

SENIOR DATA WAREHOUSE ARCHITECT / DATA MODELER

Highly experienced data warehouse architect with thorough knowledge of all aspects of data management, ETL and data modeling, both 3NF and dimensional. Competent in all stages of the project lifecycle, from business analysis and data modeling to ETL architectures, performance tuning and analytic applications. Good balance of technical and management skills with proven ability to lead complex, globally distributed teams and deliver projects on time and on budget.

Has been a key player in many projects as data warehouse architect, ETL architect and data modeler, designing the architecture and coordinating the project team while working hands-on on the most critical aspects of the project.

Willing to travel, prefers contract opportunities that allow remote work, at least part of the time.

PROFESSIONAL PROFILE

After completing a degree in Electronic Engineering at Politecnico di Torino, worked for over 30 years with major I.T. and consulting companies (Olivetti, Systems & Management, Digital Equipment, Ernst & Young, Key Partners, Reply) leading projects in a broad range of areas including complex international environments. From 1988 to 1992 led a project of strategic relevance for Digital Equipment, with teams in Italy and the engineering headquarters in the U.S.

Later became an expert in Data Warehousing, worked in many projects and created the site www.olap.it, which became one of the most visited data warehousing resources on the web.

His course on Data Warehouse Design, which constitutes a compendium of the best methodologies using case studies from own experience and was used by several large corporations to train their DW teams.

Good balance of technical and management skills, with proven ability to lead complex, globally distributed teams and deliver projects on time and on budget.

PERSONAL DETAILS

Nationality	Italian
Spoken Languages	Italian (mother tongue), English (fluent)

EDUCATION

High School	Liceo Classico (<i>main focus on humanities studies like greek, latin, literature, history, philosophy</i>)
University	Degree in Electronics Engineering and computer science (<i>Politecnico di Torino</i>)
Post-graduate courses	As a student only: Project Management University with John Manzo Consultative selling for consultants Unix Internals VMS Internals Business Objects (design, administration) Cognos 8 (Data Manager, Report Studio, Framework Manager) As a student and later as a teacher: Structured Design / Structured Management techniques Database Design Data Warehouse Design Methodologies C programming, Unix C library and system calls

AREAS OF EXPERTISE – MANAGERIAL

- Has been project leader / project manager for more than 20 projects over the course of more than 30 years, leading teams from 2 to 20 people.
- Extensive knowledge of project management techniques, both traditional (SDLC / Gantt) and new (Agile).
- Wide hands-on experience working with major consulting companies and applying their methodologies.
- Results-oriented, able to focus on priorities and to deal with all company levels

AREAS OF EXPERTISE – BUSINESS ANALYSIS

Has done extensive business process analysis in many projects (both operational and data warehousing) in different business sectors, both public and private.

The following list includes a few examples of projects that required a detailed business analysis, which was carried out by interviewing employees at all company levels and then produced a formal documentation describing the business processes (for a more complete list please refer to the list of projects in the remainder of this document).

- Unicredit (N° 1 bank in Italy): analysis of the requirements for a data warehouse collecting historical risk analysis data coming from many different sources.
- INAIL (major governmental organization, 20k employees): scoping and analysis of a project covering all business areas of a large insurance company (policies, payments, risk, fraud analysis, cost analysis, customer analytics and profitability)
- Poste Italiane (150k employees, 14k offices): analysis of many business areas (Products, customers, mail, banking procedures and others) as part of the design of the Enterprise Data Warehouse
- Capitalia (4th largest bank in Italy): analysis of loans and associated processes
- Molteni Pharma (pharmaceutics): analysis of all business processes as part of the design of the Enterprise Data Warehouse and Corporate Performance Management system
- Jordan Ministry of Transport: analysis of all transportation means (road, rail, air, sea) in the country of Jordan, wrote a document containing guidelines and recommendations on how to design the Ministry data warehouse

