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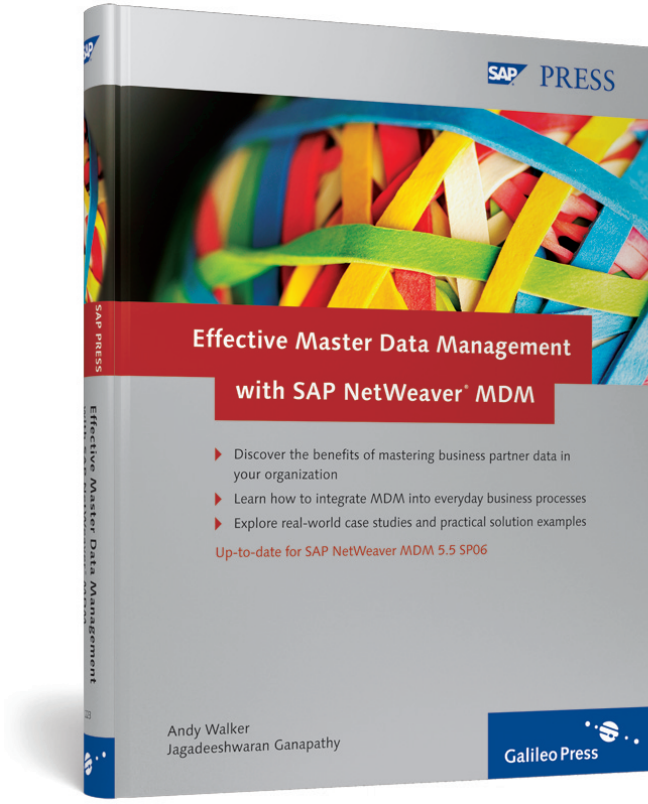
Effective Master Data Management with SAP® NetWeaver MDM



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Contents at a Glance

PART I MDM Business Background and Skills

1 Introducing MDM — Concepts and Definitions 19

2 Why MDM Is Needed: Master Data Silos Issues 53

3 The MDM Business Case and the MDM Program Assessment 91

4 The Dun & Bradstreet Services 131

5 Mobilizing for MDM: People and Planning 173

PART II SAP NetWeaver MDM Technical Framework and Solution Architecture

6 Developing an SAP NetWeaver MDM Architecture for an Enterprise 205

7 Converting and Maintaining Master Data 233

8 The SAP NetWeaver MDM Landscape, Data Modeling, and Data Maintenance 261

9 SAP NetWeaver MDM Data Integration and Enrichment 299

10 Integrating SAP NetWeaver MDM with the SAP NetWeaver Components 331

11 Advanced Features 361

The Authors 395

Contents

Acknowledgments 15

PART I MDM Business Background and Skills

1 Introducing MDM — Concepts and Definitions 19

1.1 Introduction 19
1.1.1 Understanding MDM and Asking the Right Questions 21
1.2 MDM Concepts 27
1.2.1 MDM Terminology 30
1.2.2 Scope of This Book 33
1.2.3 Introducing the Master Data Silos 33
1.2.4 Introducing the Dun & Bradstreet Concepts 35
1.2.5 Reconciling the Master Data Silos with the D&B D-U-N-S Number 39
1.2.6 Records of Reference, Records of Origin, and Consuming Systems 39
1.2.7 The "Yellow Pages" of a Corporation 41
1.2.8 The Importance of MDM Data Quality 42
1.3 MDM Definitions 43
1.3.1 Master Data Objects 44
1.3.2 Business Partners 45
1.3.3 Vendor Definitions 46
1.3.4 Customers 46
1.3.5 Natural Persons 50
1.4 Summary 51

2 Why MDM Is Needed: Master Data Silos Issues 53

2.1 Case Study 1 — Master Data Silos 54
2.1.1 Financial Accounting Application (FI1) — Vendors and Accounts Payable 55
2.1.2 Financial Accounting Application (FI1) — Customers and Accounts Receivables 59
2.1.3 Customer Relationship Management Application (CRM1) 61

2.1.4 Sales and Distribution Application (SD1) 63
2.1.5 Supply Chain Management Application (SCM1) 64
2.1.6 Business Intelligence (BI1) 65
2.2 Maintaining Master Data Across the Silos 68
2.2.1 Business Data Varies by Application 69
2.2.2 Different Teams and Organizations 69
2.2.3 Impacts of Outsourcing 70
2.2.4 Features of Unlinked Systems 72
2.2.5 Maintaining Data Silos — Business Process Issues 74
2.2.6 Measuring Performance with Business Partners 78
2.3 Case Study 2 — Impact of Mergers and Acquisitions 82
2.4 Large Organizations – Multiplying the Data Silos Issues 87
2.4.1 Multiple Countries 87
2.4.2 Mergers and Acquisitions 87
2.4.3 Multiple Business Units 88
2.4.4 Multiple Financial Accounting Applications 88
2.4.5 IT Strategies 88
2.5 Summary 88

3 The MDM Business Case and the MDM Program Assessment 91

3.1 The SAP NetWeaver MDM Business Case 91
3.2 MDM Core Services 94
3.2.1 Uniform, Consistent Master Data Processes 94
3.2.2 Lifecycle Management Processes 96
3.2.3 Corporate Linkage and Legal Entity Hierarchies 97
3.2.4 Reconciling and Reporting Across the Master Data Silos ... 99
3.2.5 Reconciliation and Reporting Issues 100
3.2.6 The Record of Reference in the Absence of MDM 101
3.2.7 The Business Value of MDM for Reconciliation and Reporting 102
3.2.8 Financial and Legal Compliance 102
3.2.9 SOX Section 302 – Corporate Responsibility for Financial Reports 103
3.2.10 SOX Section 404 – Management Assessment of Internal Controls 103
3.2.11 SOX Section 409 – Real-Time Issuer Disclosure 104
3.3 Integrating MDM with the Major Business Areas 104
3.3.1 Financial Accounting Integration 105

3.3.2 Supply Chain Management Integration 106
3.3.3 Customer Relationship Management Integration 108
3.3.4 Business Intelligence Integration 110
3.3.5 Corporate Integration 111
3.3.6 IT and Data Management 112
3.3.7 Summarizing the MDM Business Case by Organizational Element 113
3.4 Obstacles to MDM Adoption — One More Master Data System to Maintain 115
3.4.1 The Obstacles to MDM 115
3.4.2 Overcoming the Obstacles 118
3.4.3 Setting Up MDM Governance — The Role of the MDM Steering Board 119
3.5 The MDM Business Partner Scorecard 120
3.5.1 MDM Phase 1 120
3.5.2 MDM Phase 1 Program Assessment Scorecard 121
3.6 MDM Phase 2 124
3.6.1 Two or More Live Systems Linked to MDM 125
3.6.2 MDM Contains 95% of All Business Partners Within a Company 126
3.6.3 MDM Is Consolidated into a Large Business Intelligence Warehouse Solution 127
3.6.4 Business Users Are Searching the MDM "Yellow Pages" to Understand the Business Partner's Corporate Structure 127
3.6.5 MDM Is Consolidated into 80% of Applications 128
3.6.6 All Spend Data Is Tracked and Classified 128
3.6.7 Corporate Purchasing Controls Are Implemented 128
3.6.8 Credit Risk Management Programs Use the MDM and D&B Corporate Legal Entity Structures 129
3.6.9 MDM Is Integrated into 95% of Systems 129
3.6.10 Centralized MDM Processes Are Implemented Groupwide 129
3.7 Summary 130

4 The Dun & Bradstreet Services 131

4.1 Dun & Bradstreet Services 131
4.1.1 How D&B Maintains Company Data 131
4.1.2 The D&B D-U-N-S Number Defined 132

4.1.3 D&B Worldbase Database 133
4.1.4 D&B Corporate Linkage 136
4.1.5 D&B Lifecycle Management Processes 138
4.1.6 D&B Entity Matching 139
4.1.7 D&B and Financial and Legal Compliance 142
4.1.8 D&B Maintenance of Joint Venture Corporate Linkage Structures 144
4.1.9 The Dun & Bradstreet – SAP NetWeaver MDM Enrichment Architecture 144
4.2 Dun & Bradstreet – Implications for an Organization 147
4.2.1 Architecture Principles in Using D&B External Services 148
4.2.2 The D&B D-U-N-S Number as a Unique Key 151
4.2.3 Persuading Local Business and System User Groups 151
4.2.4 Measuring D&B Entity Matching Progress 157
4.2.5 D&B Corporate Linkages and Business Partner Functions in SAP NetWeaver MDM 160
4.2.6 Lifecycle Management 162
4.2.7 Scaling the Solution 163
4.3 Applying the D&B Solution – The Case Studies Revisited 167
4.4 Summary 171

5 Mobilizing for MDM: People and Planning 173

5.1 Establishing MDM Program and Data Governance 173
5.1.1 MDM Program Governance and the Role of an MDM Steering Board 174
5.1.2 Organizational Impacts 174
5.1.3 Data Governance and Stewardship 179
5.2 Building the Key MDM Program Components 184
5.2.1 Relationships with the SAP Team 184
5.2.2 Relationships with the D&B Team 185
5.2.3 SAP NetWeaver Infrastructure 186
5.3 Mobilizing the MDM Program Team 187
5.3.1 Required Skills and Roles 189
5.3.2 MDM Program Manager 189
5.3.3 MDM Technical Design Authority 189
5.3.4 SAP NetWeaver Solution Architects 193
5.3.5 MDM Data Steward 193
5.3.6 The Role of Systems Integrators 194

5.4 The MDM Discovery Phase 195
5.4.1 Business Proof of Concept with Dun & Bradstreet 196
5.4.2 Technical Proof of Concept using SAP NetWeaver MDM 197
5.5 MDM Planning and Roadmaps 199
5.5.1 Phase 1 – Establishing the MDM Program and Services 199
5.5.2 Phase 2 – Integrating MDM Throughout a Company 201
5.6 Summary 202

PART II SAP NetWeaver MDM Technical Framework and Solution Architecture

6 Developing an SAP NetWeaver MDM Architecture for an Enterprise 205

6.1 Designing the SAP NetWeaver MDM Technical Framework 206
6.1.1 Architecture Roles 207
6.1.2 Consolidated and Centralized Master Data Architecture ... 209
6.1.3 Master Data Management Process Definition 216
6.1.4 Data Integration and Synchronization Architecture 221
6.1.5 Enterprise SOA Principles in Data Architecture 223
6.2 Enterprise MDM Data Architecture Standards and Requirements 224
6.2.1 Data Inheritance Rules, Quality Standards, and Validations 224
6.2.2 Global and Local Attributes 227
6.2.3 Taxonomy (Hierarchy) and De-Duplication 227
6.2.4 Optimization — Data Volume and Performance 228
6.2.5 Data Security and Data Privacy Requirements 229
6.2.6 Key Mapping and Remote Systems 230
6.3 Summary 230

7 Converting and Maintaining Master Data 233

7.1 Data Cleansing and Migration 234
7.1.1 Data Conversion Strategies and Objectives 235
7.1.2 Organizational Data Quality Metrics and Standards 237
7.1.3 Investigating the Source System Data 240
7.1.4 Data-Cleansing Processes: Extract and Cleanse Principles 243
7.1.5 Data Cleansing and Enrichment with Dun & Bradstreet 245

