

## Advanced Data Warehouse Design From Conventional To Spatial And Temporal Applications

Data warehouses and online analytical processing (OLAP) are emerging key technologies for enterprise decision support systems. They provide sophisticated technologies from data integration, data collection and retrieval, query optimization, and data analysis to advanced user interfaces. New research and technological achievements in the area of data warehousing are implemented in commercial database management systems, and organizations are developing data warehouse systems into their information system infrastructures. *Data Warehouses and OLAP: Concepts, Architectures and Solutions* covers a wide range of technical, technological, and research issues. It provides theoretical frameworks, presents challenges and their possible solutions, and examines the latest empirical research findings in the area. It is a resource of possible solutions and technologies that can be applied when designing, implementing, and deploying a data warehouse, and assists in the dissemination of knowledge in this field.

Recently, researchers have focused on challenging problems facing the development of data warehousing, knowledge discovery, and data mining applications.

With this textbook, Vaisman and Zimányi deliver excellent coverage of data warehousing and business intelligence technologies ranging from the most basic principles to recent findings and applications. To this end, their work is structured into three parts. Part I describes “Fundamental Concepts” including multi-dimensional models; conceptual and logical data warehouse design and MDX and SQL/OLAP. Subsequently, Part II details “Implementation and Deployment,” which includes physical data warehouse design; data extraction, transformation, and loading (ETL) and data analytics. Lastly, Part III covers “Advanced Topics” such as spatial data warehouses; trajectory data warehouses; semantic technologies in data warehouses and novel technologies like Map Reduce, column-store databases and in-memory databases. As a key characteristic of the book, most of the topics are presented and illustrated using application tools. Specifically, a case study based on the well-known Northwind database illustrates how the concepts presented in the book can be implemented using Microsoft Analysis Services and Pentaho Business Analytics. All chapters are summarized using review questions and exercises to support comprehensive student learning. Supplemental material to assist instructors using this book as a course text is available at <http://cs.ulb.ac.be/DWSDIbook/>, including electronic versions of the figures, solutions to all exercises, and a set of slides accompanying each chapter. Overall, students, practitioners and researchers alike will find this book the most comprehensive reference work on data warehouses, with key topics described in a clear and educational style.

The LNCS journal *Transactions on Large-Scale Data- and Knowledge-Centered Systems* focuses on data management, knowledge discovery, and knowledge processing, which are core and hot topics in computer science. Since the 1990s, the Internet has become the main driving force behind application development in all domains. An increase in the demand for resource sharing (e.g., computing resources, services, metadata, data sources) across different sites connected through networks has led to an evolution of data- and knowledge management systems from centralized systems to decentralized systems enabling large-scale distributed applications providing high scalability. This, the 48th issue of *Transactions on Large-Scale Data- and Knowledge-Centered Systems*, contains 8 invited papers dedicated to the memory of Prof. Dr. Roland Wagner. The topics covered include distributed database systems, NewSQL, scalable transaction management, strong consistency, caches, data warehouse, ETL, reinforcement learning, stochastic approximation, multi-agent systems, ontology, model-driven development, organisational modelling, digital government, new institutional economics and data governance.

The MicroStrategy Advanced Data Warehousing course explains data modeling design challenges and solutions when implementing a MicroStrategy project. The course assumes prerequisite knowledge of MicroStrategy Desktop: Reporting Essentials, MicroStrategy Architect: Project Design Essentials, and MicroStrategy Architect: Advanced Project Design. You will learn how to model complex hierarchies and attribute relationships, implement role attributes and versioning, use logical views, and optimize query performance.

This book presents the first comparative review of the state of the art and the best current practices of data warehouses. It covers source and data integration, multidimensional aggregation, query optimization, metadata management, quality assessment, and design optimization. A conceptual framework is presented by which the architecture and quality of a data warehouse can be assessed and improved using enriched metadata management combined with advanced techniques from databases, business modeling, and artificial intelligence.

This exceptional work provides readers with an introduction to the state-of-the-art research on data warehouse design, with many references to more detailed sources. It offers a clear and a concise presentation of the major concepts and results in the subject area. Malinowski and Zimányi explain conventional data warehouse design in detail, and additionally address two innovative domains recently introduced to extend the capabilities of data warehouse systems: namely, the management of spatial and temporal information.

