

TECHNOLOGY TRANSFER PRESENTS

RICK VAN DER LANS

Practical Guidelines

for Designing

Modern Data Architectures

ONLINE LIVE STREAMING

MAY 23-24, 2024



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ABOUT THIS SEMINAR

Digital transformation, the Data-driven organization, and the 'data economy' are popular topics in boardrooms today. Regardless of what these terms exactly mean, it means that organizations want to do more with data. Data has to be deployed more widely, more efficiently, and more effectively to improve their business and decision-making processes and to increase their competitive power. Technically, this implies that new forms of data usage must be deployed, such as Data Science, self-service BI, embedded BI, edge analytics, and customer-driven BI.

Unfortunately, current IT systems such as the Data Warehouse and the transactional systems, can no longer cope with these new, more intense, and resource-intensive forms of data usage. The current data Architecture for Data Delivery is already overstretched. Some of these systems are over twenty years old and many changes and extensions have been applied. They can't process the ever-increasing workload. Additionally, because they have become static and inflexible, implementing new reports and executing new forms of analytics have become very time consuming. In other words, the current data-Architecture can't cope with today's current 'speed of business change'.

The effect is that, understandably, countless organizations have decided to develop a new and future-proof data Architecture. However, this is easier said than done. You don't design data Architectures every day. Which new technologies are available today? What is the influence of new technologies on the Architecture, such as Hadoop, NoSQL, Big Data, Data Warehouse automation, and data-streaming? Which new architectural principles should be applied? How do we handle the new rules and regulations for data storage and analysis? And what is the influence of Cloud platforms?

This two-day seminar answers most of the common questions architects have when designing a modern data Architecture. This is done through guidelines, tips, and design rules. Concepts and technologies, such as Data Lakes, Big Data, Data Vault, Cloud, data virtualization, Hadoop, NoSQL, Data Warehouse automation, and anonymization of data are discussed.

The seminar is based on practical experiences while designing and implementing modern data Architectures. Also, the relationship between a modern data Architecture and more organizational aspects are addressed as well, including data quality, data governance, data strategy, and the migration to a new Architecture.

WHAT YOU WILL LEARN

- What are the steps to take to come up with the perfect data Architecture? From requirement analysis via proof of concepts to a data Architecture
- What is the importance of a holistic approach to analyzing technology, organization, and architecture in conjunction?
- What are real life examples of new data Architectures?
- How can the new technology use optimally within a new data Architecture?
- How do you develop a data Architecture?
- Which components make up a data Architecture?
- What are the use cases, pros and cons of new technologies and how do they influence data Architectures?
- What is the value of well-known reference Architectures, such as the Lambda Architecture, the Logical Data Warehouse Architecture and the Data Lake? What are the right criteria for a data Architecture?

WHO SHOULD ATTEND

- Business Intelligence Specialists
- Data Analysts
- Data Warehouse Designers
- Business Analysts
- Data Scientists
- Technology Planners
- Technical Architects
- Enterprise Architects
- IT Consultants
- IT Strategists
- Systems Analysts
- Database Developers
- Database Administrators
- Solutions Architects
- Data Architects
- IT Managers

OUTLINE

1. Introduction; what is a data Architecture?

- Why a new data Architecture?
- Examples of real life data Architectures
- What are the key elements of a data Architecture?
- What are the differences between a data Architecture and a solutions-Architecture?
- From batch via Lambda to the Kappa Architecture
- Benefits, drawbacks, and shortcomings of well-known reference Architectures, such as the classic Data Warehouse Architecture, the Data Lake, and transactional systems
- From vision to implementation plan

2. Overview of new technologies for Data Storage, Data Processing, and Data Analytics

- Benefits, drawbacks, features, and use cases of each technology
- Data Storage: analytical SQL, NoSQL, Hadoop, cubes
- Data Integration: ETL, Data virtualization, Data replication, Data Warehouse Automation, Enterprise Service Bus, API gateways
- Data Cleansing: home-made, professional
- Data Streaming: messaging, Kafka, streaming SQL
- Data Documentation: data glossary, data catalog, metadata management
- Reporting tools: self-service BI, dashboards, embedded BI
- Data Science tools: programming languages, such as R and Python, Machine Learning Automation tools, Data Science Workbenches
- Data Security: anonymization, authorization

3. Design Aspects for Data Architectures

- First the technology or first the data Architecture?
- The importance of reusable transformation specifications for e.g. integration, filtering, correcting, and aggregation of data
- Influence of specialized technology on data Architectures

- Why migration to the Cloud: unburdening, high performance, scalability, available software?
- Are all software products suitable for the Cloud?
- Design principles for dealing with data history and data cleansing
- Generating a Data Warehouse Architecture with Data Warehouse Automation tools
- New requirements for transactional systems, such as storing historic data and continuous logging
- The influence of GDPR: deleting customer data
- Responsibility of Data Quality

