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About Eckerson Group

Eckerson Group helps organizations get more value from data and analytics. Our experts each have more than 25+ years of experience in the field. Data and analytics is all we do, and we’re good at it! Our goal is to provide organizations with a cocoon of support on their data journeys. We do this through online content (thought leadership), expert onsite assistance (full-service consulting), and 30+ courses on data and analytics topics (educational workshops).

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Executive Summary

Integration and Data Management complexities have increased substantially with the explosion of technologies that are in use today. The variety of data types, data sources, data velocities, deployment platforms, users and use cases has grown rapidly and continues to expand. Enterprise assets such as applications, data, and metadata that were once deployed almost exclusively in on-premises data centers are now widely distributed across networks, and running on multiple platforms including multi-cloud and multiple partner platforms. Data and queries for data stream in real time from social networks, mobile and IoT devices.

Data and application integration is critical for digital transformation. However, today’s complex IT landscapes inhibit integration when each unique deployment—both cloud and on-premises—becomes a silo. Traditional integration tools aren’t capable of cross-platform integration, so integration becomes a costly, labor-intensive, and time-consuming process.

The Hybrid Integration Platform (HIP) has emerged as a practical solution to hybrid and multi-cloud integration and data management. HIP supports seamless integration of applications and data across multiple deployment platforms—any combination of cloud and on-premises—without requiring that the integrator know the location of data and applications or the supporting technologies. HIP is the integration counterpart to hybrid data deployments that span cloud, multi-cloud, and on-premises databases. It is designed to support integration use cases of all types with security and governance built in to the integration processes.

Hybrid integration is quickly becoming a critical piece of the digital transformation infrastructure. The question is not if you’ll need HIP, but how soon will you need it. To prepare for the future of integration and data management, organizations must consider HIP as a core component. As you plan your HIP strategy, be sure to consider the five must have capabilities of a comprehensive HIP solution:

- Support any user from citizen integrators to tech-savvy specialists.
- Support for any data at any location, structured or unstructured, and stored or streaming.
- Support for any data integration pattern from batch ETL to real-time and streaming, and for all application integration patterns including integration among SaaS, ERP, and legacy systems, B2B integration, and process integration,
- Support for multi-cloud and hybrid integration with extensive cross-platform capabilities.
- Artificial intelligence and machine learning (AI/ML) for smart integration and automation.
Next Generation Integration and Data Management

New Challenges for Integration and Data Management

Complex IT Landscapes
Integration and Data Management complexities have increased substantially with the explosion of technologies that are in use today. The variety of data types, data sources, data velocities, deployment platforms, users and use cases has grown rapidly and continues to expand. Enterprise assets such as applications, data, and metadata that were once deployed almost exclusively in on-premises data centers are now widely distributed across networks, and running on multiple platforms including multi-cloud and multiple partner platforms. A typical IT landscape today includes on-premises data and applications as well as data and applications in multiple cloud platforms. (See figure 1.) Integrating and managing data and applications across today's multi-cloud hybrid landscape brings new challenges and requires a new approach.

Figure 1. Complex Modern IT Landscape
More Data Use Cases
Traditional data applications from the legacy BI world—dashboards, scorecards, OLAP analysis, and reporting—continue to be needed, but they are now but a small subset of a wide range of data consumption use cases. Analytics and data science have radically expanded the variety of use cases to include applications for exploration, discovery, forecasting, prediction, prescription, automation, and machine learning. Data science applications integrate data from many sources, often blending data in ways that are unique to individual analytic modeling activities. Unique and specialized data integration needs may require on-demand and self-service integration.

More Applications Use Cases
Traditional applications running in silos are a thing of the past. Today businesses need to integrate and automate processes across departments, and process integration needs application integration. Multiple applications participate in business workflows. In sequential workflows applications use the results produced by prior applications in the flow and provide their results to subsequent applications. In concurrent workflows, simultaneously executing applications must communicate and share results. When the applications that participate in a workflow include partner applications outside of the enterprise, they need to share data and to pass flow of control across firewalls and partner ecosystems. They need to integrate and communicate in real time because business processes happen in real time. When one application produces a data stream, subsequent applications need the ability to consume streaming data at high speed and high volume. Salesforce receiving customer data in real time from an ERP system is a basic example of an application use case. A more complex example occurs with a digital store where the data and workflows of an e-commerce application such as Shopify must integrate with your ERP system for order fulfillment, which then triggers B2B data exchange with a shipping and delivery partner application.

