

# AllegroGraph Certification on Cloudera Enterprise Creates a Semantic Graph Data Platform for Hadoop

*Leading Accountable Care Organization Gains Sophisticated Decision Insights from Complex, Distributed Big Data Using AllegroGraph and Cloudera Enterprise*

**OAKLAND, Calif. – February 8, 2016** – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology, today announced the availability of AllegroGraph 6, the leading Semantic Graph Database with certification on the latest release of Cloudera Enterprise through the Cloudera Certified Technology Program (CCPT). AllegroGraph is the first Semantic Graph Database to be certified on Cloudera Enterprise, the global provider of the fastest, easiest, and most secure data management and analytics platform built on Apache Hadoop and the latest open source technologies.

The combination of AllegroGraph and Cloudera Enterprise eases the integration of highly complex Big Data, including large public datasets, and enables real-time analytics across distributed data, while leveraging the world's highest performance and most cost effective storage. Enterprises can run queries of unprecedented complexity to enable predictive analytics and real time decision-making within a myriad of industries including Healthcare, Life Sciences, Financial Services, Intelligence/National Security and Publishing. The hardened platform can run mission-critical applications that require uncompromised data resiliency using features like ACID compliance to ensure data is never lost.

“As the availability of large public datasets continues to rise, many organizations are looking to leverage these datasets to enrich enterprise analytics,” said Tim Stevens, vice president of Business and Corporate Development at Cloudera. “A semantic graph approach to data sets provides a viable method to glean additional insights from data.”

“Today’s Big Data challenge is also a Cognitive Computing challenge,” said Dr. Jans Aasman, CEO of Franz Inc. “We need to combine unstructured data with structured data to fuel real-time analysis, predictive analytics and deep learning. But the ease of data integration largely depends on the type of database. With the Semantic flexibility of AllegroGraph, integrating databases is a virtually effortless, since the data can remain in its original databases and database designers do not have to create a schema up front. This capability is particularly valuable if organizations want to tap into the growing number of public datasets to enrich their analytics.”

The powerful combination of AllegroGraph and Cloudera plays a critical role in the Semantic Data Lake for Healthcare, a collaboration between Montefiore Health System (The leading Accountable Care Organization in the U.S), Franz, Cloudera, Cisco and Intel to provide a scalable and extensible Big Data Analytic platform for Healthcare. The SDL for Healthcare is a shared vision between Montefiore Health System and Franz, for constructing longitudinally integrated, semantically enriched, scalable and secured analytics infrastructure necessary for next generation learning healthcare systems, and precision medicine. The SDL deploys Montefiore’s innovative informatics solutions on Franz’s AllegroGraph and Cloudera’s Hadoop distribution, and enables modelers, data scientists and application developers to leverage complex information, biomedical knowledge-bases and ontologies, as well as the linked open data (LOD) for predictive modeling, care management, population and community health management,

health systems research, and clinical and translational research.

“The Semantic Data Lake for Healthcare will help us to connect the dots to better understand the determinants of outcome, cost, and patient satisfaction in a complex ecosystem in which patients and clinicians interact with each other, with the delivery of care system, and with the research enterprise,” said Dr. Parsa Mirhaji MD. PhD., Director of Clinical Research Informatics at Einstein College of Medicine and Montefiore Health System. “The problem is, there are billions of such dots that needs to be connected meaningfully, and reproducibly. The complexity is that there are many different principles, pathways, and theoretical frameworks on how those dots would connect, and we just don’t know which model or framework would yield the best answer. The SDL will enable us to address both the complexity, and scalability concerns efficiently, while maintaining a tight grasp on the semantic integrity and consistency of analysis over large, multi source, ever changing datasets.”

Dr. Mirhaji added, “The SDL embodies Montefiore’s incremental and measured approach towards Cognitive Computing in healthcare. Our ability to conduct real-time analysis over new combinations of data, to compare results across multiple analyses, and to engage patients, practitioners and researchers as equal partners in big-data analytics and decision support will fuel discoveries, significantly improve efficiencies, personalize care and ultimately save lives.”

“Information has always existed everywhere but has often been isolated, incomplete, unavailable or unintelligible,” according to Gartner. “Advances in semantic tools such as graph databases as well as other emerging data classification and information analysis techniques will bring meaning to the often chaotic deluge of information.” (Source: Gartner Identifies the Top Strategic Technology Trends for 2016.)

