Unlocking the future of data management and analytics with Microsoft Fabric and Informatica Intelligent Data Management Cloud

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Introduction

In the digital era, data stands as the cornerstone of strategic decision-making, propelling organizations towards innovation and competitive differentiation. Without high-quality, connected and governed data, insights may remain hidden, and business opportunities missed. The vast expanses of data generated from a myriad of sources - legacy systems, streaming platforms, IoT devices, and big data platforms - often find themselves ensnared in a complex web of silos, plagued by issues of quality and governance. This fragmentation not only obscures valuable insights but also complicates ownership and stewardship, leading to missed opportunities and inefficiencies.

In response to these challenges, the quest for a unified data architecture has led to the emergence of innovative solutions designed to streamline the data-to-insight pipeline. An integrated platform should ideally include data management capabilities including data profiling, quality assurance, modeling, standardization and automation. Recent advances including Lakehouse, Generative AI, data fabric and mesh architectures have begun to address various aspects of the data-to-insight journey. Among these, the concepts of data fabric and mesh architectures have gained prominence, promising a more connected, agile, and transparent approach to data management. These solutions aim to dismantle data silos, enhance data quality, and ensure governance across the entire data landscape.

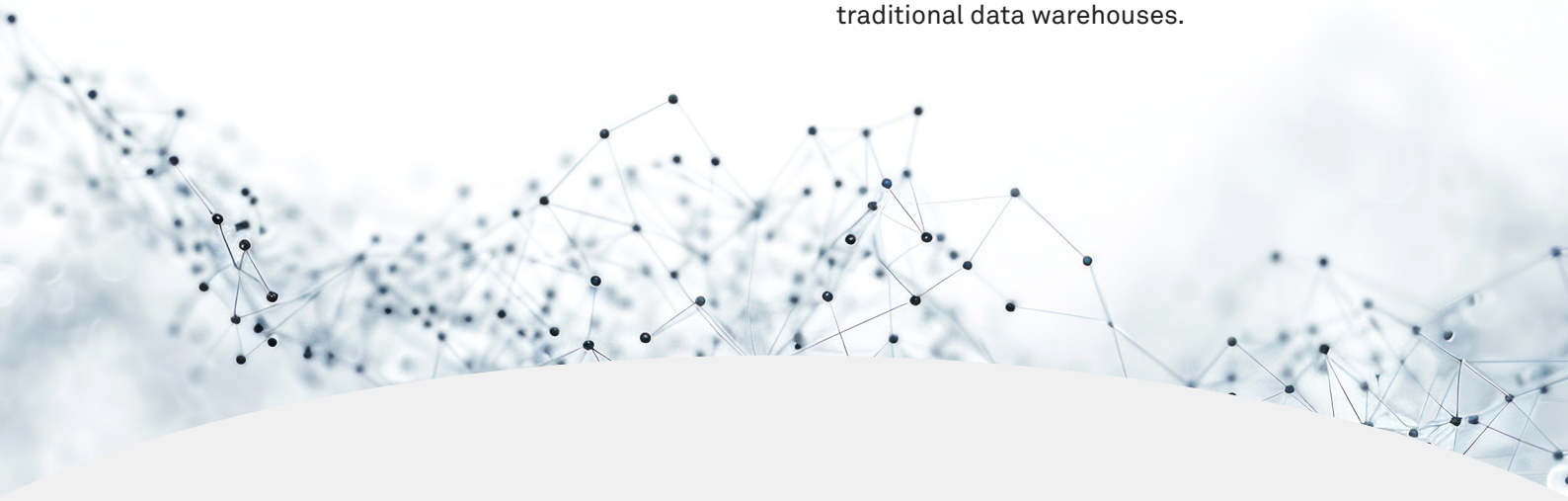
Enter the collaboration between Microsoft and Informatica, which introduces a groundbreaking solution in this space: MS Fabric, Microsoft's latest offering in the Analytica SaaS domain, and Informatica Intelligent Data Management Cloud (IDMC), a leader in enterprise data management. Together, they forge a powerful alliance, creating a cohesive and trusted data fabric architecture that stands to revolutionize the way organizations approach data analytics and decision-making. This whitepaper aims to delve into the synergies between MS Fabric and IDMC, exploring how their integration can not only address the inherent challenges of data management but also unlock new avenues for innovation and growth. The whitepaper will also demonstrate the practical applications of these technologies by highlighting use cases within the Retail and Consumer Packaged Goods (CPG) sectors. Through our partnership with Informatica, Wipro stands at the forefront, championing a seamless analytical platform that leverages the strengths of both MS Fabric and IDMC to empower organizations with reliable, actionable insights for informed decision-making.

