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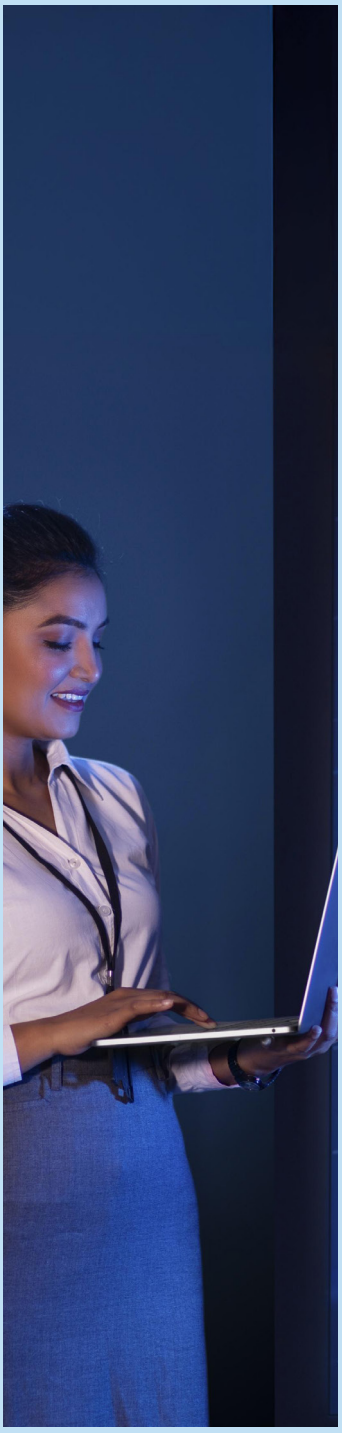

LEVERAGING AI FOR SEAMLESS MIGRATION FROM LEGACY MIDDLEWARE TO MODERN IPAAS

boomi

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Introduction

The enterprise integration landscape has significantly changed over the last several years. Legacy point-to-point connections are giving way to flexible APIs and cloudbased integration platforms, enabling businesses to connect diverse applications and data sources more efficiently and at scale. This shift is driven by the increasing need for agility, scalability, and real-time data integration.

The challenges of legacy middleware technologies are numerous and increasingly problematic in today's fast-paced digital environment. These outdated systems often rely on proprietary protocols and inflexible architectures, making them difficult to adapt to new business requirements. Maintenance of legacy middleware becomes increasingly costly and time consuming as specialized skills become scarcer. Furthermore, these systems typically lack the scalability and performance needed to handle the volume and velocity of data in modern enterprises. Security and compliance issues also arise as legacy systems struggle to keep pace with evolving threats and regulatory requirements. All these factors contribute to reduced agility and innovation, hindering an organization's ability to respond to market changes and customer demands.

Modern integration platform as a service (iPaaS) offers a compelling solution to these challenges. iPaaS provides a cloud-based, scalable infrastructure that supports a wide range of integration patterns and protocols. It enables rapid development and deployment of integrations through low-code or no-code interfaces, dramatically reducing the time and specialized skills required.

iPaaS solutions typically offer built-in connectors for popular applications and services, simplifying the integration process. They also provide robust data transformation capabilities, API management, and real-time monitoring and analytics. With their cloud-native architecture, iPaaS solutions can easily scale to meet changing demands and offer enhanced security features. This combination of flexibility, scalability, and ease of use positions iPaaS as a key enabler of digital transformation initiatives.

In this context, integration migration has become an imperative for enterprises. This helps retain the business context and rules built into legacy integration, minimizes cost and timelines for moving out of legacy, and minimizes the risk of business disruptions.