AllegroGraph has been widely recognized and endorsed within the industry as the popularity of Graph databases has skyrocketed – growing nearly 500% in the past two years. In 2015 AllegroGraph was named a Leading Database Solution by CIOReview and awarded Best in Semantic Web Technology & Leader in Graph Database Products by Corporate America. This year, PharmaTech Outlook has named Franz a Top Ten Solution Provider.

“Franz has been leading the burgeoning Graph Database revolution with a highly sophisticated, yet elegant Semantic Graph database solution,” said Harvi Sachar, Publisher & Founder, CIOReview. “Franz’s AllegroGraph continues to break new ground in predictive analytics and visual graph discovery capabilities- benefiting organizations around the globe within Healthcare, Intelligence/National Security, Life Sciences and Financial Services.”

## **About AllegroGraph**

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. AllegroGraph is the first Graph Database to support analysis across N-dimensions – any conceivable measurement of an object, property or operation. AllegroGraph can analyze temporal (time) and geospatial (location) dimensions relative to any ‘event,’ such as a disease, drug interaction, genetic combination, biomarkers, observations, image or physical sensors. AllegroGraph is utilized by dozens of the top Fortune 500 companies worldwide.

## **About Franz Inc.**

Franz Inc. is an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database

technology with expert knowledge in developing and deploying complex Big Data analytics solutions. AllegroGraph, Franz's flagship, high-performance, transactional, and scalable Semantic Graph Database, provides the solid storage layer for 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:

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# **AllegroGraph    Recognized    as**

# Best in Semantic Web Technology – USA & Leader in Graph Database Products

*Franz's AllegroGraph Fueling Rapid Growth in Graph Database Category*

**OAKLAND, Calif. – February 3, 2016** – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology has been recognized As “Best in Semantic Web Technology – USA & Leader in Graph Database Products” by Corporate America Software and Technology.

“At Corporate America, it’s our priority to showcase prominent professionals who are excelling in their industry and outperforming their competitors,” said Hannah Stevenson, Managing Group Editor, AI Global Media. “Franz Inc. have a reputation for innovation, utilizing their expert knowledge to create complex and exciting Graph Database solutions. Franz’s unique platforms offer highly scalable technologies for solving complex Big Data challenges.”

Corporate America is the definitive magazine for CEOs, top tier management and key decision makers across the US. Created to inform, influence, and shape the corporate conversation across the nation through high quality editorial, in-depth research and an experienced and dedicated network of advisers, Corporate America provides its readership with the most authoritative and current analysis of the major changes effecting the corporate landscape, and the latest deals and topical issues dominating the corporate universe. A multifaceted program, the awards are focused on rewarding excellence across all areas of the technology and software industries and all nominees are closely scrutinized to ensure

that only the most deserving receive Corporate America's prestigious awards.

"We are excited that Graph Databases, like AllegroGraph, have garnered the attention they deserve by Enterprise customers looking to innovate," said Dr. Jans Aasman, CEO, Franz Inc. "In today's data-driven environments, the ability to quickly analyze data from diverse sources is becoming critical. We are already seeing how Semantic Graph Databases with predictive analytics can help transform healthcare through Precision Medicine and make us safer through Insider Threat Detection."

"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. stated Robin Bloor, co-founder and Chief Analyst of The Bloor Group.

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A recent Forrester Research report stated, "Graph databases are a powerful optimized technology that link billions of pieces of connected data to help create new sources of value for customers and increase operational agility for customer service. Because graph databases track connections among entities and offer links to get more detailed information, they are well-suited for scenarios in which relationships are important, such as cybersecurity, social network analysis,

eCommerce recommendations, dependence analysis, and predictive analytics.” (Source: Forrester Research, Market Overview: Graph Databases, May 28, 2015)

Franz’s recent announcement of the first Semantic Data Lake (SDL) for Healthcare, which was created in collaboration with Montefiore Medical Center (the eighth largest hospital group in the U.S.), Intel, Cloudera and Cisco. The SDL for Healthcare is a scalable and extensible Healthcare platform designed for Accountable Care and Personalized Medicine initiatives. AllegroGraph has played a critical role in the Semantic Data Lake for Healthcare, by facilitating integration of complex information for basic science, clinical, population, community, environmental, behavioral and wellness research data to enable knowledge-based analytics, classification, pattern recognition, predictive modeling and simulations at scale.

