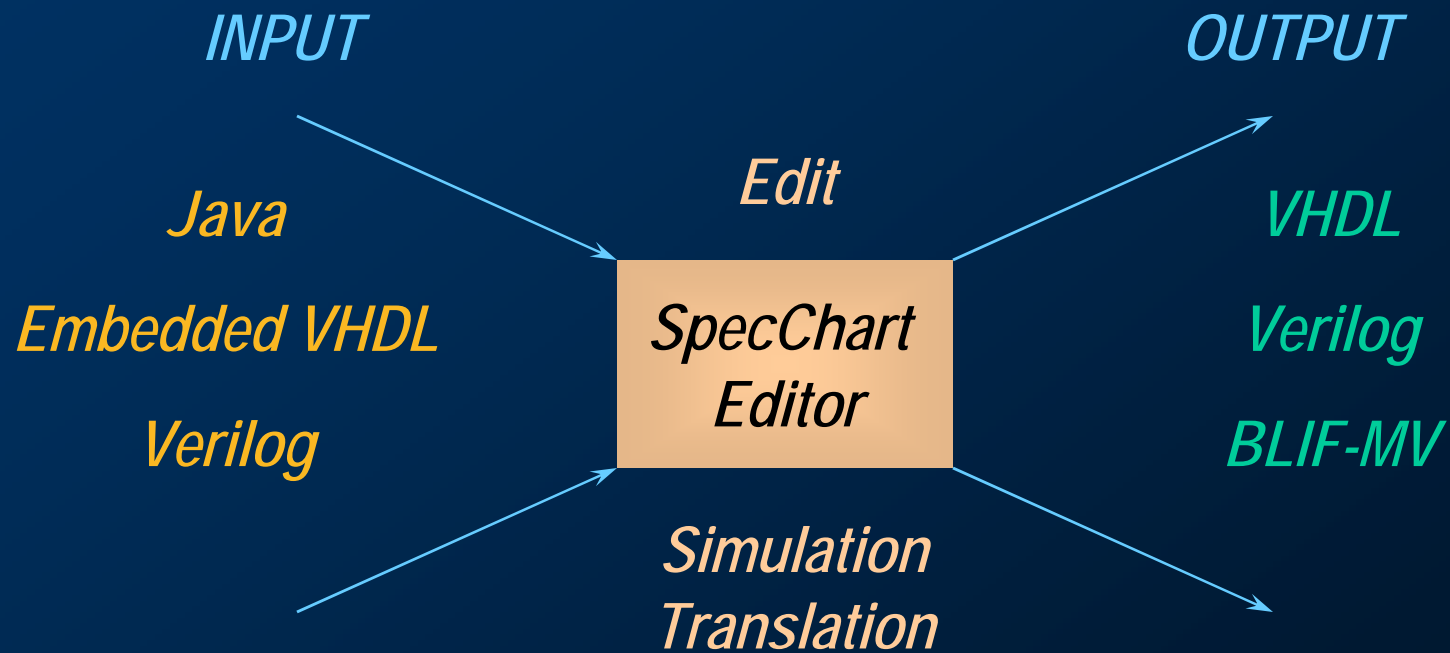
- ✚ Interactive Visualization Tools for CAD
- ✚ Web-Based High Level Estimation of Mixed-Signal System
- ✚ The TYCHO User-Interface System
- ✚ Internet Based Workflow



