

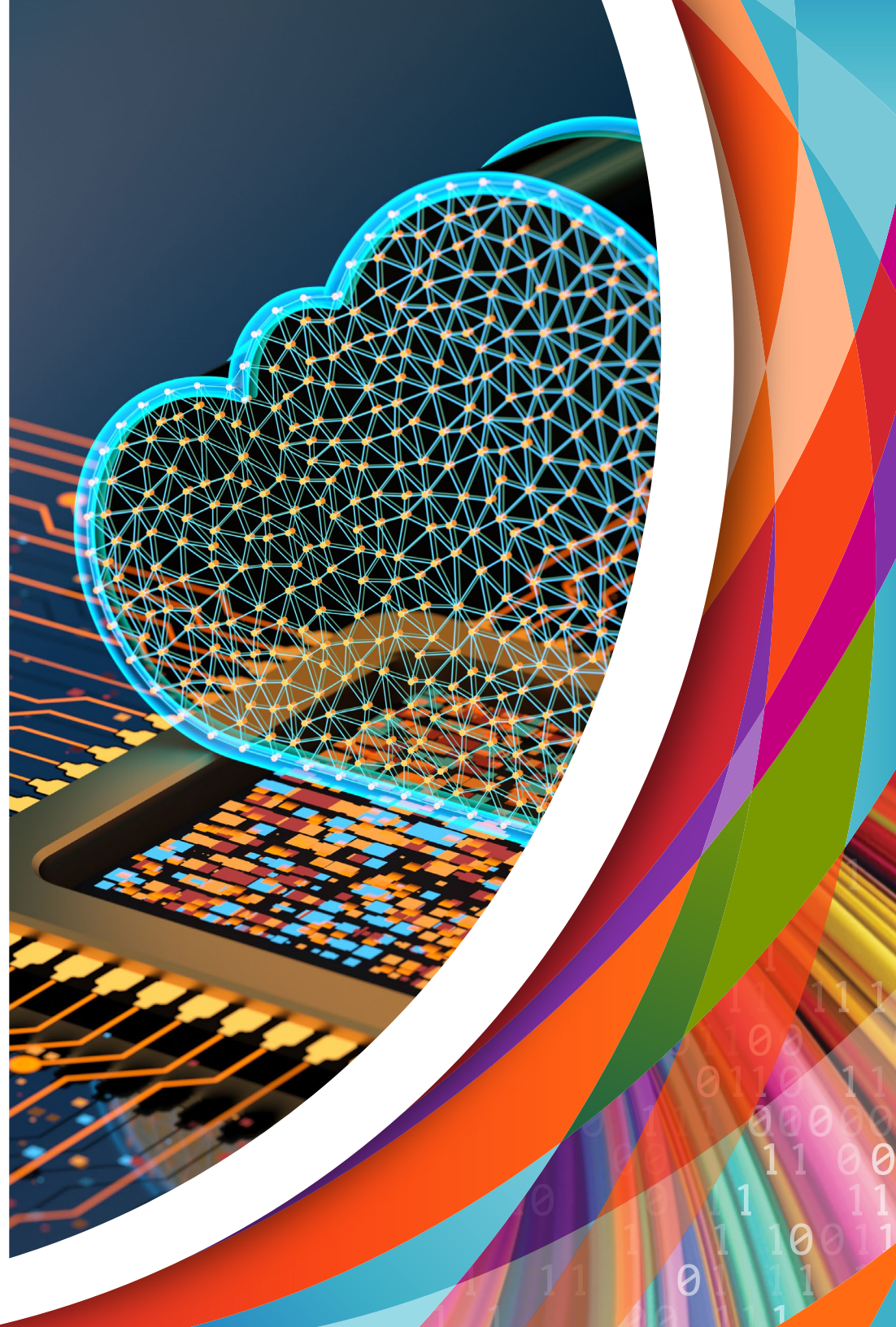


eBook

An Application Owner's Primer for GenAI and iPaaS

How to maximize the impact of iPaaS for GenAI

Where data
& AI come to **LIFE**



Contents

GenAI: A Strategic Imperative for Modern Enterprise Application Owners	3
3 Ways GenAI Can Transform Business Outcomes	5
#1 Conversational AI	7
#2 Personalized Content Creation	8
#3 Streamlined Software Development	9
4 Speed Bumps Hindering Successful GenAI	11
How to Overcome Speed Bumps with an Intelligent iPaaS for GenAI	14
Must-Have Capabilities of an AI-Powered iPaaS: A Checklist	15
Informatica iPaaS: Build No-Code, Future-Proof GenAI Applications Quickly and Efficiently	16
Next Steps	18
About Us	19

