SAP NetWeaver 精要丛书

詹斯·斯顿普（Jens Stumpe）
乔基姆·奥林（Joachim Orb） 著

SAP 交换架构（影印版）

SAP Exchange Infrastructure

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简明目录

第1章 概览 **13**

1.1 简介 13
1.2 与SAP XI流程集成 19

第2章 第一步 **31**

2.1 概览 31
2.2 集成构建器介绍 34
2.3 演示案例 39

第3章 设计协作流程 **43**

3.1简介 43
3.2 对开发的过程进行组织 43
3.3 协作流程的建模 51

第4章 接口、信息和代理的生成 **65**

4.1 简介 65
4.2 使用代理模型开发 66

4.3 支持基于适配器的通信 78
4.4 增强的概念 83

第5章 映射 93

5.1 综述 93
5.2 JAVA 和 XSLT映射 101
5.3 在集成构建器中开发映射 105

第6章 配置 115

6.1 简介 115
6.2 描述系统和服务 117
6.3 配置公司内部流程 125
6.4 配置跨公司流程 137
6.5 适配器配置 145
6.6 行业标准适配器 153
6.7 从测试蓝图到生产蓝图的切换 158

第7章 运行时组件 161

7.1 简介 161
7.2 集成服务和集成引擎 161
7.3 代理 169
7.4 监测 178

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第8章 集成流程 185

8.1 简介 185
8.2 设计一个集成流程 188
8.3 配置集成流程 199
8.4 监控一个集成流程的运行 204

第9章 林德集团的跨组件业务流程管理 207

9.1 方案的业务背景 207
9.2 技术性描述 209
9.3 林德集团方案的实施 213
9.4 总结 237

第10章 使用 SAP XI 实现跨企业通信 239

10.1 方案的业务背景 239
10.2 技术性描述 239
10.3 实施方案 241
10.4 总结 259

附录

A 术语表 287
B 关于作者 299
索引 301

Contents

Introduction 9

1 Overview 13

1.1 Introduction 13
1.1.1 SAP NetWeaver 13
1.1.2 Levels of Process Modeling 17
1.2 Process Integration with SAP XI 19
1.2.1 Communication Using the Integration Server 19
1.2.2 Design and Configuration 25

2 First Steps 31

2.1 Overview 31
2.2 Introduction to the Integration Builder 34
2.3 Demo Examples 39

3 Designing Collaborative Processes 43

3.1 Introduction 43
3.2 Development Organization 43
3.2.1 Describing Products in the Software Catalog 44
3.2.2 Organization of Design Objects in the Integration Repository ... 46
3.2.3 Object Versioning and Transport 49
3.3 Modeling the Collaborative Process 51
3.3.1 Mapping Application Components to Systems 52
3.3.2 Modeling the Message Exchange 57

4 Interfaces, Messages, and Proxy Generation 65

4.1 Introduction 65
4.2 Developing Using the Proxy Model 66
4.2.1 Interface Development in the Integration Builder 66
4.2.2 Proxy Generation 71

4.3 Supporting Adapter-Based Communication 78
4.3.1 Importing Interfaces and Message Schemas 79
4.3.2 Developing with Imported Interface Objects 82
4.4 Enhanced Concepts 83
4.4.1 Using Message Types Across Components 83
4.4.2 Enhancing Partners' and Customers' Data Types 85
4.4.3 Accessing Message Fields by Using Context Objects 89

5 Mappings 93

5.1 Overview 93
5.1.1 Mapping Programs in SAP XI 94
5.1.2 Preconfiguration and Testing of Mapping Programs 98
5.2 Java and XSLT Mappings 101
5.2.1 Java Mappings 102
5.2.2 XSLT Mappings 105
5.3 Developing Mappings in the Integration Builder 105
5.3.1 Introduction to the Mapping Editor 106
5.3.2 Mapping Functions in Message Mappings 110
5.3.3 Developing Data Type Mappings in the Integration Builder 113

6 Configuration 115

6.1 Introduction 115
6.2 Describing Systems and Services 117
6.2.1 Settings in the System Landscape Directory 118
6.2.2 First Steps in the Integration Directory 121
6.3 Configuring Internal Company Processes 125
6.3.1 Configuration Using Integration Scenarios 125
6.3.2 Overview of Configuration Object Types 128
6.3.3 Value Mapping 135
6.4 Configuring Cross-Company Processes 137
6.4.1 From Internal to Cross-Company Communication 138
6.4.2 Partner Connectivity Kit 142
6.5 Adapter Configuration 145
6.5.1 Overview 145
6.5.2 Special Features of the RFC and IDoc Adapters 149
6.6 Adapters for Industry Standards 153
6.6.1 RosettaNet Standards 154
6.6.2 RosettaNet Support with SAP XI 155
6.7 Transports Between the Test and Productive Landscape 158