7.1.6 Validate Results 249
7.1.7 Monitor the Migration Processes 252
7.2 Ongoing Data Maintenance 252
7.2.1 MDM Repositories Architecture 253
7.2.2 Driving Data Integrity Through SAP NetWeaver MDM Workflows 254
7.2.3 Lifecycle Management 255
7.2.4 SAP NetWeaver MDM Data Matching Strategies 258
7.3 Summary 260

8 The SAP NetWeaver MDM Landscape, Data Modeling, and Data Maintenance 261

8.1 MDM Technical Landscape and Data Modeling 262
8.1.1 Systems Landscape for Production and Continuous Improvement (Projects) 262
8.1.2 Technical Configuration of an MDM system 267
8.1.3 MDM Console – Key Functionality 274
8.1.4 MDM Repository Design 276
8.1.5 Main Tables, Look-up Tables, and Hierarchies 278
8.1.6 Qualified Look-up Tables 282
8.2 MDM Data Manager Functions 286
8.2.1 Key Functionality 286
8.2.2 MDM Workflow Design 286
8.2.3 Search and Report 291
8.2.4 MDM Expressions, Validations, and Assignments 293
8.2.5 MDM Data Matching and Merging 294
8.2.6 Example Case Study – D&B Internal Look-Up Leveraging MDM Matching Strategies 296
8.3 Summary 298

9 SAP NetWeaver MDM Data Integration and Enrichment 299

9.1 MDM Import Manager 300
9.1.1 Key Functionality 302
9.1.2 Import of Hierarchies 305
9.1.3 De-duplication in the Import Process 309
9.1.4 Automating Data Import 310

9.2 MDM Syndication 312
9.2.1 Key Functionality 313
9.2.2 Automated Syndication 316
9.2.3 Syndication as a Workflow Step 318
9.2.4 Syndication as a Reporting tool 319
9.3 MDM Enrichment Adapter 320
9.3.1 Technical Concept of Data Enrichment 320
9.3.2 Key Components and Functionality 321
9.3.3 Case study: D&B Data Enrichment, with Iterative Look-Ups, Portal Presentation of Enrichment Information, and Error-Handling Options 324
9.3.4 Comparison of the MDM Enrichment Adapter and SAP NetWeaver Process Integration 327
9.4 Summary 328

10 Integrating SAP NetWeaver MDM with the SAP NetWeaver Components 331

10.1 SAP NetWeaver Portal Design and Deployment 331
10.1.1 MDM Data Manager User Interfaces 332
10.1.2 SAP Interactive Forms 332
10.1.3 SAP NetWeaver Portal and MDM Integration 334
10.1.4 SAP NetWeaver Portal Standard Business Content 340
10.1.5 Custom Portal User Interfaces – Java Web Dynpro Development 342
10.1.6 Case Study: Portal User Interfaces Build for Vendor Maintenance Processes 346
10.1.7 Portal Guided Procedures, SAP Business Workflow, and SAP NetWeaver MDM – Managing Complex Iterative Workflows 349
10.2 Process Integration Using SAP NetWeaver PI 352
10.2.1 SAP NetWeaver PI Interface Architecture and Design Considerations 353
10.2.2 Implementing an SAP NetWeaver PI Interface to an SAP ERP System 354
10.2.3 Required Setup Activities in MDM, SAP ERP, and SAP NetWeaver PI 356
10.3 Summary 358

11 Advanced Features 361

11.1 Introducing Application Programming Interfaces and Web Services 361
11.2 The MDM Java API 364
11.2.1 Background to the MDM JAVA API 365
11.2.2 Comparing MDM4J API and the New MDM Java API 366
11.2.3 API Structure and Basic Concepts 367
11.2.4 Connections and Sessions 368
11.2.5 Summary – The Basic Building Blocks 370
11.2.6 Searching 372
11.2.7 Working with Identifiers 373
11.3 MDM Web Services 375
11.3.1 General Concept of Web Services 375
11.3.2 Introduction to MDM Web Services 376
11.3.3 MDM Search Records 376
11.4 Planning for Service Pack Upgrades and Recent Service Pack Functionality 382
11.4.1 Planning for MDM Service Pack Upgrades 383
11.4.2 Service Pack Enhancements Up to MDM 5.5. SP06 385
11.4.3 Enhanced Administration and Repository Reconciliation (Schema Migration) in SP05 and SP06 386
11.4.4 MDM Data Manager in SP05 and SP06 387
11.4.5 MDM Import Manager and MDM Syndicator Enhancements in SP05 and SP06 387
11.4.6 MDM Portal Content in SP05 and SP06 388
11.4.7 System Monitoring and Support Enablement in SP06 389
11.4.8 MDM Java API in SP05 and SP06 389
11.4.9 Miscellaneous SP05 and AP06 Functionality 390
11.5 Future Roadmaps 392
11.6 Summary 393

The Authors 395

Index 397

Let's now consider the issues faced by companies that maintain customer and vendor records in multiple business applications in the absence of MDM and data governance and standards.

2 Why MDM Is Needed: Master Data Silos Issues

This chapter considers how organizations with multiple business applications manage their master data without MDM. We'll analyze the business issues that are caused when these applications and master data "silos" are maintained by different organizational teams. We'll discuss two detailed case studies and also consider the implications of business mergers and acquisitions. Finally, we'll describe how the issues of master data silos are further compounded for large organizations.

Typically in many companies today, master data is created in multiple systems and spreadsheets. As long as the data resides in these multiple silos, it continues to evolve independently and often provides conflicting information. Business decisions and processes based on inconsistent master data will than lead to inaccuracies, greater waste and customer dissatisfaction, and increased business risk with potential financial and compliance issues. The problem of inconsistent information is compounded when your company then needs to share and publish its master data with your business partners or across your organization.

Two case studies in this chapter illustrate the current customer and vendor maintenance processes in an organization and the related issues. In Case Study 1, we consider the issues faced by a fictional Company C1 with a relatively "simple" architecture. In Case Study 2, we move on to discuss the additional complexity caused when company C1 then merges with company C2 and acquires another set of business processes and applications.

Let's first introduce an analogy.

The Importance of Sharing Master Data — Boys and Toys

Young children often fight for their favorite toy, and they refuse to share with their siblings or best friends.

As they grow up and become business leaders, they will have new toys — marketing divisions, customer services divisions, and financial accounting departments. They will each look to control their piece of the organization and will be the system owners of the Customer Relationship Management application, the Sales and Distribution application, and the Financial Accounting application.

Unfortunately, they still need to share because the management of customer records and order taking, invoicing, and payment processes span the entire organization. Sharing master data and integrating business processes across the applications is a critical success factor to enable them to "play happily" in a successful company.

There is a significant business investment in deploying an SAP CRM, SAP SCM, and SAP NetWeaver BI business application. Shared customer and vendor master data enabled by SAP NetWeaver MDM is a prerequisite to maximize the business value from these investments.

Let's now move on to Case Study 1, where we will describe the Company CO1, which unfortunately hasn't understood the importance of sharing or the value of maintaining its customer and vendor records.

2.1 Case Study 1 — Master Data Silos

The case study highlights the issues caused by maintaining business partner master data in multiple systems across an organization. Let's imagine that you are a senior business leader for the fictional Company CO1. You are interested in understanding more about your company's profitability and your total expenditure with your leading customers and vendors.

- You'll consider who are your most profitable customers and how you can improve your revenue and operational efficiency when dealing with a customer. Similarly you will consider your spending with a vendor and whether you are leveraging the scale of your company, by understanding the global overview of dealings throughout the vendor's corporate structure.

Company CO1 currently has five systems where business partner master records are maintained. Figure 2.1 shows the overall applications architecture. We can see from the diagram how the five business systems are linked together and

also that the information stored on the customer and vendor records varies by application.

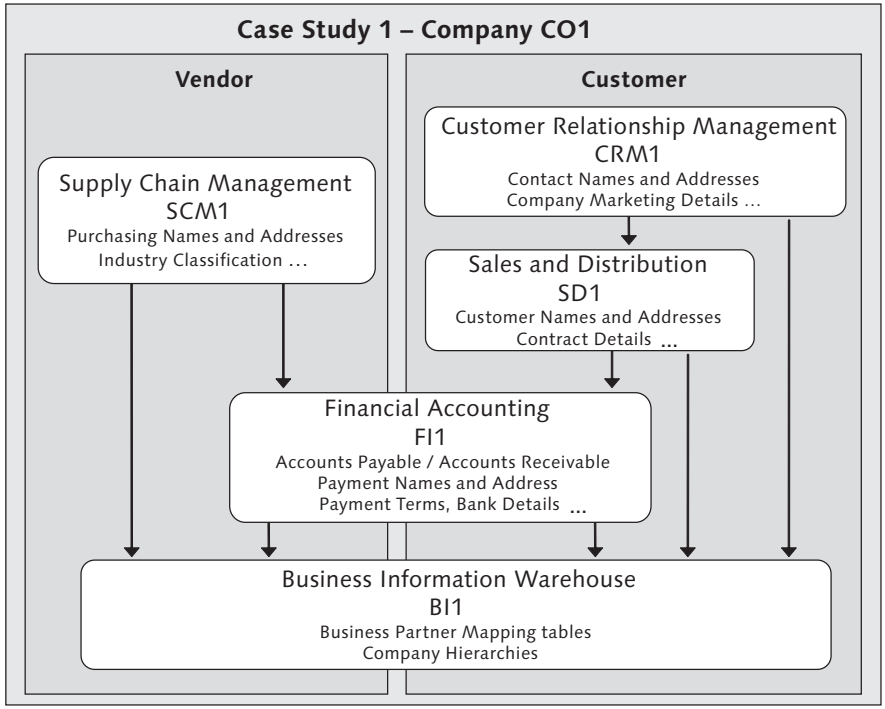

Figure 2.1 Case Study 1 – Company CO1 Business Applications

We'll consider how the customer and vendor master data records are maintained in each of these business applications. Let's now discuss the Financial Accounting application FI1 and the processes for creating vendor records.

2.1.1 Financial Accounting Application (FI1) — Vendors and Accounts Payable

In Company CO1, the system owner for the Financial Accounting (FI) application is the Chief Financial Officer (CFO), and the business users are the Accounts Payable (AP) and Accounts Receivable (AR) teams. In our example, Company CO1 has outsourced its financial accounting operational processes to a third party.

Let's consider the various ways in which the vendor records are created in the FI application. The AP team may need to create a new vendor as part of the process

to manage a request for an invoice payment or a request to raise a purchase order. The AP team may receive a create vendor request form. Many of the FI1 vendor records were created in the SAP FI CO application as part of a data conversion exercise. Mergers and acquisitions also provide a source of new vendor records.

The following are the create vendor processes:

1. A vendor raises an invoice that requires payment.
2. The procurement team raises a purchase order request.
3. A vendor request form is completed.
4. Vendor records are created as part of a data migration exercise.
5. A merger or acquisition creates a batch of new vendor records.