GenAI: A Strategic Imperative for Modern Enterprise Application Owners

As an application owner, you're at the heart of driving business transformation and innovation across teams. Helping various business functions achieve their ambitious goals requires you to work through the complex world of data management. This involves integrating various enterprise applications and handling large amounts of data spread across both on-premises systems and multiple clouds.

Your role is all about modernizing applications quickly to match the pace of business while ensuring everything stays compliant with operational and regulatory standards in this hybrid environment. **Generative AI (GenAI)** offers powerful ways to accelerate business initiatives and meet the growing demand for speed in the tech landscape.

Beyond enhancing innovation and expanding technological capabilities, GenAI drives productivity by automating repetitive tasks at scale. This frees your teams to focus on complex, high-value problems instead of routine work.

For users and customers, GenAI applications improve engagement through personalized, context-aware interactions that increase customer satisfaction and loyalty. With intuitive natural language interfaces, GenAI applications also democratize data and build user trust in data-led decision making.



GenAI: A Strategic Imperative for Modern Enterprise Application Owners (continued)

When agility is key, GenAI stands out by boosting automation and productivity while enabling rapid application development and deployment, with significantly less manual coding needed.

While GenAI presents exciting opportunities, integrating enterprise-grade GenAI applications into existing systems isn't without its challenges. These complexities can limit you from reaching GenAI's full potential.

75% of executives ranked AI/GenAI as a top three strategic priority for 2025, but only 25% of executives are seeing significant value from AI.¹

67% of CDOs say they have been unable to transition even half of their GenAI pilots to production, with more than half (56%) citing data reliability as a key barrier.² And among those who have successfully transitioned pilots into production, 54% still struggle with data quality and protection concerns.

That's where **Integration Platform-as-a-Service (iPaaS)** for GenAI comes into play. It's proven to be an effective solution for efficiently building GenAI applications by transforming, connecting and integrating data. iPaaS ensures GenAI applications can access reliable and resilient data, even when data sources change or disruptions occur.

Choosing the right iPaaS can give you a real competitive advantage by enabling new business opportunities with the power of GenAI. Enterprise-grade iPaaS platforms can democratize, contextualize and operationalize GenAI while maintaining performance, compliance and security at any scale.

In this eBook, you'll learn how to easily build scalable GenAI applications using intelligent, no-code iPaaS solutions, focusing on three of the most common use cases in GenAI app development.

¹ Boston Consulting Group, *From Potential to Profit: Closing the AI Impact Gap, 2025*.

² Informatica, *CDO Insights 2025*.

3 Ways GenAI Can Transform Business Outcomes

GenAI can help drive digital transformation across business functions to deliver reliable performance and real results. 87% of CDOs who have adopted or plan to adopt GenAI in their organizations plan to increase GenAI investment in 2025.³ Their focus is to reap benefits such as improved operational efficiency (43%) and a better experience for customers (43%) and employees (39%).

To reach these goals, several effective techniques are used in GenAI application development, like Prompt Engineering, AI Agents or ReACT-Agent Systems and Fine-Tuning. One technique that stands out is Retrieval Augmented Generation (RAG). It's especially powerful because it pulls in authoritative data sources to enrich GenAI models. This means responses from large language models (LLMs) become more accurate, trustworthy and contextually relevant.