Rise of Lakehouse and Fabric architecture

The evolution of data architecture paradigms over the last decade has been nothing short of revolutionary, driven by the relentless pace of digital transformation across industries. Traditional data warehouses, once the backbone of customer reporting and business intelligence (BI) platforms, were well-suited to handling structured data from conventional sources such as RDBMS, flat files, mainframes, SAP, etc. These systems catered to specific operational needs with data provided at predetermined intervals. However, the landscape of enterprise data has undergone a dramatic transformation, characterized by an exponential increase in volume, variety, and velocity. This shift has been propelled by the digital modernization initiatives of organizations aiming to harness real-time analytics across a rapidly expanding data spectrum.

This burgeoning demand for comprehensive, real-time analytics necessitates a paradigm shift in data management strategies. The advent of diverse data channels, including traditional OLTP systems (RDBMS/ flat file), IoT devices, streaming data, APIs, and big data platforms like Hadoop and Cloudera, calls for a sophisticated approach to data curation and cleansing. Moreover, the rising prominence of machine learning (ML) analytics applied directly to edge data further underscores the need for an architectural overhaul to accommodate these evolving requirements.

Introducing the Lakehouse architecture, a novel concept designed to bridge the gap between the scalability, flexibility, and cost-efficiency of data lakes and the robust data management capabilities and ACID transaction support of traditional data warehouses.



The Lakehouse model is adept at storing and processing data in any format—structured, semi-structured, or unstructured—sourced from a myriad of channels. This versatility enables data scientists to run AI/ML models on raw datasets, extracting valuable insights to inform strategic business decisions. Simultaneously, it supports the creation of conformed and curated data models for enterprise BI applications, facilitating the generation of operational and analytical dashboards. According to a survey conducted by Dremio among IT professionals, over 65% reported adopting the Lakehouse architecture for analytics applications within their organizations.

Building upon the Lakehouse model, the Data Fabric architecture represents a significant advancement. It ensures that trusted and qualified data is available at the right time and place, sourced from heterogeneous sources of transactional and analytical nature across hybrid and multi-cloud ecosystems. By abstracting the technical complexities of data movement, transformation, and integration, Data Fabric promotes a distributed architecture that fosters federated and unified governance. This distributed architecture facilitates collaboration and data asset sharing across lines of business (LoBs) through a data marketplace solution, significantly reducing the reliance on IT teams for data provisioning. As a result, businesses are empowered to manage and leverage their data assets more effectively, driving innovation and strategic decision-making across the enterprise.

The expanding horizon of Data Lakehouse Market

According to a report by MarketResearch.biz, the global Data Lakehouse market is expected to be worth around USD 66.4 billion by 2033, from USD 8.9 billion in 2023, growing at a CAGR of 22.9% during the forecast period from 2024 to 2033. Key drivers for Lakehouse implementations include:

Data proliferation

Managing an explosion of structured and unstructured data from sources such as streaming, IoT and product log files

Data-driven insight generation

Modernizing stale and siloed data into value generation and making informed decisions

Data source diversification

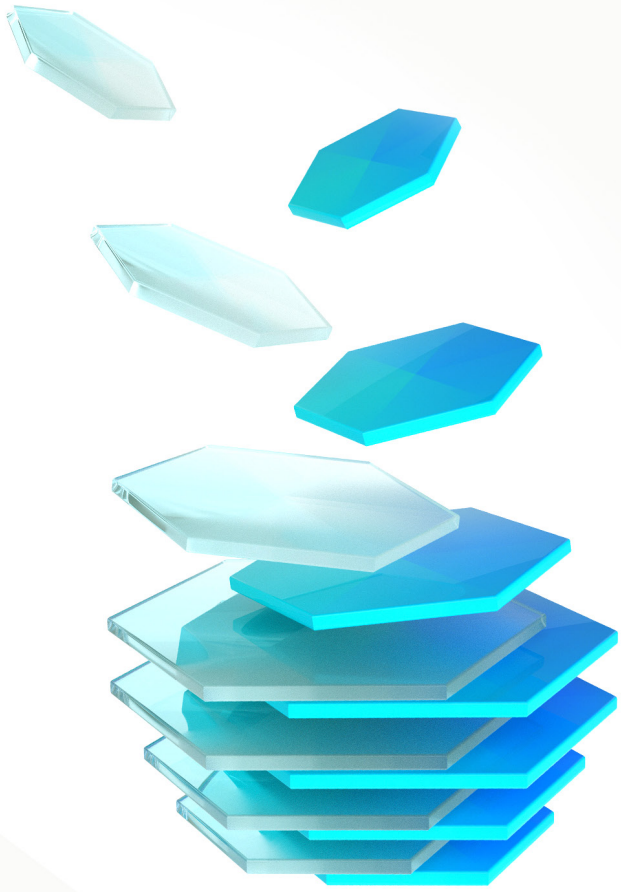
Driving value from a disparate range of source ecosystems including legacy databases, SaaS applications, CRMs, ERPs and mainframe systems

