kognitio

Overview

Kognitio on Apache® Hadoop®

Ultra-fast High-concurrency SQL on Hadoop

Kognitio on Hadoop is the latest version of the Kognitio Analytical Platform, the world's fastest in-memory data analysis engine.

Kognitio on Hadoop includes full YARN (Hadoop's preferred resource manager) integration allowing Kognitio to share hardware infrastructure with other Hadoop applications.

Kognitio on Hadoop provides ultra-fast SQL access, at very high concurrency levels, to data stored in Hadoop. The speed and concurrency allows organization to deploy interactive, self-service analytical tools to thousands of end users even when the data volumes are very large ('Big Data').

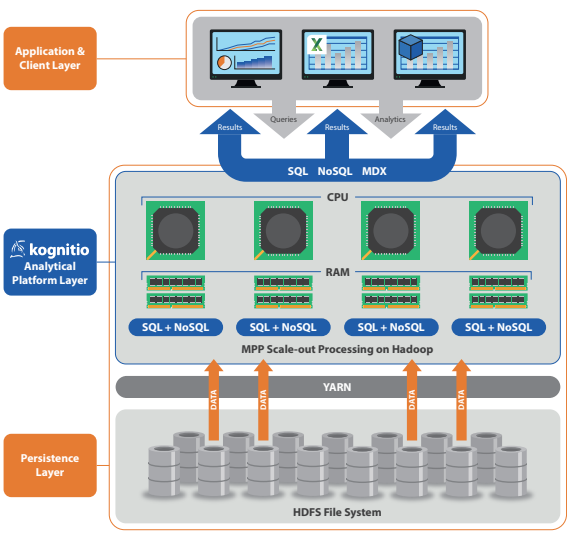
Hadoop and its associated software projects have provided organizations with a cost-effect way of storing and processing vast amounts of diverse data and a range of tools that allow that data to be captured analyzed and to some degree, consumed.

However, mass consumption of Hadoop based datasets by large numbers of users in a business context, is still difficult, as the tools available do not possess the performance levels or enterprise capabilities needed to reliably support hundreds of concurrent users.

Kognitio on Hadoop can support thousands of analytical queries per second from hundreds of concurrent sessions and can be scaled out to accommodate both larger data volumes and more query throughput.

In addition to the ultra-fast SQL Kognitio also has sophisticated NoSQL support that allows advanced analytical algorithms to be executed at scale and in almost any language eg R, Python.

Kognitio on Hadoop is available free of charge with no restrictions on size or functionality.



How does Kognitio do it?

- The tried and tested Kognitio MPP SQL database has been enhanced to allow it to run as a YARN application on Hadoop.
- Data is held in memory structures highly optimized for in-memory analysis – this is not a disk cache!
- The Kognitio architecture has been shared nothing for over 20 years and fits seamlessly into the Hadoop / YARN shared nothing paradigm to provide a platform that can be scaled across the largest of Hadoop clusters.
- Data can be explicitly pinned in memory - you know your expected usage patterns better than any optimizer.
- Kognitio's Massively Parallel Processing technology is used to localize processing and data into logical units known as ramstores to maximize efficiency.
- Sophisticated query planning allows queries on large data sets to be distributed to use all available CPU resource to process the query with maximum performance.
- Processor efficiency is further maximised by the use of sophisticated techniques to maximize processor instruction cache usage. These techniques include machine code generation and advanced query plan optimization.
- Granular queries that access smaller subsets of data are optimized by the query planner to access only the ramstores containing the data required to fulfil the request providing extremely high concurrency for these queries.
- The Kognitio database is a mature SQL implementation running all TPC-DS benchmark queries as well as providing functions to allow non standard SQL from other vendors to run unchanged.
- The Kognitio SQL extensions such as embedded R, Python or any other Linux process allow the easy integration of sophisticated statistical processing or specialized processing for IOT, telecoms or other complex data types.
- The wide variety of standard connectors and the ease of construction of custom connectors make connecting to any data source simple and transparent to the end user who sees the data as a standard table irrespective of whether it's in a Hadoop cluster, in an S3 bucket or retrieved by SSH from a remote file server.

About Kognitio

For more than a generation Kognitio has been a pioneer in the development of scale-out, in-memory software for big data analytics.

Today the Kognitio software provides an ultra-fast, high concurrency SQL layer that allows modern data visualization tools to maintain interactive performance, even when the data volume is large and the user count high.

Kognitio is fully integrated with YARN on Hadoop or can be installed on standalone hardware infrastructure. In either case it can directly process data from a large variety of sources such as Hadoop HDFS (including Parquet and ORC format Hive tables), Amazon S3 or NAS.

The software also supports sophisticated NoSQL capabilities enabling scale-out advanced analytics alongside the ultra-fast, fully functional SQL.

To learn more visit kognitio.com

- www.kognitio.com
- facebook.com/kognitio
- twitter.com/kognitio
- linkedin.com/company/kognitio
- youtube.com/kognitio

© 2017 Kognitio Limited. All rights reserved. Apache®, Apache® Hadoop®, Hadoop® and the yellow elephant logo are either registered trademarks or trademarks of the Apache Software Foundation in the United States and/or other countries. All other trademarks, registered trademarks, product names and company names or logos mentioned in this document are the property of their respective owners.

kognitio