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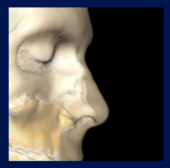
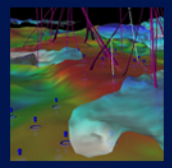
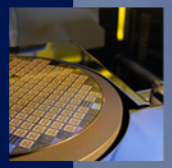
Challenges Drive Innovation ™



Applying Open Standards to FPGA IP Interfaces

Shepard Siegel

11th Annual Workshop on
High Performance Embedded Computing
MIT Lincoln Laboratory
September 18-20, 2007

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Why FPGA IP Interfaces are Vital Concern

- **Components must Travel**
  - Component-based design
  - Interface before Implementation
  - Nearly continuous evolution
- **Separation of Concerns**
  - Computation ↔ Communication
  - Specifier ↔ Implementer
  - Application ↔ Architecture ↔ Implementation
- **“The von Neumann Syndrome”** **[Reiner Hartenstein 2007]**
  - Changing algorithms
  - Changing resources

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How Interface Standards Help

- **Well-Defined Interoperability**
- **Bias Toward the Application**
- **Clearly Defined Choices**
- **Composition**
  - Completeness
  - Composition
  - Linear-Effort

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Thank you!

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