



BITanium and Denodo

Enabling Organizations to Unlock the Full Power of Data

BITanium and Denodo have partnered to combine expert business consulting with the industry's most advanced data virtualization platform to enable immediate, flexible access to a wider variety of data, despite the limitations of complex legacy data environments.

Why BITanium and Denodo?

Even with modern innovations like big data, cloud, artificial intelligence/machine learning (AI/ML), and the Internet of Things (IoT), many organizations must still contend with their existing data environments. Replacing them is not an option, as this would not only be prohibitively costly, but it would also result in an unacceptable amount of downtime and the interruption of daily operations.

As a result, organizations face five key challenges:

1. Organizations cannot leverage all of their data for business intelligence (BI), only the data that is available for reporting through their legacy data infrastructure.
2. It takes time to integrate data between systems using extract, transform, and load (ETL) processes.
3. ETL processes must be rewritten to accommodate new systems, hindering agility.
4. Organizations cannot easily maintain governance across the entire data environment.
5. Organizations cannot modernize their data environments to maintain a competitive advantage.

Working together, BITanium and Denodo enable organizations to overcome each of these challenges, to gain the maximum value from their existing data environments while taking full advantage of modern innovations.

What BITanium Brings

BITanium Consulting, based out of Woodmead, South Africa, is dedicated to solving the challenges of companies that are looking to improve their business with data. BITanium has proven expertise across a variety of industries, including banking, insurance, healthcare, fast-moving consumer goods (FMCG), mining, and retail. BITanium builds, runs, and supports modern data environments that meet business goals, and is focused on solving the problems of the constantly evolving data landscape.

What Denodo Brings

Denodo enables organizations to augment their existing data environments with enterprise-wide logical data fabric, which provides data consumers with real-time access to all data across the enterprise, regardless of where it is stored or how it is formatted.

The Denodo Platform establishes logical data fabric through data virtualization, a modern, highly effective method for integrating data. Rather than replicating data to a central repository, data virtualization provides real-time, integrated views of the data across myriad heterogeneous sources, and these include on-premises and cloud repositories, and structured or unstructured sources.

Customer Snapshots

Here are two brief stories of companies that have gained significant value by working with BITanium and Denodo.

| Amalgamated Banks of South Africa (ABSA)

Amalgamated Banks of South Africa (ABSA) is a large bank based out of Johannesburg. After a series of acquisitions and divestments, the bank was maintaining two data warehouses and wanted to unify these holdings with a data lake. However, at least for a while, the bank still needed to maintain both data warehouses, and struggled due to the complexity of temporarily having to maintain a multi-part data infrastructure.

ABSA turned to BITanium and Denodo to implement a logical data fabric, based on data virtualization, that encompassed both data warehouses and the new data lake. The logical data fabric provides real-time access to integrated data sets drawn across any and all of the three systems, without data consumers needing to know the origin. With the logical data fabric, ABSA was able to make changes to the underlying infrastructure, such as ultimately moving both data warehouses to the data lake, without interrupting the users' activity, and without users even knowing that changes were taking place.

ABSA estimates that the logical data fabric accelerated data integration by a factor of 10x. Additionally, the logical data fabric eliminated much of the maintenance activity required by the on-premises data warehouses.