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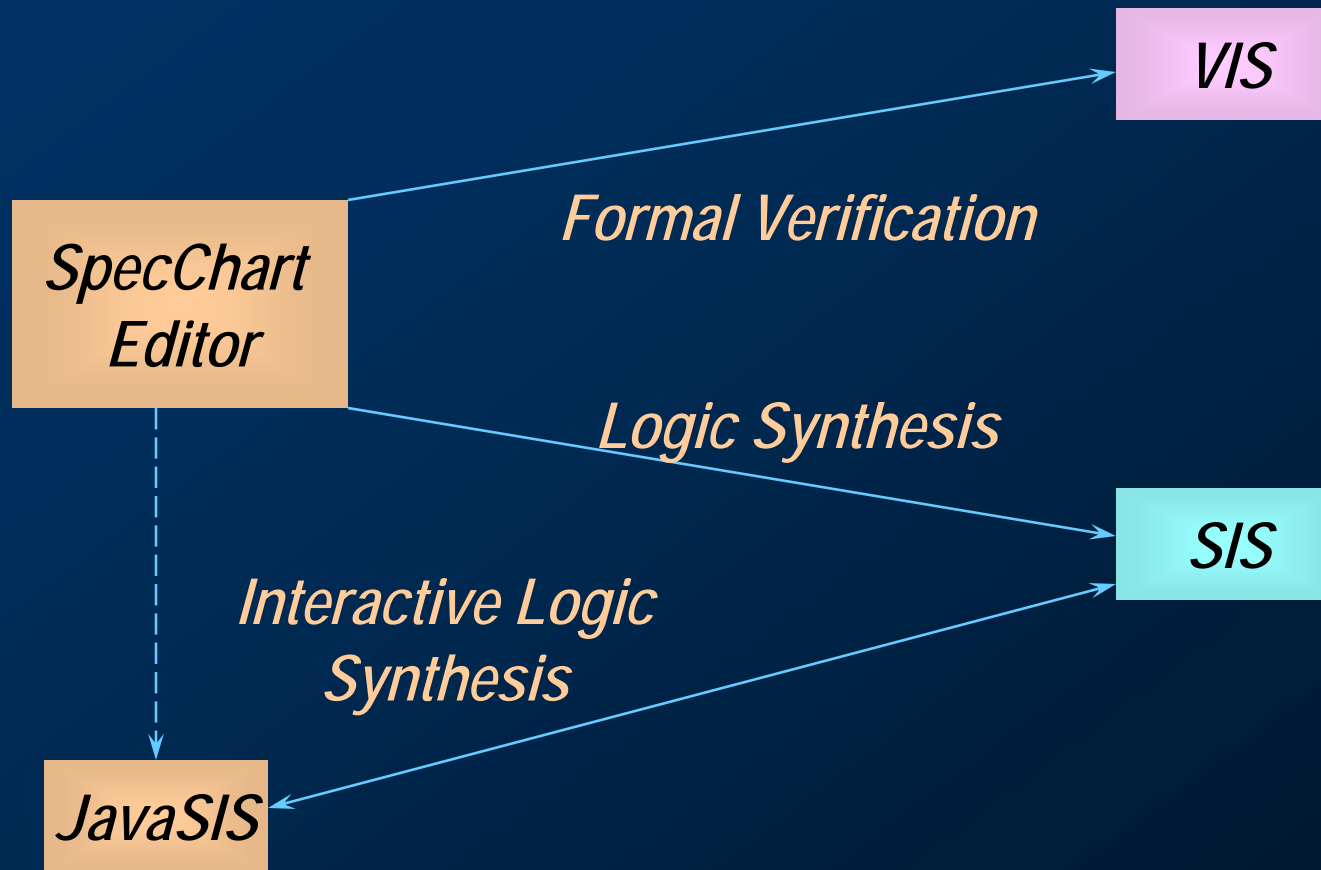
SpecChart Editor

Tool for high level hardware design.



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Verification and Synthesis



Distributed Tool Flow Manager

- ✚ Automatic Registry Query for Tool Menu Construction
- ✚ Drag and Drop Tool Flow Construction
- ✚ Flexible Data Format and Parameter Entry
- ✚ Individual Tool Information
- ✚ Heartbeat Progress Update During Execution

Tools

- ✚ Data Manager Entries
- ✚ Networked EDA Tools with Server Wrapper



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Demonstration Summary

- 📄 Java-Based EDA Application
 - 📄 Distributed System Infrastructure
 - 📄 Third-Party Tool Integration
 - 📄 Tool Flow Configuration and Execution
- Mobile Interactive Design Session



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