Business Context and Need for Legacy Integration Middleware

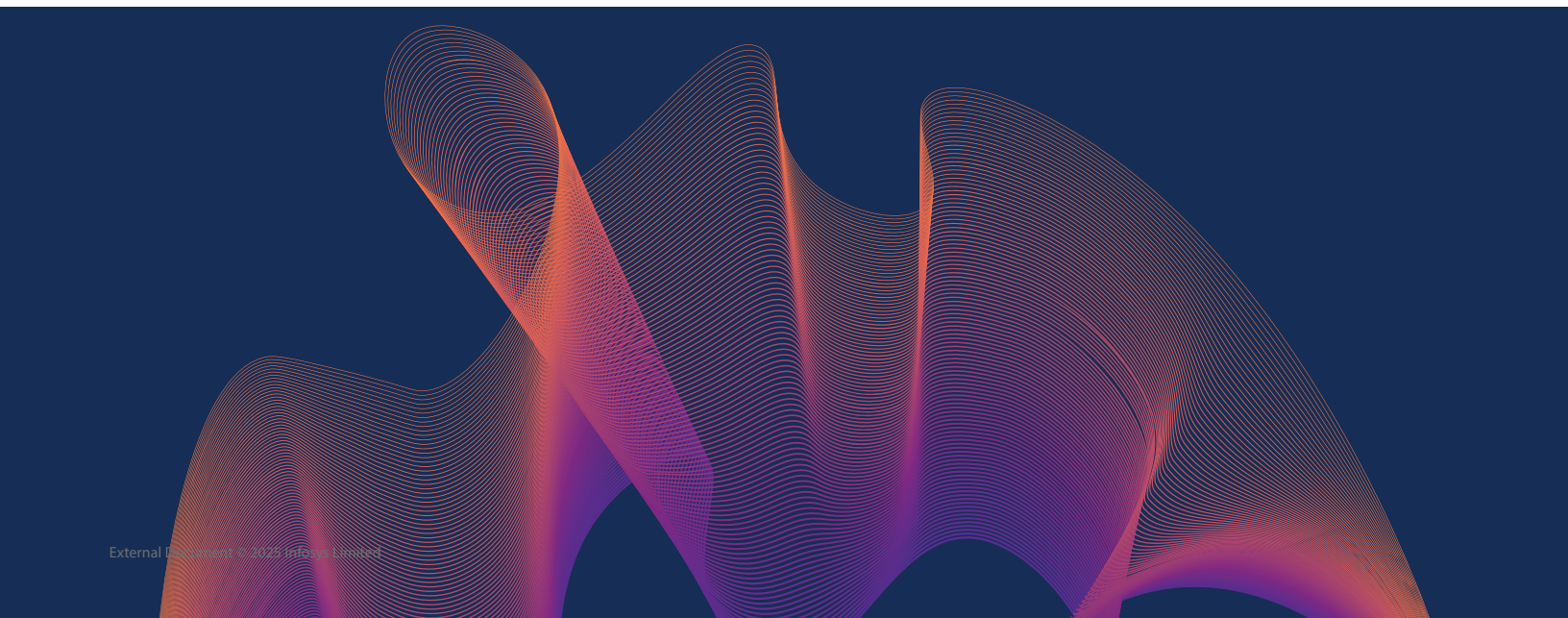
The emergence of middleware in enterprise computing

With the move away from mainframe systems, distributed systems emerged, giving enterprises more flexibility and agility through easier customization and integration with new technologies. This shift marked a significant turning point in enterprise computing.

Mainframes, while powerful, were often monolithic and inflexible. Distributed systems allowed organizations to break down their computing needs into smaller, more manageable components. This new paradigm enabled businesses to adapt more quickly to changing requirements, scale individual components as needed, and integrate cutting-edge technologies without overhauling their entire infrastructure. The result was a more responsive and adaptable IT environment that could better support evolving business needs.

As enterprises moved towards distributed computing architectures with multiple systems and networks, the need for middleware to enable communication and coordination arose. The distributed nature of these new systems introduced challenges in data sharing, process synchronization, and overall system coherence.

Middleware emerged as a critical layer of software to bridge these gaps. It provided the necessary protocols and services to allow disparate systems to communicate effectively, manage transactions across multiple platforms, and ensure data consistency. This intermediary layer became essential in maintaining the integrity and efficiency of increasingly complex enterprise environments.



With the increasing complexity and interconnectedness of applications, middleware provided a centralized integration solution, abstracting away low-level details. As organizations adopted more specialized software for various business functions, the challenge of integrating these diverse applications became more pronounced. Middleware offered a solution by providing a unified platform for integration It abstracted the complexities of different systems' APIs, data formats, and communication protocols, presenting a simplified interface for developers. This abstraction allowed IT teams to focus on business logic and functionality rather than getting bogged down in the intricacies of system-to-system communication, thereby accelerating development cycles and reducing integration costs.