Each of these processes are discussed in the following subsections.

1. A Vendor Raises an Invoice That Requires Payment

You may have assumed that to pay an invoice, a purchase order would previously have been raised in the FI application. However, because the CO1 business processes and systems are not integrated, in this scenario, the first time the AP team is made aware of a purchase is when the vendor sends an invoice that needs to be paid. The invoice includes the vendor's payment name and address details, payment instructions, and payment date.

The AP team contacts the relevant person in your organization to authorize payment. This can take time and impact the Service Level Agreement, which has a measure based on managing the payment process in a defined number of days.

After authorization has been agreed upon, the AP user then searches the SAP database to see if he can find the vendor. If the record cannot be matched based on the name and address details provided on the invoice, then he creates a new vendor record in the FI1 application.

In these situations, creating the vendor record is an additional, unplanned step in the invoice payment process. In this scenario in Company CO1, limited data quality checks are carried out; if the invoice contains incomplete vendor information, these will nevertheless be entered into your FI1 application. The main business driver is to arrange the payment of the invoice to the correct bank account, with the quality of the vendor master data record of secondary importance.

The vendor data attributes entered relate to the accounting view of the vendor: the payment name and address, the bank details, and the payment terms.

2. The Procurement Team Raises a Purchase Order Request

Company CO1 has a rule that all invoices exceeding $10,000 must also have a corresponding purchase order raised in the FI application. Your procurement team currently raises a purchase order request by sending an email to the AP team using a standard template.

Once again, the AP user searches the SAP database to see if he can find the vendor. If the record cannot be matched using the name and address supplied on the purchase order, then a new vendor record will be created in the FI1 application with the base details provided on the purchase order. In this scenario, the creation of the vendor record is an additional step in the create purchase order process.

3. A Vendor Request Form Is Completed

In Company CO1, there is a vendor request form for the setup of new vendor records in the FI application. The AP team has created the template for the form, but it is rarely used. The form includes the data attributes required for the accounting view of the vendor, including payment names and addresses, bank details, and payment terms.

Customer and Vendor Master Data Forms

It's important for your MDM program to design a suitable customer and vendor maintenance form that captures the relevant details for the whole of your organization and not just a subset, such as for the AP and AR teams. A clear and comprehensive master data entry form is an excellent way to enforce data standards, and to mandate and validate relevant data attributes.

A good question to ask is how many customer and vendor master data forms currently exist across your organization. Is there one per application? What are the mandatory attributes? What data validation is carried out? Is the completion of the form mandatory?

Later, we'll discuss how implementing an SAP Interactive Forms by Adobe solution can improve your customer and vendor master data capture processes. The user interface is slick and flexible; you can also enforce mandatory attributes and allow look-ups with dropdown screens. The Adobe forms are integrated with the SAP NetWeaver Portal so that the details can be automatically uploaded without rekeying the details. This is excellent functionality that we'll discuss further in Part 2 of this book.

4. A Vendor Record Was Created During a Previous Data Migration

Company CO1 previously used a non-SAP FI application but migrated to the SAP FI CO solution two years ago. The deployment team's major focus was to ensure that all outstanding transactions and AP open items were migrated to the new FI1 application. The critical success factor was to match the opening and closing balances and to provide an audit trail to support this.

However, the previous non-SAP FI vendor master data records had been poorly maintained. The system had limited functionality, which meant that duplicate vendor records were created to handle situations such as companies with multiple payment terms or bank details. It was also difficult to search the previous application, so duplicate records were created. The non-SAP data model was limited, and when converted to the SAP model, this created yet further duplicate records. The legacy systems data attributes were a subset of the SAP attributes.

To meet the deployments schedule and critical success factor, the data conversion team decided to copy all vendor records, including duplicates, to the SAP FICO application. This also meant that records for inactive vendors that had not been used for several years were also created in the new system.

Because only partial vendor details were migrated during the data conversion to the FI1 application, this made these records difficult to retrieve as part of the ongoing search processes. As a result, further duplicate records have subsequently been created in the FI1 application.

SAP NetWeaver MDM and Data Conversions

Your SAP NetWeaver MDM program needs to be closely involved with each of your company's major implementation projects to influence their data conversion processes. The master data standards that you'll mandate on all new vendors and customers records also apply to the records that already exist in your business applications.

You should avoid copying incomplete, inaccurate, and duplicate vendor master data records from an old system to a new system. Make every effort to prevent GIGO (Garbage IN – Garbage OUT) with any future deployments of business applications.

5. A Merger or Acquisition Creates a Batch of New Vendor Records

A merger or acquisition is another way vendor records can be created in your FI application. This is a similar process to a data conversion process and involves

loading a batch file of records into FI1. Again, a primary business driver is ensuring that all AP open items are migrated to your FI application.

If a vendor record already exists in your FI1 application, this will result in a duplicate record being created. If the company you are acquiring has a different data model with varying data attributes, this can cause data conversion issues. The implications of mergers and acquisitions are discussed later in this chapter, in Case Study 2.

Let's now move on to consider the processes by which customer records are created in your FI1 application.

2.1.2 Financial Accounting Application (FI1) — Customers and Accounts Receivables

In Company CO1, your AR processes are also outsourced, and there are also multiple ways in which a customer record can be created:

1. The sales team raises a manual invoice for a new customer.
2. An invoice is raised in the Sales and Distribution application SD1 for a new customer payment address, which automatically creates a new customer record in FI1.
3. A create customer request form is completed.
4. Customer records are created as part of a data migration exercise.
5. A merger or acquisition loads a batch of new customer records.

Each of these processes is discussed in the following subsections.

1. The Sales Team Raises a Manual Invoice for a New Customer

Unfortunately, your non-SAP Sales and Distribution application (SD1) has limited functionality and isn't suitable for maintaining the complex contracts and agreements that your sales representatives have recently negotiated with several of your customers. Their innovative new offer attracts a lot of interest with new customers and is managed outside the current systems in spreadsheets.

The customer services team sends the invoice to the AR team for manual entry into the FI1 application. This contains the customer's payment name and address details. The AR user searches the SAP FI1 application to see if he can find the cus-

tomer. If the record cannot be matched based on the name and address details provided on the invoice, then a new customer record is created.

2. An Invoice Is Raised in the Sales and Distribution Application SD1 for a New Customer Payment Address, which Automatically Creates a New Customer Record in FI1

In Company CO1, established customer interfaces exist between the SD1 and FI1 applications. The SD1 application maintains the majority of your customer details, including the legal entity details (or the equivalent to the SAP sold-to record) and the delivery, invoice, and payment address details.

The SD1 legal entity and the payer details are interfaced to the FI1 application and stored as sold-to and payer records. A minimal attribute set is interfaced to the FI1 application, including the SD1 system key. The SD1 application currently contains duplicate records that are transferred into FI1.

3. A Create Customer Request Form Is Completed

A create customer request form provides the details to set up a new customer in the FI1 application. The AR team created the template, but as with the vendor request form, this is rarely used. The form includes the data attributes required for the accounting view of the customer, including the payment names and addresses, the bank details, and the payment terms.

4. A Customer Record Is Created During a Data Migration Exercise

As with the vendor records, at the time of the FI1 go-live, the data conversion team copied all of the customer records, including duplicate records, from the legacy system to the FI1 application. These records included customers who had been inactive for several years and were of poor quality, with missing address details.

Because incomplete customer name and address details were migrated to the FI1 application, these original converted customer records are difficult to retrieve as part of the ongoing search processes. This has been a cause of further duplicate customer records over time.

5. A Merger or Acquisition Creates a Batch of New Customer Records

A merger or acquisition is another way for customer records to be created in your FI1 application. Again, the primary driver at the time of the merger is to ensure that all AR open items are migrated to the new system so as a result all customers are transferred.

If the customer record already exists in your FI1 application, this results in a duplicate record being created. Also, if the company you are acquiring has a different customer data model with varying data attributes, this causes issues.

Let's now switch applications and consider how customer master records are created in your CRM application.

2.1.3 Customer Relationship Management Application (CRM1)

Your CRM1 business application provides the functionality to cover many customer interaction activities, including marketing, sales, and customer retention. CRM1 supports communication with customers via a number of channels, including the Internet, contact centers and mobile clients. Sales representatives can access data and functions contained in CRM1 via offline applications, which are then synchronized.

The advantages of the CRM1 application include providing a global overview of your customer data and understanding who your customers are and their contribution to sales. This overview helps you identify the potential strengths (and weaknesses) in your customer relationships and helps you better understand the people and accounts you are dealing with. You can also reach out to customers with better contact information details.

Your CRM1 application stores a lot of detailed information regarding your customers, including contact names, account details, channels of trade details, and complaint management information.

In Company CO1, the CRM1 application owner is the marketing director and the business users are the marketing team, the sales representatives, and the customer services division. Unfortunately, in Company CO1, however, data standards are not enforced when entering new customers in the CRM1 application. The sales representatives in particular have insufficient time to complete the administrative tasks.

Many of the customer record details were originally migrated into CRM1 from the Sales and Distribution application (SD1). At that time, all records were uploaded, including the inactive records and the duplicates. The SD1 and CRM1 data models are quite different, and only a small number of data attributes were initially transferred.

Two years ago, the marketing team purchased a list of prospects for a new market segment that was then being targeted. These were uploaded as a batch file into the CRM1 application, but unfortunately, the business idea did not materialize. The prospect list is now out of date, and these prospects are unlikely to be converted into new actual customers. However, there are no archiving procedures implemented with the CRM1 application, so these records continue to appear when users attempt to search and retrieve details. This data quality issue has caused negative feedback, and several more duplicate records have subsequently been created.

There are no operational interfaces from the CRM1 application to either the SD1 or the FI1 applications. Customer orders are placed in the SD1 application because of the requirements of the stock availability functionality. Unfortunately, the CRM1 application does not show the current financial transaction details with customers, which reduces the value of the functionality.

SAP NetWeaver MDM and CRM

In Case Study 1, we describe a situation where Company CO1 isn't getting good value from its CRM program. The root causes are that the CRM program hasn't appreciated the importance of sharing its customer data and processes across the CO1 organization and also the difficulties of integrating "best of breed" applications.

Dividing processes such as customer management, order taking, and invoicing across multiple, disparate business applications introduces risk and needs careful process and data design consideration. For the CRM program to be successful, it requires consistent, shared customer data with the SD1 and the FI1 applications. SAP NetWeaver MDM is the tool to provide this and to "glue" these applications together.

We won't be so bold as to suggest that by implementing MDM with CRM you will get a successful CRM program. However, MDM is an important building block for CRM that will help to overcome some of the obstacles by enabling customer data to be shared across the organization.

The process of converting a prospect record to a customer record is an important one for SAP NetWeaver MDM. At this point, duplicate records can be created, or incomplete data may be entered. If these prospects to customer processes are

driven from the CRM1 application for Company CO1, then SAP NetWeaver MDM is required to be tightly integrated with CRM1.