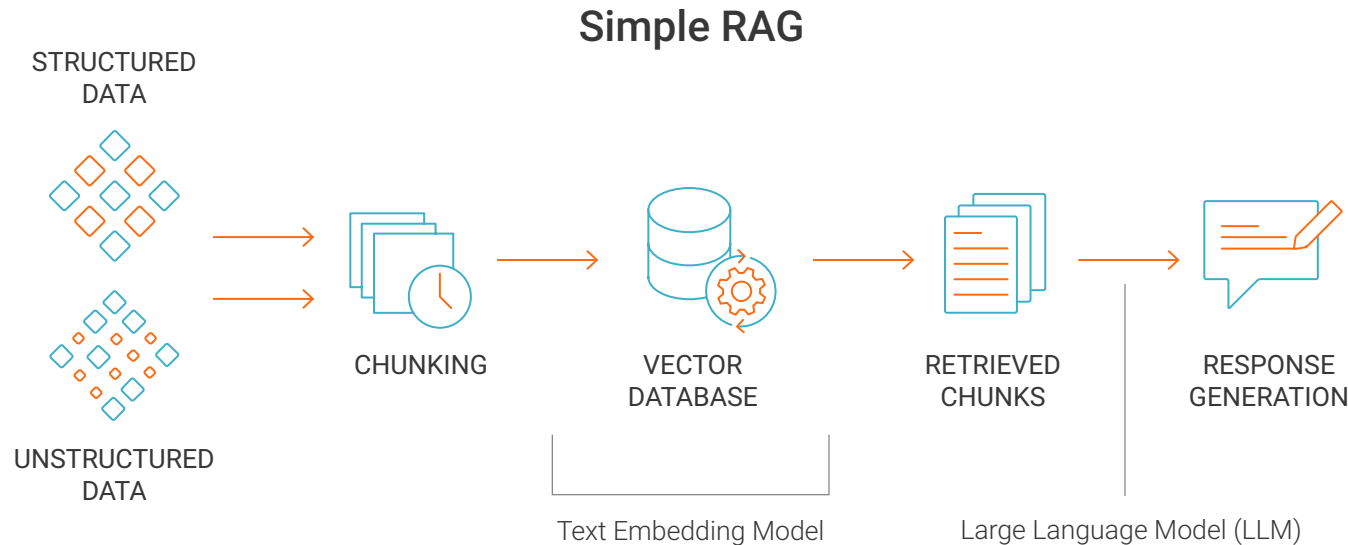


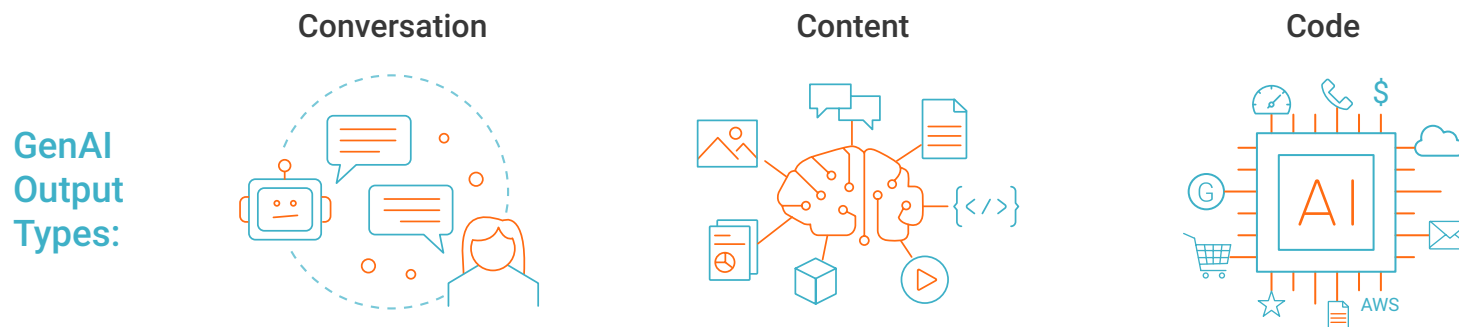
Figure 1: Overview of the Retrieval Augmented Generation (RAG) framework

³ Ibid.

3 Ways GenAI Can Transform Business Outcomes (continued)

Let's look at how GenAI can help you achieve quick, strategic wins for your business. We'll dive into three common use cases where GenAI can boost daily operations, speed things up and increase productivity — all while helping you avoid the common challenges that often derail these kinds of projects.