AI infusion

Incorporating AI and ML modeling for speedy insight generation and Gen AI

Harnessing Data Fabric & Lakehouse for Organizational Transformation

Building on the momentum of the transformative potential highlighted by the key drivers for Lakehouse implementations, it's crucial to explore how these innovations can be practically applied within organizational ecosystems. The synergy between Data Fabric and Lakehouse architectures offers a versatile foundation for addressing a wide range of business needs and scenarios. The scenarios listed below not only illustrate the adaptability and scalability of these architectures but also underscore their role in facilitating next-generation data management and analytics strategies:



01

Greenfield Lakehouse

For organizations embarking on the journey to establish a new analytics platform, the integration of a Greenfield Lakehouse presents an opportunity to build a reporting and analytics infrastructure that is both modern and scalable from the outset.

02

Warehouse Modernization

Enterprises looking to augment the capabilities of their existing legacy Data Warehouse (DWH) infrastructures can leverage advanced analytical systems to breathe new life into their data management practices.

03

Warehouse Cloudification

For those navigating the transition to a Hybrid or Multi-Cloud ecosystem, migrating on-premises based warehouses to a cloud like Azure Cloud represents a strategic move towards flexibility, efficiency, and enhanced data accessibility.

04

ML & Analytical Models

Organizations aiming to incorporate Machine Learning (ML) and decision science into their data platforms will find that these architectures provide a robust foundation for developing and deploying sophisticated analytical models.

05

Generative AI based Decision system

The integration of Generative AI into existing data platforms enables businesses to harness cutting-edge AI capabilities for more nuanced and dynamic decision-making processes.

06

Hybrid & Multi-Cloud Data Insight

Establishing a centralized Lakehouse within a multi-cloud and hybrid data ecosystem facilitates a unified view of data across diverse environments, enhancing insights and operational efficiency.

These use cases represent just a glimpse into the myriad ways in which Data Fabric and Lakehouse architectures can be harnessed to drive innovation, efficiency, and strategic advantage within the modern organizational landscape.

Revolutionizing Enterprise Analytics: The Power of Microsoft Fabric and Informatica IDMC Integration

About Microsoft Fabric

In the rapidly evolving landscape of enterprise data management, Microsoft introduced a groundbreaking Analytical SaaS offering in late 2023, Microsoft Fabric, designed to redefine the enterprise fabric space. Microsoft offers an end-to-end, unified analytics platform called Microsoft Fabric that brings together data and analytics tools. Microsoft Fabric brings together individual services of Azure Data Factory (ADF), Power BI and Synapse Analytics into a single AI-powered, integrated service offering enabling IT and Business Analyst to work cohesively. This convergence facilitates a collaborative working environment for IT professionals and Business Analysts alike, streamlining the analytics workflow.

Microsoft Fabric stands out with its SaaS-based integrated data analytics and AI solution encompassing end-to-end data management lifecycle within a cohesive user experience. Key features include:

One Copy Data	Establishes a centralized data storage, serving as a single source of truth with standardized format and accessibility which minimizes data duplication and enhances consistency.
OneLake	Offers Delta Lake compatible storage in Delta Parquet format accessible from the Fabric toolset, ensuring seamless access and manipulation of data.
Unified Integrated Environment	Provides a unified user experience (UX) that encompasses a comprehensive toolset for managing individual services.
One Security	Centralized admin and role-based access control (RBAC) to govern data access with precision and row-level security measures.
One Compute	Decouples computing from storage in OneLake, utilizing serverless Spark-based transformations for efficient data processing.
User Versatility	Designed to cater to a wide spectrum of users from C-level executives to data engineers by offering single source of truth, enhanced collaboration and an integrated environment.