2.1.4 Sales and Distribution Application (SD1)

The Sales and Distribution (SD1) application provides functionality to manage the customer sales, delivery, and billing tasks in Company CO1. Key elements include customer quotation processing, contract management, sales order processing, delivery processing, and billing and sales information details. The application owner is the customer services division manager, and the customer services division team members are the application users.

In SAP, the SD component allows users to manage sales and distribution activities. The business processes include scenarios for sales, shipping, billing, sales support, and sales information.

However, the SAP solution is not used in Company CO1, which chose instead to implement a non-SAP package solution several years ago. In the subsequent years, the company has tailored the solution to meet its specific needs. The original package provider no longer supports the application.

The SD1 application provides a lot of the customer management processing for Company CO1. Customers and contracts are created, orders are placed, and invoices are produced and sent both to customers and to the FI1 application for payment. However, in an increasing number of cases, invoices are now created in spreadsheets and sent directly to customers. Manual invoicing is now required because the types of contracts currently being negotiated are too complex for the SD1 contracts application. The manual invoices are processed in the FI1 application.

The customer records in the SD1 application are not in a healthy state. The original data migration process did make some attempt to cleanse the data, but the records have been poorly maintained in the intervening years. Archiving processes have not been implemented, and customer records are updated haphazardly, without formal data standards. The business users have moved their attention to the maintenance of the spreadsheets to manage the complex contracts, and there is little confidence in the quality of the customer records in SD1.

SD1 is now a "tired" application that has seen little business or IT investment in recent years. The operational support team has been reduced to a minimal level to save costs, and all of the team members who tailored the original solution have

now moved elsewhere. Most of Company CO1's recent IT spend has been on the CRM1 and BI1 programs.

The Consolidated MDM Model and the Sales and Distribution Application

When Company CO1 decides to proceed with its MDM program, the SD1 application is a classical case where the consolidated MDM model can practically be applied.

SD1 now has a limited lifetime, and several business leaders are advocating that the application should now be replaced by SAP ERP 6.0 software. By following the consolidated model, the D&B D-U-N-S Number can be tagged to each of the SD1 customer records, and the key mapping can be stored in SAP NetWeaver MDM. Periodically, SD1 customer records will be extracted for comparison and to ensure consistency with MDM.

This provides the benefits of matching the SD1 customer records to the CRM1, FI1, and BI1 records without initially needing to change the SD1 processes to integrate with SAP NetWeaver MDM. This will be the quickest way to implement SAP NetWeaver MDM. The centralized model can then be designed as part of the SD1 replacement project.

We will now consider Company CO1's Supply Chain Management (SCM) application.

2.1.5 Supply Chain Management Application (SCM1)

The Supply Chain Management application (SCM1) provides the functionality to perform sourcing, procurement, and logistics management activities. It covers the movements and storage of materials, inventory, and finished goods. In global companies, sourcing may be managed on a global basis. The vendor master record details include the bidder details, and the sourcing and procurement contacts. The Head of Procurement is the SCM1 application owner, and the business users are the Supply Chain Management team members.

The quality of the vendor data in Company CO1 has been significantly improved in the past six months. The Head of Procurement recently joined the CO1 organization, and he has introduced some new ideas regarding the procurement strategies. As part of this initiative, many vendors have recently been blocked. However, the supply chain processes were severely impacted when a key supplier was suddenly made bankrupt. The Head of Procurement has seen the business value of SAP NetWeaver MDM for vendor management and is the initial MDM champion in the CO1 organization.

SAP NetWeaver MDM, Vendors, and Pilot Implementations

In many respects, establishing vendor master data management processes in SAP NetWeaver MDM is easier than for customers. Your procurement processes tend to have tighter controls with a defined set of rules that must be followed before company funds can be spent. Customer sales can be more entrepreneurial with marketing teams and sales representatives developing nonstandard innovative offers to generate new revenue.

Vendor data models also tend to be more straightforward as you will typically transact closely with the company's legal entity structures. Customer data models can be more complex with multiple ship-to and bill-to addresses to maintain.

For these reasons, vendor management is a good master data object to start your SAP NetWeaver MDM journey with in an initial pilot implementation.

Let's now consider how master data silos impact SAP NetWeaver Business Intelligence (BI1).

2.1.6 Business Intelligence (BI1)

The Business Intelligence Warehouse (BI1) provides the data and tools for analyzing, monitoring, and measuring your organization's key performance indicators. It gathers information from several applications (CRM1, FI1, SCM1, and SD1 in Case Study 1). Vendor and customer details are key data elements and business partner hierarchies also provide important business information, particularly for spend analytics and credit limit reporting. Typically, both vendor and customer names and addresses details are stored along with the company hierarchies. The BI1 application owner can vary, and in Company CO1, is jointly managed by the head of procurement and the customer services division manager. An operational performance team manages the BI Extract, Transform, and Load (ETL) processes to populate the data warehouse and to produce the standard management reports.

The Business Intelligence Warehouse has been Company CO1's biggest recent IT investment. The business case was based on the benefits of aggregating the data in one place to enable a better understanding of the total company spend and profitability. The BI1 solution also provides the functionality to drill down into hierarchical data to explore areas of business interest.

The BI1 application is required to provide reliable information easily to the people who need it, when they need it. It should facilitate speedier, informed decision making so that you can find the information you need quickly and with certainty.

Accurate and accessible information is needed to support management processes, which include setting customer and vendor plans and targets, monitoring operations, analyzing outcomes, and reporting the results to your key stakeholders.

Unfortunately, the poor quality of the underlying customer and vendor master data records in Company CO1 is a major barrier to the success of the Business Intelligence Warehouse. As we've described, inconsistent master data exists across the organization, with duplicate records, partial records, and out-of date records to analyze and no single source of truth. There is also redundant data, and the data models differ across the business applications.

The BI1 ETL processes attempt to develop some rules and logic to improve on this situation, but in the end, your application programmers cannot create system-matching rules when the core master data maintenance rules are not in place. Attempting to match company records across systems by using matching algorithms and phonetic matching techniques cannot overcome duplicate, incomplete and out-of-date records in the source systems.

Unfortunately, the BI1 reports now provide limited value. It's not possible to accurately identify some of your customers and vendors, and in the absence of the D&B Corporate Linkage, you can't aggregate spend and sales up to the Global Ultimate level. The BI1 application is unfortunately a victim of the Garbage in — Garbage Out problem that we described earlier. The Business Information warehouse reports the CO1 Company had hoped would add so much value are hardly used. The misleading information provided by partial spend and sales aggregation reports are in many ways worse than no information because invalid business decisions based on the incomplete and inaccurate BI1 data can prove to be costly.

SAP NetWeaver MDM and Business Intelligence BI

Not surprisingly, MDM programs are sometimes led by a Business Intelligence program initiative. Accurate customer and vendor records are an essential prerequisite for a successful BI program to deliver valuable business information.

However, if you are considering combining your SAP NetWeaver MDM and BI programs, then you should take care to fully consider your objectives. Ideally, your SAP NetWeaver MDM processes will be integral to the creation of the vendor and customer records in your consuming systems. These need to be established as *frontend* processes, to avoid the creation of duplicate records and to authenticate your business partners ahead of any transactional processing.

SAP NetWeaver MDM and Business Intelligence BI (Cont.)

However, BI reporting is a *backend* process; that is, it captures the transactional data from the various business applications and provides analysis tools to assess the data. It's important not to confuse the SAP NetWeaver MDM and BI objectives in these BI-led initiatives because the frontend and backend processes are very different.

To summarize Case Study 1, vendor master data is maintained in two applications: SCM1 and FI1 (AP data). Customer master data is maintained in three applications: CRM1, SD1, and FI1 (AR data). Finally, both vendor and customer data are maintained and analyzed in BI1. The system, the master data attributes, and the organizational users are shown in Table 2.1.

Application	Master Data Attributes	CO1 Application	CO1 Organization	Internal/ External
SCM1 – Supply Chain Management application	Vendor purchasing names and addresses; supply chain relationships details	Non-SAP	Supply chain management team	Internally maintained by employees
FI1 – Financial Accounting application	Vendor payment names and addresses, payment terms, and bank details	SAP FI CO component (CO1 instance)	Financials AP team	Outsourced to an external third-party service provider
CRM1 – Customer Relationship Management application	Customer contact names and addresses, marketing and relationships details	Non-SAP	Marketing and sales representatives and customer services division	Internally maintained by employees
SD1 – Sales and Distribution application	Customer names and addresses, contract details, invoicing details	Non-SAP	Customer services division	Internally maintained by employees

Table 2.1 Company CO1 Applications and Organizational Teams

Application	Master Data Attributes	CO1 Application	CO1 Organization	Internal/ External
FI1 – Financial Accounting application	Customer payment names and addresses; Financial Accounting details, e.g., payment terms and bank details	SAP FI CO component (CO1 instance)	Financials AR team	Outsourced to an external third-party service provider.
BI1 – Business Intelligence	Business partner mapping tables; company hierarchy structures	Non-SAP	Operational performance team	Internally maintained by employees

Table 2.1 Company CO1 Applications and Organizational Teams (Cont.)

The next section summarizes the issues that you'll encounter when you maintain customer and vendor master data across multiple business applications.

2.2 Maintaining Master Data Across the Silos

Earlier we described MDM as a business application sitting between the record of origin and your consuming systems. Linking the record of reference to the record of origin is relatively straightforward. There is a 1:1 relationship with the D&B D-U-N-S Number as the unique key.

However, the complexity of the consuming systems provides many of the challenges for your SAP NetWeaver MDM program. Each business application has a different data model and data attributes and is maintained using different processes by different teams. The data quality will vary depending on both its current and historical treatment. This includes the initial data conversion, the operational maintenance of the customer and vendor records, the system interfaces, and the batch import of records during mergers and acquisitions.

Your SAP NetWeaver MDM program will need to persuade each of the consuming systems owners and business users to both change their current processes and cleanse the existing data. They each must be willing to share the common key —

the D&B D-U-N-S Number — and to follow the new data standards to incorporate SAP NetWeaver MDM into the operational business procedures.

2.2.1 Business Data Varies by Application

The business application, its data model, and its functionality drive the stored customer and vendor data. For example, the Financial Accounting application stores financial data and the important attributes such as bank details and payment terms. The names and address details are typically for legal entities and payer addresses.

A best practice for companies is to establish standard processes and controls both for supplier and customer registration. For vendors, information such as company search by name, identifier, location, company identification and contact information, demographics information, financial information and references, supplier diversity information, insurance, federal tax, and certification information are all relevant.

Following are the key questions that you need to address for your SAP NetWeaver MDM program (we'll consider these design considerations further in Chapter 6):

- Which of these attributes are your global attributes to be shared across all of your business applications?
- Which attributes are best maintained locally in the business applications?
- Will your customer and vendor master data be captured in one request form and then subsequently be keyed or uploaded into the relevant business applications?

2.2.2 Different Teams and Organizations

In Case Study 1, we defined a situation in Company CO1 where the marketing team, the supply chain management team, the customer facing team, and the financial accounting team each acted independently, and company-wide data standards were not established. The quality of data entry was variable and based on the business unit's operational procedures, the individuals involved, and their line management.