7 Runtime 161

7.1 Introduction 161
7.2 Integration Server and Integration Engine 161
7.2.1 Basics 161
7.2.2 Processing Steps of a Message 164
7.3 Proxy Runtime 169
7.3.1 Special Features for Java Proxy Communication 173
7.3.2 ABAP Proxies and Web Services 175
7.4 Monitoring 178

8 Integration Processes 185

8.1 Introduction 185
8.1.1 What Is an Integration Process? 185
8.1.2 Integration Processes and Other Processes 187
8.2 Designing an Integration Process 188
8.2.1 Data of an Integration Process 188
8.2.2 Processing Messages 190
8.2.3 Controlling the Process Flow 194
8.2.4 Time Control and Exception Handling 196
8.2.5 Importing or Exporting Integration Processes 198
8.3 Configuring Integration Processes 199
8.3.1 Overview 199
8.3.2 Configuration Using Integration Scenarios 201
8.4 Monitoring the Execution of an Integration Process 204
8.4.1 Analyzing the Runtime Cache 204
8.4.2 Process Monitoring 204
8.4.3 Message Monitoring 205

9 Cross-Component Business Process Management at the Linde Group 207

9.1 Business Background of the Scenario 207
9.2 Technical Description 209
9.2.1 Sending the Responses to the Warranty Claims 209
9.2.2 Arrival of the Messages on the Integration Server 209
9.2.3 Cross-Component Business Process Management 209
9.2.4 Message Outbound Channel 212
9.3 Implementing the Scenario at the Linde Group 213
9.3.1 System Landscape and Software Catalog 213
9.3.2 Designing the Integration Objects in the Integration Repository 214
9.3.3 Configuration in the Integration Directory 231
9.4 Summary 237

10 Cross-Company Communication Using SAP XI 239

10.1 Business Background of the Scenario 239
10.2 Technical Description 239
10.3 Implementing the Scenario 241
10.3.1 Components of the UCCnet Scenario 241
10.3.2 Development and Configuration Objects 242
10.3.3 Using the Top-Down Approach to Create Integration Repository Objects 242
10.3.4 Generating Integration Directory Objects Automatically 249
10.4 Summary 259

A Glossary 261

B The Authors 265

Index 267

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Introduction

In SAP NetWeaver '04, SAP has brought together various technologies in one product. It includes, among others, SAP Enterprise Portal (SAP EP), SAP Mobile Infrastructure (SAP MI), SAP Business Information Warehouse (SAP BW), SAP Business Process Management (SAP BPM), SAP Exchange Infrastructure (SAP XI), and SAP Web Application Server (SAP Web AS). SAP XI focuses on cross-system process integration—the exchange of messages between applications.

SAP XI is not an adapter, but a component of SAP NetWeaver with an open architecture that enables you to integrate a wide range of SAP and non-SAP systems within and outside your company's boundaries. Given the diversity of systems installed in today's companies and the increase in cross-company communication, the need for support in this area is greater than ever before.

Release

SAP XI has considered these requirements in its upgrade from SAP XI 2.0 to SAP XI 3.0. Due to enhancements in Business-to-Business (B2B) application support and cross-component BPM in particular, the decision regarding which release the book should be based on was an obvious one. You should note that where it is not expressly mentioned, this book applies to SAP XI 3.0 with SP4 (Feature Pack).

Target Group

Because this is the first book to be written on this topic, it is intended for all readers who need an introduction to guide them through their first steps with SAP XI. The first part describes the functions and most important concepts of SAP XI.

Chapters 1 and **2** are essential for understanding all subsequent chapters. **Chapters 3** through **5** concentrate on design and development with SAP XI, independently of a specific system landscape. **Chapter 6** summarizes everything discussed in the previous chapters: It describes how you configure the cross-system process for a specific system landscape, based on the developments made at the logical level. The order in which topics are addressed reflects the chronological order of the corresponding steps in an SAP XI integration project. Logically speaking, **Chapter 7**, which deals with SAP XI runtime, could also be read concurrently with all the other chapters. **Chapter 8** completes the first part of the book with its description of cross-component BPM, which marks the transition from stateless to stateful communication.

To illustrate how SAP XI is applied in a business context, the second part of the book examines two customer scenarios that have been realized with SAP XI. We selected typical scenarios and believe that scenarios that are similar to our examples can be applied at other companies. Naturally, we did not want the scenarios to be merely examples, but to also be technically demanding, each spotlighting a specific function of SAP XI. **Chapter 9** describes how cross-component BPM is used as part of an XI scenario at the Linde Group. **Chapter 10** shows how the B2B features of SAP XI help connect a Customer Relationship Management (CRM) system to an electronic marketplace over the Internet.

