

Platform Based Design at the Electronic System Level

Industry Perspectives and Experiences

Platform Based Design at the Electronic System Level presents a multi-faceted view of the set of problems that the electronic industry currently faces in the development and integration of complex heterogeneous systems (including both hardware and software components). It analyses and proposes solutions related to the provision of integration platforms by SoC and IP providers in light of the needs and requirements expressed by the system companies: they are the users of such platforms which they apply to develop their next generation products. Further, the book tries to draw a comprehensive picture of the current "interfaces" between the platform providers and users, defined by technical requirements, current design methodology and flows, standards, and finally by the business context and relationships (which should not to be underestimated). These producer-consumer, shared "interfaces" enable (or should enable) the exchange of a well-understood and complete set of data between both parties to ensure design efficiency, high productivity and best use of domain-specific expertise and knowledge.

The problems to be solved are related to modelling of platform functionality and performance (formalisms, methods, metrics), interoperability of models, architecture exploration, early SW development in parallel to the HW platform instantiation, verification and debugging methods and flows, management of complexity at various abstraction levels, and the implications of the trade-offs between the accuracy and complexity of models. The solutions discussed by the contributors to this book have one common denominator: these are standards. In the general sense, the book provides views on why and what kind of standards are the prerequisite to the deployment of a platform based design ecosystem, in which cooperation is made possible between all parties involved in system development: system houses, platform and IP providers and EDA companies.

The material presented in **Platform Based Design at the Electronic System Level** will help system architects, system integrators, design engineers, IP developers and researchers to understand the state-of-the-art and future tendencies in various aspects of modelling of system platforms.

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106,99 €
99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9789400790582
Medium: Buch
ISBN: 978-94-007-9058-2
Verlag: Springer
Erscheinungstermin: 13.09.2014
Sprache(n): Englisch
Auflage: 2006
Produktform: Kartoniert
Gewicht: 184 g
Seiten: 100
Format (B x H): 155 x 235 mm