RAG Business Value



Business Unit Use Cases & Outcomes			
Sales & Marketing Improved sales forecasting, enhanced customer segmentation	Customer Success Automated, intelligent service ticket prioritization	HR Payroll Payroll reporting and compliance automation, employee training bot	Supply Chain Enriched demand predictions, optimized sourcing strategy
Finance & Operations Automated accounts reconciliation & research	Product R&D Data-driven innovation, intelligent troubleshooting, code generation	Legal Intelligent contract analysis and compliance risk management	Manufacturing Predictive maintenance, smart quality control

Figure 2: Key iPaaS for GenAI use cases for application owners

#1 Conversational AI

GenAI has transformed customer service by cutting costs, speeding up responses and improving accuracy. Using conversational AI, these chatbots can handle customer inquiries 24/7, relieving human agents and improving both employee and customer experiences through personalized interactions.

Nearly 40% of global functional spending (~\$404 billion) on GenAI is earmarked for internal and external customer operations.⁴ This shows the widespread adoption of GenAI in customer service operations across industries and regions worldwide.

GenAI-driven customer experience solutions are now crucial to help teams manage large volumes of inquiries with greater accuracy. AI-powered chatbots, agents and virtual assistants backed by a reliable, trusted and complete knowledge base can efficiently manage complex, nuanced conversations across various applications.

Your efforts probably include developing and integrating AI chatbots into customer service platforms, giving your teams the tools to handle these sophisticated interactions more effectively.

To build user-friendly conversational GenAI applications, you'll need to connect your models to public LLMs (e.g., Gemini), using an iPaaS solution along with frameworks such as RAG, AI Agents and Fine-Tuning. This opens access to an external knowledge repository to enhance your GPTs.

That's a great starting point, but the real competitive advantage comes from customized GPTs that can connect to, check and validate responses against your internal business data. iPaaS can also help you connect your GenAI applications to internal knowledge bases, bringing the full power of your enterprise data into everyday customer service interactions.

GenAI in Practice: Manufacturing and Consumer Packaged Goods

In manufacturing, GenAI helps improve efficiency and productivity by integrating historical maintenance records with real-time sensor data. This helps manufacturers foresee equipment failures and minimize downtime through predictive maintenance.

When GenAI-powered employee support tools, like chatbots and virtual agents, are integrated directly with business systems and applications, they can automate workflows to streamline operations, improve efficiency and increase productivity. These intelligent agents use internal and external knowledge sources to deliver faster, more personalized responses, creating smarter and smoother user interactions.

⁴ McKinsey, [The Economic Potential of Generative AI: The Next Productivity Frontier](#), 2023.

#2 Personalized Content Creation

According to McKinsey, the potential productivity lift of GenAI on daily operations for marketing is 10% (roughly \$463B) of global functional spending and for sales is 4% (roughly \$486B).⁵ This shows how much this technology can boost efficiency and improve business outcomes.

One area where marketing and sales spend significant time is communicating with prospects and customers. Every message must be tailored to fit each buyer's specific needs and context. While these efforts yield great results, they also require much human work.

GenAI is changing the game by speeding up content creation, generating personalized marketing materials quickly and integrating seamlessly with customer data to improve real-time audience targeting. It can produce relevant marketing content, such as social media posts, emails and ad copy, on-demand and at scale. Modern marketing teams can use GenAI tools to create, edit and scale personalized content faster while maintaining brand consistency and authenticity and improving personalization.

GenAI in Action: Retail and Distribution

GenAI applications can help retailers automate personalized content creation, streamline inventory management and boost customer engagement while supporting scalability and efficiency.

On the customer side, GenAI applications can analyze purchase history, browsing behavior and preferences to generate tailored product suggestions for shoppers. This AI-driven content personalization ensures each customer sees the most relevant promotions, emails and ads, which helps increase engagement and build loyalty.

On the supply side, GenAI applications support real-time inventory management and demand forecasting. This minimizes the risk of stock shortages or surpluses and enables smarter, data-driven decisions in real time across the supply chain.

⁵ Ibid.

#3 Streamlined Software Development

According to McKinsey, the direct impact of AI on the productivity of software engineering could range from 20 to 45% (roughly \$485B) of current annual spending on the function. This value would arise primarily from reducing time spent on certain activities, such as generating initial code drafts, code correction and refactoring, root-cause analysis and generating new system designs.⁶

Effective data management plays a crucial role in accelerating AI initiatives by building greater confidence in both the data and AI models. Organizing and managing data well with GenAI allows you to create high-quality, labeled datasets to train models more accurately. This leads to better predictions, deeper insights and ultimately smarter decision-making and product development.