More Types of Integrators
Along with growth in data and application use cases, we’ve experienced expanding numbers and types of users. Data scientists, data analysts, business analysts, report writers, application developers, citizen integrators, and ad-hoc integrators each have different needs for and expectations of data and application integration. Adoption of self-service BI and analytics substantially increases the variety and volatility of integration requirements. The demand for integrated applications and data often outstrips the supply. IT departments, data engineers, and software engineers don’t have the capacity to produce all of the data and application integration processing that is needed. Self-service integration has become the new norm. Modern integration tools must support self-service integrators and offer user interfaces that work for everyone from technology novices to the tech-savvy individuals.

Speed, Scale, and Agility
Agile business needs agile data management. Fast data is a priority for business decision makers who depend on low latency data and agile analytics to get information and answers at the speed of business. For many, fast data has become routine but fast analysis continues to
be elusive. The problem is the data integration bottleneck. Fast data alone is not enough. Agile business needs fast data and fast integration for data at any volume.

**What is a Hybrid Integration Platform?**

A hybrid integration platform (HIP) is a framework (see figure 2.) that supports all integration use cases for all types of data and applications. It supports seamless integration of data and applications across multiple deployment platforms—any combination of cloud and on-premises—without requiring that the integrator know the locations and technologies.

HIP is designed to support all integration users of all types and has security and governance built in to the integration processes. HIP also serves as conceptual architecture for a comprehensive integration technology infrastructure.

**Figure 2. Hybrid Integration Framework**
Why HIP?

Data and application integration are fundamental to digital transformation. Data silos and isolated applications are among the biggest barriers to digital transformation success. As enterprises work to modernize legacy systems and data management practices, integration is a key consideration. Digital transformation requires new business capabilities—ability to meet new business challenges, to create a culture of innovation and agility, to scale to meet growing demand for products and services, and to meet modern consumer expectations for highly mobile and frictionless transactions—all dependent on seamless connections across many data resources and business applications.

Data integration needs to be adaptable to many different use cases and to modern data ecosystems. The relatively simple world of data warehousing has been displaced by complex ecosystems that include data lakes, data warehouses, master data management, reference data management, and application data management. The one-size-fits-all, data warehousing vision of the past—a single integrated data source and single version of the truth—doesn’t meet today’s business needs. Data scientists, for example, frequently prefer to work with raw data where many self-service data analysts need data that is cleansed and aggregated. Data lakes and data warehouses share the bulk of data integration responsibilities today, and they must be connected and complementary. With more data, more data consumers, and more use cases multiple integration patterns and on-demand integration are needed. Multiple kinds of integration and diverse data and integration requirements amplify the need for situational and use case specific data integration processes. Adoption of self-service analytics makes self-service data integration a necessity. Increasing demand for speed and agility makes on-demand real-time integration a priority. Proliferation of cloud data sources and data stores combined with continued use of on-premises data centers makes cross-platform data integration critical. Cross-platform and across public network integration makes security a top-level consideration.

Application integration needs to be adaptable to many different use cases and to support relationships and dependencies among business processes. For example, marketing, sales, and customer care are interconnected business processes. Yet a typical applications landscape may include Marketo for marketing automation, Salesforce for sales pipeline management, and Netsuite CRM for a 360-degree customer view. Knowing and applying customer preferences helps to increase effectiveness of marketing campaigns, but Marketo must talk to Netsuite CRM to make this practical. Cross-sell and up-sell opportunities are found through 360 customer views and are enabled when Salesforce and Netsuite CRM communicate. Call center servicing of customers gets advantage from 360 customer views and may also need to know when the customer has pending sales and at what points in the sales pipeline, creating the need for CRM and Salesforce to connect. With these examples and many more, application integration is more than simple data sharing. It is real-time communication between applications.
A Guide to Hybrid Integration Platforms

A Look Inside HIP

Five Must-Have Capabilities

A comprehensive, robust, and full-featured HIP must provide five core capabilities to meet all of today’s integration and data management needs and readily adapt to future needs. HIP must support:

- **All Integrators**—Integrators span a continuum from highly data literate and tech-savvy data scientists, data engineers, and application developers to technology novices who work in self-service mode. The HIP must support all users along the continuum with interfaces that allow complex data pipelines, scripting and custom coding for the tech-savvy to build integrations, and visual code-free interfaces for the less technical self-service integrators to assemble integration processes.