Microsoft Fabric: Elevating Azure's Data Analytics Capabilities

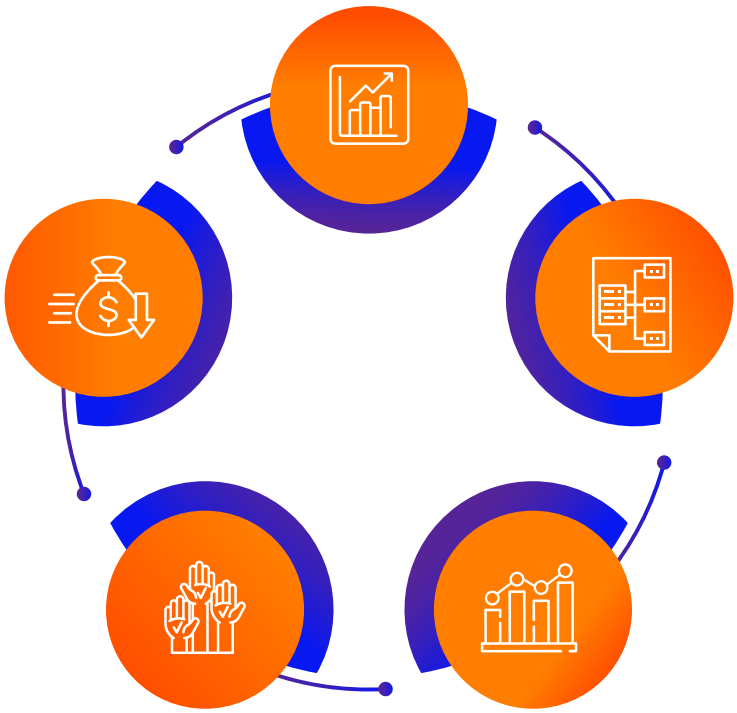
Microsoft (MS) Fabric represents a significant evolution in Azure's data analytics and AI landscape, building upon the existing PaaS offerings to introduce a unified, efficient platform. By integrating key services like Azure Data Factory, Azure Data Lake Storage (ADLS) Gen 2, Synapse Analytics, and Power BI into a cohesive system, MS Fabric offers several enhancements:

Unified Analytics Platform

MS Fabric simplifies the data management lifecycle with an integrated UX, centralizing data storage, access, and security in a way that streamlines workflows and enhances collaboration.

Reduced Total Cost of Ownership (TCO)

By offering a unified environment, MS Fabric optimizes compute resources across active workloads, contributing to a reduced total cost of ownership.



Lakehouse Architecture

Employing a unified Delta Lake storage solution, MS Fabric creates a single source of truth for data, facilitating seamless data sharing and access, and improving data consistency across the board.

Analytics Democratization

MS Fabric's integration with Microsoft 365 and embedded Power BI capabilities enable business users to directly access and analyze data through familiar tools like Excel and Teams, minimizing dependency on IT for insights.

