

# BIG DATA, NoSQL, NewSQL AND ANALYTICS

Vendor-independent overview of the building blocks  
for tomorrow's innovative database applications

*27th of February 2014 (14-21h), Golden Tulip Brussels Airport*

## Why do we organize this seminar ?

Today, Big Data, Hadoop, NoSQL, NewSQL, analytical database servers, MapReduce, appliances are all very popular terms in the IT industry. But are these just all hypes? Is this exotic technology only for Facebook and Twitter-like websites? Was the relational database not the one-size-fits-all solution for all your information management problems after all? Can Big Data and NoSQL be valuable for more traditional enterprises like yours?

This seminar discusses and positions these new developments clearly, and explains why and how they can be relevant for any organisation. Our speaker Rick van der Lans is a database-expert pur sang, very familiar with relational database technology and SQL, who has witnessed the rise (and sometimes fall) of many other database technologies, like hierarchical and network databases, object databases, XML databases and now also NoSQL, NewSQL, streaming and analytical databases. Rick offers you the knowledge and insights you need to make the right choices in the big data revolution, and to put NoSQL, NewSQL, analytical database servers and big data in a broader, pragmatic perspective.

## This seminar answers these and many other questions:

- What exactly do we mean with Big Data and NoSQL, and why/when can this be useful for you?
- Which NoSQL implementations exist, and what is their status?
- What are the properties and advantages/disadvantages of analytical database servers?
- What are key-value, document, column-family and graph stores?
- For which applications are these concepts and tools most useful?
- How do we unlock the power of big data databases for reporting and analysis, and what is meant with the "SQL-fication of NoSQL"?
- Where is the Big Data, NoSQL, NewSQL and analytical database revolution going?
- What exactly is NewSQL and why/when can this be useful for you?

## Who should attend this seminar ?

This seminar is intended for anyone who wants to learn about the newest developments in the database world, including (but not limited to):

- database specialists,
- database administrators,
- datawarehouse- and database designers,
- database- and business intelligence experts,
- consultants,
- technology planners,
- project managers,
- system and infrastructure analysts,
- ...



## Our Speaker:

### RICK VAN DER LANS

is an independent consultant, speaker and author, specializing in business intelligence (BI), data warehousing, application integration and database technology. He is the managing director and founder of R20/Consultancy. He is an internationally acclaimed speaker who has lectured worldwide for the last 25 years.

He is a driving force of the successful annual Enterprise Data and BI Conference Europe held in London and many other conferences worldwide.

Rick has advised many large companies worldwide on defining their datawarehousing and BI architectures. He is the author of several books on computing, including the popular Introduction to SQL. Some of his books are available in English, Chinese, Dutch, Italian and German. He is the author of the successful books SQL for MySQL Developers, The SQL Guide to Ingres and has just published a new book "Data Virtualization for Business Intelligence Systems". Rick writes regularly for the B-eye-Network.

Rick may be contacted by sending an email to [info@r20.nl](mailto:info@r20.nl) and followed on Twitter via [@rick\\_vanderlans](https://twitter.com/rick_vanderlans).

## Registration Conditions:

This seminar is organized by I.T. Works.  
You can register online at [www.itworks.be](http://www.itworks.be)  
The seminar price is 720 EUR (+21% VAT)

During this unique, exclusive event,  
you can also meet leading vendors of big data,  
NoSQL and analytics solutions.

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## 13h30 REGISTRATION AND COFFEE/THEE

## 14h00 INTRODUCTION

- The history of database servers: from file servers to database servers
- How important are concepts such as declarative language and storage independence?
- Trends in the database market
- The need for more data scalability and query performance

### BIG DATA: HYPE OR REALITY?

- What exactly do we mean with Big Data ?
- The key application area of Big Data: business analytics
- The four V's of big data: volume, variety, velocity, and variability
- Differences between semi-structured, poly-structured, multi-structured, and unstructured data
- Examples of Big Data: sensor data, (micro-)event data, and clickstream data
- What is the value of Big Data for your organisation ?
- What does big data have to offer for retail, utilities, banking, insurance, ... companies ?