- **All Data**—Data variety has expanded rapidly in recent years as companies embrace big data and data engineering challenges. Similarly, data velocity has accelerated with increasing expectations for real-time and very low latency data. HIP must support all data types—structured, unstructured, semi-structured, and multi-structured—and all velocities from batch extracts to data streams regardless of data location, form, or format.

- **All Patterns**—Integration patterns describe various methods to achieve data and application integration. Extract-transform-load (ETL), for example, is a common data integration pattern, and remote procedure call (RPC) is common in application integration. These are but two examples of many patterns for data and application integration. HIP must support all of the patterns, even going beyond traditional data and application integration to include patterns for data quality improvement, master data management (MDM), business process integration, and business-to-business (B2B) integration.

- **Multi-cloud hybrid integration**—The complex data and application landscape described earlier in this guide describes the driving force that creates demand for multi-cloud hybrid integration. A typical IT landscape today includes on-premises data and applications as well as data and applications in multiple cloud platforms. Each platform is a silo, which makes integration difficult for data engineers and application developers, and nearly impossible for non-technical citizen integrators. To overcome these integration barriers, HIP must support cross-platform integration with access to on-premises data and multiple cloud environments.

- **AI/ML**—Hybrid integration must be smart integration, employing AI/ML to enable many intelligent integration capabilities such as discovering data relationships, detecting data quality deficiencies, and providing recommendations to data
integrators. AI/ML coupled with intelligent metadata and a data catalog is the heart of a smart data integration platform.

**Additional HIP Capabilities and Requirements**

To meet modern integration needs, HIP must deliver several capabilities including:

- **Traditional on-premises data integration**—Integrating data and applications that reside exclusively on-premises is a continuing need. New integration requirements expand the scope of data and application integration. On-premises integration should not be separated or isolated from all other integration processing.

- **Integration Platform as a Service (iPaaS)**—iPaaS is a cloud-based hybrid platform to build and deploy integrations within cloud systems and between cloud and on-premises systems. Complex data and application integration flows can be built from scratch by reusing existing components and scripting or coding new components as needed. iPaaS is well-suited for all integrators from non-technical data consumers to highly technical data engineers. iPaaS also reduces IT workload, reducing the burden of supporting multiple integration tools and replacing with a platform that is vendor hosted and managed.

- **API management**—Application program interfaces (APIs) are the services that allow software components to communicate and interact. APIs are common in app-to-app integration, orchestrating end-to-end business processes across systems, and are used to implement data access and data exchange in some data integration systems. API management oversees the processes of designing, publishing, documenting, and registering APIs in a secure environment.

- **Data security and protection**—Securing data from unauthorized access and protecting it from intrusion, corruption, and loss are basic requirements for any data management activity. Data integration must secure and protect data both at rest in databases and in motion when moving across networks. Cloud, multi-cloud, and hybrid integration flows are particularly sensitive to protecting data in motion because data is typically transported across public networks (the internet).

- **Data governance features/functions**—Security and protection are only the beginning of data governance considerations. Data integration must also consider regulatory compliance with a wide range of industry-specific regulations (e.g. healthcare, banking) as well as more general regulations such as GDPR/EU control of data locations. Data quality is another governance consideration that is frequently intermixed with integration processing. Traditional data quality tools are rarely cloud-based, so cloud and hybrid integration processes may depend on HIP to provide data quality features and functions. Informatica is one of the few vendors that offers data quality in the cloud both independently and as part of a comprehensive HIP solution.
• **Operations and orchestration**—Data integration workflows, when deployed, become operational data pipelines. AI-based operations and orchestration features help to ensure that the data pipelines are executed when needed, scale to meet SLAs, and are sustainable in the operations environment. Smart operations capabilities manage scheduling, resolve resource conflicts, and avoid disruption when processing errors and exceptions occur. Smart orchestration oversees configuration, coordination, and management of the computing environment in which data pipelines are executed.