Let's not forget that the data conversion team who created the original master data records, the IT division who created applications interfaces, and the mergers and

acquisition teams who uploaded a batch of records have all impacted the quality of your master data. These batch processes and interfaces need to be subjected to the same rigor and data standards as your day-to-day operational procedures.

Over time, the people and teams who maintain your master data will change. Individuals move on to new roles and pass on their accountabilities to new team members. In Case Study 1, the handover of the customer and vendor maintenance processes is likely to be a brief one because there is little formal documentation and few operational procedures. There will be a handover process and some limited training, but it is unlikely that the new business users will exactly follow the same processes as their predecessors. Attributes such as search terms may be treated differently, and attributes that are nonmandatory may be omitted. Duplicate records will be created if the new business users do not understand the previous search processes and the historical maintenance procedures. The new users also may not understand the value of the customer and vendor record to the company because the training didn't cover this.

Also, organizational units will change over time. Companies reorganize, and the customer and vendor record maintenance teams may centralize and then decentralize over time. Each time there is an organizational change and new users take over, this can again introduce new business processes for maintaining your master data.

2.2.3 Impacts of Outsourcing

Potentially each of these maintenance processes can be outsourced to an external third-party service provider, which adds yet one more team and one more company into the process. In Case Study 1, the Financial Accounting processes have been outsourced.

There is an old adage that you should "never outsource a problem," and currently there is a problem with the maintenance of master data in Company CO1. The lack of data standards and unclear operational procedures resulted in many duplicate and out-of-date records in the FI1 application before it was handed over to the outsource company to maintain.

Outsourcing a data entry process to an offshore company introduces complexity because the new users won't necessarily know local name and address standards. This issue is particularly relevant for global companies with global systems. Over

time, a changing workforce may not fully understand the previous processes and the historical usage of business partner master data attributes. Inconsistent application of customer and vendor record entry over time causes confusion and data quality issues.

The service levels you agree on with your outsourced partner may not include the data quality of your master data records as a key metric. The Service Level Agreement may actually discourage accurate master data with other metrics such as all invoice payments to be made within *x* days acting as a disincentive. For example, if a customer or vendor request form is inaccurate or incomplete and needs to be returned and queried with the requestor, this will slow down the payment process and jeopardize the SLA. In these cases, incomplete master records may be created so that invoice payments can be made. Future searches of the incomplete data will not match accurately, and the data won't be maintained appropriately and duplicates will be created.

Carrying out rigorous searches of existing data to see if the business partner is already set up takes time and effort. After your business partner master data quality is compromised with incomplete or inaccurate names and address details, the duplicate record setup increases, and searching for existing companies is less likely to be carried out.

These basic search and maintenance issues need to be resolved, which involves people from the outsourced team cleansing and removing duplicate master records. You need to establish change management procedures to mandate the new SAP NetWeaver MDM processes as part of the customer and vendor record creation processes.

SAP NetWeaver MDM and Outsourcing

Eventually the SAP NetWeaver MDM program's operational processes will become a good candidate for outsourcing. The D&B Entity Matching processes, the SAP NetWeaver MDM Company Search processes, and the maintenance processes are core services that can be externally sourced with appropriate Service Level Agreements.

However, you should leave outsourcing until your SAP NetWeaver MDM solution has scaled and you are close to the end of the SAP NetWeaver MDM Phase 2. A lot of "value add" project work and data discovery with consuming systems needs to be done before you consider "commoditizing" SAP NetWeaver MDM and outsourcing the SAP NetWeaver MDM services as your organization's way forward.

2.2.4 Features of Unlinked Systems

Multiple business applications linked in the way we described in Case Study 1 have the following properties. Vendors and customers are set up several times in various pockets with different parts of your organization performing their business processes in isolation. The business applications data models and business rules vary and are not integrated. Invoices can be paid by creating supplier records in the Financial Accounting system.

Even when companies use an integrated solution such as SAP provides, they sometimes choose to implement only parts of the solution such as the Financial Accounting functions, while preferring to use specialist supply chain applications and CRM applications alongside them. This is the situation described in Case Study 1.

Your purchasing organization is unable to leverage its spend with business partners and cannot scale its transactions to benefit from volume discounts because each organizational unit generates its transactions in unconnected systems. A vendor may understand its sales to a large organization better than the organization itself if its systems are connected and its master data processes are established. This additional knowledge can help the vendor to negotiate a better deal.

Credit management is problematic because the sales organizations do not understand their overall exposure positions. In the case of a failure of a very large business partner, it could take some time to understand the full implications to a company. This is one of the reasons for the Sarbanes-Oxley legislation and the real-time disclosure clause.

Accounting and business intelligence reconciliation takes most of the business analysis effort rather than analyzing the corporate spend and leveraging global positions. Group financial and procurement organizations then trying to make sense of the master data run into difficulties. Instead of focusing on the overall business transactions carried out with a business partner company, considerable internal effort is spent in trying to reconcile inaccurate, incomplete, or out-of date customer and vendor information. This adds little business benefit and provides results that are inconsistent and need to be repeated frequently. We strongly advocate trying to fix the root cause of the problems once using SAP NetWeaver MDM, as opposed to repeatedly providing "quick fix" reconciliation reports. The root cause is to change the underlying business processes for the search, create,

update, and deletion of your customer and vendor records in each of your business applications.

Lack of Standards — Mandating Legal Entities

New rules and standards are often unpopular with those who are impacted. A good example is the "No smoking in a public place" legislation, which has been introduced in an increasing number of countries and cities in recent years. For many years, it was accepted that going out to a restaurant or bar would also include and returning home with smoke fumes on their clothes. Within a few weeks of the legislation taking effect, people became used to the new rule. Now, after getting used to the smoke-free environment, most people find it very noticeable, if not difficult, to acclimate to cities and counties who allow smoking in public places.

The good thing about the "no smoking in a public place" rule is that it's a clear rule to everyone, and the majority can see the benefits. There has been some debate about what constitutes a "public place," but these definitions have been clarified over time. Under this legislation, smoking is prohibited in many public places, including workplaces, commercial premises, educational institutions, and sports venues.

SAP NetWeaver MDM and the Master Data Silo Smoke Screen

Adopting a new company data standard mandating that "All customers and vendors must be authenticated with a D&B D-U-N-S Number and be maintained with MDM" may initially be unpopular as your organizational units will resist the change management process. However, the majority will soon see the benefits, and after it becomes part of your culture, it will become a standard process to follow. The new standard will remove the "smoke screen" of your current master data silos, and in the future, you will ask the following questions:

- How could you set up a new business partner without a D&B D-U-N-S Number?
- How would you authenticate that a company is who it says it is?
- How could you verify a company's credit status and risk?
- How could you search to see if the customer or vendor is already used in your company without it?

SAP NetWeaver MDM and the Master Data Silo Smoke Screen (Cont.)

Eventually, the rule will become as obvious as the "no smoking in a public place" rule. The data standard is clear, concise, measurable, and enforceable. You have either tagged a customer or vendor record with a D&B D-U-N-S Number or you haven't — it's true or false. Similarly, your SAP NetWeaver MDM repository either holds the key mapping to the business application record or it doesn't.

Data standards are extremely important to your SAP NetWeaver MDM program. If you can convince your business leaders to adopt this kind of rule early on, then you can dramatically speed up the SAP NetWeaver MDM adoption process. By mandating the new standard, people who were used to behaving in one way now must act differently.

Instead of trying to persuade each individual organizational unit, you will be in a position to mandate compliance with the SAP NetWeaver MDM initiative and put the onus on them. SAP NetWeaver MDM is fundamentally a "people and process" issue — if you can convince the people, you can drive through the process changes to achieve success more easily.

2.2.5 Maintaining Data Silos — Business Process Issues

Let's now consider the current search, create, update, and delete issues faced when business users in Company CO1 attempt to maintain business partner data across the five systems and see how the new data standard can help the situation.

1. Company Search Processes

Matching business partner names and addresses without a unique key is difficult. You can't easily determine if a business partner record already exists in a system. Company names and addresses are inexact, and comparisons of name and address fields require special algorithms and methods.

Company names may be partially keyed, and business names and trading names can cause confusion. Phonetic matching can help the process, but that requires good algorithms and human checking. Name fields in a business application may have insufficient characters to store a full legal entity name. Company addresses may be incomplete with the street, city, ZIP code, or country missing, invalid, or inaccurate.

Company relationships further complicate the company search process. For vendors, the data entered into the SCM1 application may be for an ordering party, but in the FI1 application, for a payment name and address. For customers, there are several relevant business records to be stored in the CRM1, SD1, and FI1 applications, including sold-to, ship-to, bill-to, and payer names and addresses.

In some applications, related addresses may be stored but not clearly differentiated. The business user requesting or entering the master data details may not know the underlying company structure of the business partner.

However, if the rule "All customers and vendors must be authenticated with a D&B D-U-N-S Number and be maintained with MDM" was mandated by your company, your company search processes would become much more accurate. For example, you will be able to search by Global Ultimate Parents, as well as by individual companies. If a D&B request returns a D-U-N-S Number that you already have in SAP NetWeaver MDM, you can distribute the existing record. The unique D-U-N-S Number means you can avoid creating a duplicate record in your SAP NetWeaver MDM repository and therefore through to your consuming systems.

2. Company Create Processes

As we've already discussed, business partner data created in multiple systems have different business rules for each application, are maintained by different teams, and are captured using several forms. Each team collects the business partner master data using different forms and with varying standards and rules. Capturing business partner master data accurately and consistently at the source is a key requirement for a successful SAP NetWeaver MDM business partner management system.

- With this new rule mandated for Company CO1, SAP NetWeaver MDM will play an important role during the business process of converting a prospect into a customer. At the point where your sales team decides they want to do business with a new customer, they will go through a set of new operational business procedures. With a live SAP NetWeaver MDM operational environment in place, the create customer process in the CRM1 application will now include the following new information checks: Have you authenticated who the customer is? Have you matched the customer to the relevant D&B D-U-N-S Number?

- Have you checked where else the customer is being used across the organization? Have you reviewed the D&B Corporate Linkage and the total spend and sales across your organization?
- Is the customer new to your organization? Is it a record that is already set up somewhere else in your organization or even in the CRM1 system already? Have you checked the D&B D-U-N-S Number key mapping in SAP NetWeaver MDM?
- Have you validated that the customer is a company you should be doing business with?
- Have you checked the credit rating of both the customer and its Global Ultimate Company? Have you assessed your current credit exposure across the entire D&B Corporate Linkage?

Similarly, the new create vendor processes in the SCM1 application will now include the following information checks:

- Have you authenticated who the vendor is? Have you matched the vendor to the relevant D&B D-U-N-S Number?
- Have you checked where the vendor is being used across your organization? Have you reviewed the D&B Corporate Linkage and the total spend across your organization?
- Is the vendor new to your organization? Is it a record that is already set up somewhere else in your organization or even in the SCM1 application? Have you checked the D&B D-U-N-S Number key mapping in SAP NetWeaver MDM?
- Have you validated that the vendor is a company you should be doing business with? Does it fit in with your procurement strategy?
- Have you checked the credit worthiness of both the vendor and its Global Ultimate company? Is there a risk of bankruptcy?

