

# **Synopsys Semiconductor IP in Chiplet Format with AIB Interface for CHIPS Integration** Tom Martin<sup>1</sup>. Ralph Grundler<sup>1</sup>. Jav Bacon

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Materials & Integration: Common Heterogeneous Integration and IP Reuse Strategies (CHIPS)

## Leading-Edge Commercial IP Available for DoD Applications via CHIPS Ecosystem

16G SerDes Chiplet

## State-of-the-art 16Gbps SerDes and DDR4 IP blocks with AIB interface for CHIPS integration

- Advanced Interface Bus and **Chiplet Protocol Interface** Support
- PCS SerDes PCIe/CCIX SATA PCS DDR4 Chiplet Ethernet PCS B uMCTL2 DDR4 Controlle multiPHY APB Commo Interface

ommon

16Gig

CPU

- 16Gbps for PCIe/CCIX Protocol Support
- **10Gbps Ethernet Support**
- Common PCS bypass for other protocols
- DDR4 72b Channel: 64b Data + 8b ECC
- DDR4 2400 Support
- Supports -40C to 125C

#### **Today's ASIC Flow**

- 1) Purchase IP
- 2) Configure IP
- 3) Connect & Test to System
- 4) Harden/Close Timing
- 5) Manufacture
- 6) Assemble

#### **New ASIC Flow with CHIPS**

- 1) Purchase Chiplets
- 2) Assemble & Test



Silicon Bridge Package Substrate

- **Ease ASIC Configuration Swap interfaces in 4-5 weeks**
- Lower Cost Save over 250 weeks of effort

802.11 / DDR4