## **About Corporate America**

Corporate America is more than just a magazine. Alongside our quarterly publication, we also produce a website that is regularly updated with the latest news, features, opinion and comment, again in conjunction with a host of top-level advisers, experts and businesspeople, and throughout the year, you’ll also get your chance to participate in our highly regarded awards programs, designed to pay tribute to the finest firms and individuals on the American business landscape.

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# **Franz's Vice President of Corporate Development to Keynote at the 11th International Knowledge Management in Organizations Conference (KMO 2016)**

OAKLAND, Calif. – February 2, 2016 – Franz Inc.'s Vice President of Corporate Development, Dr. Sheng-Chuan Wu, will be a keynote speaker at the 11th International Knowledge Management in Organizations Conference (KMO 2016) this July in Hagen, Germany. Knowledge Management is in the midst of a revolution. Traditional KM approaches have failed to meet the challenges posed by Big Data, mobility, social media, and customer demands. That's because the knowledge critical for customer service is everywhere, and new approaches are required to tap into its value. Continuing the success of the KMO conference series since 2005, the KMO 2016 conference will provide an international communication forum bringing together academia and industry for discussing the progress made and addressing the challenges faced by knowledge management.

## **Dr. Wu's talk, "Why Knowledge when Data Suffices"**

According to the classic knowledge pyramid, we turn the data we collect into information by applying its context. We then

interpret the information to derive knowledge from it. Our efforts on the management of knowledge stem from our belief that knowledge is what provides value to our endeavors. Is this paradigm still true with the explosive growth in Big Data? One of the most obvious examples is Google Translate. Despite employing machine learning on the massive multilingual text data instead of natural language understanding algorithms, Google Translate outperforms traditional natural language processing (NLP) methods when it comes to translation. Medical science is another potential example. Since the sequencing of the human genome in 1996, we have dreamed about treating patients more effectively based on their genomic profile. Such a dream remains elusive due to the complexity of system biology. On the other hand, major progress can be made in “targeted medicine” with machine learning on the massive patient medical data accumulated. In essence, we can uncover ways to directly help patients from the data without precisely knowing how it works exactly. Using Big Data to derive value brings another set of management problems, namely the heterogeneous nature of data sources and taxonomies, the massive volume of data, and the analytic processing requirements. Dr. Wu will discuss all these issues and show some examples at this talk.

## **About Dr. Wu**

Dr. Sheng-Chuan Wu received his Ph.D. in Scientific Computing and Computer Graphics from Cornell University in the US. He has, since graduation, involved in several software companies, including the founding of the first integrated CAD/CAM/CAE company. In the last 20 years, he worked as a senior corporate executive at the leading Artificial Intelligence and Semantic Technology company, Franz Inc in Silicon Valley, with responsibility in application development, marketing, consulting and new business development. Dr. Wu has also in many occasions collaborated with Bioinformatics experts from Harvard Medical School, Stanford University and Astra Zeneca,

working with massive biological data.

Dr. Wu has been focusing on Semantic Technology over the last 8 years. He routinely lectured on AI and Semantic Technology at conferences. He has, since 2007, conducted more than 20 week-long workshops on Semantic Technology and Artificial Intelligence in Malaysia, China, Singapore, India and other Asian countries. Dr. Wu has also consulted on several Big Data and Semantic Technology projects in the US and Asia. Some of the projects include: Biodiversity Repository, Precision Agriculture for Citrus Plantation, Telecom Customer Relation Management, Malaysia R&D Knowledgebase, Intelligence analytics, Meta Data Management, Smart City and E-Learning System.

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# **AllegroGraph Recognized Among Top 10 Analytics Solution Providers by Pharma Tech Outlook**

***Franz's AllegroGraph powers Pharma Analytics for Sophisticated Decision Insights from Complex, Distributed Big Data***

**OAKLAND, Calif. – January 28, 2016** – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology has been named to Pharma Tech Outlook's Top 10 Analytics Solutions Providers for 2016.

