Hybrid Emulation Use Cases

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Challenges

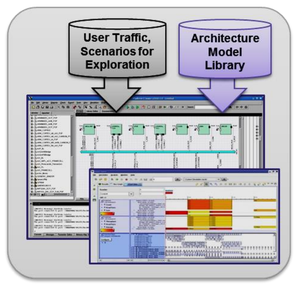
1. **"Our marketing department/customer is asking what will be the benchmark (Antutu,…) performance of our new SoC. We need to get some architecture performance validation measurements before fixing the architecture."**

2. **"We have many drivers and middleware from our suppliers and from open source. How do we quickly integrate them and test them on our custom SoC? The software will need to run as soon as the chip comes back from the fab."**

3. **"Our new custom hardware accelerator needs to be validated within the system context with real software. But we are running out of time."**

Solution: Synopsys Hybrid Emulation

Platform Architect MCO



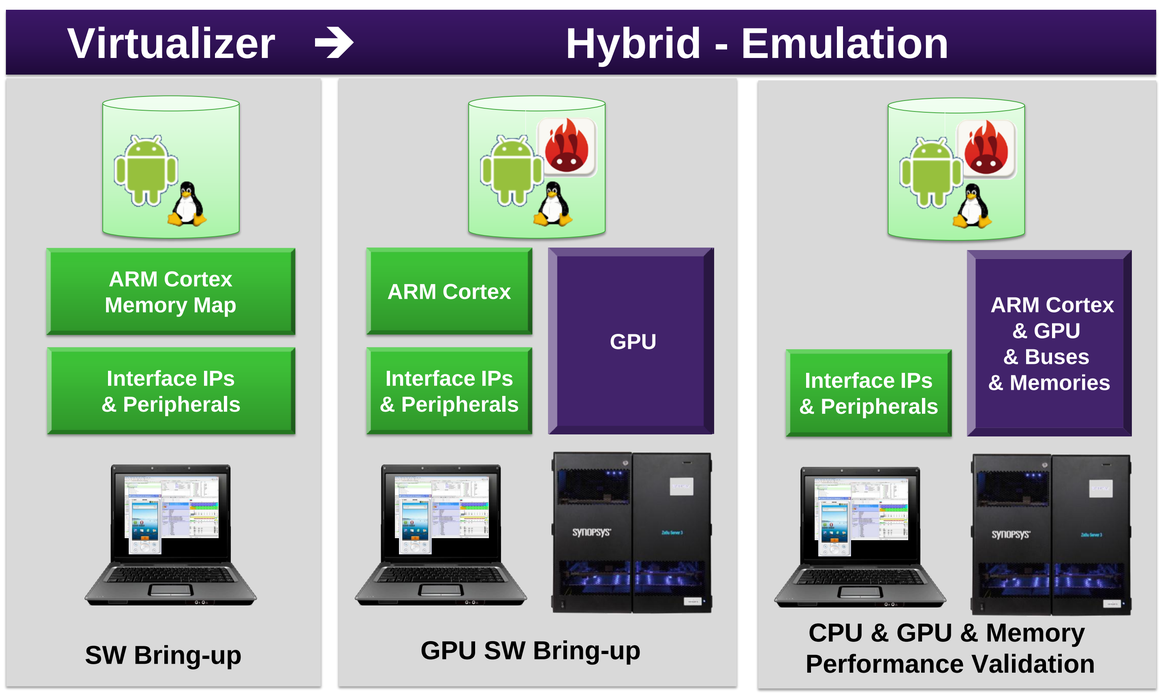
ZeBu Server-3

Virtualizer and VDKs

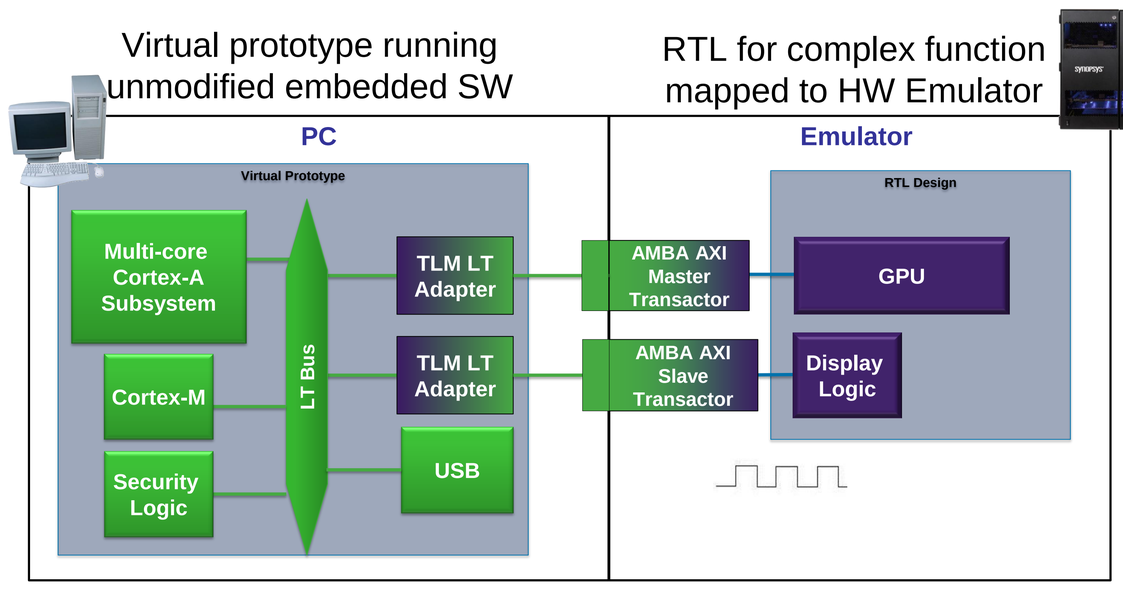
Fast, Accurate Architecture Validation with ZeBu + Platform Architect MCO

