# 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.

### 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. For additional Franz Inc customer success stories please visit:

- AllegroGraph http://franz.com/agraph/success/
- 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.

All trademarks and registered trademarks in this document are the properties of their respective owners.

# 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.

### 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 http://franz.com/agraph/success/
- 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.

All trademarks and registered trademarks in this document are the properties of their respective owners.

# 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 heals 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.

For additional Franz Inc customer success stories please visit:

- AllegroGraph http://franz.com/agraph/success/
- 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.

All trademarks and registered trademarks in this document are the properties of their respective owners. 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 the government, life sciences in telecommunications industries. For more information, visit www.franz.com.

All trademarks and registered trademarks in this document are the properties of their respective owners.

## Franz and Montefiore Medical Center Team up to Deliver the First Semantic Data Lake for

### **Healthcare**

# Accountable Care and Personalized Medicine Initiatives Propelled by Unique Semantic Analytic Platform

San Jose, Calif., Smart Data Conference, August 13, 2015 – Franz Inc., the leading supplier of Semantic Graph Database technology, in collaboration with Montefiore Medical Center (the eighth largest hospital in the U.S.), Intel, Cloudera and Cisco, announced the first Semantic Data Lake (SDL) for Healthcare, a scalable and extensible Healthcare platform designed for Accountable Care and Personalized Medicine initiatives.

Montefiore Medical Center is developing the SDL Healthcare platform to enable and scale knowledge-based analytics, classification, pattern recognition, predictive modeling, and simulations. The platform integrates complex information for basic science, clinical, population, community, environmental, behavioral and wellness research data.

On August 18 during the Smart Data Conference, Dr. Parsa Mirhaji MD. PhD., Montefiore Medical Center and Dr. Jans Aasman, CEO of Franz Inc., will introduce the concept of SDL for Healthcare and associated smart applications such as for personalized medicine, care management, decision support, fraud detection, risk management, signal detection and risk assessments.

'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)

The need for semantic consistency within Data Lakes is a driving force for the SDL 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. The SDL Healthcare platform creates a self-descriptive repository of graph data that can be queried in real-time to deliver critical answers to complex questions.

"The ability to conduct real-time analysis over new combinations of data such as patient information, genetic data, medical device data, clinical trials, drug information and public health data — will fuel discoveries, significantly improve efficiencies and personalize care," said Dr. Parsa Mirhaji MD. PhD., Associate Professor of Systems and Computational Biology and the Director of Clinical Research Informatics at the Albert Einstein College of Medicine and Montefiore Medical Center-Institute for Clinical Translational Research.

The SDL at Montefiore, which is expected to grow to trillions of edges by 2016, links and fuses domain specific models (ontologies), biomedical terminologies and taxonomy systems, and other contextual metadata with ERP data, Electronic Medical Records, and medical device data in massive volumes. The SDL for Healthcare provides a uniform, semantically integrated, self-descriptive information repository based on graph representations of multi-source, heterogeneous data — including free text clinical narratives.

"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," Dr. Jans Aasman, CEO, Franz Inc. "With the SDL for Healthcare we quickly ingest many types of data into a single system and apply Artificial Intelligence, machine learning and visual data exploration to discover new relationships between data that can save lives and improve care."

The SDL for Healthcare is a big data platform built on Cloudera's Hadoop distribution and Franz's AllegroGraph, a high performance Semantic Graph Database that enables analytics by leveraging the W3C industry standards. AllegroGraph empowers organizations to extract sophisticated decision insights and predictive analytics from highly complex, distributed data that isn possible using conventional databases.

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)

"The SDL for Healthcare demonstrates how leveraging Intel's Hadoop investment along with Franz's Semantic Graph Database addresses many of the scale, performance, data integration, and complex analytics challenges that have prohibited real world applications of Precision Medicine and Accountable Care," said Ketan Paranjape, General Manager Life Sciences, Intel. "We are pleased with this important project and looking forward to the discoveries it will fuel."

### 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. Franz's Professional Service team is in the business of helping companies turn Data into Information and Information into Knowledge. Franz is an American owned company based in Oakland, California with customers that include Fortune 500 companies in healthcare, government, life sciences and telecommunications industries. Franz has demonstrated consistent growth and profitability since inception. For more information, visit franz.com and allegrograph.com.

All trademarks and registered trademarks in this document are the properties of their respective owners

## Franz's CEO, Jans Aasman to Present at the Smart Data Conference in San Jose

**OAKLAND, Calif. - May 26, 2015 -** Franz Inc.'s CEO, Dr. Jans Aasman, will present at the Smart Data Conference this August in San Jose, CA. The Smart Data Conference is designed to accommodate all levels of technical understanding, and brings together emerging disciplines that are focused on more intelligent information gathering and analysis.