"Franz Inc. has been selected as a Top 10 Analytics Solution Provider after careful evaluation across a dozen quantitative and qualitative elements," said Stacey Smith, Editor of Pharma Tech Outlook. "Our selection process takes into consideration a company's experience, industry recognition, technical certifications, market presence and positive client reviews. Franz Inc. and their Semantic Graph Database, AllegroGraph,

are clear market leaders for Analytics in the Pharmaceutical Industry.”

Pharma Tech Outlook covers the latest developments in the pharmaceutical industry. They provide valuable updates – news, views and trends, expert opinions, studies, discoveries, R&D and clinical trials – essential for decision-makers in the industry. Covering all the novel outcomes, Pharma Tech Outlook aims at contributing to the transformation of innovations into services as well as creating a healthy and productive society.

Pharma Tech Outlook’s “Top 10 Analytics Solution Providers” are selected annually by a panel of experts and members of Pharma Tech Outlook’s editorial board to recognize and promote technology entrepreneurship.

“Using AllegroGraph, Enterprises can run queries of unprecedented complexity to enable predictive analytics and real time decision-making within a myriad of industries including Healthcare, Life Sciences, Financial Services, and Publishing,” said Jans Aasman, CEO of Franz Inc. “Integrating databases is a virtually effortless which is particularly valuable if organizations want to tap into the growing number of public datasets to enrich their analytics.”

“Information has always existed everywhere but has often been isolated, incomplete, unavailable or unintelligible,” according to Gartner. “Advances in semantic tools such as graph databases as well as other emerging data classification and information analysis techniques will bring meaning to the often chaotic deluge of information.” (Source: Gartner Identifies the Top Strategic Technology Trends for 2016.)

A recent Forrester Research report stated, “Graph databases are a powerful optimized technology that link billions of pieces of connected data to help create new sources of value for customers and increase operational agility for customer service. Because graph databases track connections among

entities and offer links to get more detailed information, they are well-suited for scenarios in which relationships are important, such as cybersecurity, social network analysis, eCommerce recommendations, dependence analysis, and predictive analytics.” (Source: Forrester Research, Market Overview: Graph Databases, May 28, 2015)

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## **About Pharma Tech Outlook**

Pharma Tech Outlook is an online and a monthly magazine which covers most important and latest developments in the pharmaceutical industry. Through nominations and consultations with industry leaders, its editors choose the best in Pharma domains. Pharma Tech Outlook’s December-January Edition is an annual listing of Top 10 Analytics Solution Providers. For more information, visit the website at: <http://www.pharmatechoutlook.com/>

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# Franz's Gruff Produces Dynamic Visual Discovery for Graph Analytics

*Gruff and AllegroGraph Power Visual Graph Search and Visual Query Building for Banking, Healthcare, Pharma Discovery and Security Applications*

**OAKLAND, Calif. – November 2, 2015** – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology, today announced Gruff v6.0, the industry's leading Graph Visualization software for exploring and discovering connections within data. Gruff provides novice users and graph experts the ability to visually build queries and visualize connections between data without writing code, which speeds discovery and enhances the ability to uncover hidden connections within data.

"Gruff allows for easy viewing of graph style data and provides an easy on-ramp for non-technical users to explore connections in their data," said Dr. Jans Aasman, CEO of Franz Inc. "Users can easily create queries visually, without becoming a query language expert, which further empowers the business user for this technology. Power users also benefit by creating ever more detailed queries in order extract knowledge from their data."

Gruff v6.0 produces dynamic data visualizations that organize connections between data in views that are driven by the user. This visual flexibility can instantly unveil new discoveries and knowledge that turn complex data into actionable business insights. Gruff was developed by Franz to address Graph Search in large data sets and empower users to intelligently explore graphs in multiple views including:

- Graphical View – See the shape and density of graph data
- Tabular view – Understand objects as a whole
- Outline view – Explore the often hierarchical nature of graphs
- Query view – Write Prolog or SPARQL queries
- Graphical Query Builder – Create queries visually via drag and drop

Franz was recently named by CIOReview as one of the Top 20 Most Promising Database Solutions providers, due in part to the unique discovery capabilities offered by the combination of Gruff and AllegroGraph, Franz's Semantic Graph Database technology.

“Franz has been leading the burgeoning Graph Database revolution with a highly sophisticated, yet elegant Semantic Graph database solution,” said Harvi Sachar, Publisher & Founder, CIO Review. “Franz's AllegroGraph continues to break new ground in predictive analytics and visual graph discovery capabilities- benefiting organizations around the globe within Healthcare, Intelligence/National Security, Life Sciences and Financial Services.”

The popularity of Graph databases has skyrocketed – growing nearly 500% in the past two years, according to a ranking by DB-Engines. One reason for this growth is interest in using graph databases, rather than relational databases, to store master data. Graph databases offer a 360-degree view of master data and can answer questions about data relationships in real time, providing new, actionable insights from existing data.

A recent Dataversity article by Jelani Harper noted, “There is a considerable degree of complexity in MDM systems in a business climate impacted by Big Data, especially for systems centered on customer domains. Numerous external sources (including social media and various forms of sentiment analyses) considerably complicate key relationships for products and customers. The deployment of graph databases, such as Franz’s AllegroGraph, with MDM can simplify these relationships by visually representing the way that different categories of an organization’s core business—based on ontologies—relate to one another.”

Gruff and AllegroGraph also play a pivotal role in the Semantic Data Lake for Healthcare. A collaboration with Franz Inc., Montefiore Medical Center (the eighth largest hospital in the U.S.), Intel, Cloudera and Cisco, to provide a scalable and extensible Healthcare platform designed for Accountable Care and Personalized Medicine initiatives.

“Making sense out of big data is a challenge, particularly in the healthcare industry where information comes from a variety of sources and in different forms including structured, unstructured, images, temporal, geo-location and signal data,” said Dr. Aasman, “With Gruff as part of the Semantic Data Lake platform, we can perform visual data exploration to discover new relationships between data that can save lives and improve care.”

Franz Inc. will host a Webcast on November 18th at 10AM PST, “Enriching the Property Graph with Relationship Objects,” which will demonstrate the power of Gruff and AllegroGraph for an online banking application, a fraud detection application for a European tax office, a machine learning application in healthcare and the CrunchBase investment database.

# Gruff 6.0 Availability

Gruff 6.0 is available as a free download from the AllegroGraph website. The product runs on Mac OSX, Windows, Linux and is offered as a standalone application or client-server for remote users.

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# **Franz Allegro Common Lisp Meets Demand for High Performance Artificial Intelligence in Big Data Applications**

*Allegro CL 10 Gains Parallel Memory Management to Power  
Complex, Mission-critical Applications that are Robust,  
Extensible and Easy to Evolve*

**OAKLAND, Calif. – October 7, 2015** – Franz, Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Common Lisp (CL) development tools and Semantic Graph

Database technology, today announced Allegro CL 10, which includes key performance enhancements now available within the most effective system for developing and deploying applications to solve the problems in the field of Artificial Intelligence.

“Demand for faster, more intelligent and scalable applications is increasing with the Big Data onslaught that is impacting applications in traditional AI industries like National Defense, but also in Life Sciences, Manufacturing and Financial Analytics,” said Dr. Jans Aasman, CEO of Franz Inc. “The complexity of today’s software applications and the explosion of data size is pervasive. With Allegro CL 10, machine intelligence developers now have a high performance tool to scale their applications and deliver innovative products to market.”

Interest in Artificial Intelligence has surged recently. According to CB Insights data, venture capital investments in companies developing and commercializing AI-related products and technology have exceeded \$2 billion since 2011.

“Common Lisp remains one of the best languages for Artificial Intelligence applications, its flexibility enables rapid experimentation and deployment”, said Professor Ken Forbus, Walter P. Murphy Professor of Computer Science at Northwestern University. “Today’s Lisp compilers are robust and flexible allowing development entirely within Lisp or in combination with other languages. For example, our CyclePad system for helping engineering students learn thermodynamics is written entirely in Allegro CL. Similarly, our sketch understanding system, CogSketch, which is a novel platform for both cognitive science research and education is primarily written in Allegro CL with two modules in C.”

Allegro CL is a powerful, dynamic Artificial Intelligence development system that is especially well-suited for enterprise-wide, machine intelligence development. Now

applications with billions of objects are made easy with Allegro CL 10, the industry's leading Common Lisp based development environment. Allegro CL 10 delivers parallel memory management capabilities including parallel garbage collection and fast memory recycling.