Streamlined data management can facilitate faster processing and analysis, allowing organizations to respond more quickly to market needs and seamlessly integrate AI capabilities into their products and services. GenAI can also transform software development by automating coding, simplifying data integration and smoothing workflows like data mapping and transformation. This boosts collaboration across development teams and tools, making software development faster, more efficient and scalable — all while ensuring scalability and security.

⁶ Ibid.



#3 Streamlined Software Development (continued)

Investing in solid data management practices — such as data integration, application integration, data quality, master data management and governance — lays the groundwork for getting the most out of AI technology. Using a unified, AI-powered data management platform reduces the total cost of ownership and speeds up AI solution development.

GenAI in Action: Life Sciences and Healthcare

GenAI is transforming software development in the pharmaceutical and healthcare industry by automating processes, boosting efficiency and ensuring compliance.

When machine learning models are trained with clean, structured and standardized data, GenAI applications can make more accurate predictions in areas like drug discovery, clinical trial optimization and precision medicine. Properly cataloging diverse data types, such as genomic information and clinical trial results, helps protect data privacy and meet compliance requirements. Integrating data from various research sources can help accelerate drug discovery efforts.

GenAI also automates documentation, record-keeping and regulatory submissions, cutting down on manual work and reducing errors in these mission-critical applications. As a result, life sciences companies are using GenAI to stay compliant while speeding up software development and improving efficiency and cost-effectiveness.

Healthcare companies can improve patient care and lower costs by using GenAI-driven solutions. Creating personalized care plans based on each patient's medical history boosts engagement, while **master data management (MDM)** ensures **data quality** and interoperability. By collecting, standardizing and anonymizing data from sources like genomic information and medical records, providers can improve population health management and identify emerging health trends.

4 Speed Bumps Hindering Successful GenAI

While GenAI has the potential to be transformative, many application owners face challenges when integrating these applications into daily operations. Despite its benefits, many enterprises struggle to adopt GenAI because of practical hurdles like cost overruns, data complexity and technical debt that arise during building, integrating and deploying enterprise-scale applications.

Speed Bump #1: Lack of Robust Data Strategy

With 56% of CDOs pointing to data reliability as a barrier to their GenAI efforts and a further 54% citing concerns around data quality and security, it's clear that a lack of confidence in data slows down progress.⁷

Data quality is one of the biggest challenges to realizing GenAI's full potential. No matter how advanced the application, poor-quality data will yield poor AI outcomes. GenAI models need vast amounts of high-quality data to function effectively and deliver reliable outcomes. But in the AI era, the definition of "high-quality" data has evolved. The real challenge is not the availability of data itself; it's having easy access to "AI-ready" data that's relevant, responsible and robust so that GenAI models can function effectively and consistently.

Scaling AI-ready data brings its own set of challenges. You need to manage massive amounts of both structured and unstructured data from multiple sources, all while dealing with data silos and fragmentation that complicate access.

It's no small feat organizing all that data so teams can easily and securely access and share it while ensuring GenAI tools deliver accurate, relevant information. Plus, with sensitive data involved, there's a real risk of fines, penalties and costly remediation if privacy and security compliance slip through the cracks, especially as regulations keep tightening.

As the number of GenAI applications and AI agents used across the organization increases, data governance becomes even more critical. A robust data strategy helps embed governance throughout, making AI-ready data accessible to the right people without compromising security at any point.

Bottom line: Many organizations with GenAI ambitions still struggle with data silos, inconsistencies, incomplete datasets and difficulty accessing secure, governed data. These issues can cause biased or inaccurate AI results or even the overall failure of GenAI investments.

Since AI depends entirely on data, having a strong data strategy is essential to deriving real value from GenAI.

⁷ Informatica, CDO Insights 2025.

4 Speed Bumps Hindering Successful GenAI

(continued)

Speed Bump #2: Operationalizing Enterprise-Grade Applications

Most AI projects typically do not scale beyond a PoC or lab environment. In fact, two-thirds (67%) of companies report being unable to transition even half of their GenAI pilots to production successfully.⁸ Businesses often face difficulties standardizing processes for model building, training, deployment and monitoring.

Many lack the expertise, tools and frameworks needed to build GenAI applications at scale. This gap can cause inconsistent processes and make it harder to integrate GenAI with existing workflows, limiting the overall impact of these initiatives.

Bottom line: Despite growing investments in GenAI, a shocking 97% of enterprises using or planning to use it struggle to demonstrate its business value.⁹

⁸ Ibid.

⁹ Ibid.



4 Speed Bumps Hindering Successful GenAI

(continued)

Speed Bump #3: Shortage of Skilled Resources

Enterprises are currently developing GenAI applications using hand coding, which demands specialized skills and is time-consuming, person-dependent and prone to human errors. The demand for such skills is rapidly increasing. In fact, the share of job postings mentioning GenAI or related terms has skyrocketed between September 2023 and 2024, up 3.5 times in the United States and even faster in other countries.¹⁰

The demand for these skills is extremely high, but the hiring process is often unclear, and attracting and retaining the right talent remains a major challenge. On top of that, maintaining and supporting custom hand-coded GenAI applications can be costly and lead to significant technical debt.

Bottom line: A shortage of skilled resources creates a major bottleneck, limiting your ability to scale GenAI initiatives efficiently and effectively.

Speed Bump #4: Ever-Evolving GenAI Technology

The GenAI landscape is evolving rapidly, with constant technological advances and a surge of new startups. This fast pace can feel overwhelming, making it hard to stay up-to-date with the latest tools and best practices.

As new technologies emerge, you may find it difficult to choose the right solutions for your specific needs. This constant evolution of GenAI introduces uncertainty that can complicate development and deployment efforts, potentially hampering progress.

Bottom line: Many companies struggle to plan and execute a future-proof GenAI strategy, putting their investments at risk.

¹⁰ HiringLab, [Rapid Growth in GenAI Job Postings: Expectations and Surprising Trends](#), 2024.

How to Overcome Speed Bumps with an Intelligent iPaaS for GenAI

Every successful GenAI initiative starts with high-quality, AI-ready data. According to Harvard Business Review, 93% of CDOs feel a data strategy is crucial to GenAI value.¹¹ Data management is the unsung hero and the cornerstone of any effective GenAI strategy.

The data fueling your GenAI-powered GPTs ultimately determines their success. Your models must be trained on relevant, responsible and robust data to deliver accurate, contextual and reliable responses to user queries.

Investing in robust data management powered by an **AI-driven iPaaS** ensures seamless integration of your **GenAI applications** with internal and external knowledge bases and LLMs. It also builds a strong data foundation with built-in quality, security and compliance.

The right iPaaS capabilities can **democratize, contextualize and operationalize** your data and make it GenAI-ready. By enabling seamless interaction and data sharing between systems and applications, iPaaS ensures your AI and agents always work with the freshest, most relevant information.

Pre-built **GenAI recipes** make it easy to start your integration development and deployment with one click, reducing time-to-market and handling large-scale operations with built-in enterprise agility. They also automate repetitive tasks and processes without compromising performance, reliability or security. This frees up users to focus on more strategic, high-value work, boosting overall productivity and driving innovation.

When accurate, clean data flows smoothly across connected systems and reliable connections to LLMs are in place, you can easily create customer service chatbots or GPTs, help marketers generate personalized content quickly and support streamlined, AI-powered product development.

¹¹ Harvard Business Review, *Is Your Company's Data Ready for Generative AI?*, 2024.

Must-Have Capabilities of an AI-Powered iPaaS: A Checklist

iPaaS may be the most efficient way to build GenAI applications, but not every platform will be the right fit for your enterprise. Ensure your iPaaS has the core features you need to avoid roadblocks and deliver on the GenAI promise at business speed.