#### Healthcare Analytics with a Smart Data Lake

Montefiore Medical Center in collaboration with Franz, Intel, Cloudera and Cisco created a scalable and extensible Learning Healthcare System platform for accountable care and precision medicine initiatives. The underlying Hadoop based big data platform is called a "Semantic Data Lake" (SDL).

The SDL integrates complex information and analytic requirements including:

- Basic science
- Clinical
- Population
- Community
- Environmental
- Behavioral
- Wellness research data

The SDL links and fuses domain specific models (ontologies), biomedical terminologies and taxonomy systems, and other contextual metadata with ERP data, Electronic Medical Records, and medical device data in massive volumes. The SDL provides a uniform, semantically integrated, self-descriptive information repository based on graph representations of multi-source,

heterogeneous data (including free text clinical narratives). This platform is expected to grow to 4 trillion edges by the end of 2015.

Montefiore uses this platform for scalable knowledge-based analytics for classification, pattern recognition, predictive modeling, and simulations. We will demonstrate how we can create smart applications for decision support, fraud detection, risk management, personalized care management, signal detection and notifications.

#### 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 the government, life sciences companies in telecommunications industries. For more information, visit www.franz.com.

All trademarks and registered trademarks in this document are the properties of their respective owners.

# Bloor Research Positions AllegroGraph as a 'Champion' in Burgeoning Graph Database Market

Graph Databases Identified as the Fastest Growing Segment of the Database Market

**OAKLAND, Calif. - May 5, 2015 -** Franz, Inc., the leading supplier of Semantic Graph Database technology, today announced its flagship product, AllegroGraph, has been named a

Champion by Bloor Research in its recent Graph Database Market Update report. AllegroGraph is a high performance Semantic Graph Database that enables analytics by leveraging the W3C industry standards. **Graph databases are skyrocketing in popularity and** have grown by 400% in the past two years, according to a recent DBMS ranking by DB-Engines.

"We are excited that Graph and RDF Databases are beginning to get the attention that they deserve," 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 Medicineand make us safer through Insider Threat Detection."

"Graph databases handle a class of issues that are too structured for NoSQL and too diverse for relational technologies," according to Bloor Research. "Relational databases are inherently limited to one-to-one, many-to-one and one-to-many relationships. They do not cater well for problems (such as bill of materials — a classic case) that are many-to-many. For these types of requirements graph databases not only perform way better than relational databases, but they allow some types of query that are simply not possible otherwise. Semantic query support tends to be particularly strong in triple stores. Another major point is that research suggests that graph visualizations are very easy and intuitive for users." (Source: Bloor Research, Graph Databases, Philip Howard, April 13, 2015)

### **About AllegroGraph**

AllegroGraph is a database technology that enables businesses to extract sophisticated decision insights and predictive analytics from highly complex, distributed data that cannot be uncovered with conventional databases. Unlike traditional databases or NoSQL 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.

#### 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 http://franz.com/agraph/success/
- 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.

All trademarks and registered trademarks in this document are the properties of their respective owners.

# New York Times Article — Is There a Smarter Path to Artificial Intelligence?

From the New York Times — June 20, 2018

This article caught our attention because they featured a startup that was using Prolog for AI. We have been strong proponents of Prolog for Semantic Graph solutions for many years.

For the past five years, the hottest thing in artificial intelligence has been a branch known as deep learning. The grandly named statistical technique, put simply, gives computers a way to learn by processing vast amounts of data. Thanks to deep learning, computers can easily identify faces and recognize spoken words, making other forms of humanlike intelligence suddenly seem within reach.

Companies like Google, Facebook and Microsoft have poured money into deep learning. Start-ups pursuing everything from cancer cures to back-office automation trumpet their deep learning expertise. And the technology's perception and pattern-matching abilities are being applied to improve progress in fields such as drug discovery and self-driving cars.

But now some scientists are asking whether deep learning is really so deep after all.....

......Those other, non-deep learning tools are often old techniques employed in new ways. At Kyndi, a Silicon Valley start-up, computer scientists are writing code in Prolog, a

programming language that dates to the 1970s. It was designed for the reasoning and knowledge representation side of A.I., which processes facts and concepts, and tries to complete tasks that are not always well defined. Deep learning comes from the statistical side of A.I. known as machine learning.

## Our Tweet with links to AllegroGraph Prolog documenation and the full article:

nytimestech "computer scientists are writing code in #Prolog...
It was designed for the reasoning and knowledge representation
side of #AI ...." https://buff.ly/2lmYwkv - #AllegroGraph is
the only #GraphDatabase to include #Prolog for your AI apps.
https://buff.ly/2yv0IzF