AREAS OF EXPERTISE – TECHNICAL

Data Warehouse Design	His Data Warehouse design skills are based on a solid academic background, having studied most of the relevant books from leading authors (Kimball, Inmon, Adamson, Moss, Venerable, Caserta, Biere, Imhoff, Galemme & others). Has been exposed to design methodologies from companies like Oracle, Ernst & Young and Teradata and has been teaching his own data warehouse design courses to many project teams.
Data Modeling	Expert level knowledge of data modeling techniques (both normalized and dimensional), coming from academic studies and practical usage in many different projects. Particularly proficient in dimensional modeling based on the Kimball “Dimensional Bus” architecture
Erwin Data Modeler	Used in many projects, extensive knowledge
Data Architectures	Experienced in designing databases of all sizes and in different business sectors. Managed a group of 10 people at Poste Italiane dedicated to data management activities (data modeling, MDM, data quality, metadata, adherence to standards)
Data Quality	Expert knowledge of data quality issues and of data cleansing techniques, using data quality tools and custom-designed systems
Metadata management	Knowledge of metadata generated by data warehouses, experienced in designing a complete metadata management system
ETL tools	Extensive knowledge of ETL architectures and techniques, coming from hands-on experience in many projects and from readings like “The Data Warehouse ETL Toolkit” (Kimball-Caserta).
Datastage	Used in two projects, moderate knowledge, last experience 2013
Informatica	Used in one project, moderate knowledge, last experience 2006
Pentaho Kettle	Used in one project, moderate knowledge, last experience 2011
Microsoft SSIS	Used in two projects, moderate knowledge, last experience 2008

Oracle PL/SQL	Used in two projects, extensive knowledge, last experience 2013
Reporting tools	Extensive knowledge of user interface design, designed many reporting applications based on reporting tools and programming languages/libraries, in different areas like operational and management reporting, dashboards, olap, geographic applications
Business Objects	Used in three projects, moderate knowledge, last experience 2008
Oracle OBIEE	Used in one project, moderate knowledge, last experience 2010
Pentaho Report Designer	Used in one project, moderate knowledge, last experience 2011
MS Reporting Services	Used in three projects, good knowledge, last experience 2008
Crystal Reports	Used in two projects, good knowledge, last experience 2004
MS Analysis Server (Olap)	Used in three projects, good knowledge, last experience 2008
Databases	Has been using relational databases for 30 years in all kinds of projects: operational systems and data warehouse applications for banks, industries and government agencies
Oracle	Extensive usage on many different projects (operational and data warehouse) since version 7, last experience 2016. Proficient in PL/SQL
Sql Server	Extensive usage on many different projects (operational and data warehouse) since the first version (SQL Server 7), last experience 2008 (SQL Server 2005)
Teradata	Extensive usage on two major Data Warehouse projects, last experience 2008 Version 11
MySql	Fairly good usage on two projects (Data Warehouse and operational), last experience 2011 version 5
Access	Extensive usage on many different projects (operational), last experience 2012
Informix	Used in many projects since first version (1983), last experience 1994
DB2	Used sporadically, mainly as a source for Oracle data warehouse
Data manipulation languages	
SQL	Extensive usage on many different projects since 1985, last experience 2011
Oracle PL/SQL	Used in two projects, extensive knowledge, last experience 2010
Microsoft T-SQL	Used in two projects, extensive knowledge, last experience 2008
Operating Systems	Has extensive knowledge of both Unix and Windows.
Unix	Extensive usage on many different projects since 1982, including writing device drivers, porting the Unix kernel (Unix version V) on new hardware platforms, teaching Unix internal courses, fine tuning the system for performance, designing and implementing networks and application platforms. Last experience 2010
Linux	Fair knowledge, mostly based on previous experience with Unix systems. Last experience 2011
Windows	Extensive usage on many different projects since 1992, including configuring and managing networks and fine tuning the system for performance. Last experience 2011
Dec OpenVms	Extensive usage on one major project involving major changes to the operating system itself. Last experience 1992
General purpose Programming	Has used many different languages and programming environments in projects of all kinds:
Office VBA	Extensive usage on many different projects since 1995
C	Used in several projects, expert knowledge. Last experience 1992
Fortran, Cobol, PL/I, Assembler	Older legacy languages, used in several projects and studied at University. Last experience 1986

Web Programming

Php	Used in several projects, moderate knowledge. Last experience 2011
Javascript	Used in several projects, moderate knowledge. Last experience 2011
Visual Basic .Net	Used in two projects, moderate knowledge. Last experience 2006

Content Management Systems

Joomla	Used in one project, moderate knowledge, last experience 2011
Liferay	Used in one project, moderate knowledge, last experience 2011