4. Innovative New Data Architectures

- The Logical Data Warehouse Architecture as an Agile alternative
- Design rules, do's and don'ts for a Logical Data Warehouse Architecture
- From a single-purpose to a multi-purpose Data Lake
- Requirements for implementing Data Science models, such as transparency, immutability, and version control
- The changing role of the Data Lake: from data delivery system for Data Scientists to a platform for storing all the enterprise and external data
- A Data Streaming Architecture; when every microsecond counts
- Technical challenges: performance, inconsistent data streams, storing massive amounts of messages for Analytics afterwards
- Operationalization of Data Science models
- Merging data Architectures to one unified Data Delivery platform
- Differences between Data Hub and Data Warehouse
- The data marketplace: From taylor-made to ready-made

5. Action Plan for Developing a Complete and Correct Data Architecture

- What is the business motivation for a new data Architecture; ICT cost reduction, competitive improvement, new business model, new laws and regulations, improving reaction speed to business demands, or more efficient exploitation of available data?
- The importance of a business strategy and data strategy and the relationship with the data Architecture
- Who are the stakeholders and what is the C-level support?
- Maturity level of the ICT organization
- Description of the current data Architecture; data flow, data storage, quantities, and technologies in use
- Stock-taking of current bottlenecks: business and ICT, performance, functionality, costs, ICT organization and the immediate environment
- Restricting aspects: laws and regulations, budget, software and systems that have to remain
- Requirements and needs of the new data Architecture: financial, available expertise, software, quantities, uptime, speed of Data Delivery, and level of unburdening
- Architecture and design principles
- Current and future forms of data usage: standard reports, self-service BI, Data Science, customer-driven, mobile apps
- Forms of data usage: batch, manual internally, manual externally, and sensors
- Data types in use: structured, unstructured, audio, video, text, and geo/gis
- Status of the data Architecture project: which choices must be made, which steps to take, why does the project falter, is a PoC or Pilot required, what are key questions in a RfI, convincing the organization

SPEAKER

Rick van der Lans is a highly-respected independent analyst, consultant, author, and internationally acclaimed lecturer specializing in data warehousing, business intelligence, big data, and database technology.

He has presented countless seminars, webinars, and keynotes at industry-leading conferences. He also helps clients worldwide to design their data warehouse, big data, and business intelligence architectures and solutions and assists them with selecting the right products. He has been influential in introducing the new logical data warehouse architecture worldwide which helps organizations to develop more agile business intelligence systems.

Over the years, Rick has written hundreds of articles and blogs for newspapers and websites and has authored many educational and popular white papers for a long list of vendors. He was the author of the first available book on SQL, entitled including Introduction to SQL, which has been translated into several languages with more than 100,000 copies sold. More recently, he published his book **Data Virtualization for Business Intelligence Systems**.

He presents seminars, keynotes, and in-house sessions on Big data and analytics, data virtualization, the logical data warehouse, data warehousing and business intelligence.

INFORMATION

<p>PARTICIPATION FEE</p> <p>€ 1100</p> <p>The fee includes all seminar documentation.</p> <p>SEMINAR TIMETABLE</p> <p>9.30 am - 1.00 pm 2.00 pm - 5.00 pm</p>	<p>HOW TO REGISTER</p> <p>You must send the registration form with the receipt of the payment to: info@technologytransfer.it</p> <p>TECHNOLOGY TRANSFER S.r.l. Piazza Cavour, 3 - 00193 Rome (Italy)</p> <p>PAYMENT</p> <p>Wire transfer to: Technology Transfer S.r.l. Banca: Cariparma Agenzia 1 di Roma IBAN Code: IT 03 W 06230 03202 000057031348 BIC/SWIFT: CRPPIT2P546</p>	<p>GENERAL CONDITIONS</p> <p>DISCOUNT</p> <p>The participants who will register 30 days before the seminar are entitled to a 5% discount.</p> <p>If a company registers 5 participants to the same seminar, it will pay only for 4.</p> <p>Those who benefit of this discount are not entitled to other discounts for the same seminar.</p> <p>CANCELLATION POLICY</p> <p>A full refund is given for any cancellation received more than 15 days before the seminar starts. Cancellations less than 15 days prior the event are liable for 50% of the fee. Cancellations less than one week prior to the event date will be liable for the full fee.</p> <p>CANCELLATION LIABILITY</p> <p>In the case of cancellation of an event for any reason, Technology Transfer's liability is limited to the return of the registration fee only.</p>
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Registration fee:
€ 1100

If registered participants are unable to attend, or in case of cancellation of the seminar, the general conditions mentioned before are applicable.

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