**HIP Components and Architecture**

The list of requirements described above is a tall order, and it takes many HIP components to meet all of those requirements. Expanding the HIP framework for a closer look (see figure 3) helps to understand how it all works.

The integration and data management value chain connects business applications with data to be integrated, and with several intermediate components.

- **Business applications** are a logical beginning to explore the framework. They are the source of data integration requirements. Data science, analytics, business intelligence, and reporting applications all depend on data and they frequently need to integrate data drawn from multiple sources. Ultimately, business applications are the means by which data produces value, delivering trusted information to business leaders and decision makers to support informed decisions and deep insights.

- **Data and integration stakeholders** comprise many different roles in data consumption and data management, each with opportunity to gain agility and advantage through HIP. Data scientists, data analysts, and data engineers use HIP to break down data silos and blend and harmonize data deployed across multiple platforms. Citizen analysts and integrators are able to bring together data and applications without the struggles of cross-platform integration. Architects and application developers have new-found freedom to choose the best-fit platform for each deployment without assuming technical debt for future integrations. Business leaders are able to leverage the full scope of enterprise data and applications to drive insights, innovation, and digital transformation.

- **User interface** (UI) is the means by which consumers build integration flows and access data. As already discussed, user interface must support the full range of consumers from highly-technical to technology novices. Considering the wide spectrum of data and integration stakeholders, UI must be visual, intuitive, and adaptable to many different roles and skill levels.

- **Data integration** blends and harmonizes data from multiple, disparate sources to produce useful, meaningful, and trustworthy data to be used for reporting,
analysis, data science, machine learning, and automation. Data warehouses and
data lakes are common targets for integrated data that is widely shared. Data
scientists, data engineers, citizen analysts, and citizen integrators frequently need
to produce integrated datasets tailored to individual and specific use cases.

Figure 3. HIP Components and Architecture
• **Application integration** implements sharing of processes and data among multiple applications in an enterprise, enabling end-users to access data and functions from independent and disparate applications through a single user interface. Disparate applications are common within an enterprise, and application integration is essential to design and operate business processes that span multiple applications. When applications externalize logic and business rules, the logic can be shared by many applications. Consistency of logic across applications, together with automated and guided workflows deliver a high-quality user experience and provide users with contextual and interactive access to data. Application integration is not confined by enterprise boundaries. Business-to-business (B2B) and business process integrations are common application integration use cases. Integrating live operational data in real time between two or more applications is an essential application integration capability implemented and automated using orchestration, APIs, and messaging to propagate data from one data source to another. Unlike batch data integration, application integration is typically event-driven and must be done in real-time. API management is a core component of application integration.

• **Data management** encompasses data engineering, master data management (MDM), and reference data management (RDM). Data engineering organizes and processes large volumes of data, both structured and unstructured, to meet goals for data quality and accessibility. Data engineering is an essential enabler of modern business intelligence and analytics. MDM/RDM is the means by which organizations connect, reconcile, and quality assure shared reference data across multiple applications, databases, and business processes. MDM/RDM optimizes data sharing among people, processes, and departments.

• **Integration patterns** are standard methods of integrating data and applications. They are abstractions that describe integration processes without including details of the data. Extract-transform-load (ETL) is a commonly used and well-known pattern, but it is only one of many patterns. Integration hubs is another common pattern that relies on publish-and-subscribe architecture instead of traditional point-to-point integrations. Other patterns focus on application integration, data stream integration, APIs, message-oriented, B2B, and many more. Integration patterns are the templates upon which unique integration flows are based.

• **Data and application connectors** are software components that encapsulate the protocols needed to connect with any kind of data and applications regardless of structure and implementation technology, at any network location, and on any platform whether on-premises or cloud.
• **Infrastructure Platforms** are the locations at which data and applications are deployed. Platforms include on-premises data centers, cloud-hosted data such as data warehouses and data lakes, and cloud-based software as a service (SaaS) applications.

