



Power & Heat

ODSA Project Workshop

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Consume. Collaborate. Contribute.

Topics

POC 1.0

- Power Distribution
- Power Conversion
- Thermal Budgeting
- Differential thermal expansion (reliability)

FUTURE

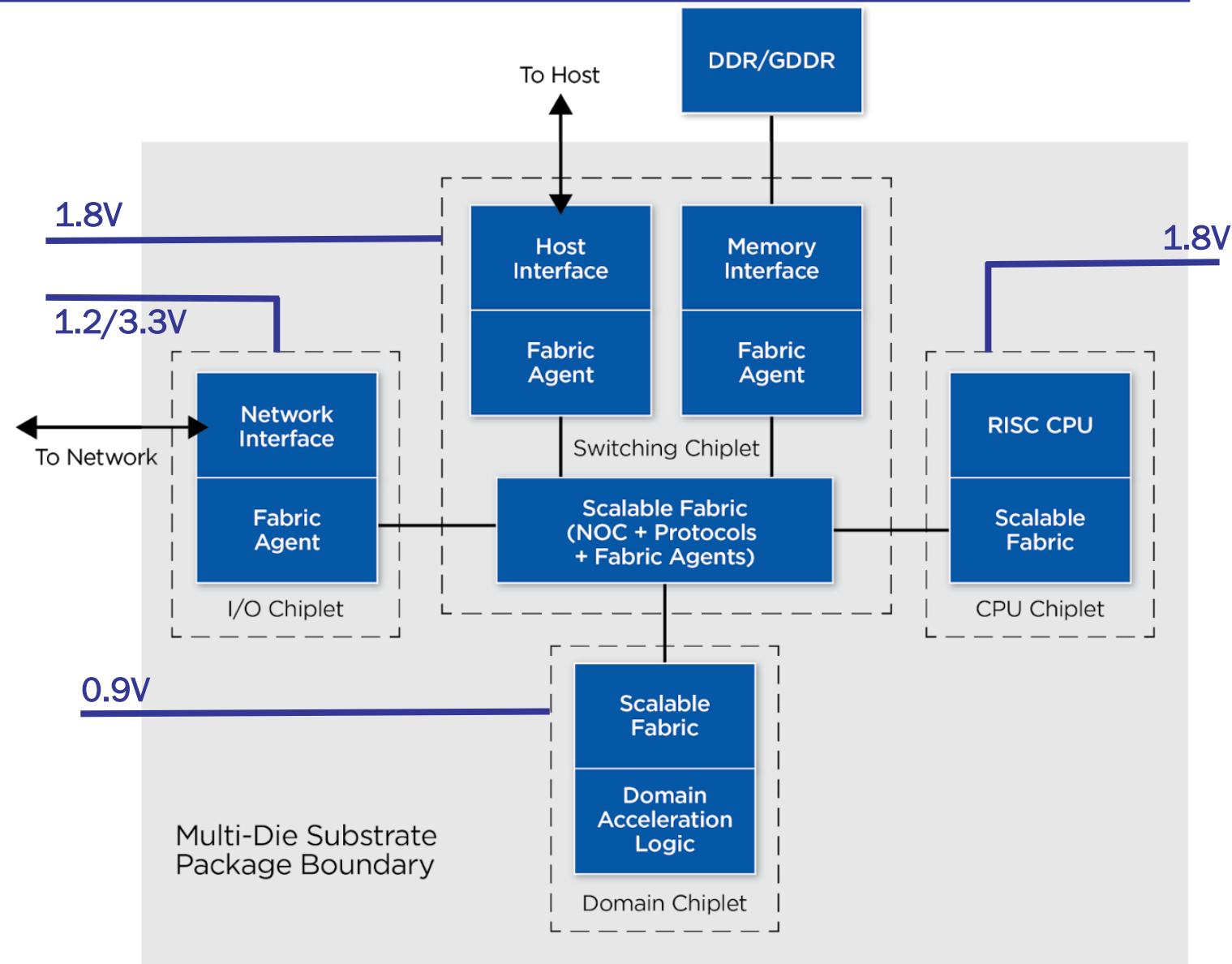
- Active Interposer
- Integrate Passive Components
- PMIC Chiplets

Power Architecture

For Intel Cores, high power input (>100A) at 1.8V

On-chip regulator converts from 1.8V → 0.9V (unregulated)