Networking

Has been exposed to many different networks and protocols. Able to configure and use basic networking features in Unix and Windows systems and to debug networking problems

OTHER QUALIFICATIONS / INTERESTS

- Author of numerous articles for primary IT magazines
- Member of European Commission Committees for the evaluation of IT research projects
- Speaker at international conferences
- Member of the Board of Directors of i2u (Italian Unix Users Group)
- Chairman of the Open System Standards Special Interest Group
- Creator of the site www.olap.it, a repository specialized in Data Warehousing
- Owns a vast personal library consisting of many books and hundreds of articles on Data Warehousing, which was used under many circumstances to solve real customers' problems.

PROFESSIONAL EXPERIENCE SUMMARY

1996-Present	Data Warehouse Architect (Independent Consultant) Project manager / architect / data modeler / project leader for primary consulting companies. Designed and delivered Data Warehouse / BI systems for clients in both the private and public sectors including Banking, Insurance, Manufacturing. As an independent consultant delivered own Data Warehousing courses to major clients.
1981-1995	Analyst Programmer / Software Engineer / Project Manager (permanent employee) Worked on many software projects as engineer, analyst and project leader with consulting and computer companies: Systems & Management (largest consulting company in Italy), Olivetti, Digital Equipment (U.S. Engineering Headquarters, Nashua, NH), covering relevant roles in Italy and the U.S., including project management for an internationally distributed team of 20 people working on a project of strategic relevance for Digital Equipment.

PROFESSIONAL EXPERIENC 1995-PRESENT

Note: in some cases the dates may overlap because more than one project was carried out in parallel.

2012-2016 **Architect / Project manager**
Unicredit **N° 1 bank in Italy and Eastern Europe**

Architect and project leader for a 25TB data warehouse project for Bank Austria in the area of risk analysis, involving data collection from 10 different sources (900+ tables) coming from affiliated banks all over Europe. The goal of the project was to allow the Central Risk Management Office of Bank Austria to control the complex transformations done in the operational applications devoted to risk analysis.

The project team (IBM-Accenture-Unicredit-Reply Technology) is distributed between Milan, Wien and Munich, with frequent trips required. The role required continuous contact with the client, designing the ETL architecture, coordinating resources, developing pl/sql procedures and taking care of performance tuning.

Tools: Oracle 11g, PL/SQL, Perl, IBM Datastage 8.5, Erwin 8.0, Toad

2010-2011 **Data Warehouse Architect / Data modeler / Project leader (3 people)**
ISA Srl **Consulting company, leader in information systems for security companies**

Designed the data model and architecture for a full Corporate Performance Management (CPM) solution for private security and surveillance companies. The solution was based on open source software (Pentaho, Mysql, Palo for Excel) and included some advanced functionalities, like for example:

- Budgeting and planning based on what-if analysis. This functionality has been implemented using the Olap and write-back features of Palo for Excel
- Multidimensional Profitability analysis (Customer, Office, Service type and others)

Tools: Mysql, Palo for Excel, Pentaho Kettle, Pentaho Report Designer, Liferay (CMS)

2008-2010 **Data Warehouse Architect / Data modeler / Project manager (4 people)**
INAIL Spa **Government agency for insurance against accidents at the workplace (20.000 employees)**

The initial project goal was to implement a new area of the corporate data warehouse (more than 500 tables for a total size of ~5 TBytes), but after the initial analysis the client accepted my proposal to use this project as a pilot to redesign and expand the corporate data warehouse, moving from a two-layered hub-and-spoke architecture to a one-layered dimensional model (Kimball Dimensional Bus).

The result was a substantial increase in performance, obtained using less disk space and with a much reduced maintenance effort.

The project required analyzing 90% of the company business processes, based on very complex rules, and the resulting data model used many of the most advanced techniques of dimensional modeling.

Etl was implemented using custom, highly engineered and reusable pl/sql procedures, which generate a complete metadata environment to track the progress of ETL procedures.