This book constitutes the workshop proceedings of the 16th International Conference on Database Systems for Advanced Applications, DASFAA 2011, held in Hong Kong, China, in April 2011. The volume contains six workshops, each focusing on specific research issues that contribute to the main themes of the DASFAA conference: The First International Workshop on Graph-structured Data Bases (GDB 2011); the First International Workshop on Spatial Information Modeling, Management and Mining (SIM3 2011); the International Workshop on Flash-based Database Systems (FlashDB 2011); the Second International Workshop on Social Networks and Social Media Mining on the Web (SNSMW 2011); the First International Workshop on Data Management for Emerging Network Infrastructures (DaMEN 2011); and the Fourth International Workshop on Data Quality in Integration Systems (DQIS 2011).

This book constitutes the refereed proceedings of the 14th International Conference on Data Warehousing and Knowledge Discovery, DaWaK 2012 held in Vienna, Austria, in September 2012. The 36 revised full papers presented were carefully reviewed and selected from 99 submissions. The papers are organized in topical sections on data warehouse design methodologies, ETL methodologies and tools, multidimensional data processing and management, data warehouse and OLAP extensions, data warehouse performance and optimization, data mining and knowledge discovery techniques, data mining and knowledge discovery applications, pattern mining, data stream mining, data warehouse confidentiality and security, and distributed paradigms and algorithms.

This book constitutes the refereed proceedings of the 16th International Conference on Data Warehousing and Knowledge Discovery, DaWaK 2014 held in Munich, Germany, September 2014, in conjunction with DEXA 2014. The 34 revised full papers and 8 short papers presented were carefully reviewed and selected from 109 submissions. The papers are organized in topical sections on modeling and ETL; ontology-based data warehouses; advanced data warehouses and OLAP; uncertainty; preferences and recommendation; query performance and HPC; cube & OLAP; optimization; classification; social networks and recommendation systems; knowledge data discovery; industrial applications; mining and processing data stream; mining and similarity.

"This book provides insight into the latest findings concerning data warehousing, data mining, and their applications in everyday human activities"--Provided by publisher.

The LNCS Journal on Data Semantics is devoted to the presentation of notable work that, in one way or another, addresses research and development on issues related to data semantics. This volume constitutes a special issue on semantic data warehouses.

Agile Data Warehouse Design is a step-by-step guide for capturing data warehousing/business intelligence (DW/BI) requirements and turning them into high performance dimensional models in the most direct way: by modelstorming (data modeling ] brainstorming) with BI stakeholders. This book describes BEAM, an agile approach to dimensional modeling, for improving communication between data warehouse designers, BI stakeholders and the whole DW/BI development team. BEAM provides tools and techniques that will encourage DW/BI designers and developers to move away from their keyboards and entity relationship based tools and model interactively with their colleagues. The result is everyone thinks dimensionally from the outset! Developers understand how to efficiently implement dimensional modeling solutions. Business stakeholders feel ownership of the data warehouse they have created, and can already imagine how they will use it to answer their business questions. Within this book, you will learn: Agile dimensional modeling using Business Event Analysis & Modeling (BEAM ) Modelstorming: data modeling that is quicker, more inclusive, more productive, and frankly more fun! Telling dimensional data stories using the 7Ws (who, what, when, where, how many, why and how) Modeling by example not abstraction; using data story themes, not crow's feet, to describe detail Storyboarding the data warehouse to discover conformed dimensions and plan iterative development Visual modeling: sketching timelines, charts and grids to model complex process measurement - simply Agile design documentation: enhancing star schemas with BEAM dimensional shorthand notation Solving difficult DW/BI performance and usability problems with proven dimensional design patterns LawrenceCorr is a data warehouse designer and educator. As Principal of DecisionOne Consulting, he helps clients to review and simplify their data warehouse designs, and advises vendors on visual data modeling techniques. He regularly teaches agile dimensional modeling courses worldwide and has taught dimensional DW/BI skills to thousands of students. Jim Stagnitto is a data warehouse and master data management architect specializing in the healthcare, financial services, and information service industries. He is the founder of the data warehousing and data mining consulting firm Llumino.