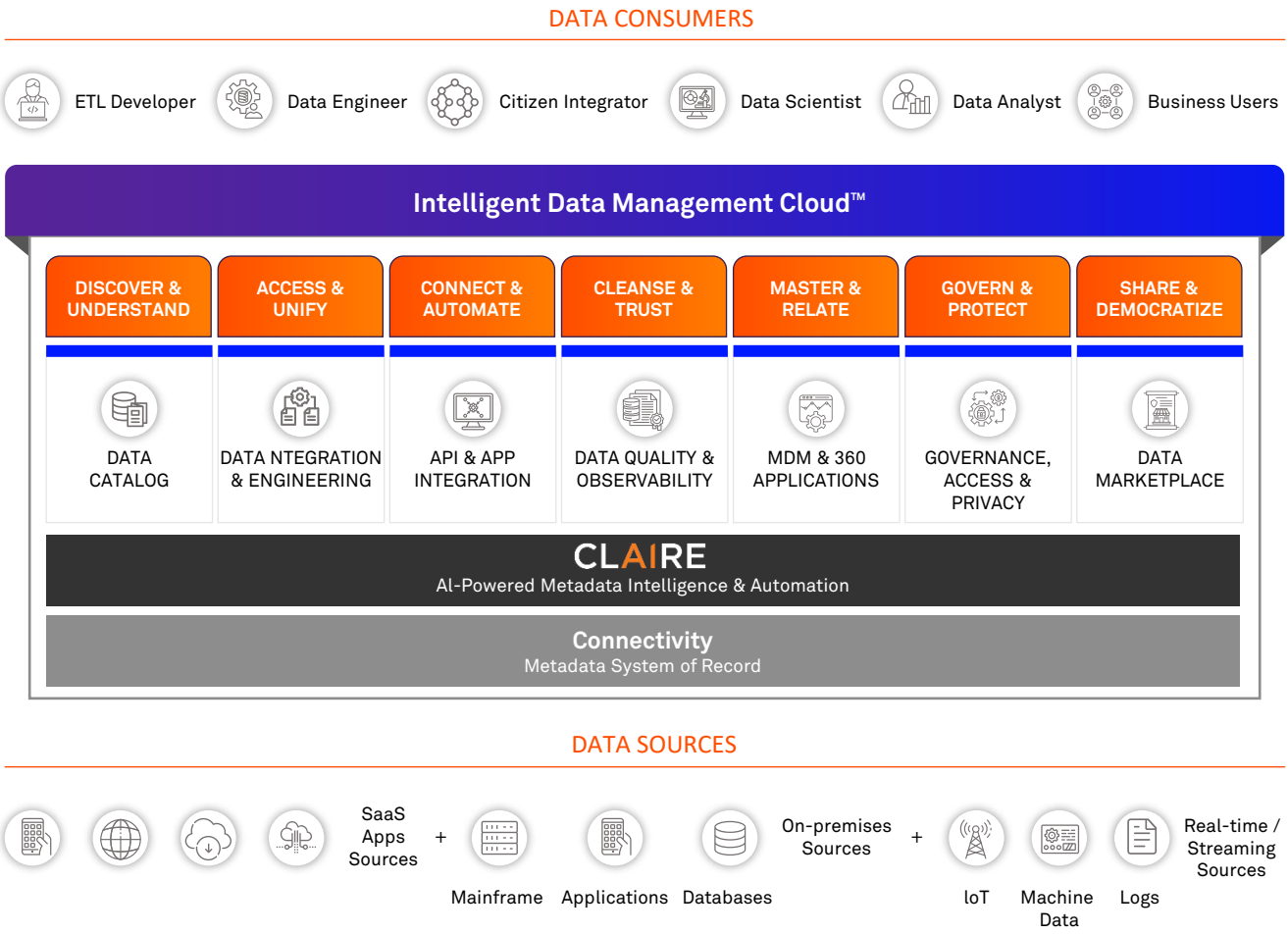
AI-Enabled Insights

With integration of Azure OpenAI and Microsoft Copilot, MS Fabric empowers developers to harness Gen AI for creating data pipelines through conversational language, enhancing strategic decision-making.

Informatica's AI-powered Intelligent Data Management Cloud

The Informatica Intelligent Data Management Cloud™ (IDMC) stands as the industry's premier cloud platform dedicated exclusively to data management, integrating a wealth of capabilities into a single, unified platform. Powered by Informatica's cutting-edge AI engine, CLAIRE®, and bolstered by over 250 intelligent cloud services, IDMC offers a robust metadata foundation layer that spans across every deployment model, API, and data pattern, catering to the needs of a diverse range of data consumers.

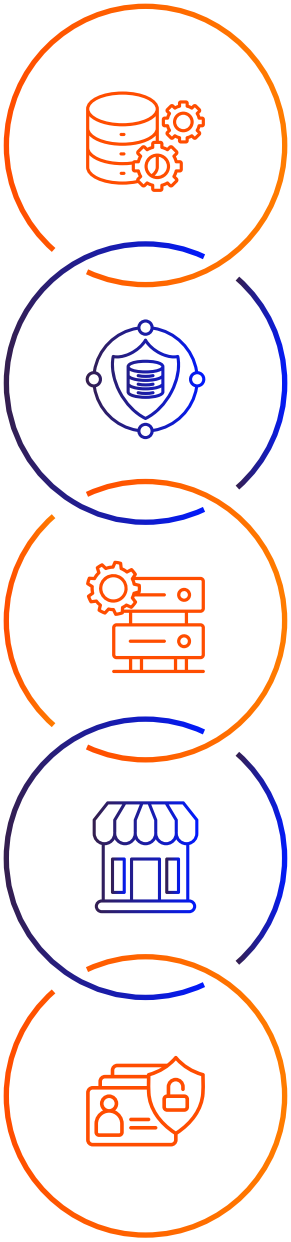
Informatica's Intelligent Data Management Cloud



IDMC's architecture ensures that the most critical data assets are not only trusted and governed but also seamlessly accessible and thoroughly connected, making data both timely and actionable irrespective of its location. This adaptability is key for supporting any cloud strategy, empowering organizations to drive forward with next-generation analytics, deliver timely customer experiences through a unified data view, and adhere to stringent governance and privacy standards. With IDMC, enterprises are well-equipped to ensure the accuracy and actionability of their data, thereby unlocking new avenues for strategic decision-making and operational excellence.