Tools: Oracle 10/11, PL/SQL, Oracle OBIEE

2005-2008 **Data Warehouse Architect / Data modeler / Project manager (10 people)**
Poste Italiane **Italian Postal Service (150.000 employees, 14.000 branch offices)**

With full responsibility over a team of 10 people, implemented several projects for the Data Management Division. The projects were part of the Enterprise Data Warehouse (one of largest Teradata installations in Europe, as explained in this [article from Teradata magazine](#))

- Integrated solution to manage all the metadata produced by the Corporate Data Warehouse (running on Teradata with 31 million clients, 600 million transactions per month, more than 400 different data sources and 400 KPIs). The metadata repository was designed so that it could automatically import the metadata from the data warehouse and provide various reports to analyze all aspects of the DW operations. **Tools:** Oracle 10, Php

- Analysis of a few areas of the data warehouse (star schema layer) that were performing poorly. Identification of design flaws and proposal of a new design.
- Support to the data warehouse development team, in particular development of ETL procedures.
Tools: Datastage 8
- Data quality and Master Data Management (MDM) for the corporate data warehouse (customers and products data). This was a large project (more than 2 years), involving the design of an engine to extract, cleanse and standardize customers data and to create a unified products catalog. **Tools:** Teradata, Datastage 8, Quality Stage, Web pages with php and javascript
- Application for the selection of customer data based on different criteria. This is a service that is offered to external clients who are looking for customer large data sets for marketing campaigns.
Tools: Oracle, php

2008-2009 Data Warehouse Architect / Analyst / External Consultant

Jordan Ministry of Transport / Dar Al-Handasah Consultants

Feasibility study and architectural design for the Data Warehouse of the Jordan Ministry of Transport, integrating data from different sectors (road, railway, air and maritime). This study was used to prepare the bid for the international tender and included a complete analysis of the current situation and of the desired KPI's, plus a proposed dimensional model.

2006-2007 Data Warehouse Architect / Data Modeler / Project leader (5 people)

Capitalia Spa 4th largest bank in Italy, later acquired by Unicredit

Designed and implemented a new subject area of the corporate Data Warehouse, dedicated to loans risk management. The architecture of the existing data warehouse, running on Teradata, was based on a classic Hub and Spoke architecture, with a first layer in 3rd normal form and a second layer made of star schemas.

As data modeler and ETL team leader I conducted interviews with several bank offices over a period of 4 months, wrote the functional specifications, designed the data model, defined the architecture of ETL processes and managed the development team up until the delivery of the expected results.

As a parallel activity I also did some analysis on the current structure of the Teradata data warehouse, advising on how to tune the system for better performance.

The ETL architecture involved a two levels staging area where input data were checked, corrected and transformed, in order to identify and fix data quality issues.

Tools: Teradata 8.1, Informatica Powercenter 8, Business Objects XI

2006 Data Warehouse Architect / Data Modeler / Project leader (3 people)

Molteni Spa Pharmaceutical company

Design and implementation of a Corporate Performance Management solution. The company did not have a data warehouse and top management wanted a system to control all the important processes like budgeting, sales and profitability.

The system provided budgeting functionalities, sales reporting and profitability analysis. Production costs were allocated at the most granular detail, using data coming from Activity Based Costing (ABC).

Tools: SQL Server 2005, Microsoft Integration Services (SSIS) Microsoft reporting services, Microsoft analysis services

2006 Data Warehouse Architect / Data Modeler / Project leader (3 people)

Eurotranciatuura Spa Manufacturing (engine parts, transformers)

Analysis and consulting for a Corporate Performance Management solution (budgeting, reporting, comparison of budget vs actual, profitability).

Implementation of a Business Intelligence system to support about 100 KPIs, spanning many different areas (examples: production and delivery times, efficiency of sales channels, profitability). The system was

implemented without creating a real data warehouse, because that would have taken too long. Only the essential information necessary to create the KPIs was extracted from various sources.

2005 **Data Warehouse Consultant**
Fiver Spa **National reseller of Polythene Pipes**

As an external consultant helped the company management in selecting the right software and consulting company for the implementation of the company's data warehouse.

2004-2005 **Data Warehouse Architect / Project leader (4 people)**
Aubay research & Technology **Data Warehouse for DMC (a direct sales company)**

Designed and implemented a data warehouse to be used as a basis for a complete reporting and management solution, which included the following components:

- Extraction of data from the company's operational systems, based on SQL Server 2005
- Analysis of sales data, comparison with data coming from TV campaigns used to calculate campaign productivity
- Budgeting and planning, including intra-period adjustments based on sales projections for the current month. The monthly goals for every area and product were compared to the actual results, integrated with projections on future sales.

