GridGain

POWERING YOUR DIGITAL TRANSFORMATION WITH A DIGITAL INTEGRATION HUB

Today, due to the relatively low cost of RAM and the availability of open source software, companies of all sizes can harness the performance and scalability benefits of in-memory computing for their digital transformations. In-memory computing powers capabilities, including digital integration hub (DIH) architectures, that serve as the foundation for enterprises implementing real-time processes to improve customer experiences and become more nimble and profitable.
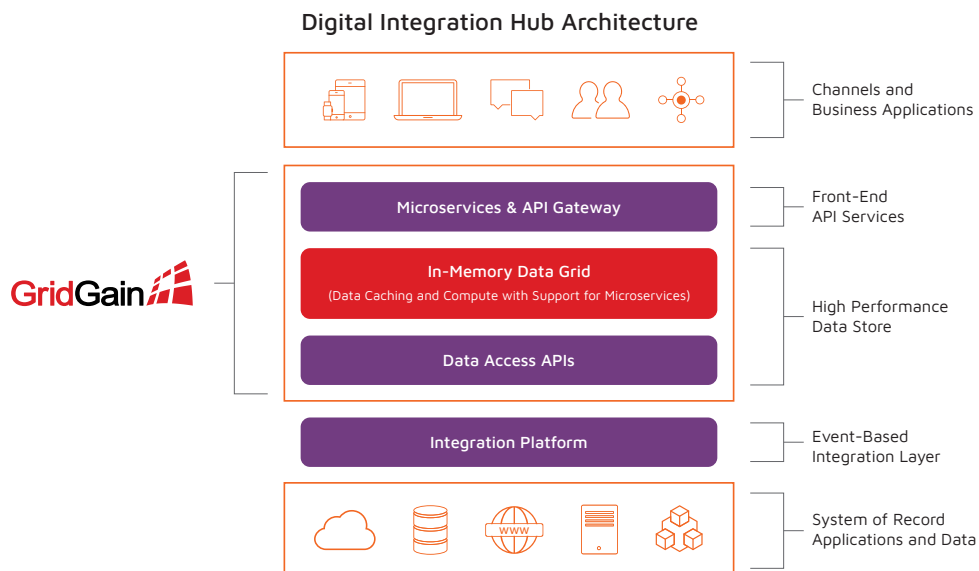
DATA INTEGRATION HUB BASICS

A key challenge to driving real-time business processes is that enterprises collect data in multiple internal and external systems, data warehouses and cloud-based data lakes which are not immediately available for processing. Utilizing this data for real-time business processes typically means making API calls to multiple data sources for every action. This makes real-time processing extremely difficult or impossible for most organizations because of data access delays and API limitations. The solution to these challenges is specialized version of a Data Hub known as a Digital Integration Hub (DIH).

In their November 2019 report, "Innovation Insight: The Digital Integration Hub Turbocharges Your API Strategy", Gartner described a Digital Integration Hub as "…an advanced application architecture that aggregates multiple back-end system of record data sources into a low-latency and scale-out, high-performance data store. A DIH typically supports access to data via an API services layer. The high-performance data store is synchronized with the back-end sources via some combination of event-based, request-based, and batch integration patterns.". They went on to say that users can leverage Data Integration Hubs to implement high-throughput, large-scale, low-latency front-end services. These DIHs can span multiple source databases and cloud-based systems while supporting many customer-facing business applications simultaneously.

THE ROLE OF IN-MEMORY DATA GRIDS

The GridGain in-memory computing platform, built on Apache Ignite®, has proven to be a key component of DIH architectures. Using a unified API, when deployed as an in-memory data grid, GridGain can cache data from many underlying data stores, including databases,

Digital Integration Hub Architecture

	Channels and Business Applications
Microservices & API Gateway	Front-End API Services
In-Memory Data Grid (Data Caching and Compute with Support for Microservices)	High Performance Data Store
Data Access APIs	
Integration Platform	Event-Based Integration Layer
	System of Record Applications and Data

SaaS applications, and incoming data streams. DIH architectures use an API services layer that automatically synchronizes the data via change data capture with the backend sources, so business applications need not make direct API calls to each data store. Line-of-business applications, such as consumer-facing websites and back office applications, can then access the cached data for real-time processing. GridGain supports business application code running on the in-memory computing nodes, providing tremendous performance benefits by parallelizing processing across the cluster.

DIGITAL INTEGRATION HUB USE CASES

At the In-Memory Computing Summit North America 2019, a representative of 24 Hour Fitness described why and how they created a DIH architecture using the GridGain in-memory data grid. That system caches data from the company's SaaS billing system, updating the cache every 15 minutes. The cached data is available to multiple business applications which can make queries to the cache without making an API call to the SaaS billing system for every operation. This dramatically reduces API calls to the SaaS billing system and ensures customers, employees and business analysts have fast access to the current information they need, from scheduled appointments to the status of membership fees. Furthermore, the company can easily write additional functions for data processing.

At the same In-Memory Computing Summit, IBM described how financial services firms can use a Digital Integration Hub to power real-time upselling and cross selling by creating 360-degree customer views. A DIH running on the IBM Z mainframe can provide real-time access to all operational data as well as a portion of a company's data lake data to drive real-time business processes.

With DIHs, retailers can combine current purchases data with inventory levels and web page visits data to power real-time recommendation engines. Companies can deploy IoT platforms which create a common data layer to process and query both current and archived sensor data to drive real-time system awareness.

A Digital Integration Hub is a powerful solution for:

- API call management and usage reduction.

- Creating common data access layers which allow many business applications to access data from many disparate databases.

- Enabling real-time analytics spanning operational and historical data.

- Many other use cases which enable digital transformation.

LEARN MORE ABOUT GRIDGAIN

The GridGain in-memory computing platform, deployed as an in-memory data grid, is a key technology powering Digital Integration Hub architectures. GridGain, which pools the available RAM and compute of a server cluster, maintains all data in RAM, eliminating the delays that arise when accessing data stored in disk-based databases. Massively parallel processing via a MapReduce approach further improves performance. As a result, the GridGain in-memory computing platform can improve application performance up to 1,000X. GridGain is a proven SQL-based in-memory data grid which supports ACID transactions. To learn more about the GridGain in-memory computing platform, download the Introducing the GridGain In-Memory Computing Platform white paper now.

CONTACT GRIDGAIN SYSTEMS

To learn more about how GridGain can help your business, please email our sales team at sales@gridgain.com, call us at +1 (650) 241-2281 (US) or +44 (0)208 610 0666 (Europe), or complete our contact form to have us contact you.

About GridGain Systems

GridGain Systems is revolutionizing real-time data access and processing by offering an in-memory computing platform built on Apache Ignite. Common use cases for the GridGain platform include application acceleration and as a digital integration hub for real-time data access across data sources and applications. GridGain solutions are used by global enterprises in financial services, software, e-commerce, retail, online business services, healthcare, telecom, transportation and other major sectors, with a client list that includes ING, Raymond James, American Express, Société Générale, Finastra, IHS Markit, ServiceNow, Marketo, RingCentral, American Airlines, Agilent, and UnitedHealthcare. GridGain delivers unprecedented speed and massive scalability to both legacy and greenfield applications. Deployed on a distributed cluster of commodity servers, GridGain software can reside between the application and data layers (RDBMS, NoSQL and Apache™ Hadoop®), requiring no rip-and-replace of the existing databases, or it can be deployed as an in-memory database. For more information, visit www.GridGain.com.