

# Unraveling the Quandary of Access Layer versus Storage Layer Security

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Dr. Jans Aasman was quoted in this article about how AllegroGraph's Triple Attributes provide Storage Layer Security.

With horizontal standards such as the General Data Protection Regulation (GDPR) and vertical mandates like the Fair Credit Reporting Act increasing in scope and number, information security is impacted by regulatory compliance more than ever.

Organizations frequently decide between concentrating protection at the access layer via role-based security filtering, or at the storage layer with methods like encryption, masking, and tokenization.

The argument is that the former underpins data governance policy and regulatory compliance by restricting data access according to department or organizational role. However, the latter's perceived as providing more granular security implemented at the data layer.

*A hybrid of access based security and security at the data layer—implemented by triple attributes—can counteract the weakness of each approach with the other's strength, resulting in information security that **Franz CEO Jans Aasman** characterized as “fine-grained and flexible enough” for any regulatory requirements or security model.*

*The security provided by this semantic technology is considerably enhanced by the addition of key-value pairs as JSON objects, which can be arbitrarily assigned to triples within databases. These key-value pairs provide a second security mechanism “embedded in the storage, so you cannot cheat,” Aasman remarked.*

*When implementing HIPPA standards with triple attributes, “even if you’re a doctor, you can only see a patient record if all your other attributes are okay,” Aasman mentioned.*

*“We’re talking about a very flexible mechanism where we can add any combination of key-value pairs to any triples, and have a very flexible language to specify how to use that to create flexible security models,” Aasman said.*

Read the full article at [InfoSecurity](#).

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# **Franz Delivers First Real-time N-Dimensional Analysis for Big Data**

***Doors Open to New Life-Saving Applications in Personalized Medicine and Public Safety***

**OAKLAND, Calif. – July 13, 2015 –** Franz Inc., the leading supplier of Semantic Graph Database technology, today

announced announced that the company has added patented N-dimensional analysis capabilities to its flagship product, AllegroGraph, marking the first time data scientists can answer complex SPARQL queries across multiple dimensions over billions of records in sub-second time. This technologic breakthrough is propelling new applications in areas such as Personalized Medicine, Insider Threat Detection, National Intelligence, Defense, Cyber Security and Law Enforcement.

AllegroGraph is the first Graph Database to support analysis across N-dimensions – any conceivable measurement of an object, property or operation. For example, AllegroGraph can analyze temporal (time) and geospatial (location) dimensions relative to any ‘event,’ such as a disease, drug interaction, genetic combination, sound, temperature, image, social media post or physical sensor.

“You can capture event data, even multi-dimensional event data, in any data store,” stated Robin Bloor, co-founder and Chief Analyst of The Bloor Group. “The real need is to store and manage the data in an intelligent way and to build applications on top of it. This is where AllegroGraph (from Franz Inc.) shines. It is an RDF Graph database – although in my view, it is best thought of as a platform that is particularly suited for building apps that process event data.” (Source: Inside Analysis, Events that Change the World, June 8, 2015)

“Expanding the number of dimensions in data also grows the number of interrelationships among data,” said Dr. Jans Aasman, CEO, Franz Inc. “In the past, multi-dimensional analysis has required ‘supercomputing’ techniques and technologies, which has deterred many important types of analysis in healthcare, public safety, agriculture and other areas. But by leveraging the unique ‘many-to-many’ attribute of graph database technology with the semantic query capabilities possible with AllegroGraph, we were able to overcome the historic performance issues that have plagued

high-dimensional data analysis for event processing.”

AllegroGraph is a high performance Semantic Graph Database that enables analytics by leveraging the W3C industry standards and enables businesses to extract sophisticated decision insights and predictive analytics from highly complex, distributed data that cannot be uncovered with conventional databases.

“Because it (AllegroGraph) is a Graph database, it can store pretty much any kind of data and query it, not just in the time-worn relational fashion, but also in a graphical manner – carving out graphical maps of relationships. And on top of that, it can apply semantics to deduce as-yet-undiscovered knowledge from the data. Its capabilities are very broad, and they provide a glimpse of the shape of things to come,” added Bloor.

Unlike traditional relational databases or Property Graph Databases, AllegroGraph employs semantic graph technologies that process data with contextual and conceptual intelligence. AllegroGraph is able run queries of unprecedented complexity to support predictive analytics that help organizations make more informed, real-time decisions.

“Previous technology supported searching and reasoning over two-dimensional geospatial data, whereas more recent technology supports three-dimensional geospatial data,” according to David Frankel, a 30 year technology industry veteran, technical strategist, architect and programmer. “But AllegroGraph can search and reason over an open-ended number of additional dimensions. Thus these new facilities are not merely three-dimensional, because there is no restriction to three dimensions. It is more accurate to use the term N-dimensional to describe the nature of graph databases and related applications that use these new facilities.” (Source: Datanami, Multidimensional Graph Data Open the Door to New Applications, June 2, 2015)

Franz is working with partners and customers to apply AllegroGraph's N-dimensional analysis in the areas of Personalized Medicine, Insider Threat Detection and National Intelligence/Defense. Given there is no restriction to the number of dimensions, this powerful technology can help predict, prevent and mitigate the impact of high-risk events.

## **Personalized Medicine**

Healthcare generates and processes huge volumes of information. The ability to access all this data interactively and in real-time is key to making Personalized Medicine a reality. Using AllegroGraph Semantic Graph databases that enable N-dimensional graphical analysis over new combinations of data – including individual patient information, genetic data, medical device images, clinical trials, drug information and public health data – will fuel discoveries, significantly improve efficiencies and personalize care.