Ralph Kimball invented a data warehousing technique called ?dimensional modelling? and popularised it in his first Wiley bestseller The Data Warehouse Toolkit. Since then dimensional modelling has become the most widely accepted technique for data warehouse design. Since the first edition, Kimball has improved on his earlier techniques and created many new ones. In this second edition, he provides a comprehensive collection of all of them, from basic to advanced, and strategies for optimising data warehouse design for common business applications. He includes examples for retail sales, inventory management, procurement, orders and invoices, customer relationship management, accounting, financial services, telecommunication and utilities, health care, insurance and more. He also presents unique modelling techniques for e-commerce and shows strategies for optimising performance. A companion Web site provides updates on dimensional modelling techniques, links to related sites and source code where appropriate.

Business intelligence (BI) tools are capable of working with healthcare data in an efficient manner to generate real-time information and knowledge relevant to the success of healthcare organizations. Further, BI tools benefit healthcare professionals making critical decisions within hospitals, clinics, and physicians' offices. Applying Business Intelligence to Clinical and Healthcare Organizations presents new solutions for data analysis within the healthcare sector in order to improve the quality of medical care and patient quality of life. Business intelligence models and techniques are explored and their benefits for the healthcare sector exposed in this timely research-based publication comprised of chapters written by professionals and researchers from around the world. Hospital administrators, healthcare professionals, biomedical engineers, informatics engineers, and students in graduate-level healthcare management programs will find this publication essential to their professional development and research needs.

Market\_Desc: · IT professionals· Undergraduate students specializing in information technology· Consultants Special Features: · Includes review questions and exercises· Filled with industry examples· The author has 25 years of experience in IT specializing in data warehousing About The Book: This book explores all topics needed by those who design and implement data warehouses. Readers will learn about planning requirements, architecture, infrastructure, data preparation, information delivery, implementation, and maintenance. This book covers the fundamentals of data warehousing specifically for the IT professionals who wants to get into the field.

The book describes advanced business analytics and shows how to apply them to many different professional areas of engineering and management. Each chapter of the book is contributed by a different author and covers a different area of business analytics. The book connects the analytic principles with business practice and provides an interface between the main disciplines of engineering/technology and the organizational, administrative and planning abilities of management. It also refers to other disciplines such as economy, finance, marketing, behavioral economics and risk analysis. This book is of special interest to engineers, economists and researchers who are developing new advances in engineering management but also to practitioners working on this subject.

Building a Data Warehouse: With Examples in SQL Server describes how to build a data warehouse completely from scratch and shows practical examples on how to do it.

Author Vincent Rainardi also describes some practical issues he has experienced that developers are likely to encounter in their first data warehousing project, along with solutions and advice. The relational database management system (RDBMS) used in the examples is SQL Server; the version will not be an issue as long as the user has SQL Server 2005 or later. The book is organized as follows. In the beginning of this book (chapters 1 through 6), you learn how to build a data warehouse, for example, defining the architecture, understanding the methodology, gathering the requirements, designing the data models, and creating the databases. Then in chapters 7 through 10, you learn how to populate the data warehouse, for example, extracting from source systems, loading the data stores, maintaining data quality, and utilizing the metadata. After you populate the data warehouse, in chapters 11 through 15, you explore how to present data to users using reports and multidimensional databases and how to use the data in the data warehouse for business intelligence, customer relationship management, and other purposes. Chapters 16 and 17 wrap up the book: After you have built your data warehouse, before it can be released to production, you need to test it thoroughly. After your application is in production, you need to understand how to administer data warehouse operation. What you'll learn A detailed understanding of what it takes to build a data warehouse The implementation code in SQL Server to build the data warehouse Dimensional modeling, data extraction methods, data warehouse loading, populating dimension and fact tables, data quality, data warehouse architecture, and database design

Practical data warehousing applications such as business intelligence reports, analytics applications, and customer relationship management Who this book is for There are three audiences for the book. The first are the people who implement the data warehouse. This could be considered a field guide for them. The second is database users/admins who want to get a good understanding of what it would take to build a data warehouse. Finally, the third audience is managers who must make decisions about aspects of the data warehousing task before them and use the book to learn about these issues.