"Allegro CL 10 confirms Franz's commitment to providing a leading Common Lisp platform," said Jason Cornez, CTO, RavenPack. "The upgrade path is completely smooth and the under-the-hood improvements, especially in the garbage collector, make it a worthy successor to what remains one of the best environments for developing and delivering amazing software."

"Financial professionals rely on RavenPack for its speed and accuracy in analyzing large amounts of unstructured content. RavenPack's clients use news analytics to enhance returns, reduce risk or increase efficiency by systematically incorporating the effects of public information in their models or workflows." stated Dr. Aasman. "Allegro CL's new capabilities will continue to facilitate Ravenpack's low latency text and sentiment analysis that they deliver as a real-time data feed."

"Allegro CL 10 with AllegroCache continues to deliver performance improvements that facilitate the success of our products with the U.S. Dept of Defense," said Glenn D. House Sr., President 2Is Inc., "Lisp is the ideal implementation vehicle for our machine learning algorithms and large scale, parallelized stochastic simulation product sets. We are delighted with the Garbage Collection enhancements in Allegro CL 10."

"2Is is the leader in logistics decision support and price analytics enterprise systems that have demonstrated tens of millions of dollars in reduced total cost of inventory ownership for the military and OEM supply chain," added Dr. Aasman. "2Is applications have been repeatedly proven under

multiple DOD Test and Evaluation contracts and Allegro CL 10 will continue to facilitate 2Is successful deliveries.”

New Key Features and updates in Allegro CL 10:

- Parallel Global Garbage Collection
- New Payback Analysis for optimized Global Garbage Collection
- Precise Garbage Collection of stack slots for fast memory recycling
- Touchscreen and Alpha blending on Windows in Common Graphics
- API generator builds Lisp interface functions from information in Java class libraries
- Various Source Level debugging improvements
- Plus over 700 enhancements and updates, see the Release Notes for the details

## About Lisp

Lisp is one of the first high-level programming languages and still in widespread use today. Lisp was originally created as a practical mathematical notation for computer programs and quickly became the favored programming language for artificial intelligence (AI) research. The most widely known general-purpose Lisp dialects are Common Lisp and Scheme. Allegro CL is the Common Lisp language developed and sold by Franz Inc.

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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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# **AllegroGraph Named as Leading Database Solution by CIOReview**

*Graph Database Market Continues Explosive Growth*

**OAKLAND, Calif. – September 15, 2015** – Franz, Inc., the leading supplier of Semantic Graph Database technology

technology has been named CIOReview Magazine's Top 20 Most Promising Database Technology Solution providers. The award comes on the heels of Franz's recent announcement of the first Semantic Data Lake (SDL) for Healthcare, which was created in collaboration with Montefiore Medical Center (the eighth largest hospital group in the U.S.), Intel, Cloudera and Cisco. The SDL for Healthcare is a scalable and extensible Healthcare platform designed for Accountable Care and Personalized Medicine initiatives.

"Franz has been leading the burgeoning Graph Database revolution with a highly sophisticated, yet elegant Semantic Graph database solution," said Harvi Sachar, Publisher & Founder, CIO Review. "Franz's AllegroGraph continues to break new ground in predictive analytics and visual graph discovery capabilities- benefiting organizations around the globe within Healthcare, Intelligence/National Security, Life Sciences and Financial Services. We're excited to include Franz as one of our 20 Most Promising Database Solution Providers."

CIOReview is a technology magazine that showcases enterprise solutions capable of redefining the business goals of enterprises. It is a neutral source of information for technology decision makers that constantly endeavors to identify "The Best" in a variety of areas important to the technology industry.

"Since our inception, we have always been in the business of 'solving complexity' through our Semantic Graph technologies," said Dr. Jans Aasman, CEO, Franz Inc.. "From our origins in the Artificial Intelligence boom, through our advanced capabilities in Graph search and now as part of our Semantic Data Lake project, we provide powerful solution to complex challenges in the Enterprise."

The popularity of Graph databases has skyrocketed – growing nearly 400% in the past two years, according to a DBMS ranking by DB-Engines.