### NoSQL DATABASE STORES

- Classification of NoSQL products: key-values stores, document stores, column-family stores, and graph data stores
- It's all about data scalability and performance
- NoSQL and clusters, replication and sharding
- New transaction concepts like the CAP theorem, eventual consistency, replication factor and partition tolerance
- Why is schema-on-read more flexible than schema-on-write ?
- How does MapReduce work ?
- The Hadoop stack: HDFS, MapReduce, Hive, ZooKeeper, Pig, Impala, ...
- Are NoSQL products really database servers?
- Market overview, including Apache Hadoop, HBase and CouchDB, Cassandra, Cloudera, DataStax, IBM InfoSphere BigInsights, InfiniteGraph, MapR, Microsoft HDInsight Server and Windows Azure SQL Database, MongoDB, Neo4j, Oracle Big Data Appliance and Riak
- Productivity and maintenance implications of working with a low-level API instead of SQL
- Application areas of NoSQL database servers

## 15h45 COFFEE/TEA BREAK WITH REFRESHMENTS, VENDOR EXPO & NETWORKING OPPORTUNITY

## 16h00 ANALYTICAL SQL DATABASE SERVERS

- Classification of analytical SQL database servers, and can they compete with NoSQL products?
- The advantages and disadvantages of column-based database servers
- How important is in-database analytics?

- Is loading databases into internal memory the solution? Is it feasible?
- Market overview, including Actian VectorWise (Ingres) and ParAccel, EMC/Greenplum, Exasol, HP/Vertica, IBM/Netezza, Kognitio WX2, Microsoft PDW, Oracle Exalytics, SAP HANA, Sybase IQ, Teradata Appliance and Teradata Aster Database

## 17h00 EXPLORING DATA IN NOSQL SYSTEMS USING SQL

- Copying data between Hadoop and SQL databases via ETL solutions like Sqoop, Flume and traditional ETL tools
- Making NoSQL data available for reporting and analysis through SQL interfaces - SQL-fication
- Examples of SQL interfaces, like Cassandra CQL, Microsoft Polybase, Cloudera Impala and Enterprise RTQ, Apache HiveQL, MapR Drill, ParAccel, Simba, Teradata and Quest Toad for Cloud Databases to open up Big Data solutions for reporting and analysis
- Data virtualization for unleashing the information hidden in NoSQL and SQL systems
- Live analysis of data via streaming databases
- Can NoSQL be used as an operational data store ?

## 17h45 DINNER BUFFET, VENDOR EXPO & NETWORKING OPPORTUNITY

## 19h00 DATA VIRTUALIZATION, NOSQL AND BIG DATA

- What is data virtualization?
- Differences between abstraction, data federation and data integration
- On-demand versus scheduled integration and transformation
- How data virtualization can open Big Data to the masses
- Joining data in NoSQL systems with data in classic systems
- Product overview, including those of Composite Software, Denodo, IBM, Informatica, RedHat, and Stone Bond

## 20h00 NEWSQL

- NewSQL means high-performance transactional SQL systems, based on shared-nothing architectures and supporting ACID-transactions
- Simpler transactional mechanisms
- Avoiding multi-table joins that can't be parallelized
- The use of geographical databases
- Market overview of NewSQL products, including Akiban, Clustrix, NuoDB, TransLattice VMware SQLFire, VoltDB
- What is the role of NewSQL tools in the big data world ?

## 20h45 Q & A, SUMMARY AND CONCLUSIONS

- When to use NoSQL?
- When to use which database technology?
- High-level overview of database market

## 21h00 END OF THIS SEMINAR

# REGISTRATION FORM

Fax (09) 241.56.56 Questions ? Call (09) 241.56.13 or Email seminars@itworks.be

Mr. /  Mrs.

Name : ..... Job title : .....

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If a Purchase Order number is required: .....

Date : ..... Signature : .....

Please complete and return this form by mail of fax to : I.T. Works, Innovatiecentrum, Technologiepark 3, 9052 Gent, fax: (09) 241.56.56.  
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