The first comparative review of the state of the art and best current practice in data warehousing. It covers source and data integration, multidimensional aggregation, query optimisation, update propagation, metadata management, quality assessment, and design optimisation. Also, based on results of the European DWQ project, it offers a conceptual framework by which the architecture and quality of data warehousing efforts can be assessed and improved using enriched metadata management combined with advanced techniques from databases, business modelling, and artificial intelligence. An excellent introduction to the issues of quality and metadata usage for researchers and database professionals in academia and industry. XXXXXXXX Neuer Text This book presents the first comparative review of the state-of-the-art and the best current practices of data warehouses. It covers source and data integration, multidimensional aggregation, query optimization, metadata management, quality assessment, and design optimization. A conceptual framework is presented by which the architecture and quality of a data warehouse can be assessed and improved using enriched metadata management combined with advanced techniques from databases, business modeling, and artificial intelligence.

The new edition of the classic bestseller that launched the data warehousing industry covers new approaches and technologies, many of which have been pioneered by Inmon himself In addition to explaining the fundamentals of data warehouse systems, the book covers new topics such as methods for handling unstructured data in a data warehouse and storing data across multiple storage media Discusses the pros and cons of relational versus multidimensional design and how to measure return on investment in planning data warehouse projects Covers advanced topics, including data monitoring and testing Although the book includes an extra 100 pages worth of valuable content, the price has actually been reduced from \$65 to \$55

A cutting-edge response to Ralph Kimball's challenge to the data warehouse community that answers some tough questions about the effectiveness of the relational approach to data warehousing Written by one of the best-known exponents of the Bill Inmon approach to data warehousing Addresses head-on the tough issues raised by Kimball and explains how to choose the best modeling technique for solving common data warehouse design problems Weighs the pros and cons of relational vs. dimensional modeling techniques Focuses on tough modeling problems, including creating and maintaining keys and modeling calendars, hierarchies, transactions, and data quality

The Data Vault was invented by Dan Linstedt at the U.S. Department of Defense, and the standard has been successfully applied to data warehousing projects at organizations of different sizes, from small to large-size corporations. Due to its simplified design, which is adapted from nature, the Data Vault 2.0 standard helps prevent typical data warehousing failures. "Building a Scalable Data Warehouse" covers everything one needs to know to create a scalable data warehouse end to end, including a presentation of the Data Vault modeling technique, which provides the foundations to create a technical data warehouse layer. The book discusses how to build the data warehouse incrementally using the agile Data Vault 2.0 methodology. In addition, readers will learn how to create the input layer (the stage layer) and the presentation layer (data mart) of the Data Vault 2.0 architecture including implementation best practices. Drawing upon years of practical experience and using numerous examples and an easy to understand framework, Dan Linstedt and Michael Olschimke discuss: How to load each layer using SQL Server Integration Services (SSIS), including automation of the Data Vault loading processes. Important data warehouse technologies and practices. Data Quality Services (DQS) and Master Data Services (MDS) in the context of the Data Vault architecture. Provides a complete introduction to data warehousing, applications, and the business context so readers can get-up and running fast Explains theoretical concepts and provides hands-on instruction on how to build and implement a data warehouse Demystifies data vault modeling with beginning, intermediate, and advanced techniques Discusses the advantages of the data vault approach over other techniques, also including the latest updates to Data Vault 2.0 and multiple improvements to Data Vault 1.0

Updated new edition of Ralph Kimball's groundbreaking book on dimensional modeling for data warehousing and business intelligence! The first edition of Ralph Kimball's The Data Warehouse Toolkit introduced the industry to dimensional modeling, and now his books are considered the most authoritative guides in this space. This new third edition is a complete library of updated dimensional modeling techniques, the most comprehensive collection ever. It covers new and enhanced star schema dimensional modeling patterns, adds two new chapters on ETL techniques, includes new and expanded business matrices for 12 case studies, and more. Authored by Ralph Kimball and Margy Ross, known worldwide as educators, consultants, and influential thought leaders in data warehousing and business intelligence Begins with fundamental design recommendations and progresses through increasingly complex scenarios Presents unique modeling techniques for business applications such as inventory management, procurement, invoicing, accounting, customer relationship management, big data analytics, and more Draws real-world case studies from a variety of industries, including retail sales, financial services, telecommunications, education, health care, insurance, e-commerce, and more Design dimensional databases that are easy to understand and provide fast query response with The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling, 3rd Edition.