• **Data** is the raw material of integration. HIP supports any kind of data—structured, unstructured, semi-structured, and multi-structured. Data is accessible regardless of database type which may be relational, NoSQL, geospatial, tagged files (XML, JSON), delimited files (CSV, pipe delimited, etc.), object stores, and more.

HIP includes several additional components that enable and support the integration and data management value chain:

• **AI/ML** provides the intelligence in a smart HIP system. Algorithms and machine learning are used throughout to provide recommendations to integrators, and to support automation and orchestration.

• **Metadata management** is the foundation of a data catalog and unified data management platform that supports AI/ML automation and recommendations, tracks data lineage and data usage, and much more.

• **Data catalog** is a core component of data management that support capabilities for data integrators to search for data, understand and evaluate data, and collaborate and share knowledge about the data that they work with.

• **Data Ingestion** encompasses the processes that bring data into the ecosystem. A variety of ingestion methods span the continuum from high-latency batch processing to real-time and data stream ingestion. Batch ingestion typically occurs as ETL and/or ELT processing. The degree of latency is a function of batch processing frequency with mini- and micro-batch methods sometimes used to achieve near-real-time ingestion. Stream processing is typically event driven and ingests data in real time. Change data capture (CDC) can be used to create data streams from operational systems for real-time data ingestion.

• **Data quality and governance** are fundamental to producing and delivering trustworthy data and trusted information. Quality management can be particularly challenging when working with large volumes of unstructured and differently structured (non-relational) data. Smart data quality management based on AI/ML overcomes many of the challenges. Data governance helps to build trust through applied standards, consistent meaning, and shared definitions. Intelligent metadata—combining AI/ML with metadata management—is a key enabler of rich and robust data governance (e.g. automatically mapping business terms to data artifacts).
• **Data privacy and protection** are essential capabilities for safekeeping of data. Today’s abundance of data includes many kinds of sensitive personal data—personally identifying information (PII), private health information (PHI), payment card information (PCI)—as well as sensitive business data. HIP makes data readily accessible, but it must also protect sensitive data from unauthorized access, and must ensure compliance with regulatory constraints and corporate policies that govern sensitive data.

• **Administration and governance** provide capabilities needed to administer the HIP for scalability, performance, availability and reliability as well as enabling the governance features and functions for data protection and regulatory compliance.

• **Operations and orchestration** support production environment and runtime execution of integration processing including scheduling, conflict resolution, configuration, and coordination of computing resources.

## HIP Implementation

### Implementation Planning

A hybrid integration platform is not a turnkey solution. As illustrated by looking at capabilities, components, and architecture HIP is comprehensive and far-reaching. It has impacts and implications for data, technology, people, processes, and culture. HIP implementation success begins with planning, and planning begins with implementation model decisions.

### Implementation Models

HIP can be implemented using any of three models—centralized, shared, or federated. The centralized model implements only one HIP platform and the implementation is done by a single team. The shared model also implements a single platform, but multiple teams participate in the implementation process. The federated model has multiple teams each implementing a HIP platform. Choosing the right model depends on the size and culture of the organization.

Centralized implementation works well for small to medium sized businesses where the scope is manageable and where business units have similar or uniform characteristics. Similarity of business processes, practices, and data/information needs makes the one-team, one-platform approach practical.

Shared implementation is suited to large organizations and global corporations that operate in many locations and have multiple subsidiaries, but have the similarities and uniformities of working with a common operating model. For these organizations a single HIP platform meets the needs but implementation teams must span across all locations and subsidiaries.
Federated implementation is the best choice for large organizations and multi-national corporations where different locations and subsidiaries operate somewhat autonomously. Localized processes, practices, and operating models that vary widely make a single HIP platform impractical. For these organizations multiple HIP platforms, implemented by different teams meets the needs of each location or subsidiary. Federated implementation is complex but necessary to respond to the heterogeneous culture. Federated governance then becomes a key to success, ensuring that diversity of practices doesn’t create unnecessary data disparity.

Implementation Challenges

Perhaps the biggest challenge when implementing a hybrid implementation platform is stitching together tools from multiple software vendors. To function as a platform, the tools must be fully interoperable and to provide the ideal user experience they must interoperate seamlessly. Metadata sharing and AI/ML algorithmic consistency are limited. Once implemented, sustainability becomes a new challenge as tool upgrades move at different speeds and vendor roadmaps go in different directions. It is important to choose tools to deliver the optimum user experience while minimizing technical debt.