The limitations of legacy middleware technologies

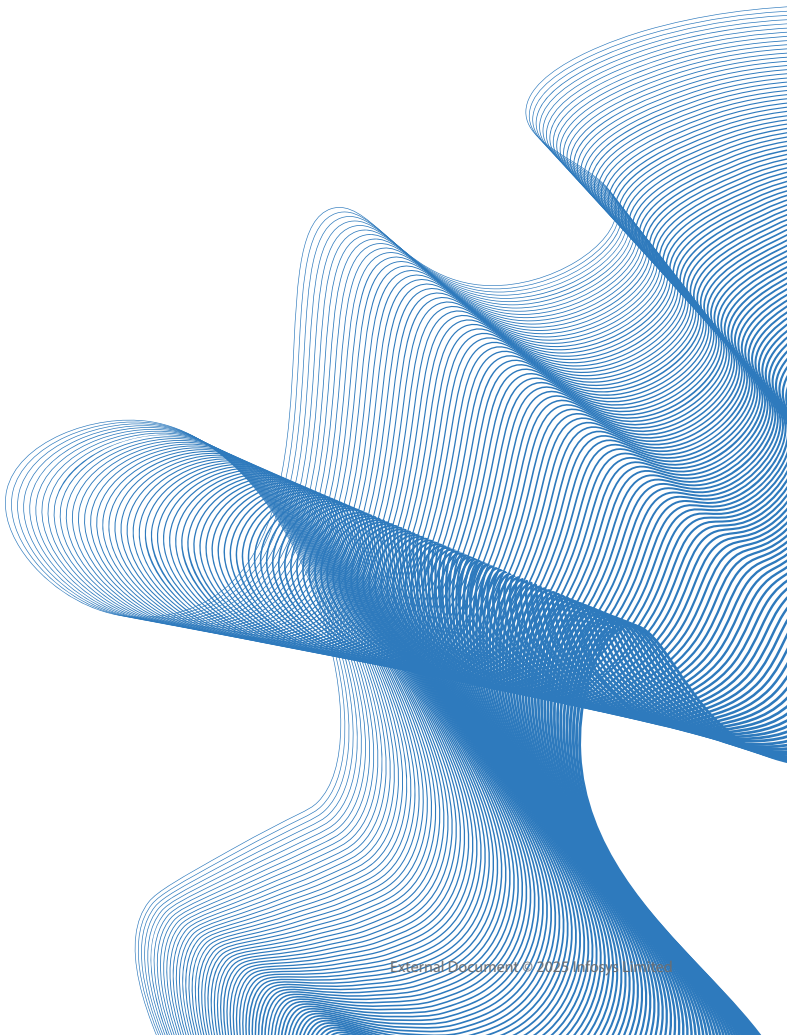
Legacy limitations: Legacy middleware often lacks support for modern technologies, cloud services, and agile integration practices, hindering digital transformation efforts. These systems were typically designed in an era when on-premises infrastructure and monolithic applications were the norm. As a result, they struggle to integrate seamlessly with cloud-native applications, microservices architectures, and modern APIs. This incompatibility creates significant roadblocks for organizations attempting to modernize their IT landscape.

For example, legacy middleware may not support real-time data streaming, event-driven architectures, or containerization, which are crucial for today's digital business needs. Or, they may have added support for such capabilities, but due to their architectural evolution, may not have been well architected to support these. Consequently, enterprises relying on these legacy systems find themselves at a competitive disadvantage, unable to leverage the full potential of emerging technologies and agile methodologies.

Vendor support: As technology evolves, vendors naturally shift their focus to newer, more advanced solutions. This shift often leads to the gradual phasing out of support for older middleware products. When a middleware system reaches end-of-life, organizations face multiple challenges. Critical security patches and updates are no longer provided, leaving systems vulnerable to newly discovered threats. Compliance with evolving regulatory requirements becomes increasingly difficult, as legacy systems may not have the necessary features to meet new standards. Additionally, the pool of skilled professionals familiar with these outdated technologies shrinks over time, making maintenance and troubleshooting more challenging and expensive. These factors combine to create significant operational risks for businesses still reliant on unsupported middleware.

Scalability challenges: Traditional middleware solutions were often designed with fixed capacity limits and vertical scaling models. As businesses grow and their data integration needs expand, these systems can quickly become bottlenecks. The inability to scale horizontally or dynamically allocate resources means that organizations must overprovision to handle peak loads, leading to inefficient resource utilization. Furthermore, legacy middleware may not be optimized for handling the highvelocity, high-volume data streams common in today's digital ecosystems. This lack of scalability can result in performance degradation, increased latency, and even system failures as integration demands outpace the middleware's capabilities.

Cost optimization: Legacy middleware often requires dedicated hardware, specialized skills for maintenance, and significant ongoing operational expenses. In contrast, cloud-based integration platforms offer a more cost-effective model. They eliminate the need for upfront hardware investments and reduce the burden of infrastructure management. Modern platforms typically provide pay-as-you-go pricing models, allowing organizations to align costs with actual usage. Additionally, the automation and selfservice capabilities of these platforms can significantly reduce the manual effort required for integration tasks.



The Advantages of the Boomi Enterprise Platform, a Modern iPaaS

Connecting organizations to partners and customers in a way that supports digital transformation requires pervasive connectivity. Organizations have a few core needs for connectivity:

1. Bring together data that is spread across the ecosystem to unlock its value
2. Effectively leverage data to make critical decisions
3. Build and manage APIs so that data can be accessed in the right way
4. Extend the reach of data to partners
5. Build the journeys that reflect a connected business

The right choice is an independent, intelligent integration and automation platform that provides you the freedom to choose across all of your chosen technologies as well as cloud vendors, both now and in the future. Boomi provides the most widely used independent cloud-native, low-code iPaaS.