Enhancing Microsoft Fabric with Informatica IDMC: A Unified Data Management and Analytics Ecosystem

Integrating Informatica Intelligent Data Management Cloud (IDMC) with Microsoft (MS) Fabric can create a powerful ecosystem for comprehensive data management and advanced analytics. While Microsoft Fabric provides a comprehensive data management ecosystem designed to enhance the data-to-value chain, Informatica's extensive experience in data management introduces additional services and capabilities that can further enrich this ecosystem. Below are the areas where IDMC offerings can complement Microsoft Fabric:



Hybrid Ingestion & Data Engineering

IDMC enhances MS Fabric by providing Cloud Data Integration (CDI), CDI Advanced, and Cloud Data Quality (CDQ) based pipelines, ensuring trusted business data ingestion into OneLake from over 200+ diverse data storages, facilitating a seamless flow of high-quality data.

Data Governance & Classification

Through IDMC's Cloud Data Governance and Catalog (CDGC) service, organizations can achieve meticulous metadata cataloging, profiling policies, and lineage establishment, ensuring data is not only governed but also classified with precision.

Master Data Management (MDM)

IDMC's MDM SaaS solution complements MS Fabric by enabling comprehensive Customer/Supplier 360 solutions through streamlined MDM processes, enhancing data accuracy and consistency.

Data Marketplace for External Parties

The combination of IDMC's CDGC and Data Marketplace services creates a secure and metadata-driven data shopping experience for external parties, expanding the utility of data assets.

Data Privacy and Access

IDMC's CDGC service facilitates the classification of sensitive data attributes (PII/PCI/PHI) and the creation of role-based access control (RBAC) using the OneSecurity model, ensuring data privacy and security.

By leveraging the strengths of both platforms, organizations can address a broad spectrum of use cases, enhancing their data management and analytics capabilities:

Hybrid Data Management and Analytics

For businesses operating across hybrid environments, the combination of Informatica IDMC and Microsoft Fabric supports comprehensive analytics and BI, ensuring seamless data integration and quality across all locations.

Real-Time Data Processing and Analytics

This integration enables near-instantaneous insights for critical use cases like fraud detection, real-time personalization, and predictive maintenance, driving significant business value through timely data analysis.

Advanced Data Science and Machine Learning

Informatica IDMC prepares and curates high-quality datasets for machine learning, which are then utilized within Microsoft Fabric's data science tools, streamlining the workflow from data preparation to model deployment.

Data Governance and Compliance

The combined capabilities ensure that data across the analytics lifecycle is governed, secure, and compliant with stringent regulations, essential for sensitive industries like healthcare and finance.

Multi-cloud and Cross-platform Analytics

For organizations leveraging multiple cloud platforms, this integration enables a cohesive analytics strategy that spans across clouds, supporting scenarios where data needs to be analyzed cohesively to drive insights.

Data Modernization and Digital Transformation

Businesses aiming to modernize their data platforms and accelerate digital transformation can leverage Informatica IDMC to migrate data from legacy systems to Microsoft Fabric, tapping into advanced analytics, AI, and machine learning capabilities to innovate and enhance operations.

This strategic integration between Informatica IDMC and Microsoft Fabric not only augments data management and analytics capabilities but also empowers organizations to navigate complex data landscapes efficiently, unlocking new opportunities for innovation and growth.

This integration is further highlighted by Informatica's role as one of the first ISV design partners for Microsoft Fabric which was announced at Microsoft Build 2023, exemplifies the deep integration and collaboration between the two platforms.

Empowering Retail and CPG industry through MS Fabric and Informatica IDMC

Building on the foundational understanding of Microsoft Fabric and Informatica IDMC, as well as their synergistic potential, it's crucial to delve into the practical applications of these technologies within specific industry contexts. The Retail and Consumer Packaged Goods (CPG) sectors, characterized by their dynamic market conditions and consumer-centric approaches, stand to benefit significantly from the advanced data management and analytics capabilities offered by these platforms.