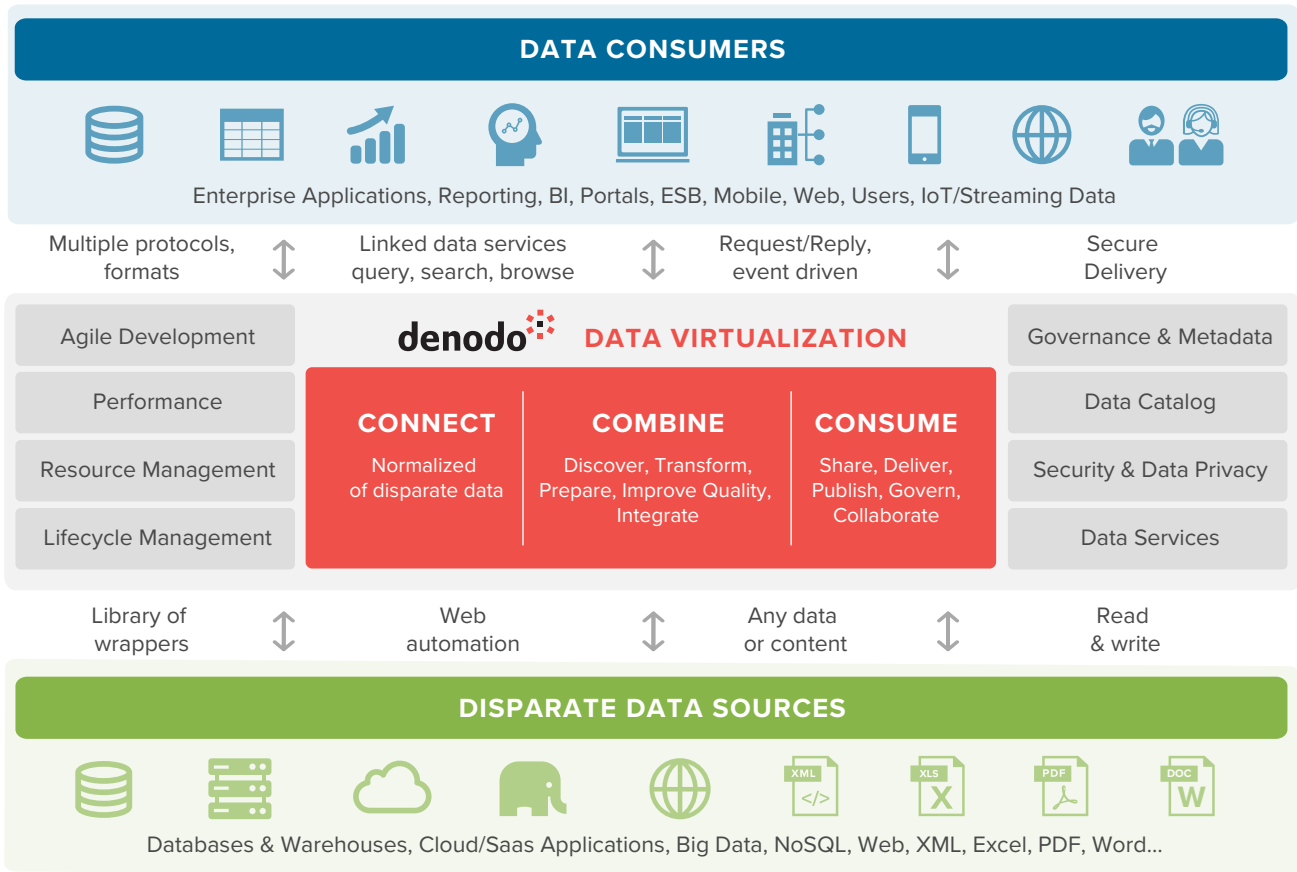
After implementing the logical data fabric to abstract data consumers from the complexities of accessing the different data sources, ABSA discovered additional use cases for the logical data fabric, such as enabling access to a variety of sources that were normally accessed separately, including a trade store. Because the logical data fabric was a unified data-access layer across the disparate data sources, it facilitated data governance across all sources, as well as the recently added ones. This architecture also improved security, as all systems had to go through ABSA's central provisions. ABSA also appreciated the data catalog that is included with the Denodo Platform, which lists all data across the sources, and even provides access, from a convenient catalog interface.

| The Johannesburg Stock Exchange Limited (JSE)

The Johannesburg Stock Exchange Limited (JSE), based in Sandton, Johannesburg, is the largest stock exchange in Africa. Every day, the JSE facilitates the secure online settlement of hundreds of millions of trades with 100% accuracy, 100% of the time. Often, this requires the real-time orchestration of over 190 different static and streaming systems, some of which run processes with response times of less than 60 microseconds. These performance levels are required when supporting transactions that can be worth billions of U.S. dollars.

To ensure this level of accuracy and performance, the JSE turned to BITanium and Denodo to implement a logical data fabric, built on data virtualization, between all of JSE's data sources and all of JSE's data consumers. The logical data fabric creates real-time, integrated views of all transactions at any point in time and makes these views available instantly to all authorized parties. Because the views are virtual, they have no impact on the performance of the source systems. By implementing a single data-access layer above the JSE's data sources, the JSE established a single version of the truth, which has been critical for maintaining transaction integrity.

Since implementing the Denodo Platform in 2012, the JSE has encountered zero errors in its trading platform, maintaining its goal of providing 100% accuracy, 100% of the time.



Working together, BITanium and Denodo enable organizations to:

- Maximize the value of their data
- Improve decision-making with real-time access to data across disparate data sources, including streaming, transactional, and other emerging sources
- Seamlessly accommodate incompatibilities between different systems
- Improve consistency and data quality, with organization-wide data governance
- Migrate to new systems without having to rearchitect from the ground up, and without affecting business continuity

| About BITanium

BITanium is a proud South African company. We expose the power of data to make our customers more competitive. We believe that data is the last remaining competitive differentiator – how you treat it, keep it, and use it defines the difference between mediocrity and success. We help our customers transform their data from its raw state into a finished, valuable, and actionable product. This is achieved through data storage, analysis, visualization, and deployment solutions. The insight produced enables intelligent business decisions that make the difference between remarkable and average.

For more information, visit www.bitanium.co.za
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| About Denodo

Denodo is the leader in data virtualization providing agile, high performance data integration and data abstraction across the broadest range of enterprise, cloud, big data and unstructured data sources, and real-time data services at half the cost of traditional approaches.

For more information, visit www.denodo.com
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