Tools: SQL Server 2000, Microsoft reporting services, Microsoft analysis services

2004-2005 **Data Warehouse Consultant**
Wuerth Spa **Multinational, more than 400 companies in 84 Countries**

As an external consultant, helped the company Data Warehouse team to re-engineer the data warehouse and design new areas of the data model

2002-2003 **Project leader / Analyst / Developer**
Key Partners **Consulting company**

As a member of the board of management, participated to the definition of the company's organization and strategic plans.

As an analyst / developer, worked in the implementation of the company's ERP, covering almost all business processes (Project Management, HRM, resource scheduling).

Tools: SQL Server, Erwin 4.0, Access 2000/VBA, IIS & ASP pages (VBScript and Javascript), XML

2003 **Data Warehouse Consultant**
S.D.I. **SDI (Sistemi Direzionali Integrati)**

Helped define the architecture of a Decision Support System for the banking sector, covering many different aspects like Asset liability management, Risk management, client profitability, CRM.

In the second project phase, developed the ETL processes and the olap cube to support the system.

The final product has been installed in several banks by SDI (consulting company specialized in business intelligence systems for the banking sector)

Tools: SQL Server 2000, Analysis Services, VBA, VB.Net, Knosys Proclarity 5.0

2001-2002 Data Warehouse Architect / Data modeler / Project manager (10 people)

Ernst & Young Poste Italiane (Italian Postal Service, 150.000 employees, 14.000 branch offices)

Analysis, design and implementation of the Corporate Data Warehouse. This was the first attempt to consolidate all business intelligence activities under a central data warehouse, the project was sponsored directly by the company C.E.O. and involved a team of 2 analysts / architects/ data modelers, 15 business analysts, 15 ETL developers and 10 report developers.

Working for the main contractor (Ernst & Young) I was one of the two data modelers, who had shared responsibility for the whole project. The project involved analyzing the business processes of all the branches of Poste Italiane (banking, postal service, parcel delivery, online selling and more). After almost two years and the delivery of the first release of the data warehouse the project was stopped because the main business sponsor left the company.

The data warehouse was based on a pure dimensional model (Kimball Dimensional Bus architecture).

Tools: Oracle 8i, Business Objects, Datastage

1996-2003 Information Systems Manager

Chimet Spa European leader in the recovery and refining of precious metals

Working as an external consultant in charge of the entire I.T. strategy and operations for the company, managed several strategic projects, defined the overall technology architecture, selected consulting companies and products to accomplish a general reorganization of the company's systems.

2003-2004: Designed and implemented a prototype for the company's Data Warehouse, which included samples in the sales and finance areas. **Tools:** Database: SQL Server 2000 / Analysis Services. ETL tool: DTS. Reporting tools: Crystal Reports 10 and Proclarity 5.3.

1996-1999: Redesigned the company's IT and networking infrastructure, replacing the existing AS/400 and Bull systems with Unix, Linux and Windows 2000 servers running Exchange 2000, ISA 2000, SQL Server 2000. Designed the architecture that connects the three company's office locations to each other and to the Internet using HDSL lines and a wireless link.

1996-2000: Managed a large application development project, implemented by a third-party company, to completely renew the company's ERP. Chimet has been successfully using the new system for all its critical operations since 1996, and new features have been added every year.

1996-2004: Personally wrote many applications using Visual Basic/SQL Server/Access/VB .Net: management of the manufacturing and shipping process for the company's chemical product lines, automation of the supply chain

1996-1999 Information Technology subject matter expert

European DG 13 (Industry)

Community

Member of the EEC commission for the selection and evaluation of research projects in the I.T. sector. My role involved studying project proposals, assigning votes and discussing the evaluations with other commission members. Once the projects had started, I was involved in project assessments to evaluate the current state.

1995-1999 Consultant / analyst / developer

UnoAERre Spa world's largest gold jewels manufacturer

Designed and implemented a Decision Support System based for sales analysis, based on SQL Server 7 and Seagate Crystal Reports. Wrote a Web application using Visual Interdev and ASP to deliver reports via interactive web pages, including user profiling for filtering contents based on user permissions.

