CHALLENGES

Providing timely interactive analytics and visual rendering for diverse data linked by a Knowledge Graph

Handle diverse data at Big Scale

Conduct Data Warehouse Analytics, Graph Analytics & Inferencing

KEY BENEFITS

All enterprise data is available on demand

Scientists get immediate and comprehensive answers

250x faster querying and response time vs using a standard graph OLTP system

Provide a linked data favric for both machine learning and human data discovery

ANZOGRAPH® USE CASE SCIENTIFIC DATA DISCOVERY

ACCELERATING SCIENTIFIC DISCOVERY ANALYTICS & VISUAL RENDERING WITH GRAPH OLAP DATABASE

SUMMARY

Biopharma companies are facing a data deluge, with vast amounts of disparate data in different formats generated along the R&D pipeline. Scientists and business analysts waste time trying to locate and understand the data as they attempt to answer crucial questions and support key decisions. AnzoGraph was used as a part of Anzo® solution to create a Semantic Layer that understands the meaning and relationships of all the data in any format, and enable scientists to answer scientific and business questions and support smarter and faster decisions. AnzoGraph provided 250X faster querying when executing complex analytics queries and visualization.

THE CHALLENGE

Biopharma companies are expanding their portfolios from small molecules to biologic therapeutic agents, and adopting translational and precision approaches to new medical breakthroughs: and at the same time generating unparalleled volumes of data. Scientific data in biopharma companies is everywhere and in multiple structured and unstructured formats – e.g. research data in ELNs, assay results in Excel spreadsheets, QA/QC runs in LIMS, DMPK data in weekly reports, etc. – so posing a question to support a decision, test a hypothesis or explore a new insight forces a scientist or business user to first locate the right data source, understand its format and terminology and link it with other relevant sources. As data grows, the speed with which scientist can find the right data and conduct analytics can transform R&D. In the push to develop safer medicines sooner, researchers and business users need to be able to exploit the totality of their enterprise data assets, no matter where the data is held, or in what format.

Searching across these disparate data silos with traditional tools and then attempting to stitch the answers together is an almost impossible task, and likely to take days and weeks, thereby delaying a crucial next step in the R&D pipeline.

Similar problems beset staff in regulatory affairs who are tasked with locating and accurately reporting required data in submissions to the authorities, such as the extensive information dossier needed by the FDA for an Investigational New Drug Application (IND). Data for an IND will come from departments including chemistry, manufacturing, control, pharmacology and toxicology and will need to be pulled from their multiple disparate sources. With traditional search and reporting tools, this can take months and delay the beginning of Phase I clinical trials.
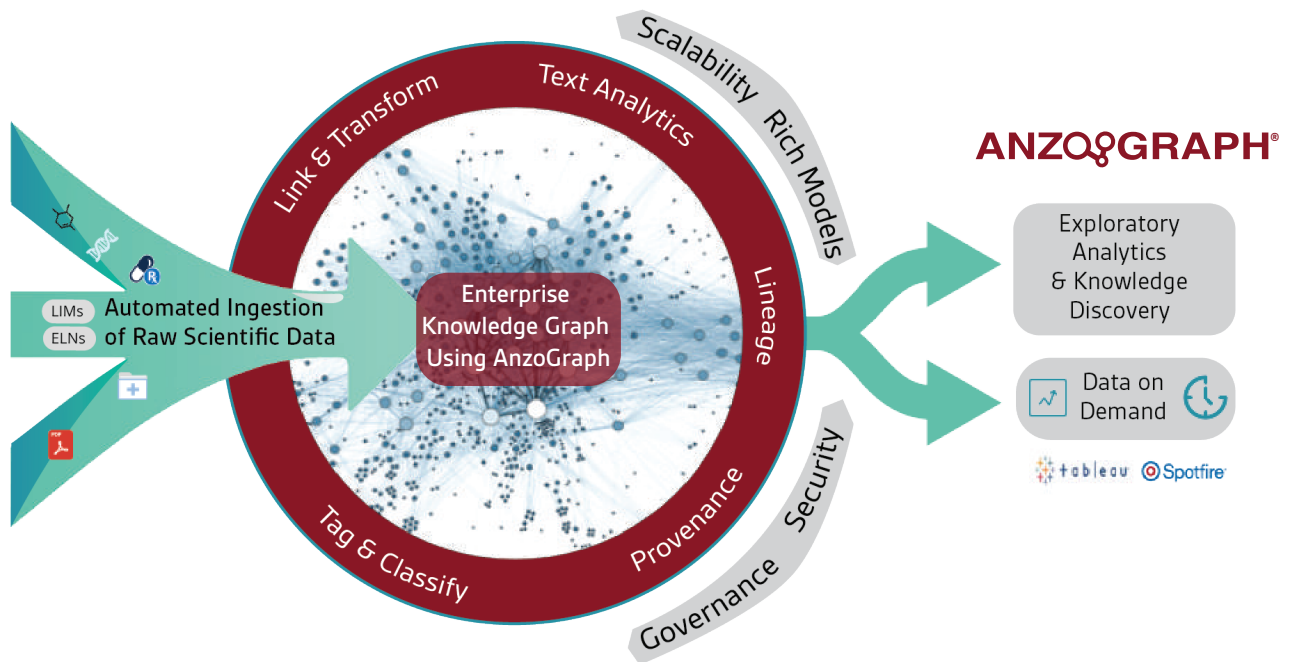
THE SOLUTION

Anzo® enables scientists to flexibly search, navigate, and analyze all scientific data assets, including structured and unstructured data locked away in ELNs, LIMS, medical records, clinical trial data, spreadsheets, Word documents, PDF files, and enterprise applications, for faster and more insightful discoveries. Anzo automatically ingests source documents, files and other content, and creates a semantic layer that understands the meaning and relationships of every enterprise information asset from every stage of the R&D pipeline.

AnzoGraph® provides the in-memory graph online analytics database for Anzo so that data from diverse sources can be linked into an Enterprise Knowledge Graph. AnzoGraph OLAP capabilities allows for aggregation and rich analytics to be done across nodes of the Enterprise Knowledge Graph at lightening fast speed and with Big Data volumes.

Researchers freely "pivot" their analytics to ask new, ad hoc questions in real-time, without being limited by rigid database schemas. AnzoGraph helps drive vital new research discoveries at the speed of thought: a leading biopharma firm found its AnzoGraph-powered query performance for data visualization and analytics were up to 250x faster than the graph OTLP system previously used

Biopharma companies that using this solution report substantial time-saving over using traditional searching techniques to locate, analyze, and report disparate data, and the ability to ask previously unanswerable questions, so that researchers can spend more time doing science and the business can gain faster, better insights.

ABOUT CAMBRIDGE SEMANTICS

Cambridge Semantics Inc., is a big data management and enterprise analytics software company that offers a universal semantic layer and hyperfast graph database to connect and bring meaning to all enterprise data. Its software, Anzo® and AnzoGraph®, allows IT departments and their business users to semantically link, analyze and manage diverse data whether internal or external, structured or unstructured, with speed, at big data scale and at the fraction of the implementation costs of using traditional approaches.

Cambridge Semantics is based in Boston, Massachusetts. For more information, visit www.cambridgesemantics.com or follow us on: