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Nota di contenuto	Surveys -- The Road to Utopia: A Future for Generative Programming -- From a Program Family to a Domain-Specific Language -- A Gentle Introduction to Multi-stage Programming -- DSL Implementation in MetaOCaml, Template Haskell, and C++ -- Program Optimization in the Domain of High-Performance Parallelism -- A Personal Outlook on Generator Research -- Domain-Specific Languages -- Generic Parallel Programming Using C++ Templates and Skeletons -- The Design of Hume: A High-Level Language for the Real-Time Embedded Systems Domain -- Embedding a Hardware Description Language in Template Haskell -- A DSL Paradigm for Domains of Services: A Study of Communication Services -- PiLib: A Hosted Language for Pi-Calculus

Style Concurrency -- Tools for Program Generation -- A Language and Tool for Generating Efficient Virtual Machine Interpreters -- Program Transformation with Stratego/XT -- Retrofitting the AutoBayes Program Synthesis System with Concrete Syntax -- Domain-Specific Optimization -- Optimizing Sequences of Skeleton Calls -- Domain-Specific Optimizations of Composed Parallel Components -- Runtime Code Generation in C++ as a Foundation for Domain-Specific Optimisation -- Guaranteed Optimization for Domain-Specific Programming.

Sommario/riassunto

Program generation holds the promise of helping to bridge the gap between application-level problem solutions and efficient implementations at the level of today's source programs as written in C or Java. Thus, program generation can substantially contribute to reducing production cost and time-to-market in future software production, while improving the quality and stability of the product. This book is about domain-specific program generation; it is the outcome of a Dagstuhl seminar on the topic held in March 2003. After an introductory preface by the volume editors, the 18 carefully reviewed revised full papers presented are organized into topical sections on - surveys of domain-specific programming technologies - domain-specific programming languages - tool support for program generation - domain-specific techniques for program optimization.