A recent Forrester Research report stated, “Graph databases are a powerful optimized technology that link billions of pieces of connected data to help create new sources of value for customers and increase operational agility for customer service. Because graph databases track connections among entities and offer links to get more detailed information, they are well-suited for scenarios in which relationships are important, such as cybersecurity, social network analysis, eCommerce recommendations, dependence analysis, and predictive analytics.” (Source: Forrester Research, Market Overview: Graph Databases, May 28, 2015)

During the recent Smart Data Conference, Dr. Parsa Mirhaji MD. PhD., Montefiore Medical Center and Dr. Jans Aasman, CEO of Franz Inc., introduced the AllegroGraph powered Semantic Data Lake. The need for semantic consistency within Data Lakes is a driving force for the Semantic Data Lake Healthcare platform. Adding semantics to a Data Lake dramatically eases the transformation and integration of multi-source, heterogeneous unstructured and structured data including free text clinical narratives.

‘Data Lakes’ have become one of the most discussed information management approaches over the past few years. According to Gartner Research Director Nick Heudecker, “Data Lakes typically begin as ungoverned data stores. Meeting the needs of wider audiences require curated repositories with governance, semantic consistency and access controls...” (Source: Press Release, Gartner Says Beware of the Data Lake Fallacy, July 28, 2014)

## **About AllegroGraph**

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. 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, biomarkers, observations, image or physical sensors.

## **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.

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# **Franz's Vice President of Corporate Development to Keynote at The 8th International Conference on Knowledge Science, Engineering and Management (KSEM 2015)**

**OAKLAND, Calif. – August 26, 2015** – Franz Inc.'s Vice President of Corporate Development, Dr. Sheng-Chuan Wu, will be a keynote speaker at The 8th International Conference on Knowledge Science, Engineering and Management (KSEM 2015) this October in Chongqing, China. The aim of this interdisciplinary conference is to provide a forum for researchers in the broad areas of Knowledge Science, Knowledge Engineering, and Knowledge Management to exchange ideas and to report state of the art research results.

## **Separating the Reality from the Hypes of Big Data**

The world is drowning in data. Modern technologies and digital devices have made it very easy to generate, collect and store mammoth data that gives rise to the term, "Big Data". In 2009,

Google published Flu Trends based on analyzing gazillions of flu-related searches to detect the spread of flu even before CDC could, demonstrating how to use Big Data to address societal needs. Since then, everyone wants to collect, analyze, invest in and make money from Big Data. Market research firms predict an exciting business opportunity of US\$50 billion by 2017. Industrial experts promise Big Data to solve virtually any problem we encounter.

Is Big Data really what all the market hypes allege to be?

There is no doubt that, by combining the enormous modern and inexpensive computing power and sophisticated Data Mining programs, we are able to process the zettabytes of digital data produced every minute. However, several challenges, namely heterogeneous data sources, convolute data relations and complex queries inherent to predictive analytics besides the sheer size, make it difficult to extract the essential value from big data.

In this talk, Dr. Wu will describe a new analytic architecture, combining the popular big data Hadoop platform, semantic index and distributed query to extract actionable business insight from big data in nearly real-time. He will show the power of this new architecture with real-world examples in Customer Relation Management (CRM) and Healthcare.

### **About Dr. Wu**

Dr. Sheng-Chuan Wu received his Ph.D. in Scientific Computing and Computer Graphics from Cornell University in the US. He has, since graduation, been involved in several software companies, including the founding of the first integrated CAD/CAM/CAE company. He has in the last 20 years worked as a senior corporate executive at the leading Artificial Intelligence and Semantic Technology company, Franz Inc in Silicon Valley, with responsibility in application development, marketing, consulting and new business

development. Dr. Wu has also in many occasions collaborated with Bioinformatics experts from Harvard Medical School, Stanford University and Astra Zeneca, working with massive biological data.

Dr. Wu has been focusing on Semantic Technology over the last 7 years. He has routinely lectured on AI and Semantic Technology at conferences. He has, since 2007, conducted more than 20 week-long workshops on Semantic Technology and Artificial Intelligence in Malaysia, China, India and other Asian countries. Additionally, Dr. Wu has consulted on several Big Data and Semantic Technology projects in the US and Asia.

### **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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# 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 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.**

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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.

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