Let's explore how these technologies can be strategically applied in the Retail and CPG context, addressing industry-specific challenges and capitalizing on opportunities for innovation and growth. This focus is particularly relevant given the unique pressures and demands faced by these industries, from navigating consumer preferences and competitive landscapes to optimizing supply chains and ensuring sustainability. Let's delve into the relevant use cases listed below that highlight the transformative potential of these technologies in the Retail and CPG industries:

Real-Time Consumer Insights and Personalization

The amalgamation of Microsoft Fabric and Informatica IDMC equips businesses with the tools to achieve a comprehensive 360-degree view of their customers. This integration is pivotal in analyzing consumer behavior, preferences, and purchasing patterns in real-time, enabling the delivery of personalized marketing campaigns and product recommendations. Such precision in targeting not only elevates the customer experience but also bolsters sales and fosters loyalty, addressing the ever-changing consumer preferences, including the rising focus on health and wellness. Retailers can now identify trends and develop premium product lists and targeted strategies that resonate with consumer demands.

Supply Chain Optimization and Demand Forecasting

By offering a robust framework for integrating data across the supply chain spectrum—from suppliers to distributors and retailers—these technologies provide a unified view essential for advanced analytics. This capability is crucial for optimizing supply chains, anticipating demand fluctuations, managing inventory efficiently, and minimizing waste. Predictive analytics enable businesses to forecast future trends, make informed production and distribution decisions, and manage inventory effectively, ensuring sustainability and operational efficiency.

Omnichannel Retailing and Enhanced Customer Experience

In today's omnichannel retail landscape, delivering a seamless customer experience across all touchpoints is crucial. The synergy between Microsoft Fabric and Informatica IDMC facilitates the integration of data from both online and offline channels, ensuring a cohesive customer journey. This comprehensive data integration supports personalized interactions, real-time stock updates, and consistent service quality, significantly enhancing customer satisfaction and engagement.

Market Expansion and Competitive Positioning

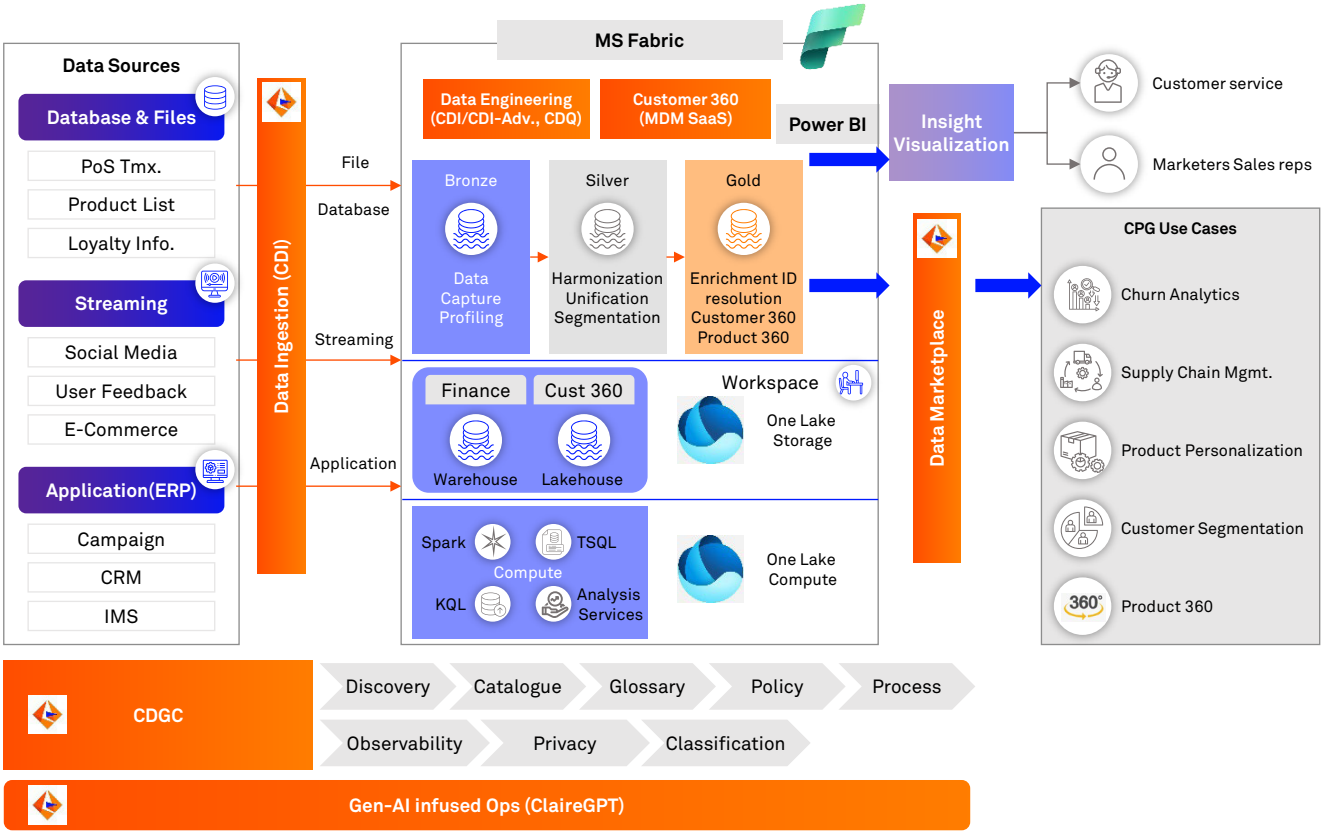
The combined capabilities of Microsoft Fabric and Informatica IDMC also empower retailers to analyze competitive pricing and consumer demand data effectively. This insight is invaluable for positioning products competitively against Direct-to-Consumer (DTC) startups and identifying new opportunities for e-commerce and quick commerce growth, especially in "Rurban" areas. Personalized offerings tailored to value-seeking consumers support market expansion and product personalization efforts, driving demand generation and customer retention in the competitive e-commerce space.

