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The release of a new full version always comes with an exciting list of new functionalities. Version 9.0 of Ontotext's GraphDB has lots of new bells and whistles that will ensure that it remains the market leader for semantic databases. This new version sees the release of essential plugins: data virtualization, a sophisticated ranking of semantic search results, new types of indexing and advanced graph analytics.

GraphDB has always been compliant with W3C standards and an active member of the semantic web community. Ontotext has increased its commitment to open-source with this major redesign of the Plugin API. It will simplify the integration of powerful software to enhance the core database engine. In addition, GraphDB Workbench is now a separate open-source project enabling the fast development of knowledge graph prototypes.

Why going Open Source?

Ontotext has always been a proponent the open source philosophy and has actively supported the widely-used GATE and RDF4J. We believe that the value of a product should derive from its usefulness not the bait-and-switch of vendor lock-in. Besides the adherence to open W3C standards, we understand the value to clients having the ability to inspect, modify and most of all enhance software's source code.

By having an open source approach, Ontotext is promoting collaboration and sharing as well as understanding that clients will have unique and immediate needs. The ability to incorporate their bespoke additions on their own without waiting for the next release is necessary in today's dynamic, fast-paced business environment. By taking the open source approach, the Workbench can address a wider spectrum of use-cases, creating a higher value for clients and increasing the likelihood that specific non-generic features exist and have been developed to address the real-world problems facing the optimization of semantic data processing and management.

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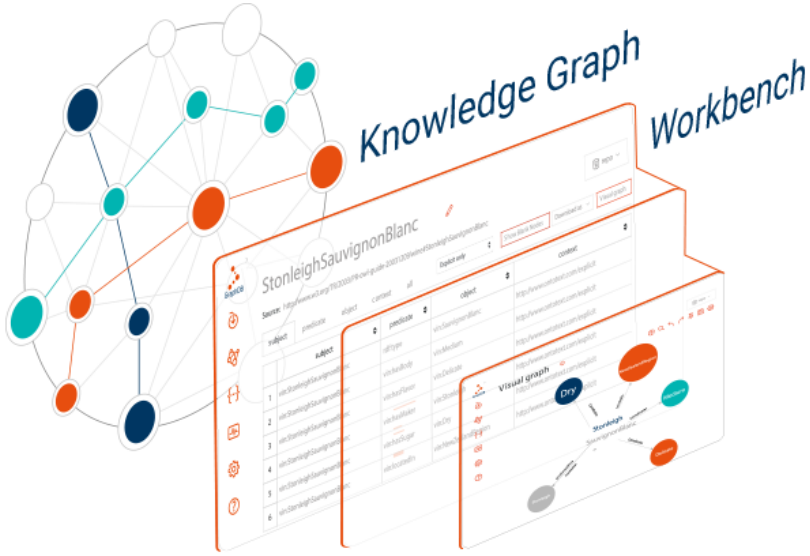

What does it mean for GraphDB clients?

In general, the use of open source for plugins and GraphDB Workbench will provide clients with more control, security, stability and transparency. GraphDB Workbench is the interface for Ontotext's semantic graph database, which provides the core infrastructure including modelling agility, data integration, relationship exploration and cross-enterprise semantic data publishing and consumption.

As more and more industries adopt semantic technology, the needs and usage has become increasingly specific and varied. It makes sense to separate the Workbench from the database to enable bespoke interfaces and functionality. Opening up the Workbench enables clients to better understand the code, giving them the information to improve it. It fosters collaboration with Ontotext and with other users of GraphDB. Clients are in full control and can now more quickly create prototypes and unlock exciting new functionalities. At the same time, the community there is of users can share the best practices, enabling the cross-pollination of the most successful and most fruitful results of their experimentation. Open-sourcing also encourages more third-party updates and its increased popularity will ensure further developments and improvements that all users will be able to take advantage of. It

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also enables Ontotext to develop specific functionality as plugins without having to fiddle with the core functionality of the database. For example, it simplifies the ability to create plugins that provide a deep learning model that predicts the similarity between two concepts or a FactForge interface to present a friendlier and prettier view of the database.

The Plugins

Besides clients being able to create their own bespoke functionality to enhance their GraphDB installations, Ontotext has developed a number of plugins widely used by their clients. For example, one of the most common applications and semantic datatypes is around location. GeoSPARQL is a standard for representing and querying geospatial linked data for the Semantic Web. It includes a small topological ontology in RDFS/OWL for representation using Geography Markup Language (GML) and Well-Known Text (WKT) literals.

It also includes a SPARQL query interface using a set of topological SPARQL extension functions for quantitative reasoning. Beyond the standard relationship vocabularies and ontologies for qualitative reasoning, the GraphDB GeoSPARQL plugin allows the conversion from different coordinate reference systems (CRS) into the default CRS84 format, which is the default CRS according to the Open Geospatial Consortium (OGC). This enables the input of all known CRS types to be properly indexed by the plugin, and you will also be able to query using either the default CRS84 or the imported format.

MongoDB, using JSON, is a non-relational database that has one of the largest developer communities. It is often used by Ontotext clients who have use cases with extreme scalability requirements and a simple data model. This plugin allows users to query MongoDB databases using SPARQL and to execute heterogeneous joins, which would otherwise be unsupported.

The RDFRank plugin is one of the most popular plugins for GraphDB. It provides an intuitive and simple way to identify more important or more popular entities in the repository by examining their interconnectedness. Query results can be ordered in a similar way to how Google uses PageRank.

Another popular plugin is the Autocomplete Plugin, which creates the ability to autocomplete entities with URIs. Simple but the timesaving impact is immense.

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By open-sourcing and redesign we are enabling our ever-increasing portfolio of clients to design unique and complex knowledge graphs, more tightly software integrates the database engine and rapid development of business-friendly web interfaces. For an example of how GraphDB is being used and adapted to some of the most demanding and data-intensive use cases, see our article on how NuMedii Uses Ontotext's Knowledge Graph Powered Solution to Support Research Activities for Identifying Novel Therapies and about how UK Parliament's Data Service Are Powered by Ontotext's GraphDB

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