Early SW Development and Fast Software-driven Verification with ZeBu + Virtualizer

Flow

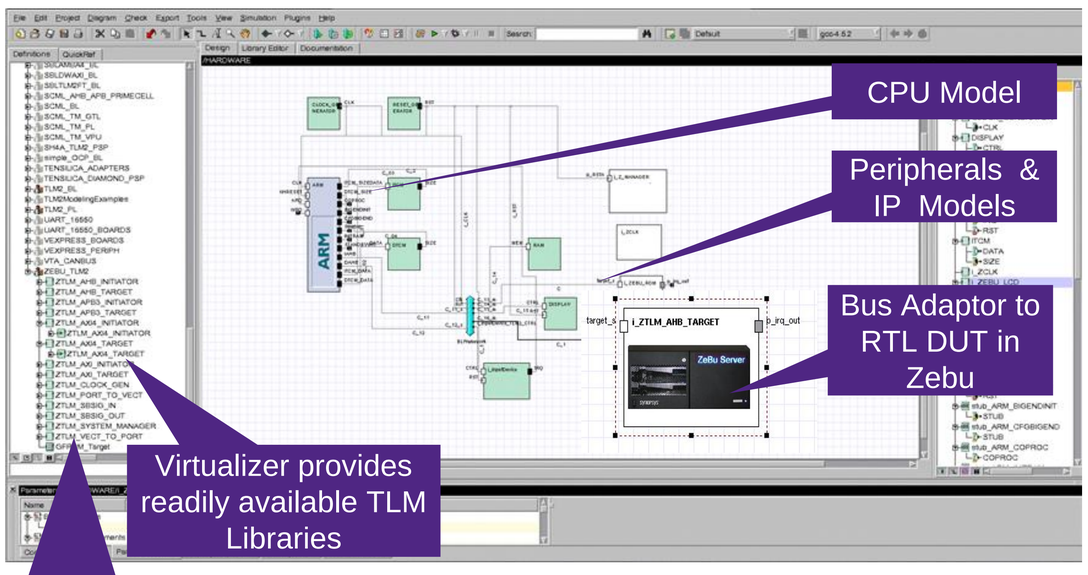


GPU Device Driver Development



- Loosely Timed (LT) modeling for highest performance
- Resolves the virtual prototype modeling for complex legacy blocks

Hybrid System viewed from Virtualizer



Benefit of improved flow from Virtualizer to Hybrid-Emulation

- Software Android Antutu is ready in time by starting early with Virtualizer
- Accelerate GPU & custom HW driver debug and integration through integrated embedded SW development environment
  - Fast source code level debug in Virtualizer
  - Deep visibility into hardware in Zebu
- Accurate performance measurements are extracted from real HW execution on Zebu…
  - … before the full SoC netlist is fixed
  - … with real Software Benchmark (like Antutu on Android)

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- Download ebook: ***Better Software. Faster!***
  - Download from http://synopsys.com/vpbook
  - Chapter 6 provides a hybrid emulation user perspective