Legal & Regulatory Compliance and Sustainability

Navigating the complex landscape of legal and regulatory requirements across geographies is made simpler with the data governance and compliance framework provided by these technologies. This ensures that retailers can adapt their strategies to meet local standards without compromising data utility (e.g. in USA combined cell/internet behaviors can be shared for marketing, but not in Europe). Furthermore, the emphasis on sustainability is addressed through the capability to track and report on sustainable practices effectively. The optimization of supply chains further supports sustainability goals by improving demand forecasting and stock replenishment processes, ensuring that retailers can meet consumer demand in an efficient and sustainable manner.

MS Fabric and Informatica IDMC jointly can address these Retail use cases through effective augmentation of its Data Management capabilities and provide unified view of trusted and conformed data ecosystem to organizations to carry out its AI/ML and Analytical forecasting models. A sample architecture of customer Segmentation and Retention analysis for CPG customer is depicted below.

Implementing Customer Segmentation for CPG with MS Fabric & IDMC



The Strategic Informatica-Wipro partnership for Advanced Data Management and AI-driven Solutions

The partnership between Wipro and Informatica represents a pivotal alliance in the realm of data and AI-driven technologies, positioning us uniquely to offer integrated platform services using Microsoft Fabric and Informatica IDMC. As a GSI partner for Informatica, Wipro has cultivated a deep and strategic relationship with Informatica, highlighted by over 3000 Wipro professionals specialized in Informatica and over 1000 implementations for more than 150 customers globally.

Our partnership focuses on leveraging Informatica's and Wipro's vast industry expertise to offer cutting-edge solutions in data modernization, master data management, data governance, and more. This collaboration is designed to propel our customers into the future by modernizing their data management systems and enhancing their data analytics capabilities with AI-powered insights.

Conclusion

The integration of Microsoft Fabric and Informatica IDMC offers a compelling solution to the challenges faced by businesses in the modern data landscape. By combining the strengths of both platforms, organizations can achieve a unified, efficient, and scalable approach to data management and analytics. This synergy not only addresses the current challenges but also positions businesses to leverage their data for competitive advantage in the evolving digital economy.

Sugata Saha

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Sugata has 19 years of experience in the field of Data Warehouse, Data modelling, Data Integration and Business Intelligence Architecture. He is currently working as a senior Data Management Solution Architect in Information Management service line with key focus on development and go-to-market strategies for Informatica-based business solutions.

About Informatica

Informatica (NYSE: INFA), a leader in enterprise AI-powered cloud data management, brings data and AI to life by empowering businesses to realize the transformative power of their most critical assets. We have created a new category of software, the Informatica Intelligent Data Management Cloud™ (IDMC), powered by AI and an end-to-end data management platform that connects, manages and unifies data across virtually any multi-cloud, hybrid system, democratizing data and enabling enterprises to modernize their business strategies. Customers in approximately 100 countries and more than 80 of the Fortune 100 rely on Informatica to drive data-led digital transformation. Informatica. Where data and AI come to life.™

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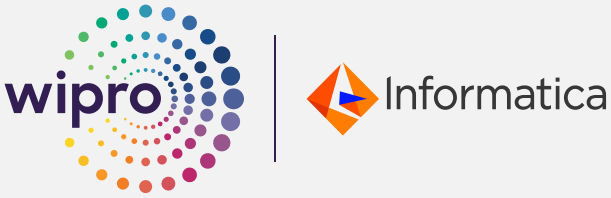

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