SAS software has been in existence for a long time and has been implemented in large, data-intensive environments, including data warehouses. This SAS book covers practical programming considerations to make when involving SAS in a data warehouse environment. You'll be able to develop the skills you need to apply SAS in your working

environment.

The development of business intelligence has enhanced the visualization of data to inform and facilitate business management and strategizing. By implementing effective data-driven techniques, this allows for advance reporting tools to cater to company-specific issues and challenges. The Handbook of Research on Advanced Data Mining Techniques and Applications for Business Intelligence is a key resource on the latest advancements in business applications and the use of mining software solutions to achieve optimal decision-making and risk management results. Highlighting innovative studies on data warehousing, business activity monitoring, and text mining, this publication is an ideal reference source for research scholars, management faculty, and practitioners.

"This book provides a wide compendium of references to topics in the field of the databases systems and applications"--Provided by publisher.

This book constitutes the thoroughly refereed post-proceedings of the Fifth International School and Symposium on Advanced Distributed Systems, ISSADS 2005, held in Guadalajara, Mexico in January 2005. The 50 revised full papers presented were carefully reviewed and selected from over 100 submissions. The papers are organized in topical sections on database systems, distributed and parallel algorithms, real-time distributed systems, cooperative information systems, fault tolerance, information retrieval, modeling and simulation, wireless networks and mobile computing, artificial life and multi agent systems.

Data mapping in a data warehouse is the process of creating a link between two distinct data models' (source and target) tables/attributes. Data mapping is required at many stages of DW life-cycle to help save processor overhead; every stage has its own unique requirements and challenges. Therefore, many data warehouse professionals want to learn data mapping in order to move from an ETL (extract, transform, and load data between databases) developer to a data modeler role. Data Mapping for Data Warehouse Design provides basic and advanced knowledge about business intelligence and data warehouse concepts including real life scenarios that apply the standard techniques to projects across various domains. After reading this book, readers will understand the importance of data mapping across the data warehouse life cycle. Covers all stages of data warehousing and the role of data mapping in each Includes a data mapping strategy and techniques that can be applied to many situations Based on the author's years of real-world experience designing solutions

The first comprehensive handbook on star schema design The Star Schema Handbook is a comprehensive guide to dimensional modeling covering both basic and advanced topics.

Organized around technical concepts rather than business examples, this is the perfect resource for data warehouse designers or developers. The book is architecture-neutral, providing full coverage of the best practices for the design of star schema and OLAP cubes in any environment. You'll find numerous examples of designs drawn from real-world situations. The book covers schema capabilities, ETL loading, reporting, and more. The Star Schema Handbook is a complete reference for dimensional modeling and star schema design, whether you're new to the field or are seeking advanced information to help you address specific design challenges The book explores best practices for star schema design and OLAP cubes; it is architecture-neutral, providing guidance on best design practices for any environment Topics include schema capabilities, ETL loading, reporting, and much more This comprehensive guide covers both basic and advanced topics, making it the complete reference for all data warehouse designers.

Learn Business Intelligence Markup Language (Biml) for automating much of the repetitive, manual labor involved in data integration. We teach you how to build frameworks and use advanced Biml features to get more out of SQL Server Integration Services (SSIS), Transact-SQL (T-SQL), and SQL Server Analysis Services (SSAS) than you ever thought possible. The first part of the book starts with the basics—getting your development environment configured, Biml syntax, and scripting essentials. Whether a beginner or a seasoned Biml expert, the next part of the book guides you through the process of using Biml to build a framework that captures both your design patterns and execution management. Design patterns are reusable code blocks that standardize the approach you use to perform certain types of data integration, logging, and other key data functions. Design patterns solve common problems encountered when developing data integration solutions. Because you do not have to build the code from scratch each time, design patterns improve your efficiency as a Biml developer. In addition to leveraging design patterns in your framework, you will learn how to build a robust metadata store and how to package your framework into Biml bundles for deployment within your enterprise. In the last part of the book, we teach you more advanced Biml features and capabilities, such as SSAS development, T-SQL recipes, documentation autogeneration, and Biml troubleshooting. The Biml Book: Provides practical and applicable examples Teaches you how to use Biml to reduce development time while improving quality Takes you through solutions to common data integration and BI challenges What You'll Learn Master the basics of Business Intelligence Markup Language (Biml) Study patterns for automating SSIS package generation Build a Biml Framework Import and transform database schemas Automate generation of scripts and projects Who This Book Is For BI developers wishing to quickly locate previously tested solutions, Microsoft BI specialists, those seeking more information about solution automation and code generation, and practitioners of Data Integration Lifecycle Management (DILM) in the DevOps enterprise