## **Insider Threat Detection**

There is growing risk that nations, companies and organizations face from insider threats. In most tragedies that involve an insider, there were strong signals that the person was at high risk for erratic or violent behavior beforehand. AllegroGraph's N-dimensional analysis can empower organizations to predict high-risk events or aid in crisis situations by bringing together knowledge dispersed within documents, spreadsheets and relational databases with data from social media posts, online searches, texts and telephony data from company-owned devices.

## **Intelligence, National Defense & Law Enforcement**

National intelligence, defense and law enforcement officers need to stay a step ahead of those who would do great harm by

analyzing massive-scale data across geographically dispersed locations, while simultaneously collaborating with diverse disciplines and respecting privacy, civil liberties and data handling policies. AllegroGraph's N-dimensional analysis empowers data analysts to anticipate emerging threats through timely access to highly granular data from disparate systems that contain a broad array of data, such as: unstructured message data, structured identity data, charts, spreadsheets, telephony data, documents, network data, sensor data, social media posts and images. Analysts can investigate incidents and discover connections between seemingly unrelated events to quickly uncover and predict terrorism threats, cyber attacks, national security threats and other types of hostile attacks.

## **About Franz Inc.**

Franz Inc. is an innovative technology company with expert knowledge in developing and deploying Graph Search solutions. AllegroGraph, Franz's flagship, high-performance, transactional, and scalable Graph Database, provides the solid storage layer for powerful Enterprise grade NoSQL solutions. AllegroGraph's Activity Recognition capabilities provides a powerful means to aggregate and analyze data about individual and organizational behaviors, preferences, relationships, plus spatial and temporal linkages between individuals and groups.

For additional Franz Inc customer success stories please visit:

- AllegroGraph – <https://allegrograph.com/customers/>
- Allegro CL – <http://franz.com/success/>

Franz's Professional Service team is in the business of helping companies turn Data into Information and Information into Knowledge. We combine Data, Business Intelligence, and Analytics consulting services under one roof for our customers.

Franz, an American owned company based in Oakland, California, is committed to market-driven product development, the highest levels of product quality and responsive customer support and service. Franz customers include Fortune 500 companies in the government, life sciences and telecommunications industries. Franz has demonstrated consistent growth and profitability since inception. For more information, visit [franz.com](http://franz.com).

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## **Franz's CEO, Jans Aasman to participate on a panel for a "Conversation on Data Privacy in a Rapidly Growing Connected World of Intelligent Machines"**

**OAKLAND, Calif. – June 1, 2015 –** Franz Inc.'s CEO, Dr. Jans Aasman, will participate on a panel for a "Conversation on Data Privacy in a Rapidly Growing Connected World of Intelligent Machines" being organized by the Netherlands Office for Science & Technology (NOST) June 23rd at the offices of the Consulate General of the Netherlands in San Francisco.

For everyone of us, the implications of sharing private information on social media are pretty much clear cut, be it perhaps for the lack of clarity of the user agreements and

privacy statements that go with those social media. What many people don't realize is how much of our data is floating around as we use our devices, ranging from cell phones to cars. And this situation will become more complex rapidly as those devices are becoming more intelligent and interconnected. At the same time, having all this data floating around provides great opportunity, for example for diagnosing illnesses, detecting fraud and making educated infrastructure decisions. So the timing is right for having a balanced Conversation on Data Privacy.

### **About NOST**

The Network of Science and Technology Attachès (Innovatie Attachè Network in Dutch) was founded in 1952 by the Dutch Ministry of Economic Affairs to provide quality information on technology and scientific developments in key innovation ecosystems around the world to Dutch businesses, knowledge institutes and the government. The Science and Technology Attachès are well informed about local science, technology and innovation developments as well as in the Netherlands. The organization is mandated to establish contacts and foster collaboration between the innovation community in the Netherlands and, in this case, the United States and Canada. The Attachès have developed extensive networks and provide introductions for Dutch businesses and researchers at an appropriate level in a variety of organizations. General technology intelligence is made available regularly to Dutch organizations and science community.

### **About Dr. Aasman**

Jans Aasman started his career as an experimental and cognitive psychologist, earning his PhD in cognitive science with a detailed model of car driver behavior using Lisp and Soar. He has spent most of his professional life in telecommunications research, specializing in intelligent user interfaces and applied artificial intelligence projects. From



1995 to 2004, he was also a part-time professor in the Industrial Design department of the Technical University of Delft. Jans is currently the CEO of Franz Inc., the leading supplier of commercial, persistent, and scalable RDF database products that provide the storage layer for powerful reasoning and ontology modeling capabilities for Semantic Web applications.

#### Accomplishments:

Dr. Aasman has gained notoriety as a conference speaker at such events as Semantic Technologies Conference, International Semantic Web Conference, Java One, Enterprise Data World, Semantics in Healthcare and Life Sciences, Linked Data Planet, INSA, GeoWeb, AAAI, NoSQLNow, Graph Data Management, RuleML, IEEE conferences, and DEBS to name a few.

#### About Franz Inc.

Franz's semantic technology solutions help bring Web 3.0 ideas to reality. The company is the leading supplier of commercial, persistent and scalable Graph Database products. AllegroGraph is a high-performance database capable of storing and querying billions of RDF statements. The product provides solutions for customers to combine unstructured and structured data using W3C standard RDF for creating new Web 3.0 applications as well as identifying new opportunities for Business Intelligence in the Enterprise. AllegroGraph's Activity Recognition package provides a powerful means to aggregate and analyze data about individual and organizational behaviors, preferences, relationships, plus spatial and temporal linkages between individuals and groups. Franz customers include Fortune 500 companies in the government, life sciences and telecommunications industries. For more information, visit [www.franz.com](http://www.franz.com).

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