✓ Robust Data for GenAI

- Enables systems and applications to seamlessly integrate, interact and share data, providing a complete, consistent and enterprise-scale data foundation for AI and agents
- Automates core processes, such as data integration and transformation from diverse sources, into a centralized data pipeline, ensuring that data remains reliable, resilient and available for AI applications — even when disruptions or changes occur in the data sources

✓ Easy, Efficient and Enterprise-Grade GenAI App Development

- Empowers both technical and non-technical users to build and deploy enterprise GenAI applications through an intuitive no-code experience
- Boosts development and deployment efficiency with ready-to-use acceleration features like recipes and LLM connectors
- Provides customizable templates, pre-built recipes and drag-and-drop interfaces to make creating GenAI applications faster and easier
- Runs GenAI applications effortlessly on a scalable, enterprise-grade platform capable of handling petabytes of data and trillions of monthly transactions, with 99.9% availability, plus robust security, governance and access controls

✓ Cost Effective

- Eliminates the need for costly developers, infrastructure and resources
- Enables rapid application building, deployment, operationalization, monitoring and updates for further cost savings

✓ Low Risk

- Provides a cloud-native platform that's scalable, secure and compliant with data governance needs
- Supports high-load applications and handles a large number of users with ease
- Takes GenAI models to production easily and quickly at any scale without impacting performance
- Leverages multiple LLMs and keeps pace with the rapid evolution of GenAI, eliminating the risk of getting stuck with outdated technology
- Reduces the risk of compromising data security and privacy significantly with robust data governance, data masking, encryption and access control capabilities — protecting sensitive information and complying with regulatory standards

Informatica iPaaS: Build No-Code, Future-Proof GenAI Applications Quickly and Efficiently

GenAI depends on data, and data thrives with Informatica iPaaS, a service of the **Informatica Intelligent Data Management Cloud™ (IDMC)**. Informatica iPaaS is a trusted solution to unlock the full potential of GenAI.

Put the power of a comprehensive iPaaS for GenAI, data integration, API and application integration to work for your business with these unmatched benefits:

- 1. Empower business users:** Unleash the power of CLAIRE®, Informatica's AI and machine learning engine, to simplify data management tasks through easy-to-use natural language interfaces. Empower non-technical users to build and deploy GenAI applications with a user-friendly drag-and-drop, no-code experience.
- 2. Accelerate GenAI application creation and time-to-value:** Seamlessly connect data from various sources across applications, cleanse and standardize it and prepare it for LLM integration. Easily build prototypes and support various use cases by leveraging out-of-the-box LLM connectors and pre-built recipes to connect applications and systems.
- 3. Support informed decision-making and innovation:** Mitigate risks associated with inaccurate or biased data, enabling your business users to confidently leverage LLMs at any scale.

How Informatica iPaaS Elevates GenAI App Development Techniques

GenAI App Development Technique	What Is It?	How Does Informatica iPaaS Make It Better?
Prompt Engineering	Crafting clear prompts for AI language models to generate accurate and helpful responses	Orchestrates and governs LLM calls/prompts within a low-code/no-code environment via out-of-the-box LLM connectors
Retrieval Augmented Generation (RAG)	Integrating authoritative or proprietary data sources into GenAI models to improve the accuracy, trustworthiness and context of LLM responses	Automates low-code LLM calls/RAG pipelines using trusted knowledge sources via out-of-the-box LLM connectors to vector databases
AI Agent/ ReACT-Agent Systems	AI programs capable of autonomous decision-making on behalf of users, systems or other programs	Facilitates scalable, low-code, governed AI agent pipelines, trained on authoritative data, with pre-built recipes for popular AI agent frameworks to accelerate project initiation

Informatica iPaaS: Build No-Code, Future-Proof GenAI Applications Quickly and Efficiently (continued)

With Informatica iPaaS, you can ensure seamless, secure and cost-effective GenAI deployment. You can also run GenAI applications on a scalable, enterprise-grade platform and modernize existing implementations into GenAI-enabled applications with minimal cost, time and effort.

Democratize GenAI: Empower everyone in your organization to build safe GenAI applications powered by relevant, responsible and robust AI-ready data.

Contextualize GenAI: Equip your business with the dual power of internal and external knowledge repositories and contextualize LLMs using popular frameworks such as RAG, AI Agents and Fine Tuning, all while ensuring built-in security and structured monitoring.

Operationalize GenAI: Build fast and strong enterprise-grade GenAI applications at scale without compromising security and governance.

