

TECHNOLOGY TRANSFER PRESENTS

# HANS HULTGREN

**DATA VAULT MODELING**

**JUNE 25-26, 2018**

RESIDENZA DI RIPETTA - VIA DI RIPETTA, 231  
ROME (ITALY)



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## **ABOUT THIS SEMINAR**

Today the Data Warehouse needs to be Agile. While there are many barriers to achieving Data Warehouse program agility, one of the issues has been the Data Modeling approach. With traditional techniques, the Data Warehouse quickly becomes hardened and difficult to change. Moving to Agile development techniques, based on incremental builds, is almost impossible. Why? Because we ultimately need to do a great deal of re-engineering of the data structures.

Enter Data Vault (DV). For the past 15 years companies around the world have been using a new Data Modeling technique that greatly improves agility - the Data Vault data modeling approach. The premise behind Data Vault is Unified Decomposition - basically this means we separate the things that change from the things that don't change. How this works: The existence of a person named "Hans" (for example) is always going to be true. So, the instances of Core Business Concepts (CBCs) are placed in their own data structures (Customer Hub, for example). Next the innate relationship that the Customer has with a Sale is also something that is not generally subject to change. This is a business-driven, foundational relationship that we capture in unique table structures (Links). Since no relationships are embedded they can be added without any re-engineering impact. Lastly the way we describe our CBCs can vary over time, vary by source, vary by type of data and also by rate of change. We use a set of separate tables to capture this context (Satellites). Because new attributes introduced in later iterations can be included in new Satellites, the Data Warehouse can accept new attributes without re-engineering. There are over 1500 Data Vault models in organizations today and the technique is growing rapidly.

The Data Vault modeling pattern is also very applicable to Big Data, Cloud, Virtual and Streaming deployments. Because the context is separated from the way CBCs and Relationships are stored, the context can take any form.

### **BENEFITS OF ATTENDING**

- The foundational pillars of the Data Vault modeling approach
- Through small group modeling exercises learn to translate requirements to DV models
- How to model a Data Warehouse using Data Vault (DV)
- To distinguish between encapsulated (3NF & Dimensional) versus ensemble (DV, etc.) modeling patterns
- To identify modeling scenarios that are best addressed by Data Vault
- To review and critique DV models for best practice compliance & optimal performance

### **AUDIENCE**

- Data Warehousing Professionals
- Data Modelers
- Data Architects
- Enterprise Architects
- CIOs
- ETL Developers
- Business Analysts
- Data Scientists and others who work with integrated data

# OUTLINE

## DAY 1

1. Welcome & Introductions
2. Data Warehouse Modeling
3. Ensemble Modeling
4. Data Vault Core Constructs
5. Comparing Modeling Methods
6. Tracking History
7. Information Modeling
9. Data Vault Modeling Process
10. First Small Group Case Exercise
11. Continue First Case
12. Class Discussion & Groups Present
13. Link Design & Exceptions
14. SAL & HAL
15. Business Key Topics
16. Disconnected & Reference Tables
17. Data Vault Unit of Work
18. Second Small Group Case Exercise
19. Wrap up for the Day

## DAY 2

1. Q&A from Day One
2. Continue Second Case
3. Class Discussion & Groups Present
4. Satellite Design & Exceptions
5. Expanded UOW & Keyed Instance
6. Modeling Address
7. Bike Shop Example
9. Applying the DV Ensemble
10. Standard and Expanded Attributes
11. Managing Dates/Bi-temporal Data
12. Third Small Group Case Exercise
13. Continue Third Case
14. Class Discussion & Groups Present
15. Architecture: RAW & BDV Layers
16. Hyper Forms and Unstructured
17. Deploying Big Data and Streaming
18. Virtualization
19. Wrap up for the Day

# INFORMATION

<p><b>PARTICIPATION FEE</b></p> <p>€ 1300</p> <p>The fee includes all seminar documentation, luncheon and coffee breaks.</p> <p><b>VENUE</b></p> <p>Residenza di Ripetta Via di Ripetta, 231 Rome (Italy)</p> <p><b>SEMINAR TIMETABLE</b></p> <p>9.30 am - 1.00 pm 2.00 pm - 5.00 pm</p>	<p><b>HOW TO REGISTER</b></p> <p>You must send the registration form with the receipt of the payment to: TECHNOLOGY TRANSFER S.r.l. Piazza Cavour, 3 - 00193 Rome (Italy) Fax +39-06-6871102</p> <p><b>within</b> <b>June 11, 2018</b></p> <p><b>PAYMENT</b></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><b>GENERAL CONDITIONS</b></p> <p><b>DISCOUNT</b></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><b>CANCELLATION POLICY</b></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><b>CANCELLATION LIABILITY</b></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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June 25-26, 2018  
Residenza di Ripetta  
Via di Ripetta, 231  
Rome (Italy)

Registration fee:  
€ 1300

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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## ***SPEAKER***

**Hans Hultgren** is a DWBI, Data Modeling & Big Data Advisor, Trainer & Author. He is President at Genesee Academy, LLC and a Principal at Top Of Minds AB. Hans works in the areas of Data Modeling, Data Warehousing, Business Intelligence and Big Data as an educator, author, speaker, and advisor. Currently Hans is working on Business Intelligence and Enterprise Data Warehousing (EDW) with a focus on Ensemble Modeling and Data Vault. Hans has spoken at events internationally in the Nordics, EU, USA and AU/NZ. He is primarily located in Stockholm, Amsterdam, and Denver, Colorado. Hans was a professor at the University of Denver for 20 years and while there started a masters of science program in Data Warehousing and Business Intelligence. For the past 10 years, since it was formed, Hans has been working on global training programs at Genesee Academy, LLC. Hans published the Data Modeling book Modeling the Agile Data Warehouse with Data Vault which is available on Amazon websites in both print and Kindle.