User adoption may be a challenge as some individuals and organizations are always reluctant to change. HIP will take the citizen integrator out of their comfort zone of integrating data using spreadsheets or the data preparation features built into their self-service data analysis tool. Data engineers and application developers may initially resist as they experience fear of automation or simply fall into “not invented here” behaviors. As is true for any major initiative, pay close attention to the human side of change management.

Connecting with all data sources is sometimes challenging. If your data center and your legacy systems still support technologies such as VSAM, hierarchical file systems, and older database technologies, connectivity may be difficult. The scope of vendor provided connectors and the ability to build your own connectors can be important implementation considerations.

Bridging the gap from reusable to reused is an important part of the value proposition. HIP includes many reusable components including integration patterns, APIs, data connectors, workflow templates, etc. Look for AI-based automation and recommendations as a way to maximize reuse.

Implementation Best Practices

Remember that HIP success requires more than technology. Successful HIP implementation addresses people, processes, and business impact as well as technology. As you plan and execute HIP implementation, keep these ten best practices in mind to guide you to success.

- **Drive business value.** Focus on visible areas of business priority to accelerate and optimize integrations that have significant business impact.
• **Minimize the number of vendors and tools.** Remember that seamless interoperability is essential and that stitching together multiple tools is not only an implementation challenge but an ongoing maintenance and operation risk.

• **Maximize use of existing knowledge and skills.** You already have existing data integrators and data subject matter experts. HIP doesn’t replace them, and HIP implementation derives great value from their participation. Their buy-in is a key to adoption. Inviting their participation and recognizing their value helps to achieve buy-in.

• **Support all roles and personas.** From novice to tech-savvy, from citizen to specialist, from integrator to analyst, all data management stakeholders are individuals with a variety of needs and expectations. Recognizing stakeholder uniqueness and providing features, functions, and support for all personas ranks high among the keys to adoption.

• **Engage all stakeholders.** Involve stakeholders from the beginning. You will be aware of their interests and needs, and they will be aware of your plans to modernize integration. You’ll avoid surprises and gain supporters and advocates through early stakeholder participation.

• **Foster collaboration.** HIP goes beyond data sharing to support shared integration processes. Efficiencies and consistencies gained through sharing of integration processes and elimination of redundant integrations are part of the HIP value proposition. The data catalog contributes to collaboration and shared integration processes through data discovery and recommendations, metadata tagging, data lineage, user comments, ratings, and certifications.

• **Automate as much as is practical.** Integration can be complex, labor-intensive, and time-consuming, but much of the work can be accelerated through automation. Using AI/ML to discover data relationships, detect and correct data quality defects, recommend integration steps and workflows, and orchestrate integration processes saves time, reduces labor, and improves both data management and business agility.

• **Maximize reuse of APIs and connectors.** APIs and data connectors are reusable components that help to shift data integration from hand-crafting to assembly. Speed, consistency, and maintainability are substantial benefits of maximum reuse.

• **Make data protection a high priority.** Don’t let the need for speed compromise security of your data. In an age of hacking and high-frequency of data breaches, data protection is a must. Self-service data integration doesn’t put data at risk if the HIP implementation prioritizes privacy, protection, and security.
• **Set goals, then measure, monitor and improve.** Define a few goals that capture the essence of what you’ll achieve with HIP—perhaps in areas such as business impact, agility, speed, adoption, quality—then measure and monitor progress toward achieving those goals. The right goals and measures will help to manage the implementation process and ongoing HIP operations.

## HIP with Informatica

**Informatica HIP Reference Architecture**

Informatica has a long history and a rich legacy in data integration and enterprise cloud data management. As the world of data management evolved, Informatica kept up with the pace of change through continuous innovation. Today they offer a comprehensive Hybrid Integration Platform to effectively deliver data and application integration and sophisticated data management capabilities across an increasingly complex multi-cloud, hybrid landscape. Informatica covers all the bases, addressing every core capability of a powerful HIP as illustrated in their Reference Architecture for Hybrid Data Management. (See figure 4.)