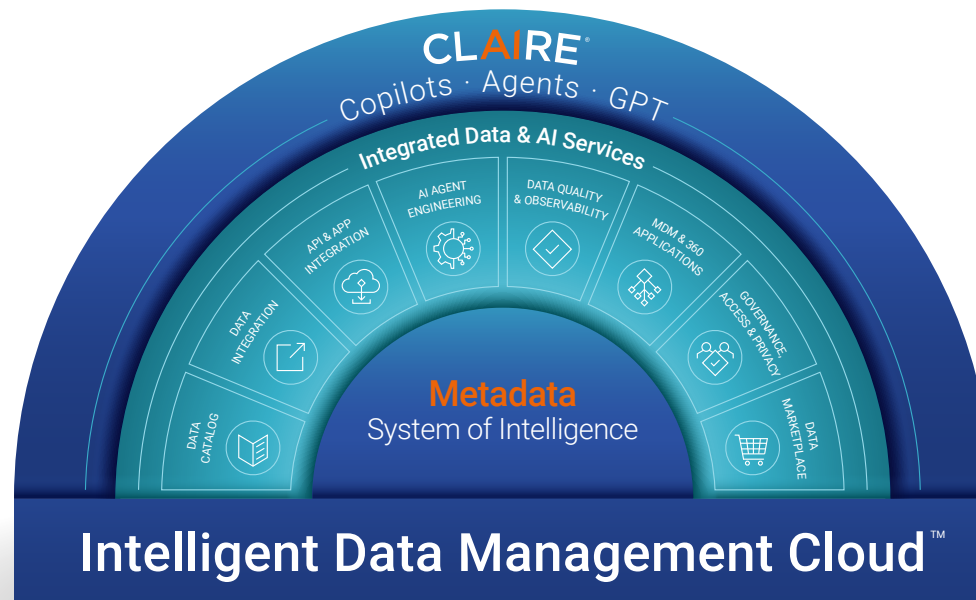


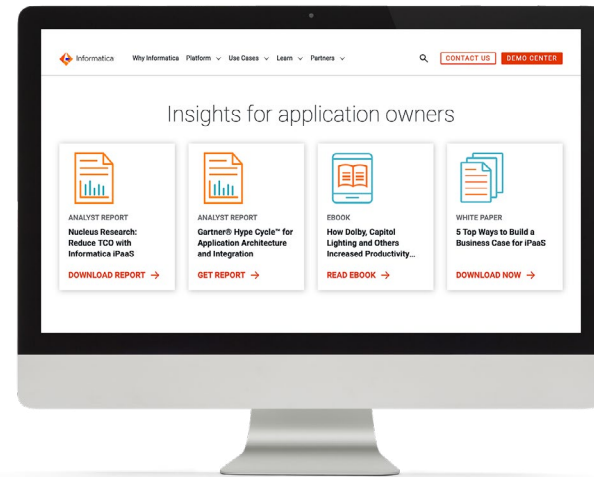
Figure 3: An overview of the Informatica Intelligent Data Management Cloud

Next Steps

Informatica iPaaS is the cornerstone of your future-proof data management foundation. Effortlessly connect data, applications and people, navigate the speedbumps of building GenAI applications and confidently drive better outcomes across your business.

Discover how Informatica iPaaS empowers you to build easy, efficient, enterprise-grade GenAI applications.

START TODAY



About Us

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), which manages the entire lifecycle of data and interoperates with everything. It is an end-to-end data management platform, powered by CLAIRE® AI, 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.™

IN19-5208-0825

© Copyright Informatica LLC 2025. Informatica and the Informatica logo are trademarks or registered trademarks of Informatica LLC in the United States and other countries. A current list of Informatica trademarks is available on the web at <https://www.informatica.com/trademarks.html>. Other company and product names may be trade names or trademarks of their respective owners. The information in this documentation is subject to change without notice and provided "AS IS" without warranty of any kind, express or implied.

[informatica.com](https://www.informatica.com)

Where data & AI come to



Worldwide Headquarters
2100 Seaport Blvd.
Redwood City, CA 94063, USA
Phone: 650.385.5000
Fax: 650.385.5500
Toll-free in the US: 1.800.653.3871

[informatica.com](https://www.informatica.com)
[linkedin.com/company/informatica](https://www.linkedin.com/company/informatica)
[x.com/Informatica](https://www.x.com/Informatica)

CONTACT US