3. Lifecycle Management Processes

Lifecycle Management processes need to be invoked when your business partners change and your master data records need to be maintained. Companies are dynamic in regards to changes to names, addresses, and mergers and acquisitions that must be managed. Unless each application — SCM1, FI1, CRM1, SD1, and BI1 — is main-

tained in a consistent manner, comparisons and reconciliations across the applications will be inaccurate.

Adopting the new rule in Company CO1 will be a significant help in keeping your records up to date. You will establish processes to periodically refresh your customer and vendor records with the very latest D&B Worldbase details, using the D&B services to provide the Lifecycle Management. SAP NetWeaver MDM will then distribute the relevant changes to your consuming systems so that each application is maintained consistently.

4. Deletion Processes

Deletion of old vendor records takes administrative effort with little apparent benefit to the organization. However, this is important, and we should consider why all of the business effort is spent in creating new customers and vendors as opposed to revisiting old records that have been created some years ago but have not been updated.

As we've discussed, your business partners are dynamic organizations. Over time, some previously legitimate companies may become "undesirable" companies that you no longer want to deal with such as if they now become bankrupt. Leaving old inaccurate business partner records in your company's business applications is a risk.

SAP NetWeaver MDM and the Census

By carrying out a census, you can validate periodically that your master data record details are accurate with your business partners. After you have entity-matched them with D&B, you can then consider emailing them and asking them to validate their details.

You can then store each response on the appropriate record in the SAP NetWeaver MDM repository to confirm that the record has been authenticated both by D&B and your business partner. This will help to resolve any long-term records that were created several years ago and need to be updated.

This could become an ongoing business process that is similar to a government census. If your SAP NetWeaver MDM business case is so compelling and your customers and vendors are so important to your organization, why not ask them every two or three years to verify their master data details?

SAP NetWeaver MDM and the Census (Cont.)

This is a good audit and compliance process that also provides a good measure of the data quality of your business partner master details. It is a straightforward and low-cost technical process that involves sending emails, repeating the messages in the case of no replies, and storing the responses.

Earlier, we compared your customer and vendor data with your physical fitness. Every couple of years, you may go to your doctor for a health check. Are your customer and vendor records also worthy of such a check periodically?

SAP NetWeaver MDM and the Data Fitness Analogy (Part 2)

Another approach to consider is to conduct a "How fit is your customer and vendor master data?" review. You could extract your master data from a consuming system and review when each active record was created, when it was last updated, and when it was last involved in a business transaction.

- How many records were originally loaded as part of the data conversion exercise?
- How many records were interfaced from another business application or were created as part of a mergers and acquisition process?
- How many records have not been updated in the past three years or have not had any invoices in that period?

This is a useful exercise particularly ahead of trying to measure your business performance with customers and vendors. Analyzing only the record counts of vendors and customers can provide you with misleading information, and it's good to understand the underlying state of your company's master data before producing management reports. This information also helps with service level agreement negotiation and to better understand revenue and expenditure reporting.

Let's now consider the types of analysis you as a business leader for Company CO1 want to carry out. For now, continue to assume that the SAP NetWeaver MDM and D&B solution is not yet introduced to Company CO1 and that the data silo issues remain.

2.2.6 Measuring Performance with Business Partners

Your senior business leaders (CEOs and CIOs) want to understand Company CO1's profitability and spend relationships with its leading business partners. They will ask the following questions regarding your customers and vendors:

- Who are my most profitable customers?
- How do I increase my revenue from my existing customers?
- How do I improve my operational efficiency when dealing with a customer?
- What is my credit risk with a customer?
- What is my total spending with a vendor?
- Am I leveraging the scale of our company by understanding the global overview of my dealings with a vendor?
- What is my financial and trading risk information of a vendor?
- Am I trading with a "legitimate" vendor that I have authenticated?
- Do I understand who I am dealing with and their financial health?
- What are my potential strengths (and weaknesses) within the supply chain?
- Do I understand joint ventures?
- Have I implemented purchasing controls?
- Can I track issues such as health and safety status and diversity and inclusion?

To answer each of these questions, you'll need accurate and accessible customer and vendor management information. However, for Company CO1, you know that this data is currently difficult to obtain.

You'll initially need to answer some more basic questions:

- How do I uniquely identify my customers and vendors?
- Is the customer and vendor data accurate, complete, and up-to-date?
- How many vendors and customers does my company have?
- What is the legal entity structure of the customers and vendors I am working with?

Let's now consider how many records are in each system while recognizing that this can provide you with misleading information depending on the underlying state of the business application's data.

Table 2.2 provides the vendor and customer record counts by business application for Company CO1.

Applications	CO1 Applications Name	Vendor Active Records	Transactions in the Past Two Years	Customer Active Records	Transactions in the Past Two Years
CRM1	Customer Relationship Management			3000	1200
SCM1	Supply Chain Management	4500	1000		
SD1	Sales and Distribution			2000	1100
FI1	Financial Accounting	6000	950	2500	975
BI1	Business Intelligence	9000	1200	6500	1300
Totals	Totals	19500	3150	14000	4575

Table 2.2 Company CO1 Vendor and Customer Record Counts

Let's now consider three fundamental questions:

1. How many vendors does company CO1 have?
2. How many customers does company CO1 have?
3. How many business partners does company CO1 contract with (i.e., a business partner you both sell to [customer] and buy from [vendor])?

Unfortunately, based on the data available, these basic questions are surprisingly difficult to answer. Each system is updated independently with varying names, addresses, and attributes. Duplicate records and inactive records are stored in each system. The unfortunate truthful answer is "Don't Know" without a lot of research and reconciliation and until duplicates and inactive records have been removed. Potential answers could include the following.

1. How many vendors does company CO1 have?
If we consider the record counts in each system, then our potential answers can include 4,500 (SCM1 active), 6,000 (FI1 active), or 9,000 (BI1 application) based on the total records, or 1,000 (SCM1 transactions in the past two years), 950 (FI1 transactions), or 1,200 (BI1 transactions) based on the active records.

A number somewhere between 800 vendors and 10,000 vendors is unsatisfactory, and a reconciliation project to provide further details may be initiated. The record counts also exclude Corporate Linkage, which is an important factor in understanding your total spend.

2. How many customers does company CO1 have?
Again, if we consider the record counts in each system, our potential answers can include 3,000 (CRM1 active), 2,000 (SD1 active), 2,500 (FI1 active), or 6,500 (BI1 application) based on the total records, or 1,200 (CRM1 transactions in the past two years), 1,100 (SD1 transactions), 975 (FI1 transactions), or 1,300 (BI1 transactions) based on the active records.

This is a wide range of potential answers — a number of customers somewhere between 800 and 10,000 records is a best estimate. Also, as before, the number doesn't take into account the important Corporate Linkage, which will enable you to understand your total revenue from a company.

3. How many business partners does company CO1 contract with (i.e., a business partner we both sell to [customer] and buy from [vendor])?
This is a very difficult question based on the available data from Company CO1. Identifying and reconciling the master data across the five applications requires a lot of research and Corporate Linkage to provide total spend and revenue reporting.

Let's now move on to consider the financial and legal compliance implications of Company CO1's processes for master data management.

What Are the Implications for Financial and Legal Compliance?

Company CO1's current processes for maintaining vendor and customer records are weak and have evolved based on the use of its business applications over a number of years. There is a lack of data standards, and each organizational unit has developed its own individual processes.

However, during this period, the financial and legal compliance rules have changed. The Sarbanes-Oxley Act with its focus on internal controls and real-time disclosure now requires much tighter management processes. Company CO1 is now required to ensure that its business partner information is adequately protected, stored, used, shared, and transmitted. Its operational procedures should define

which information is controlled, and you are expected to know what information is available and where it is, who can access it, and how to access it.

Designated people within your organization are required to have clear accountabilities with respect to all aspects of the management of the business partner master data. The data security must be considered, and you need to create, update, and delete data respecting the rights of others.

Compliance is challenged during the customer and vendor creation processes. You need to uncover the risk associated with an individual supplier and with its corporate family. A critical supplier, linked to a struggling corporate family could put your supply chain management at risk.

Sarbanes-Oxley Compliance

Sarbanes-Oxley has redefined the compliance rules for companies. Key features of the Act include a focus on internal controls, including the timely ability to access and analyze information with respect to a company's finances and operations.

You are expected to understand, verify, and authenticate your business partners, and, because of this, companies are now seeking to standardize their customer and vendor registration and management processes. Let's now move on to consider the implications and further complexity when Company CO1 merges with Company CO2 and inherits a further set of business applications and processes.

2.3 Case Study 2 — Impact of Mergers and Acquisitions

Companies often grow with mergers and acquisitions, which compounds the master data issues. Each of the merging companies will already have its own business processes, procedures, and business applications where customer and vendor records are maintained.

Let's now consider the example where Company CO1 (from Case Study 1) has recently merged with Company CO2. As already discussed, Company CO1 systems architecture has five applications. Now in addition, Company CO2 has one SAP ERP 6.0 application plus an SAP CRM and an SAP NetWeaver BI application.

Figure 2.2 shows the combined Company CO1 and Company CO2 system architectures.

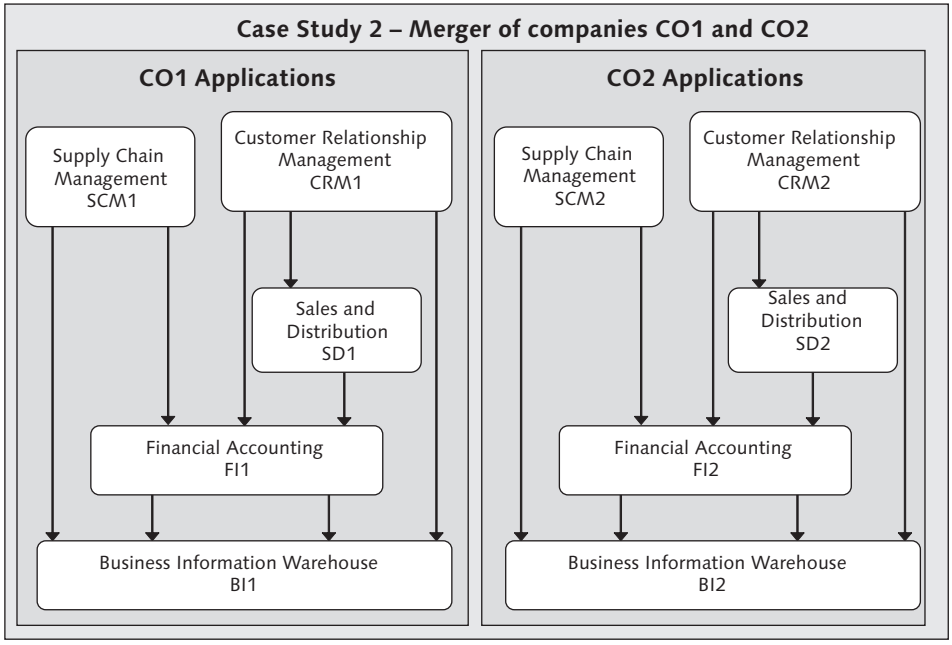

Figure 2.2 Combined Systems Architecture of the Merged Companies (Case Study 2)

Table 2.3 shows the applications and the organizational teams that initially maintain the customer and vendor data when the companies merge.

