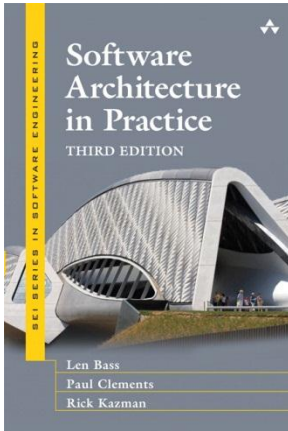




Research, Technology, and System Solutions
SEI Series in Software Engineering



Available at: InformIT

Published: September 2012
ISBN: 9780321815736
Hardback, 640 pages

Software Architecture in Practice, Third Edition

The award-winning and highly influential Software Architecture in Practice, Third Edition, has been substantially revised to reflect the latest developments in the field. In a real-world setting, the book once again introduces the concepts and best practices of software architecture—how a software system is structured and how that system's elements are meant to interact. Distinct from the details of implementation, algorithm, and data representation, an architecture holds the key to achieving system quality, is a reusable asset that can be applied to subsequent systems, and is crucial to a software organization's business strategy.

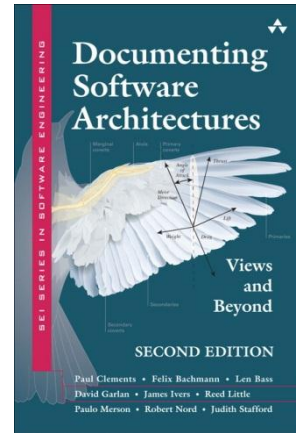
The authors have structured this edition around the concept of architecture influence cycles. Each cycle shows how

architecture influences, and is influenced by, a particular context in which architecture plays a critical role. Contexts include technical environment, the life cycle of a project, an organization's business profile, and the architect's professional practices. The authors also have greatly expanded their treatment of quality attributes, which remain central to their architecture philosophy—with an entire chapter devoted to each attribute—and broadened their treatment of architectural patterns.

If you design, develop, or manage large software systems, you will find this book to be a valuable resource for getting up to speed on the state of the art.

Totally new material covers

- contexts of software architecture: technical, project, business, and professional
• architecture competence: what this means both for individuals and organizations
• the origins of business goals and how this affects architecture
• architecturally significant requirements, and how to determine them
• architecture in the life cycle, including generate-and-test as a design philosophy; architecture conformance during implementation; architecture and testing; and architecture and agile development
• architecture and current technologies, such as the cloud, social networks, and end-user devices



Available at: InformIT

Published: September 2010
ISBN: 0321552687
Hardback, 592 pages

Documenting Software Architectures: Views and Beyond, Second Edition

Software architecture—the conceptual glue that holds every phase of a project together for its many stakeholders—is widely recognized as a critical element in modern software development. Practitioners have increasingly discovered that close attention to a software system's architecture pays valuable dividends. Without an architecture that is appropriate for the problem being solved, a project will stumble along or, most likely, fail. Even with a superb architecture, if that architecture is not well understood or well communicated, the project is unlikely to succeed.

This book provides the most complete and current guidance, independent of language or notation, on how to capture an

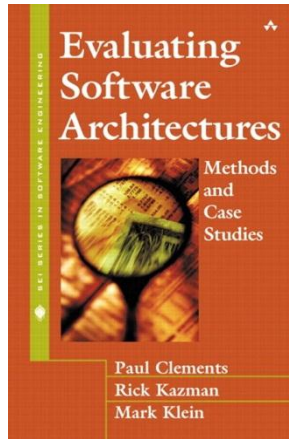
# Research, Technology, and System Solutions

## SEI Series in Software Engineering

architecture in a commonly understandable form. Drawing on their extensive experience, the authors first help you decide what information to document, and then, with guidelines and examples (in various notations, including UML), show you how to express an architecture so that others can successfully build, use, and maintain a system from it. The book features rules for sound documentation, the goals and strategies of documentation, architectural views and styles, documentation for software interfaces and software behavior, and templates for capturing and organizing information to generate a coherent package.

New and improved in this second edition includes:

- coverage of architectural styles such as service-oriented architectures, multi-tier architectures, and data models
- guidance for documentation in an Agile development environment
- deeper treatment of documentation of rationale, reflecting best industrial practices
- improved templates, reflecting years of use and feedback, and more documentation layout options
- a new, comprehensive example (available online), featuring documentation of a Web-based service-oriented system
- reference guides for three important architecture documentation languages: UML, AADL, and SysML



Available at:  
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Published: November 2001  
ISBN: 0-201-70482-X  
Hardback, 304 pages

### Evaluating Software Architectures: Methods and Case Studies

This book is a comprehensive, step-by-step guide to software architecture evaluation, describing specific methods that can quickly and inexpensively mitigate enormous risk in software projects. The methods are illustrated both by case studies and by sample artifacts put into play during an evaluation: viewgraphs, scenarios, and final reports—everything you need to evaluate an architecture in your own organization.

In particular, the book presents three important evaluation methods:

- Architecture Tradeoff Analysis Method (ATAM)
- Software Architecture Analysis Method (SAAM)
- Active Reviews for Intermediate Designs (ARID)

Detailed case studies demonstrate the value and practical application of these methods to real-world systems, and sidebars throughout the book provide interesting background and hands-on tips from the trenches.

All software engineers should know how to carry out software architecture evaluations. *Evaluating Software Architectures* is the chance to get up to speed quickly by learning from the experience of others.

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