*Figure 4. Reference Architecture for Hybrid Data and Application Integration*
Although organized slightly differently from the HIP architecture illustrated in figure 3, all of the essential components and capabilities are supported in the Informatica reference architecture: support and user interface for all stakeholders, data integration, application integration, data engineering, master data management, integration patterns, data connectors, and support for hybrid multi-cloud integration. Critical functions of data cataloging, AI/ML, data privacy and protection, and robust data quality and governance capabilities are integrated into the Informatica HIP, and essential administrative functions of monitoring and tracking are fully supported. Operationalization of integration workflows is enabled with orchestration capability for all integration patterns. Informatica’s HIP delivers and enterprise-grade iPaaS that fulfills all critical requirements for successful data management across multi-cloud and hybrid environments.

Informatica Differentiators

Informatica looks to simplify IT complexity by enabling a true hybrid integration platform (HIP) built on a modern cloud microservices-based architecture. It provides a single, comprehensive, scalable, and enterprise-grade iPaaS that leverages the power of AI and machine learning. Informatica’s core focus is to empower all users to deliver business value quickly with a common user experience across all products that facilitates productivity across the platform.

A typical HIP implementation involves stitching together many tools from different vendors and facing the interoperability challenges described earlier. Breadth of tools and inherent interoperability among the tools with Informatica’s iPaaS mitigate the complexity of a multi-vendor solution. The CLAIRE engine at the core of Informatica’s reference architecture provides what they describe as Enterprise Unified Metadata Intelligence. Blending AI and metadata in a single engine that is applied across all components of the HIP achieves consistency, ensures seamless interoperability, and simplifies and accelerates the work of data and application integration and data management.
Get Started with HIP

Hybrid and multi-cloud deployments are a permanent and irreversible reality of the modern data management landscape. Hybrid integration is quickly becoming a critical piece of the data management puzzle. The question is not if you’ll implement HIP, but when you’ll implement. When you’re ready to get started with HIP, we recommend that you:

• Identify your HIP-driving initiatives—digital transformation, cloud migration, IoT and data streams, mobile business, etc.—to craft the business and technical cases for HIP.

• Identify the HIP components that you already have (often the traditional DI tools). Don’t overlook the citizen selected tools that often become an inherited IT support burden.

• Identify the gaps in your HIP components. Remember that gaps include both missing components and inadequate interoperability among components.

• Identify the right technologies for highly-effective and sustainable HIP.

• Build HIP into technology architecture and roadmap.

• Identify and engage your data management stakeholders.

• Plan and execute your HIP implementation.

As you undertake your HIP journey, follow the steps above and carefully consider all of the information and advice provided in this guide.
About Eckerson Group

Wayne Eckerson, a globally known author, speaker, and advisor, formed Eckerson Group to help organizations get more value from data and analytics. His goal is to provide organizations with a cocoon of support during every step of their data journeys.

Today, Eckerson Group helps organizations in three ways:

- **Our thought leaders** publish practical, compelling content that keeps you abreast of the latest trends, techniques, and tools in the data analytics field.

- **Our consultants** listen carefully, think deeply, and craft tailored solutions that translate your business requirements into compelling strategies and solutions.

- **Our educators** share best practices in more than 30 onsite workshops that align your team around industry frameworks.

Unlike other firms, Eckerson Group focuses solely on data analytics. Our experts each have more than 25+ years of experience in the field. They specialize in every facet of data analytics—from data architecture and data governance to business intelligence and artificial intelligence. Their primary mission is to help you get more value from data and analytics by sharing their hard-won lessons with you.

Our clients say we are hard-working, insightful, and humble. We take the compliment! It all stems from our love of data and desire to help you get more value from analytics—we see ourselves as a family of continuous learners, interpreting the world of data and analytics for you and others.

Get more value from your data. Put an expert on your side. [Learn what Eckerson Group can do for you.](https://www.eckerson.com)
About Informatica

Informatica, the leader in enterprise cloud data management, provides an AI-driven, microservices-based Intelligent Data Platform with solutions that are purpose-built for Microsoft Azure. These solutions are designed to accelerate the migration to Azure by automating your data integration development lifecycle, including connectivity, development, deployment, and management.

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