

Deploying Data Virtualization at an Enterprise Scale – A Journey towards an Agile, Data-Driven Infrastructure

Industry

Semiconductors

Profile

One of the largest semiconductor companies in the world, “The Company” boasts more than 100,000 employees worldwide, including more than 6,000 IT professionals, and The Company operates 61 large data centers around the world. The Company manufactures a wide variety of semiconductors for personal computers, handheld devices, and wearables, and with the proliferation of mobile devices, The Company is redefining the next generation of semiconductor products.

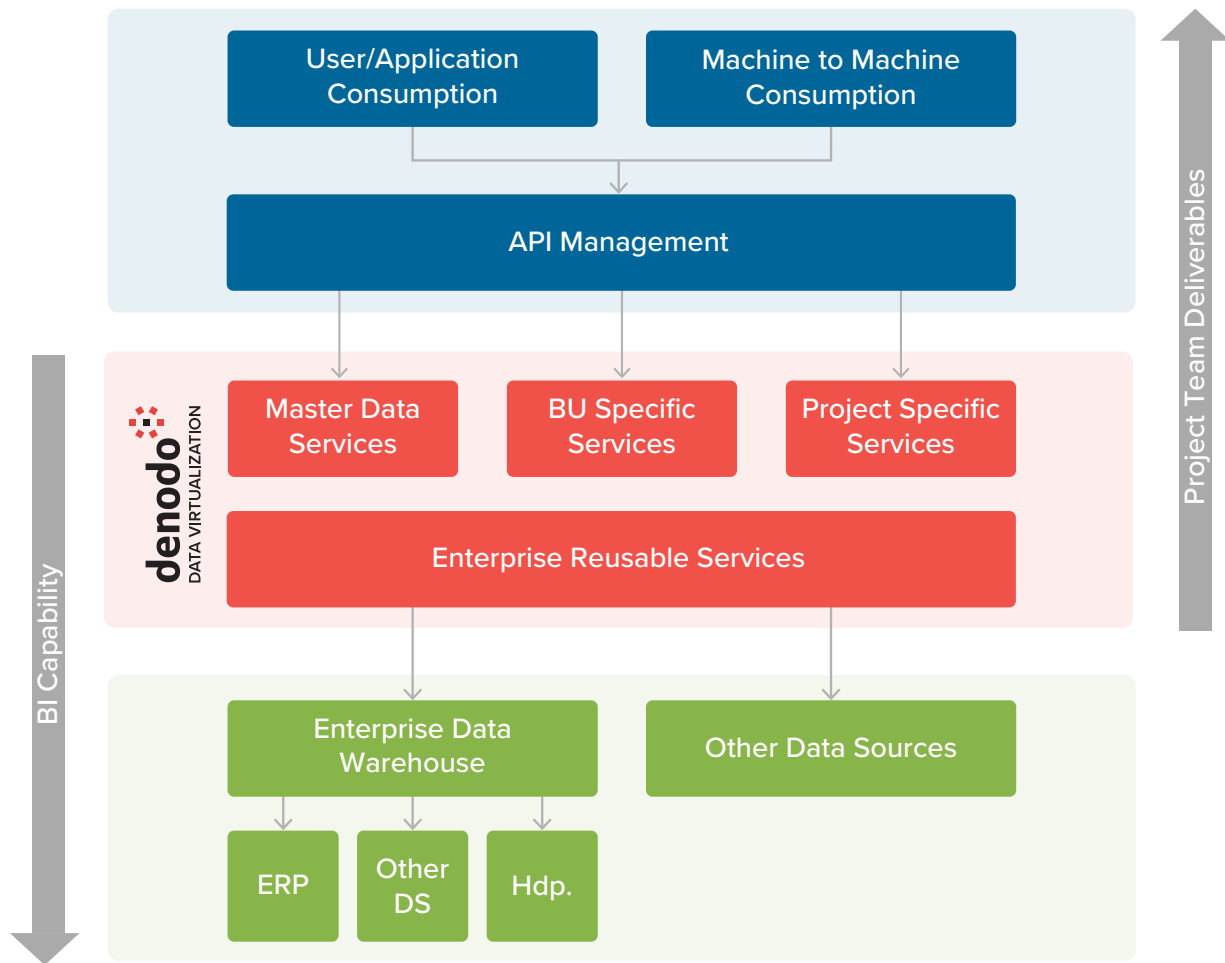
The Company has seen data proliferate from every corner of the organization for more than a decade, be it from its data centers, semiconductor fabrication facilities, personal computers, handheld devices, or machine-to-machine interactions. As a foundation for their enterprise data architecture, The Company implemented their modern ERP system back in 1996. But the system was not built to handle zettabytes of data that got generated within the enterprise on a daily basis. So, The Company built its first modern enterprise data warehouse (EDW) in 2001. Surprisingly, its data management struggle did not end there. As hundreds and thousands of applications started proliferating around a stable core, many application and data silos were created. The Company’s EDW could not cope with the data proliferation. Currently, The Company supports more than 160 mobile applications and hundreds of other applications.

Challenges

The Company, being one of the largest multinational companies, with offices, data centers, and fabrication facilities all over the world, developed a heterogeneous ecosystem of tools and technologies over time, giving rise to a complex, distributed data ecosystem. As SaaS applications became mainstream, SaaS adoption within The Company skyrocketed; data oriented nomenclature grew inconsistent across business units, and the office of the CIO was under tremendous pressure to deliver business-friendly, consistent information with the lowest total cost of ownership (TCO), as well as products and services with enterprise grade security and privacy, and the fastest time-to-market (TTM). The physical EDW fell short of its promise. The Company also wanted fast, post-M&A data integration, distribute new self-service entitlements to downstream acquisition applications, and distribute directory identities to the acquisition directory. The Company also wanted to architect its enterprise data access layer for a single point of entry for HR and supplier data consumption, seamless support for data source migration, and scalable interaction among on-premises and cloud data sources. As its IT culture was not historically suited for reusable information, The Company experienced and egregious misuse of resource time and effort. As challenges became overwhelming, The Company searched for an agile data access solution.

The Solution

The Company started its journey with data virtualization as the data access layer. Initially The Company rolled out the Denodo Platform for five of its business units and achieved success with the horizontal, IT-driven approach of establishing a logical data warehouse architecture. The Company created a logical data access layer, based on data virtualization, in which its data security, data privacy, and data governance rules were centralized, and The Company also established semantic uniformity so that cross functional teams could collaborate more effectively. The logical data layer could easily integrate The Company’s HR and Supply Chain departments’ cloud and SaaS applications, filling gaps in its services portfolio. As a next phase, The Company rolled out data virtualization as its enterprise wide data access layer, accessed by more than 400 developers and thousands of business users on a regular basis. Through the data virtualization layer, The Company also standardized API registered services, lightweight data governance, and the enterprise data model.



Benefits

- With data virtualization in place, The Company accelerated the time of its average services deployments from 180 hours to 8 hours.
- Some departments reported that service disruption was prevented during migration, saving millions of dollars.
- Time-to-market (TTM) for data delivery to business users has been reduced by 90%
- The Company is able to generate tens of millions of dollars of additional revenue by significantly cutting down on TTM.
- Post-merger data integration has been greatly accelerated.

About Denodo

Denodo is a leader in data management. The award-winning Denodo Platform is the leading data integration, management, and delivery platform using a logical approach to enable self-service BI, data science, hybrid/multi-cloud data integration, and enterprise data services. Realizing more than 400% ROI and millions of dollars in benefits, Denodo's customers across large enterprises and mid-market companies in 30+ industries have received payback in less than 6 months.