OVERVIEW

CADENCE VMM MIGRATION SERVICE

Cadence® Verification Methodology Manual (VMM) Migration Service helps you rapidly transform your legacy VMM testbench to achieve the scalability and reuse found only in the Open Verification Methodology (OVM). Enabled by a class library change, you can move up to the power of OVM and reuse your existing VMM components. The program delivers onsite consulting, development services, Cadence Incisive® verification tools and VIP integration, and written recommendations for next steps.

MIGRATING TO OVM

For VMM users, migrating to OVM can be a difficult proposition if done by yourself. Cadence reduces that effort and associated risk by providing both an open interoperability library (posted on OVMWorld) and a proven service program.

Cadence VMM Migration Service is a pre-engineered program, designed to provide repeatable results for customers using highly qualified VMM migration service experts. Combined with the VMM interoperability library, your testbench environment can provide full control of VMM components from the OVM testbench, enabling integrated control, messaging, coverage, and scoreboarding. The service leverages the broad portfolio of OVM-based verification components and integrates the VMM components you presently use.

MOVING UP TO SCALABLE OVM

Cadence has engineered OVM, initially for SystemVerilog, based on the proven ***e*** Reuse Methodology (***e***RM) developed over many years. The VMM Migration Service is specifically designed to enable OVM knowledge transfer to our users to maximize their productivity. We provide a comprehensive solution that combines your existing directed tests with new constrained-random tests, minimizing the time it takes to uncover bugs. Cadence experts teach you how to build the environment, automatically measure and track verification progress, and combine coverage results from multiple sources into a single, meaningful set of metrics. We leave you with an environment that integrates your new OVM testbench and puts you on the path to final validation. At the end of the engagement, Cadence provides a report that indicates what bugs were identified, outlines how to make further verification progress, and recommends tools and overall methodology enhancements.

Cadence VMM Migration Service is provided in three phases:
1) running VMM within the Cadence Incisive environment;
2) integrating VMM components with OVM controls; and
3) enhancing the final environment with a metric-driven verification flow.

BENEFITS

- Eliminates VMM component rewrite
- Reduces risk by leveraging a proven and pre-engineered program
- Boosts productivity by using state-of-the-art functional verification techniques
- Improves verification with a metric-based approach for increased quality, visibility, and predictability

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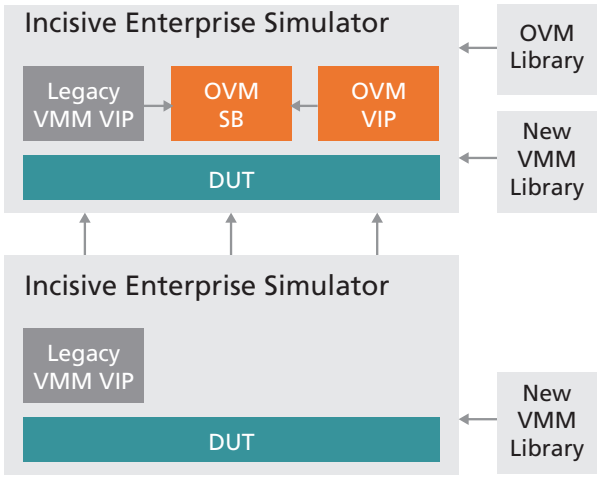

Figure 1: Cadence VMM Migration Service Creates an Environment that Integrates Incisive Technologies with VMM and OVM Libraries

METRIC-DRIVEN VERIFICATION

The key to successful OVM migration is not just writing constrained-random tests. While this helps to ensure reuse, it does not show you how to plan and manage highly effective verification scenarios. Most experts agree that a metric-based coverage-driven verification solution is the best way to maximize bug identification while minimizing verification time. Studies have proven that combining constrained-random testbench generation with a focus on specific functions that need to be verified (coverage points) gets you to functional verification closure faster than with any other technique. Instead of a manual spreadsheet tracking approach, you can use the automation provided in the Incisive platform to focus on those new tests that are needed, rather than re-running tests that are duplicate and do not advance verification closure. This Cadence metric-driven verification solution embeds years of practical methodology engineering, from planning to closure.

ENGAGEMENT PROCESS

Cadence VMM Migration Service begins with the identification of a specific project. We will review the testbench for functional coverage, verification IP components, and test results. For environments that do not include functional coverage, we will discuss your verification goals and together write an executable verification plan (vPlan) to manage your verification and coverage goals. The resulting environment will integrate Incisive Enterprise Simulator, Incisive Enterprise Manager, Incisive VIP, the OVM, and the open-source VMM interoperability library—all tailored to your application. The service is delivered by functional verification experts who are also experienced users of Cadence tools and technologies. Additionally, we demonstrate "best practices" with an IP verification kit that can be used for ongoing training.

DELIVERABLES

- Technical specification, implementation plan, and final report documents
- Code base for migration service, including Incisive Universal Verification Components (UVCs) where needed
- Verification of the verification environment comparing functional coverage results
- Integrated coverage results
- "Best practices" with an IP verification kit
- Onsite consulting and witness testing

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