This book constitutes the proceedings of the 27th International Conference on Advanced Information Systems Engineering, CAiSE 2015, held in Stockholm, Sweden, in June 2015. The 31 papers presented in this volume were carefully reviewed and selected from 236 submissions. They were organized in topical sections named: social and collaborative computing; business process modeling and languages; high volume and complex information management; requirements elicitation and management; enterprise data management; model conceptualisation and evolution; process mining, monitoring and predicting; intra- and inter-organizational process engineering; process compliance and alignment; enterprise IT integration and management; and service science and computing. The book also contains the abstracts of 3 keynote speeches and 5 tutorials, presented at the conference.

Improvements in hospital management and emergency medical and critical care services require continual attention and dedication to ensure efficient and proper care for citizens. To support this endeavor, professionals rely more and more on the application of information systems and technologies to promote the overall quality of modern healthcare. Implementing effective technologies and strategies ensures proper quality and instruction for both the patient and medical practitioners. Hospital Management and Emergency Medicine: Breakthroughs in Research and Practice examines the latest scholarly material on emerging strategies and methods for delivering optimal emergency medical care and examines the latest technologies and tools that support the development of efficient emergency departments and hospital staff. While highlighting the challenges medical practitioners and healthcare professionals face when treating patients

and striving to optimize their processes, the book shows how revolutionary technologies and methods are vastly improving how healthcare is implemented globally. Highlighting a range of topics such as overcrowding, decision support systems, and patient safety, this publication is an ideal reference source for hospital directors, hospital staff, emergency medical services, paramedics, medical administrators, managers and employees of health units, physicians, medical students, academicians, and researchers seeking current research on providing optimal care in emergency medicine.

The data warehousing bible updated for the new millennium Updated and expanded to reflect the many technological advances occurring since the previous edition, this latest edition of the data warehousing "bible" provides a comprehensive introduction to building data marts, operational data stores, the Corporate Information Factory, exploration warehouses, and Web-enabled warehouses. Written by the father of the data warehouse concept, the book also reviews the unique requirements for supporting e-business and explores various ways in which the traditional data warehouse can be integrated with new technologies to provide enhanced customer service, sales, and support-both online and offline-including near-line data storage techniques.

This textbook covers all central activities of data warehousing and analytics, including transformation, preparation, aggregation, integration, and analysis. It discusses the full spectrum of the journey of data from operational/transactional databases, to data warehouses and data analytics; as well as the role that data warehousing plays in the data processing lifecycle. It also explains in detail how data warehouses may be used by data engines, such as BI tools and analytics algorithms to produce reports, dashboards, patterns, and other useful information and knowledge. The book is divided into six parts: "Part I – Star Schema" describes the foundation of data warehouse design. "Part II – Snowflake and Bridge Tables" then expands the concept of a simple star schema by introducing the concept of hierarchy, bridge tables, as well as the use of bridge tables in temporal data warehousing. "Part III – Advanced Dimensions" elaborates various dimension models, namely determinant dimensions, junk dimensions, dimension keys, and one-attribute dimensions, which all enrich the semantics of the star schema. "Part IV – Multi-Fact and Multi-Input" introduces multi-fact star schemas, where the star schema has multi-fact entities. A multi-fact can also be created by slicing one fact into multi-facts, which is discussed next. Eventually the creation of a star schema is introduced where an operational database is used as input to the transformation process and consists of multiple operational databases. "Part V – Data Warehousing Granularity and Evolution" first introduces the concept of aggregation levels in a star schema constellation. It then focuses on the lowest-level star schema, including how to design a star schema and why it is needed in data warehousing, before moving on to methods for adding and removing dimensions. The remaining two chapters present more advanced concepts in data warehousing granularity and introduce the concept of active data warehousing. "Part VI – OLAP, Business Intelligence, and Data Analytics" thoroughly explains OLAP – online analytical processing, and describes two important activities in the data warehousing process, namely pre-data warehousing and post-data warehousing. The final chapter focuses on data analytics, which consists of a suite of methods for data analysis suitable for data warehousing. This textbook approaches data warehousing from the case study angle. Each chapter presents one or more case studies to thoroughly explain the concepts and has different levels of difficulty, hence learning is incremental. In addition, every chapter has also a section on further readings which give pointers and references to research papers related to the chapter. All these features make the book ideally suited for either introductory courses on data warehousing and data analytics, or even for self-studies by professionals. The book is accompanied by a web page that includes all the used datasets and codes as well as slides and solutions to exercises.