Although Company CO2 has an integrated SAP landscape, it hasn't understood the real business value of maintaining its customer and vendor records accurately. SAP ERP 6.0 provides good open ways to interface customer and vendor records into the LFA1 (vendor) and KNA1 (customer) tables, with the use of the CREMAS and DEBMAS interfaces. These require data standards and validation processes to be in place to avoid duplicate and incomplete records.

Unfortunately, these data standards are also not established for Company CO2. At the time of the Company CO2 data conversion process, all existing legacy records were transferred into the SAP ERP 6.0 application. This included duplicate, out-of-date, and inactive customer and vendor records.

Application	CO1 Application	CO1 Organization	CO2 Application	CO2 Organization
Supply Chain Management	Non-SAP	CO1 Supply chain management organization	SAP SCM	CO2 Supply chain management organization
Financial Accounting	SAP FI CO component (CO1 instance)	CO1 Financials team (AP) team	SAP FI CO component (CO2 instance)	CO2 Financials team (AP) team
Customer Relationship Management	Non-SAP	CO1 Marketing and sales representatives	SAP CRM	CO2 Marketing and sales representatives
Sales and Distribution	Non-SAP	CO1 Customer services division	SAP SD component	CO2 Customer services division
Financial Accounting application	SAP FI CO component (CO1 instance)	CO1 Financials team (AR) team	SAP FI CO component (CO2 instance)	CO2 Financials team (AR) team
Business Intelligence	Non-SAP	CO1 Marketing organization	SAP NetWeaver BI	CO2 Financials team

Table 2.3 Customer and Vendor Applications and Organizational Teams of the Merged CO1 and CO2 Company

SAP NetWeaver MDM and the Deployment of SAP ERP 6.0

It is invalid to assume that if a company has deployed an integrated SAP solution that it has also successfully tackled the master data issues. SAP ERP 6.0 deployments can be complex, and the quality of the master data can become a secondary issue for an implementation team when the pressures of an imminent go-live deadline approaches.

Your SAP NetWeaver MDM program should work closely with your major business deployment programs. Initially loading bad master data into a business application will severely impact the value of both the system and your SAP NetWeaver MDM program, and resolving the data issues after it has been created takes considerable effort.

The problems of managing the business partner master data processes and sharing the data across the systems are now compounded with the merger of Companies

CO1 and CO2. Let's now consider the customer and vendor record counts for the merged company as shown in Table 2.4.

Application Name	Vendor Active Records	Transactions in the Past Two Years	Customer Active Records	Transactions in the Past Two Years
CRM1			3000	1200
SCM1	4500	1000		
SD1			2000	1100
FI1	6000	950	2500	975
BI1	9000	1200	6500	1300
CRM2			12000	4000
SCM2	9000	3500		
SD2			9500	3750
FI2	8000	3300	7500	3500
BI2	15000	4600	16000	4300
	51500	14550	59000	20125

Table 2.4 Customer and Vendor Record Counts of the Merged Company

Your business leaders now have slightly different questions:

- Who are my most profitable customers in the combined company?
- How do I increase my revenue from my combined customers?
- Which customers are shared across the two companies?
- How do I improve my operational efficiency when dealing with a customer by reducing my business applications and integrating my organizational teams?
- What is my combined total credit risk with a customer following the merger?
- What is my total spending with a vendor in the combined company?
- Am I leveraging the scale of our company by understanding the global overview of my dealings with a vendor?
- Which vendors are shared across the two companies?
- What is my financial and trading risk information of a vendor following the merger?

- Am I trading with a "legitimate" vendor that has been authenticated in both organizations?
- Do I understand who I am dealing with and their financial health?
- What are the new combined company's potential strengths (and weaknesses) within the supply chain?
- How does the merger impact my procurement strategy?
- How do I implement purchasing controls across the two companies?
- Can I track issues such as health and safety status and diversity and inclusion?

Once again, it's back to the key master data questions. Before attempting to answer these important questions, you need to answer the following first:

- How many active vendors, customers, and business partners do the combined Company CO1 and Company CO2 have?
- How many active vendors, customers, and business partners are shared across Company CO1 and Company CO2?

Unfortunately, the questions are now even more difficult to answer. You can see from Table 2.4 that in total, there are 51,500 vendor records and 59,000 customer records set up in the various business applications across the two companies. However, there is no easy way to link the Company CO1 business partners to the Company CO2 business partners.

Adopting a new company data standard mandating that "All customers and vendors must be authenticated with a D&B D-U-N-S Number and be maintained with SAP NetWeaver MDM" would be a significant help for the newly merged Company CO1/CO2. The unique key, the D&B D-U-N-S Number, allows you to authenticate and to commonly identify vendors and customers across both sets of business applications. The D&B Corporate Linkage then enables you to aggregate your spend and revenue up to a Global Ultimate level. We'll return to these case studies in Chapter 4 when we describe how SAP NetWeaver MDM integrates the D&B services to your consuming systems.

Let's now consider how the master data silos issues further compound for large organizations.

2.4 Large Organizations – Multiplying the Data Silos Issues

The business partner master data issue is further multiplied for large organizations, which may have several hundred business applications, each creating customer and vendor master data records.

The issues highlighted in Case Study 1 and Case Study 2 are extrapolated across the organization. In this case, the master data is inconsistently managed across potentially hundreds of business applications. Duplicate vendors and customers may exist both within an application and across several applications. They are set up in each system with a different identifier such as a customer number or a vendor number, but there is no standard means of identification. Inactive records and records that have not been updated to reflect recent customer and vendor name and address changes add to the overall confusion. Searching for customer and vendor details is restricted to each master data silo.

The following factors compound the issue for large organizations.

2.4.1 Multiple Countries

Global companies can operate in more than 100 countries, and local business systems may be required for legislative reasons or because of your company's decentralized policies. In some organizations, each local business unit is run at arm's length and is fully accountable for its profits and losses. These units develop their own individual IT strategies and select their preferred business applications.

In large organizations, the key stakeholders are located across the globe, and cultural differences may present barriers to sharing master data.

2.4.2 Mergers and Acquisitions

We considered a simple example in Case Study 2. However, in the case of a large merger, each company will introduce several business applications and teams maintaining customer and vendor records, and it will take some time to integrate the people and processes.

Several mergers as part of a growth by acquisition strategy also result in multiple systems that each maintains master data records.

2.4.3 Multiple Business Units

You may have several business units each targeting the same customer but trying to sell different products. If each business unit has its own set of business applications, this will be another source of master data.

2.4.4 Multiple Financial Accounting Applications

If your company has multiple financial accounting applications, then this is an obstacle to measuring corporate business performance. Organizational business units often run independently, and so financial reporting is also handled independently.

2.4.5 IT Strategies

Even if your company has adopted an integrated SAP ERP 6.0 solution, you may have several production instances of data. Different production instances may be required because of geography, functional requirements, or organizational design. Each instance will have its own customer and vendor master data tables that may be linked through Application Link Enabling (ALE).

SAP NetWeaver MDM and the Large Organizations "As-Is" Review

A useful exercise is to produce a *business applications list* that registers all of the systems in which customer and vendor records can currently be created. When you consider your mergers, your geographies, your organizational units, and each of the various business applications (CRM, SCM, SD, FI, and BI in the case studies), you may find that the list is a surprisingly long one.

As a next step, it's also helpful to collect each of the various *master data request forms* for creating customer and vendor records. You may find that there are several different forms for one business application, especially if several organizational units share its use.

By gathering these application lists and creation forms, you are in a good position to understand the change management procedures you will need to introduce to effectively deploy SAP NetWeaver MDM.

2.5 Summary

In Chapter 2, we considered the issues faced by organizations with multiple business applications and master data silos, which currently manage their master data

without SAP NetWeaver MDM. We then discussed two detailed case studies and considered the implications of mergers and acquisitions and how the issues are compounded for large organizations.

Let's now move on to show how by understanding the issues of the master data silos, this helps us develop a compelling SAP NetWeaver MDM business case for the management of customer and vendor records.

Index

A

ABAP Web Dynpro development, 345
Accounts, 47
Adapter and controller setup, 323
Affiliate, 137
API command, 367
API structure, 367
API utility, 368
Application Programming Interface (API), 222, 361
Architecture principle, 148
AttributeID, 374
Authentication, 370
Automated Import, 301
Automated Syndication, 316
Automatic step, 290
Automating Data Import, 310

B

Batch MDM
  Company Search, 259
Bottom-up approach, 176
Branch, 38, 137
Business benefits, 96
Business data, 69
Business Intelligence (BI)
  Integration, 110
Business ownership, 241
Business partners, 45
Business proof of concept, 195

C

Calculated Fields, 280
Canonical data format, 222
Case study
  D&B data enrichment, 324
Centralized model, 165, 181
Centralized Model, 31
Central management, 214
Central master data management, 211
Change management, 202
Change Management Service (CMS), 344
Change Tracking, 229, 280
Character Transformation, 296
Classification data, 306
Collection and distribution, 95
Commands, 369
Company
  Benchmarking, 184
  Create process, 75
  Search process, 74
  Vendor process, 56
Complex iterative workflow, 349
Complex vendor, 242
Component Build Service (CBS), 344
Configuration data, 379
Connection Parameters, 268
Connections and sessions, 368
Connectivity class, 367
Consolidated Model, 30, 64, 163, 179
Consolidation management, 209
Consuming system, 41
Context, 237
Corporate administration, 112
Corporate integration, 111
Corporate Linkage, 160
  Legal entity hierarchy, 97
Creating the CREMAS/ADRMAS XML file, 355
Cross reference, 214
Cross-selling and up-selling, 108
Customer and vendor record counts, 99
Customer Management, 49
Customer Relationship Management
  Application, 61
  Integration, 108, 109
Customer request form, 60
Customers, 48
Customer System Index, 238
Custom portal user interface, 342

D

Data cleansing and enrichment, 245
Data cleansing and migration, 234
Data-cleansing process, 243
Data conversion, 58
Strategy and objective, 235
Data element, 380
Data governance and stewardship, 179
Data migration, 58, 60
Process, 252
Data model, 205, 228, 231
Data Modeling, 262
Review process, 284
Data profiling, 240
Data quality, 95
Metrics and standards, 237
D&B candidate search workflow, 325, 326
D&B Component matching, 141
D&B Confidence code report, 246
D&B Corporate Linkage, 37, 46, 49, 136, 137
Business value of maintaining, 98
Example D&B Corporate Linkage, 98
Model, 138
D&B D-U-N-S Number, 36, 103, 132, 142, 244
D&B Enrichment Architecture, 249
D&B Entity Matching, 36, 139, 157, 236, 245
Elements, 141
Process, 140
D&B Entity Matching progress, 157
D&B External services, 117
D&B Global collection sources, 135
D&B Lifecycle Management process, 138
D&B Project Engagement, 186
D&B Service Level Agreement, 185
D&B Team relationships, 185
D&B Worldbase change metrics, 139
D&B Worldbase database, 131, 133, 251
D&B Worldbase data collection sources, 134
D&B Worldbase enrichment and ERP distribution, 327
De-duplication in the import process, 309
Deletion processes, 77
Deployment of SAP ERP 6.0, 84
Design Time Repository (DTR), 344
Display Fields, 279
Distribute vendor request, 221
Domestic Ultimate, 38, 137
Drilldown Search, 291
Dun & Bradstreet, 24
Concepts, 35
Dun & Bradstreet Services, 131
Dynamic notifications, 350