Designed and implemented services and applications based on Microsoft BackOffice and other products (system management using Microsoft SMS, network backup, email and Internet access, LAN fax, file and printer sharing, electronic conferences).

Designed and developed a SFA (Sales Force Automation) solution, including an electronic catalog and order processing system on CD-ROM

Tools: Microsoft SQL Server 7.0, Visual Interdev 1.0, Visual basic Scripting, IIS 4.0, Seagate Info 6, Crystal Reports 6, Visual Basic 4.0/ Access 97

1999 **Consultant / analyst / project leader**

CR Città di Castello **Regional bank**

Design and implementation of a system architecture for the Bank's personal computers (about 200 seats). The architecture included user management, system operations (backup, communications) for branch offices, system policies, roaming profiles, application integration (NT Server 4.0, NT workstation 4.0).

Implementation of a standard image for operational workstations. The image was then cloned on 200 PC's, which went live with a staged approach.

Tools: Microsoft NT Server 4.0, NT workstation 4.0

1995-1996 **Consultant / analyst / developer**

Telecom Italia **Italian largest residential and mobile telephone company**

Designed and implemented an application to manage mobile phone contracts at sales points all over Italy.

Tools: Microsoft Visual Basic/Access (client), DEC VMS with RDS database (server)

Designed and implemented an application to manage the assignment of telephone numbers, including special "gold" numbers (mnemonic numbers that are sold at a premium).

Tools: Visual Basic, Oracle 7, Access 97

PROFESSIONAL EXPERIENCE 1981-1994

Worked on many software projects as engineer, analyst and project leader with consulting and computer companies: Systems & Management (largest consulting company in Italy), Olivetti, Digital Equipment (U.S. Engineering Headquarters, Nashua, NH).

1992-1994 **Senior Consultant**

Digital Equipment (DEC) **Rome**

Working at the Italian headquarters in Rome delivered Pre and post sales consulting for large contracts, mainly for the Italian Government, on subjects such as Databases, Groupware and Workflow Management, Unix architectures, systems and database tuning. Customization of LinkWorks (Digital product for Workflow and Knowledge Management)

1988-1992 **Principal Engineer / Project leader (20 people)**

Digital Equipment (DEC) **Varese (Italy), Nashua (engineering headquarters, U.S.A.)**

Implementation of POSIX Open System Standard interfaces on the VMS operating system

Project leader for a project of strategic relevance for the whole corporation to make the company's proprietary operating system (DEC VMS) compliant with the Open Systems Standard Interface (POSIX). The project total effort was about 70 man years and included many technical and political challenges, since it involved major modifications to the VMS operating system, which was considered the company's best asset with annual revenues of over \$2 billion. Coordination of 3 project teams geographically distributed in Italy and the US; the final product was delivered in 1992 with successful execution of the X-Open test suite, and allowed Digital to claim POSIX compliance and change the operating system's name from VMS to OpenVMS.

The project was presented at several international conferences.

Tools: C, VMS, Unix

1987 Senior Software Engineer/Unix System Specialist / Team leader
Olivetti Spa Computer/consulting multinational (largest computer manufacturer in Italy)

Technical leader for the central UNIX engineering support group (10 people). Responsibility for defining systems architectures, systems tuning, pre- and post-sales assistance to major customers across Europe.

Delivered successful consultancy to many strategic projects all over Europe.

Designed a customization to the character device driver of the UNIX operating system, working at Bell Labs (U.S.A.)

1981-1986 Senior Software Engineer/Unix System Specialist / Project leader
Systems & Management Largest privately owned consulting company in Italy

Ported the UNIX system kernel to new hardware platforms for Honeywell/Bull and Italtel. These projects were carried out in cooperation with Unisoft (Berkeley, CA), world leader in UNIX kernel porting.

Designed and delivered training courses based on Structured Analysis and Design (Yourdon, De Marco, Constantine, Page, Jones).

Participated in many different projects as a team member or project leader, including C coding on UNIX systems and relational database design (Oracle, Informix).

As an analyst/programmer, developed Cobol and PL/I code on IBM MVS platforms for banks and manufacturing companies like Banca San Paolo and L'Oreal Paris.

Founded the Italian Unix Users Group (IUUG) and organized the EUUG European conference in Florence (1986)