Applying Big Data to Next-Generation Coverage Analysis and Closure

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Coverage closure remains the biggest functional verification challenge in our industry. As designs get bigger and more complex, we need a new generation of coverage analysis tools to handle the huge amounts of data required to know where you are throughout the process. Just as verification methodologies and techniques have matured, so too must verification management tools and techniques. We are seeing many of the techniques that have proven successful in software development, including agile development, lifecycle management and cloud-based approaches now being employed in hardware development projects. And similarly, where coverage analysis and closure used to be the province of a small team of verification engineers, it is now becoming an enterprise-wide issue requiring robust infrastructure, including the cloud, to facilitate the sharing of information across teams.

This two-hour technical presentation will establish the need for such a collaborative verification platform, providing enterprise-wide integration, regardless of OS or platform, team-based shared coverage analytics and collaborative verification process integration, including lifecycle management integration beginning with requirements. We will explore new ways of visualizing coverage data to facilitate analytical navigation, and how to apply advanced analytics, including data mining and machine learning, to help your team reach coverage closure like never before. We will look at how different verification platforms, including simulation, emulation, FPGA and virtual prototyping, and even formal verification can be linked through your test plan to ensure that all requirements are met and, as importantly, help you identify functional coverage holes to effectively and efficiently mobilize your verification team to close them quickly.