

Proceedings of the 5th International Workshop on

DESIGN AND MANAGEMENT OF DATA WAREHOUSES (DMDW 2003)

in conjunction with the 29th International Conference on Very Large Databases, VLDB 2003

Hans-J. Lenz, Panos Vassiliadis, Manfred Jeusfeld, Martin Staudt (Eds.)



Hans-J. Lenz, Panos Vassiliadis, Manfred Jeusfeld, Martin Staudt

Proceedings of the 5th International Workshop on DESIGN AND MANAGEMENT OF DATA WAREHOUSES (DMDW 2003)

in conjunction with the 29th International Conference on Very Large Databases (VLDB'03)

Berlin, Germany Monday, September 8, 2003

Organization Committee

Hans-J. Lenz	Freie Univ. Berlin, Germany
Panos Vassiliadis	Univ. of Ioannina, Greece
Manfred Jeusfeld	Tilburg Univ., The Netherlands
Martin Staudt	Univ. of Applied Sciences Solothurn, Switzerland

Program Committee

Mokrane Bouzeghoub	Université de Versaille
Enrico Franconi	Free University of Bozen-Bolzano
Himanshu Gupta	State University of New York, Stony Brook
Matthias Jarke	RWTH Aachen , Informatik V
Manfred Jeusfeld	Tilburg University
Panos Kalnis	National University of Singapore
Kamal Karlapalem	Intl. Inst. of Information Technology, Hyderabad
Wolfgang Lehner	Dresden University of Technology
Hans-J. Lenz	Freie Universität Berlin [Program Co-Chair]
Maurizio Lenzerini	Univ. degli Studi di Roma "La Sapienza"
Volker Markl	IBM Almaden Research Center
Alberto Mendelzon	University of Toronto
Ramzi Musas	Oracle GmbH
Matthias Nicola	IBM Silicon Valley Lab
Jian Pei	State University of New York at Buffalo
Stefano Rizzi	Univ. of Bologna
Carsten Sapia	BMW Group
Timos Sellis	National Technical Univ. of Athens
Il-Yeol Song	Drexel University
Martin Staudt	Univ. of Applied Sciences Solothurn
Bernhard Thalheim	Technische Universität Cottbus
Dimitri Theodoratos	New Jersey Institute of Technology
Riccardo Torlone	Università di Roma Tre
Panos Vassiliadis	University of Ioannina [Program Co-Chair]
Yannis Vassiliou	National Technical University of Athens
Gottfried Vossen	Univ. of Munster
Janet Wiener	Hewlett-Packard
Carlo Zaniolo	University of California

External Referees

Yannis Kouvaras, Carolin Letz, Alkis Simitsis, Satyanarayana Valluri

The **electronic edition** of these proceedings is available from the CEUR series:

http://sunsite.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-77/

Foreword

This report contains the papers accepted for presentation at the 5th International Workshop on Design and Management of Data Warehouses (DMDW) held before VLDB'03 in Berlin, Germany September 8th, 2003.

Data Warehousing embraces technology and industrial practice to systematically integrate data from multiple distributed data sources and to use that data in annotated and aggregated form to support business decision-making and enterprise management. Although many database techniques have been revisited or newly developed in the context of data warehouses, such as view maintenance and OLAP, little attention has been paid to the design, management and high quality service of the management of a given enterprise. Little attention is also paid to aspects which are intrinsic to the functionality and usage of data warehouses, either in the back-stage (like data cleansing or data extraction and loading) or in the front-end (like similar and uncertain queries, or what-if analysis). The DMDW workshop is intended as a forum to fill this gap.

This year's main theme for DMDW was "Business Intelligence for Data Warehouses: Functionality, Usability and Quality of Service". In response to the call for papers, 21 papers were submitted. The Program Committee selected 10 papers based on their scientific contribution, novelty and relevance to the workshop. As in the past years, DMDW includes three papers on the topic of data warehouse design. A second area of interest for this year's workshop includes novel technologies and best practices, clearly showing a movement of data warehousing research towards novel technological challenges, like for example, XML, grid computing and spatial data warehouses. Finally, following a tradition of keeping DMDW close to practitioner problems, three experience reports have also been accepted for this year's workshop.

On behalf of the Program Committee we would like to thank all the authors of submitted papers and all the referees for their careful work. The support of Freien Universität Berlin, Oracle Deutschland GmbH and Sunsite Central Europe (CEUR) is also gratefully acknowledged. Finally, we would like to express our gratitude to the members of the Organizing Committee of VLDB'03 for their support in organizing this workshop.

Hans-J. Lenz, Panos Vassiliadis, Manfred Jeusfeld, Martin Staudt

Table of Contents

A Comprehensive Method for Data Warehouse Design
Sergio Luján-Mora and Juan Trujillo1-1
Well-formed data warehouse structures
Michel Schneider
Using Design Guidelines to Improve Data Warehouse Logical Design
Verónika Peralta and Raúl Ruggia
Applying Grid Technologies to XML Based OLAP Cube Construction
Tapio Niemi, Marko Niinimäki, Jyrki Nummenmaa and Peter Thanisch
Best Practice for Implementing a Data Warehouse: A Review for Strategic Alignment
Rob Weir, Taoxin Peng and Jon Kerridge
CASME: A CASE Tool for Spatial Data Marts Design and Generation
Hajer Bâazaoui Zghal, Sami Faïz and Henda Ben Ghézala6-2
Storage Layout and I/O Performance in Data Warehouses
Matthias Nicola and Haider Rizvi
Data Warehouse Population Platform
Jovanka Adzic and Valter Fiore
Accessing multidimensional Data Types in Oracle 9i Release 2
Marc Bastien
Extended data warehouse for the management of data processing: application to a medical OLAP
Anne Tchounikine and Maryvonne Miquel 10-