Revelát Analytics
a University of Utah/SCI Institute spinout company
Imaging Solutions for Complex Problems

- Assessing gene function
- Understanding disease
- Measuring drug efficacy
- Ensuring drug safety
RayScale

- Experts in Interactive Ray Tracing systems
- Next generation of high quality graphics
- Center of Excellence participant
VisTrails, Inc. IS A LEADING PROVIDER OF DIGITAL PROVENANCE SOLUTIONS

Our Provenance Explorer™ plug-in delivers unique capabilities for capturing and reusing provenance within Autodesk’s Maya®, ParaView and VisIt applications.

VisTrails provides software and services to support the provenance enabling of complex applications used in a large range of industries.

It's like undo and redo on steroids

Digital assets are generally managed by storing an end result along with a few other intermediate snapshots. With VisTrails technology, each step that is taken in the creation or evolution of your digital asset is captured in a visual trail with the following benefits:

- Branching - Design decisions are captured in various branches of the trail, creating a history tree for your asset
- Interactivity - You can easily return to any step in the visual trail
- Persistence - The trail can be saved with or in place of your asset

ParaView 3.6.2 includes the VisTrails Provenance Explorer plugin

ParaView 3.6.2 includes the VisTrails Provenance Explorer plugin in the Windows and Linux packages.

ParaView is an open-source, multi-platform data analysis and visualization application developed to analyze extremely large datasets using distributed memory computing resources. The VisTrails plugin automatically and transparently tracks the steps a user followed to create a visualization, and saves all the information necessary to restore any visualization in a single file.

VisTrails Inc. | 85 South Fort Douglas | Salt Lake City, Utah 84115 USA
info@VisTrails.com | www.ViTrails.com

ParaView at Siggraph 2009

VisTrails receives Utah Innovation Award

Read the full release
The ViSUS software framework was designed with the primary philosophy that the visualization of massive data need not be tied to specialized hardware or infrastructure. In other words, a visualization environment for large data can be designed to be lightweight, highly scalable and run on a variety of platforms or hardware.

Learn more about the ViSUS technology
Bottlenecks in High Dimension Data Exploration

Data Sources
- Operational Databases
- Internal Sources
- External Sources

ETL
- Extract
- Transform
- Load

Data Warehouse
- D
- D
- D
- D
- F

Analytics
- OLAP tools
- Statistical tools
- Reporting tools
- Data mining tools

75% of the time, cost and effort

25% of the time, cost and effort
‘Janitor Work’ Is Key Hurdle to Insights

- Data scientists, according to interviews and expert estimates, spend from 50 percent to 80 percent of their time mired in this more mundane labor of collecting and preparing unruly digital data, before it can be explored for useful nuggets.
No full solutions and none on the horizon
The Revelat Solution Evolves ETL...

Virtual Data Warehouse (VDW)

- **Intelligent Aggregations**
- **Discoverable Dimensions**
- **Proprietary Data Structure**
- **External Sources**
- **Operational Databases**
- **Internal Sources**

**Analytics**
- OLAP tools
- Statistical tools
- Reporting tools
- Data mining tools

**Standard Data Warehouse Emulation**

**Proprietary and Confidential Revelat Analytics**

Proprietary and Confidential Revelat Analytics
Revelát Technology Advantage: Discoverable Dimensions

**Discoverable Dimensions**: Dimensions are automatically discovered through machine learning techniques and rendered visually enabling a business user with the ability to visually refine and further define dimensions required for analysis (versus with the current ETL method, all dimensions have to be specifically determined and declared by the ETL team).
Revelát Technology Advantage: Intelligent Aggregations

**Intelligent Aggregations:** Aggregations are identified and specified visually by a user through dimensional modeling and exploration, then processed and stored with the index (ensuring rapid and efficient data warehousing operations such as slicing, dicing, drilling, etc).
ReveláT Technology Advantage: Visual Modeling

**Visual Modeling:** Internally called “Cube Builder”, the multi-dimensional graph is rendered visually, enabling business users to further refine the graph as well as add dimensions and instantiate aggregations.
Cube Builder Provides Situational Awareness Visually...

Qualitative visualization

Layout suggests correlation

Size suggests importance

Color represents semantic
Cloud Infrastructure and SDLC
Automated build and deployment leveraging elastic computing for any scale

Continuous Automated Development Integration, Deployment and Management

Automated Software Build

Automated Deployment, Rolling Push and Scaling

Monitoring

Edge
- Load Balancing
- Load Balancing
- Load Balancing

Services
- Service Library Cluster
- Thread Pool
- Load Balancing
- Circuit Breaker Fallback
- Micro-Service
- Micro-Service
- Micro-Service

Persistence
- NoSQL Cluster
- Cache Cluster

Elastic Computing Backbone
2011 Big Data Factory Revenue by Type

Total 2011 Big Data Factory Revenue: $5.2 billion

Services, 44%

Hardware, 31%

Software, 25%

Interesting Industry....,

Company by Company, 
Industry by Industry

GAP, Inc. - Physicists, mathematician, chemical engineers
Hospitals (large) - IT and informaticists
Banks - IT and CS
Regional Airlines - No one
Small Financial Firms - CS heavy, really leveraging data