This book contains the collection of full papers accepted at the 11th International Conference on Enterprise Information Systems (ICEIS 2009), organized by the Institute for Systems and Technologies of Information Control and Communication (INSTICC) in cooperation with the Association for Advancement of Artificial Intelligence (AAAI) and ACM SIGMIS (SIG on Management Information Systems), and technically co-sponsored by the Japanese IEICE SWIM (SIG on Software Enterprise Modeling) and the Workflow Management Coalition (WfMC). ICEIS 2009 was held in Milan, Italy. This conference has grown to become a major point of contact between research scientists, engineers and practitioners in the area of business applications of information systems. This year, five simultaneous tracks were held, covering different aspects related to enterprise computing, including: "Databases and Information Systems Integration," "Artificial Intelligence and Decision Support Systems," "Information Systems Analysis and Specification," "Software Agents and Internet Computing" and "Human-Computer Interaction". All tracks describe research work that is often oriented toward real-world applications and highlight the benefits of information systems and technology for industry and services, thus making a bridge between academia and enterprise. ICEIS 2009 received 644 paper submissions from 70 countries in all continents; 81 papers were published and presented as full papers, i.e., completed research work (8 pages/30-minute oral presentation). Additional papers accepted at ICEIS, including short papers and posters, were published in the regular conference proceedings.

"Each chapter is... a practice run for the way we all ought to design our data marts and hence our data warehouses."-Ralph Kimball, from the Foreword. Let the experts show you how to customize data warehouse designs for real business needs in Data Warehouse Design Solutions. To effectively design a data warehouse, you have to understand its many business uses. This guidebook shows you how business managers in different corporate functions actually use data warehouses to make decisions. You'll get a rich set of data warehouse designs that flow from realistic business cases. Two top experts show you how to customize your data warehouse designs for real-life business needs including: \* Sales and marketing \* Production and inventory management \* Budgeting and financial reporting \* Quality control \* Product delivery and fulfillment \* Strategic business analysis such as determining market share, rates of return on investment, and other key analytic ratios. CD-ROM includes All sample data warehouse designs with accompanying preformatted reports in HTML for specific business uses such as marketing, sales, and financial analysis.

This is the first book to provide in-depth coverage of star schema aggregates used in dimensional modeling-from selection and design, to loading and usage, to specific tasks and deliverables for implementation projects Covers the principles of aggregate schema design and the pros and cons of various types of commercial solutions for navigating and building aggregates Discusses how to include aggregates in data warehouse development projects that focus on incremental development, iterative builds, and early data loads

Foreword by Mark Stephen LaRow, Vice President of Products, MicroStrategy "A unique and authoritative book that blends recent research developments with industry-level practices for researchers, students, and industry practitioners." Il-Yeol Song, Professor, College of Information Science and Technology, Drexel University

Data warehousing and online analysis technologies have shown their effectiveness in managing and analyzing a large amount of disparate data, attracting much attention from numerous research communities. Data Warehousing Design and Advanced Engineering Applications: Methods for Complex Construction covers the complete process of analyzing data to extract, transform, load, and manage the essential components of a data warehousing system. A defining collection of field discoveries, this advanced title provides significant industry solutions for those involved in this distinct research community.

Copyright: [a0d7448be5f199f6a5d41436bd593b6f](https://doi.org/10.1007/978-1-4939-9999-9)