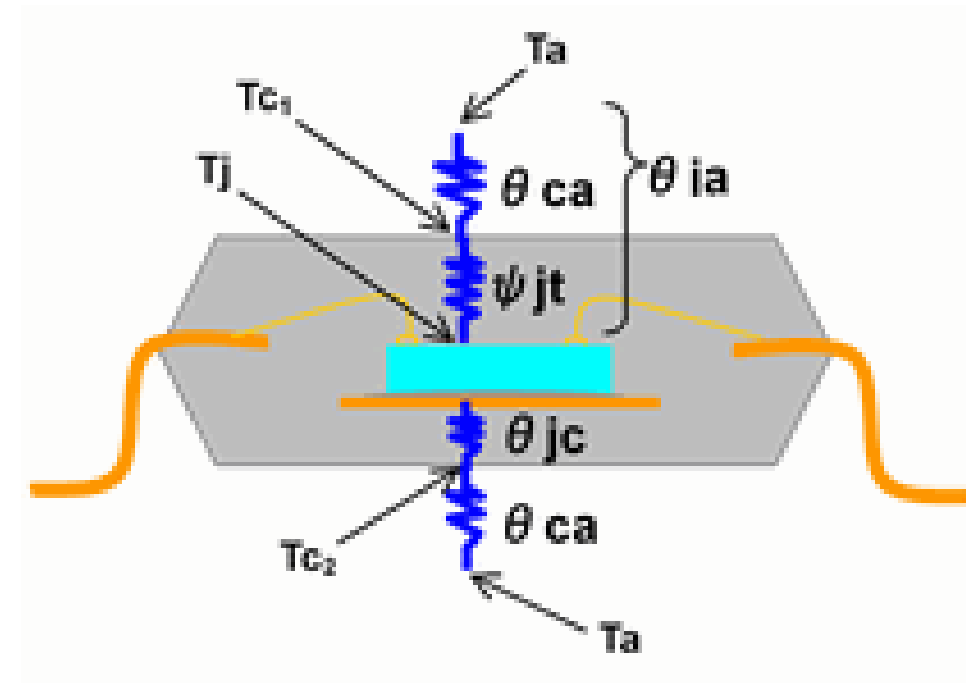
Digital & Analog Domains?



Heat

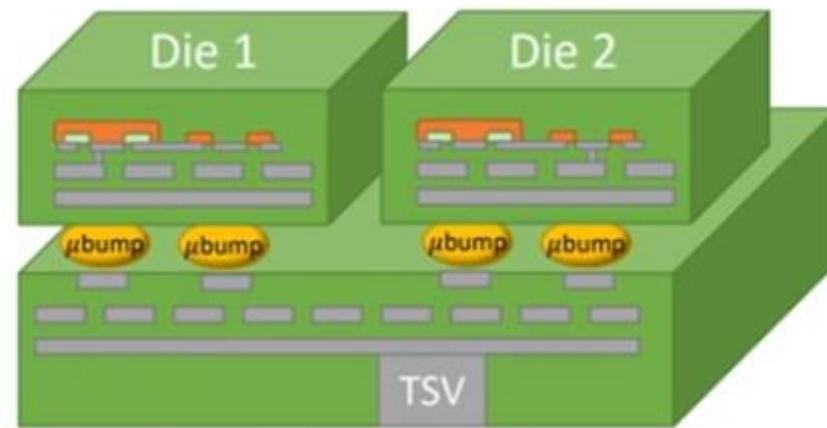
- Thermal Budgeting
- Temperature Sensors
- Chiplet performance vs. temperature
- Local Heating Effects

→ Power/Thermal Management Controller

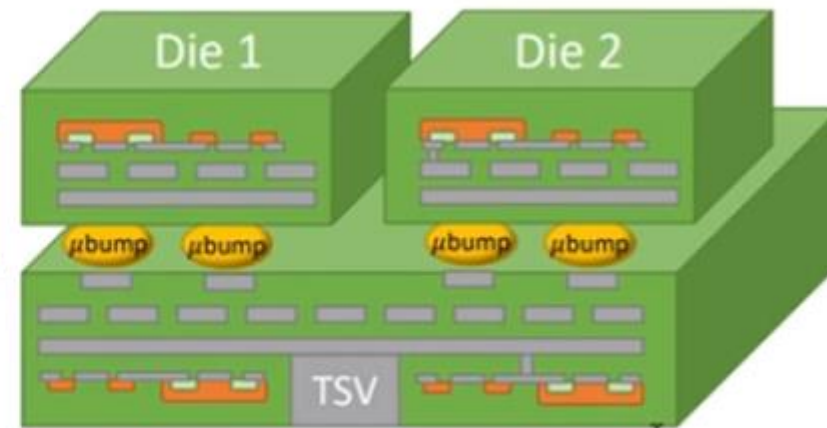


Chiplet Necessary Specifications

- Input Voltage
- Max & Typical Supply Current (workload vs. current)
- R_{th} to interposer, case
- Power limiting functionality, speed
- PMBus or SVID interface?



(a) Passive Interposer



(b) Active Interposer