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This book could not have been written without the support of many people who, directly or indirectly, were involved in writing or checking the manuscript. First and foremost, we would like to thank Rachel Raw and Robert Sloan for translating the book into English so quickly and diligently. We are also indebted to the following colleagues from SAP XI development who found time to proofread sections from their specialist areas and resolve open questions: Jörg Ackermann, Frank Beunings, Andreas Dahl, Anton Deimel, Franz Forsthofer, Thea Hillenbrand, Frank Oliver Hoffmann, Christoph Hofmann, Jörg Kessler, Christoph Liebig, Michael Mühlberg, Stefan Rossmanith, Uwe Schlarb, Martin Tewes, Stefan Werner, and Manfred Zizlsperger. Finally, special thanks go to Florian Zimniak and the team at Galileo Press for their valuable support.

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Joachim Orb would also like to thank Agnès Bouillé for her cooperation. Many evenings and weekends were sacrificed to produce this book.

The challenges of cross-system and cross-company processes arise from their multifaceted nature regarding the diversity of platforms, programming languages, involved applications, and communication parties. We hope that this book will give you the necessary guidance when using SAP XI to meet these challenges, and that it will contribute to the success of your integration projects.

Walldorf, February 2005
Jens Stumpe
Joachim Orb

1 Overview

Starting with SAP NetWeaver, this chapter describes the focus and components of SAP XI.

1.1 Introduction

SAP Exchange Infrastructure (SAP XI) is just one component of the SAP NetWeaver technology platform, which is summarized briefly in the next section. Section 1.2 introduces the world of process integration, but first, Section 1.1.2 clarifies at which level you integrate processes with SAP XI.

1.1.1 SAP NetWeaver

The Integration Challenge

A company's competitiveness generally depends on whether it can manage quality and cost considerations to achieve a profit within a reasonable period of time. In the past, companies could achieve a competitive advantage simply by accelerating their existing processes. In recent years, however, another success factor has emerged: the ability to react to changes in the market and within a company. Such changes require you to adapt the existing processes in your company, and integrate your organizational units (including employees) into new organizational structures. The necessary changes have direct implications for the existing IT landscape of your company. Therefore, one of the major challenges facing the IT sector today is enabling companies to react quickly and flexibly to the constant changes and demands.

The SAP NetWeaver product groups together various technological concepts and previous SAP platforms. The focus of SAP NetWeaver '04 is the integration of people, information, and processes in one solution. Figure 1.1 shows an overview of the capabilities of SAP NetWeaver. This book is an introduction to the area shown in white, but covers only the Business Process Management (BPM) aspects that are relevant to SAP XI (namely *cross-component* BPM). The components of SAP NetWeaver and the capabilities that they address are discussed below.

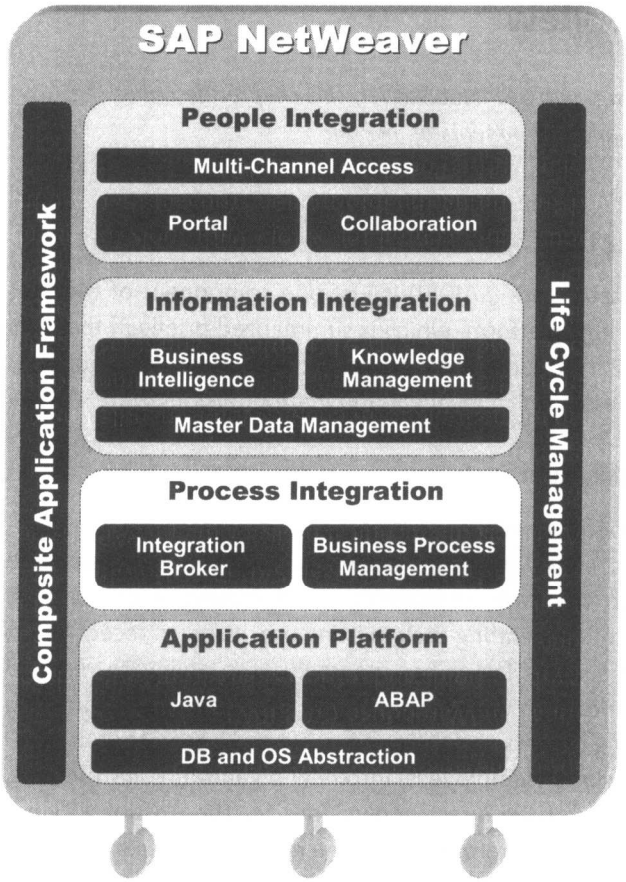

Figure 1.1 Capabilities of SAP NetWeaver '04

Application Platform

SAP Web Application Server (currently SAP Web AS Release 6.40) is the basis of all SAP applications and constitutes the application platform capability. The core of SAP Web AS is the "old" SAP Basis, which offers the recognized advantages of the ABAP development and runtime environment, which include reliability, scalability, and operating-system and database independence. SAP Web AS supplements these fundamental aspects with technologies such as the SAP J2EE Engine and the Internet Communication Manager (ICM), which handles Internet requests and distributes them to the individual components. Furthermore, SAP Web AS supports a wide range of technical standards such as HTTP(S), SMTP, WebDAV, SOAP, SSL, SSO, X.509, Unicode, HTML, XML, and WML.

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