E

Email notification, 220
Employee master data, 44
Enhanced administration and repository reconciliation, 386
Enrichment Adapter, 273, 323
Enrichment and distribution, 326
Enrichment Architecture, 144
Workflow, 146
Enrichment Controller, 322, 328
Enrichment Service, 300
Enrichment technical architecture and process flow, 321
Enterprise SOA, 223, 376
Evolution of the MDM Technical Landscape, 264
Execute monitoring, 323
Execution status, 379
Extended MDM network, 184
Extension layer, 365
External and internal numbering, 357

F

FieldID, 374
Financial Accounting application, 55
Financial Accounting integration, 105, 106
Financial Accounting system, 101
Financial and legal compliance, 81, 102
Financial and trading risk information, 111
Financial compliance, 142
Financial master data, 45
Firewall, 187
Free- Form search, 292
Future roadmap, 392

G

Global and local attributes, 227
Global Ultimate, 38, 137
Guided Procedures (GP), 349

H

Harmonized Model, 31, 164, 180
Headquarters, 38, 137
Hierarchy, 205, 231, 278
Mode, 286
Tables, 282
Hybrid Solutions, 31

I

Import of hierarchies, 305
Import Status tab, 311
Inheritance, 226
Interactive import, 301
Intermediate vendor, 242
Introduction, 19
IT and data management, 112
Integration, 113
iView
Item Details, 340
Search Results, 339

J

JAR file, 365
Java API, 344
Java Development Infrastructure (JDI), 344
Java Web Dynpro Development, 342
Joint venture Corporate Linkage, 144

K

Key mapping, 230
Keyword Search, 279
KNA1, 50

L

Large Organization, 87
"As-is" review, 88
Leadership, 118
Legal entity hierarchy, 97
LFA1, 50
Lifecycle changes for records in consuming systems, 257
Lifecycle changes in the external company details, 256
Lifecycle Management, 41, 76, 162, 182, 255
Process, 96
Look-up Tables, 278, 280
Look-up Values, 304

M

Main Tables, 278
Maintaining data silos
Business process issues, 74
Maintaining master data, 68
Major business area, 104
Manual investigation, 250
Manual step, 290
Map-based, 316
Master data change/block, 220
Master data cleanse, 116
Master data creation and enrichment, 219
Master data form, 57
Master Data Import Server (MDIS), 310
Master Data Object, 44
Master Data Process, 94
Master Data Server, 272
Master Data Silo, 33, 39, 53, 54
Master Data Syndication Server (MDSS), 316
Preliminary Set-up steps, 317
Master-slave architecture, 244
MatchGrade technology, 141
Matching mode, 286
Material master data, 44
Matrix application in SP05, 391
MDIS.ini, 274
MDM
Benefits, 104

Business value for reconciliation and reporting, 102
MDM4J API, 362, 366
MDM agenda, 174
MDM Application Components, 269
MDM as the yellow pages, 235
MDM attribute, 381
MDM benefits
Organizational element, 114
MDM-BI integration in SP05, 392
MDM business case, 91, 114, 173
MDM business case by organizational element, 113
MDM business content/SAP NetWeaver XI content in SP05, 391
MDM business partner assessment scorecard, 120, 122
MDM centralized repository, 253
MDM champion, 178
MDM company search, 236
MDM company standard, 175
MDM Concepts, 27
MDM Connector, 389
MDM Console, 269
MDM consolidated repository, 253
MDM core services, 94
MDM Data Manager, 270, 332
Functions, 286
SP05 and SP06, 387
MDM Data Matching and Merging, 294
MDM data quality, 42
MDM data steward, 193
MDM discovery phase, 195
MDM Enrichment Adapter, 320, 327
MDM Enrichment Architecture, 254, 391
MDM Enrichment Controller, 273
MDM Governance, 174
MDM Hierarchies, 307
MDM Import Manager, 270, 299, 300, 302, 311, 387
MDM Import Server, 272, 301
MDM Java API, 362, 364
SP05 and SP06, 389
MDM Lifecycle Management changes, 183
MDM master data standard, 182
MDM Phase 1, 120, 199
Activities, 200
Business value map, 121
Program assessment scorecard, 121
MDM Phase 2, 120, 200
Activities, 201
Roadmap, 234
MDM planning and roadmaps, 199
MDM Portal Business Packages, 269
MDM portal content
SP05 and SP06, 388
MDM program
Components, 184
Program cost, 116
Program manager, 189
Program team, 187, 188
MDM Repository, 284
Architecture, 236, 253
Design, 276
MDM scaling strategy, 166
MDM Search Records, 364, 376
MDM Server Components, 272
Sizing, 273
MDM Server Configuration Parameters, 274
MDM Service Pack Assessment Report, 384
MDM service pack upgrade, 383
MDM solution architect, 191
MDM staging repository, 236, 247, 257
MDM Stakeholder map, 177, 178
MDM Steering Board, 173, 174
MDM syndication, 312
Step, 319
MDM Syndication server, 272
MDM Syndicator, 270, 299, 312, 320
MDM Syndicator enhancements
SP05 and SP06, 387
MDM System tables, 276
MDM technical design authority, 189
MDM Technical Landscape, 262
MDM three-tier architecture, 362
MDM User Interfaces, 269
MDM Web Services, 375
MDM Workflow, 289, 322, 348
MDM Workflow Design, 286
MDM workflow statuses by data conversion phase, 255
MDS.ini, 274

Measure performance with business partners, 78
Mergers and acquisitions, 82, 87, 111
Multiple business units, 88
Multiple countries, 87
Multiple source tables, 303

N

Natural persons, 50
Notification scenario, 318

O

Obstacles to MDM adoption, 115
Offline SAP Interactive Forms data capture process, 334
Ongoing business value, 94
Ongoing data maintenance, 252
Ordering address, 48
Organizational impact, 174
Outsourcing, 70

P

Parent, 38, 137
Payment address, 48
Physical fitness analogy, 28
Pilot implementation, 65
Port, 315
Portal Content, 268
Portal iViews, 268
Port-driven, 316
Pricing strategy, 108
Process Integration Using SAP NetWeaver PI, 352
Purchase order request, 57

Q

Qualified Look-up Tables, 282
Quantifiable success, 92

R

Receivables, 59
Recommendation report, 198
Reconciliation and reporting
Ad-hoc master data reconciliation and reporting, 100
Issues, 100
Reconciliation exercise, 92
Reconciling across master data silos, 99
Record identifier, 381
Record matching by data conversion phase, 259
Record matching function, 309
Record mode, 286
Record of origin, 40
Record of reference, 40
Remote system, 230, 315
Repository data structure class, 368
Repository information, 378
Repository Metadata structure class, 367
Repository session, 369
Resolving the data quality issues, 247
Reusable syndication map, 313
Review and approval workflow, 324, 325
Rich master data, 301
Role based authorization, 229
Routing of workflow process steps, 350

S

Sales and Distribution application, 63
SAP Business Workflow, 349
SAP Interactive Forms, 332
HTML web pages, 333
SAP MDM Customer Council, 184
SAP NetWeaver Business Intelligence (SAP NetWeaver BI), 65, 110
Integration, 110, 111
SAP NetWeaver Developer Studio, 344
SAP NetWeaver Enterprise Portal Server Components, 268
SAP NetWeaver infrastructure, 186
SAP NetWeaver master data silo
Smoke screen, 73

SAP NetWeaver MDM and outsourcing, 71
SAP NetWeaver MDM and SAP CRM, 62
SAP NetWeaver MDM and SAP NetWeaver BI, 66
SAP NetWeaver MDM and the data fitness analogy, 78
SAP NetWeaver MDM benefits
Primary, 93
Secondary, 93
SAP NetWeaver MDM business case, 91
Benchmark, 92
SAP NetWeaver MDM census, 77
SAP NetWeaver MDM core services, 92
SAP NetWeaver MDM data matching strategy, 258
SAP NetWeaver MDM data quality and processes, 97
SAP NetWeaver MDM syndication functionality, 313
SAP NetWeaver MDM technical skills, 190
SAP NetWeaver MDM workflow, 254
SAP NetWeaver PI interface, 354
Architecture, 353
SAP NetWeaver PI solution architect, 192
SAP NetWeaver Portal
Design, 331
Integration, 334
Solution architect, 193
Standard business content, 340
SAP NetWeaver Solution Architect, 191
SAP NetWeaver Technical Roadmap, 185
SAP Process Integration, 222
Sarbanes-Oxley Act, 102, 103, 104, 142
Compliance, 82
Real-Time Disclosure (Section 409), 102
Scaling, 163
Schedule-enabled, 316
Search and Report, 291
Searching, 372
Search master data, 218
Search Parameters iView, 338
Security, 198
Server session, 369
Service Level Agreement, 118
Service-oriented architecture (SOA), 112, 363, 375
Service pack, 187
Enhancement, 385
Upgrade, 382
Session type, 368
Sharing master data, 54
Simple vendor, 241
Software license, 186
Solution architect, 207
Solution Manager Diagnostics 4.0 (SMD), 389
Sort Indices, 279
Source system data, 240
SOX Section 302
Corporate Responsibility for Financial Reports, 103
SOX Section 404
Management Assessment of Internal Controls, 103
SOX Section 409
Real Time Issuer Disclosure, 104
Staging repository, 215
Stakeholder, 177
Communication, 188
Strategic approach, 176
Subsidiary, 38, 137
Supply Chain Management application, 64
Supply Chain Management integration, 106, 107
Support enablement in SP06, 389
Syndication as a reporting tool, 319
Syndication as a Workflow Step, 318
Syndication map, 314
Syntax, 237
System monitoring, 389
System of origin, 40
System of reference, 40
Systems integrator (SI), 194
Systems Landscape, 262
System user group, 151

T

TableID, 373
Taxonomy, 205, 227, 231
Teams and organizations, 69
Technical concept of data enrichment, 320

Technical Configuration, 267
Technical Design Authority, 207
Technical proof of concept, 197
Top-down approach, 176
Total Risk Exposure, 143

U

Unique identifier, 214
Unique key, 95, 151
Universal Work List
SAP NetWeaver Portal, 342
Universal Work List (UWL), 268, 341, 350
Unlinked system, 72
UNSPSC hierarchy, 306
User session, 369

V

Validate data cleansing results, 249
Validation, 226
Value Mapping, 307
Vendor
Account, 48
Account group, 48
Definitions, 46
Master data, 46
System Index, 29,236
Management, 47
Request form, 57
Vendor System Index, 238

W

Web Dynpros, 268
Web Services, 361
Working with identifiers, 373

Y

Yellow pages, 41, 363, 376