Scaling Software Agility

Best Practices for Large Enterprises

Dean Leffingwell

Foreword by Philippe Kruchten



Alistair Cockburn and Jim Highsmith, Series Editors



SCALING SOFTWARE AGILITY

Scaling Software Agility: Best Practices for Large Enterprises

Table of Contents

(١.	\cap	n	t	Δ	n	ts
•	•	. ,			_		1.7

Foreword

Preface

Acknowledgments

About the Author

Part I: Overview of Software Agility

Chapter 1 Introduction to Agile Methods

Achieving Competitive Advantage in a Software Economy

Enter Agile Methods

Agile at Scale

A Look at the Methods

The Trend to Agile Adoption

Business Benefits of Software Agility

A Brief Look at XP, Scrum, and RUP

Summary

Chapter 2 Why the Waterfall Model Doesnt Work

Problems with the Model

Assumptions Underlying the Model

Enter Corrective Actions via Agile Methods

Chapter 3 The Essence of XP

What Is XP?

Whats So Controversial about XP?

Whats So Extreme about XP?



The Fundamental Tenet of XP

The Values, Principles, and Practices of XP

The Process Model for XP

Applicability of the Method

Suggested Reading

Chapter 4 The Essence of Scrum

What Is Scrum?

The Roles in Scrum

The Philosophical Roots of Scrum

The Values, Principles, and Practices of Scrum

Key Practices of Scrum

The Fundamental Tenet of Scrum: Empirical Process Control

The Process Model for Scrum

On Scrum and Organizational Change

Applicability of the Method

Suggested Reading

Chapter 5 The Essence of RUP

What Is RUP?

Key Characteristics of RUP

Roots of RUP

Agile RUP Variants

Applicability of the Method

Suggested Reading

Chapter 6 Lean Software, DSDM, and FDD

Lean Software Development

Dynamic Systems Development Method

Feature-Driven Development

Chapter 7 The Essence of Agile

What Are We Changing with Agile?

The Heartbeat of Agile: Working Code in a Short Time Box



Summary

Chapter 8 The Challenge of Scaling Agile

Apparent Impediments of the Methods Impediments of the Enterprise

Summary

Part II: Seven Agile Team Practices That Scale

Chapter 9 The Define/Build/Test Component Team

What Is the Define/Build/Test Component Team?

Eliminating the Functional Silos

The Roles and Responsibilities of an Agile Component Team

Creating Self-Organizing, Self-Managing Define/Build/Test Teams

Distributed Teams

Chapter 10 Two Levels of Planning and Tracking

A Generalized Agile Framework

Summary: Two Levels of Planning

Chapter 11 Mastering the Iteration

Iteration: The Heartbeat of Agility

The Standard, Two-Week Iteration?

Planning and Executing the Iteration

Iteration Planning

Iteration Execution

Iteration Tracking and Adjusting

Iteration Cadence Calendar

Chapter 12 Smaller, More Frequent Releases

Benefits of Small Releases

Defining and Scheduling the Release

Planning the Release

Release Tracking

The Release Roadmap



Agile at Scale Preview: Release Planning and Tracking in the Large

Chapter 13 Concurrent Testing

Introduction to Agile Testing

Agile Testing Principles

Unit Testing

Acceptance Testing

Component Testing

System and Performance Testing

Summary: Agile Testing Strategy in a Nutshell

Chapter 14 Continuous Integration

What Is Continuous Integration?

Continuous Integration

The Three Steps to Continuous Integration

What Is Continuous Integration Success?

Chapter 15 Regular Reflection and Adaptation

Iteration Retrospective

Release Retrospective

Part III: Creating the Agile Enterprise

Chapter 16 Intentional Architecture

What Is Software Architecture?

Agile and Architecture

On Refactoring and Systems of Scale

What Are You Building?

An Agile Architectural Approach for Enterprise Class Systems

Building Architectural Runway

Chapter 17 Lean Requirements at Scale: Vision, Roadmap, and

Just-in-Time Elaboration

Overview: The Requirements Pyramid

Whats Different About Requirements in Agile?



A Scalable, Agile Requirements Approach: Vision, Roadmap, and Just-in-time Elaboration

Summary

Chapter 18 Systems of Systems and the Agile Release Train

An Agile Component Release Schedule

The Agile Release Train

Release Train Retrospective

Chapter 19 Managing Highly Distributed Development

At Scale, All Development Is Distributed Development

Case Study 1. Ping Identity: The Distributed Define/Build/Test Component Team

Case Study 2. BMC Software, Incorporated: An Agile Transformation in a Highly Distributed, Large-Scale Enterprise

Emphasizing Communications

Tooling Infrastructure for Enterprise Agility

Summary

Chapter 20 Impact on Customers and Operations

The Benefits of Agile Methods to Sales and Marketing

Impact on Product Marketing/Product Management

Smaller and More Frequent Releases

Optimizing the Agile Release Process

Real Challenges and Misconceptions Regarding Agility from Real Sales and Marketing Executives

Chapter 21 Changing the Organization

Overview

Why Does Agile Require Organizational Change?

Preparing for Scrum and Agility

Eliminating Impediments to Software Productivity

An Agile Model for Executive Management

Rolling Out Scrum/Agile in a Large Organization



Summary

Chapter 22 Measuring Business Performance

Agility Measures: The Key Difference

Measuring Team Performance

On Metrics, Process Police, and Team Self-Assessment

Scaling to Organizational Performance: A Balanced Scorecard Approach

Agile Metrics at Scale: Implementing a Flexible, Automated, and

Meaningful BSC for the Enterprise

Conclusion: Agility Works at Scale

Bibliography

Index

