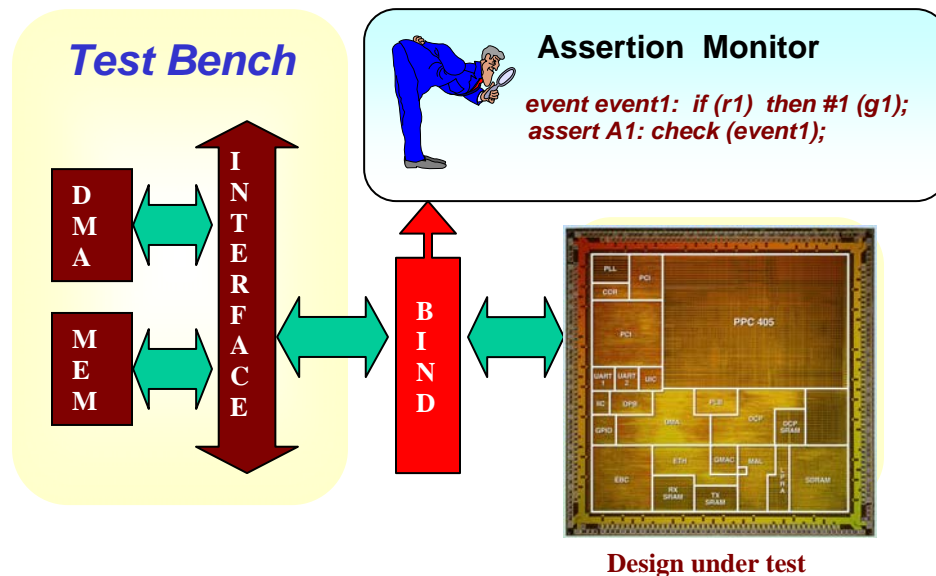


Dynamic Assertion-based Verification

The Formal-V group has significant expertise and experience in the development of assertion checkers for industry standard interface protocols. The group is conversant with specification languages, including OVA, SVA, Sugar/PSL, and Forspec, and has developed several assertion-based VIPs. These include the ARM AMBA BUS protocol suite, Hypertransport, IBM CoreConnect and PCI Express.



The group also has recent experience in developing design models that are VM compliant, and therefore conform to the latest design-ware requirements. We have come up with research results in coverage estimation and test generation of Assertion IPs. We have also developed a platform for specification of Bus protocols and methodology for generating various verification aids from that.

Publications out of this work:

1. Banerjee, A, Pal, B., Dasgupta, P., Chakrabarti, P.P., Jha, M., Cerny, E., Design Issues for Assertion-Based Verification IPs: The OVA Experience, In Proc. of SNUG 2004, Bangalore, India.
2. Pal, B., Banerjee, A, Chaitanya, K., Dasgupta, P., Chakrabarti, P.P., A Simulation Coverage Metric for Analyzing the Behavioral Coverage of an Assertion Based Verification IP, In Proc. of VDAT 2004.
3. Banerjee, A, Pal, B., Chaitanya, K., Dasgupta, P., Chakrabarti, P.P., Jha, M., Assertion Based Verification: Have I written enough properties?, In Proceedings of IEEE INDICON'2004.
4. Pal, B., Nandi, A., Ray, S., Banerjee, A., Dasgupta, P., Chakrabarti, P.P., Scoreboard Directed Dynamic Constraint Modification for Higher Simulation Coverage. In SNUG, 2005, Bangalore, India.
5. Pal, B., Banerjee, B., Dasgupta, P., Chakrabarti, P. P., The BUSpec Platform for Automated Generation of Verification Aids for Standard Bus Protocols, In Proc of MEMOCODE 2004, San Diego, California.
6. Pal, B., Banerjee, B., Dasgupta, P., Chakrabarti, P. P., BUSpec: A Framework for Generation of Verification Aids for Standard Bus Protocol Specifications, To appear in Integration, the VLSI Journal, Elsevier