At the same time, Boomi solves the most advanced use cases by delivering large, complex architectures, including:

- Hybrid integration
- Distributed architectures leveraging the lightweight version of the runtime
- Run integrations on edge servers
- Event-driven integration
- Scalable, real-time architectures

Boomi's value proposition

Faster time to market: The most frequent comments we hear are faster time to market and superior ease of use. Boomi's rich library of pre-built accelerators is a key reason why customers can integrate and automate faster with the Boomi Enterprise Platform. Boomi's library of pre-built connectors eliminates the time and maintenance for custom-coded web services or other connections to applications. Recipes provide all the pre-built ingredients to jump-start automating the most common business processes. Plus, Boomi's industry solutions go one step furtherwith run-ready business processes aligned with your industry-specific use cases.

Lower TCO: Boomi dramatically changes the ROI for integration investment. With Boomi as a strategic enterprise integration platform displacing incumbent products, customers can realize TCO savings of 30% or more.

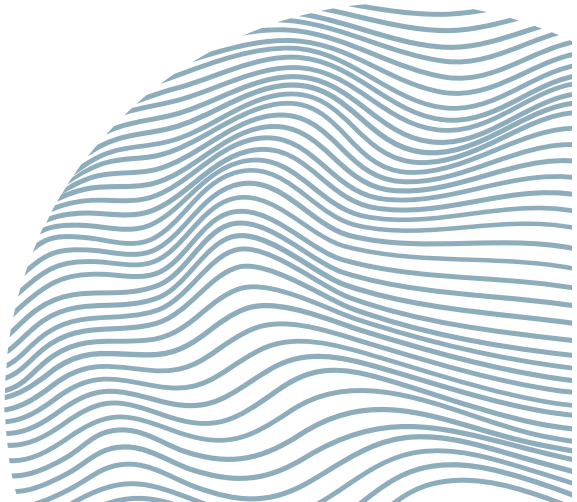
Unified platform services: Boomi Enterprise Platform offerings start with "Application Integration," which connects your disparate on-premises and cloud-based business systems in an increasingly hybrid multi-cloud environment. One of the key differentiators that separates the Boomi Enterprise Platform from others is the level of unified user experience across the platform's components. Instead of multiple different specialist teams trained on multiple different tools, Boomi users can quickly add any service that is needed to fulfill an urgent digital transformation project. In addition to integration, the Boomi Enterprise Platform services include:

- **B2B/EDI** to enable seamless collaboration with trading partners and eliminate the high cost of legacy EDI.
- **Data-driven integration** leveraging DataHub to synchronize data across systems that share common overlapping data to provide a single source of truth.
- **Event-driven integration** to enable business to immediately recognize and react to hard to detect trends in streaming data.
- **API management** to enable internal and external development teams to leverage, engage, and govern the API services.
- **Workflow automation** to seamlessly include people for approvals, exception management, and more, into business processes.

Run anywhere: Another distinguishing feature of the Boomi Enterprise Platform is the ability to run anywhere. Boomi's patented technology enables a hybrid environment to run integrations in any cloud, on-premises, and at the edge — wherever the action is taking place — so everything happens instantly.

Customer trust: No other integration platform has the same level of

- customer validation as the Boomi Enterprise Platform.
- Boomi has more than 20,000 customers around the globe, representing companies of all sizes and all industries.
- The Boomiverse Community has grown to over 250,000 members, enabling users to easily collaborate with peers to find tips and answers to their questions.
- Boomi's customer renewal rate is extremely high.



Boomi AI, the game changer

Boomi recently announced the introduction of Boomi AI, which is designed to be the next big leap since the launch of the cloud-native integration platform foreshadowed the move away from on-premises middleware. Boomi AI is a suite of capabilities inside the Boomi Enterprise Platform that harness the power of generative AI and LLMs to improve developer productivity. It is built on three autonomous foundations: autonomous design, autonomous management, and autonomous orchestration. **Autonomous Design** is about designing your integration processes through a conversational experience using natural language. **Autonomous Management** takes another big step forward in selfmanaged integration. Its purpose is to simplify how developers manage their entire landscape, such as automatic process documentation and data protection. Finally, Autonomous Orchestration brings all Boomi Enterprise Platform services together, including DataHub, to help you drive digital cohesion and deliver better experiences much faster.

- Depth and quality of data is the biggest difference between the best and the rest in AI capabilities. Boomi is uniquely positioned to deliver AI integrations, having incorporated machine learning into its integration platform from the beginning. The Boomi AI engine is trained on 300M+ common integration patterns.
- Insights from over 250K+ community members and Boomi documentation.
- Patented knowledge.

This de-identified data has been collected on Boomi's cloud native platform for more than two decades — making Boomi the only integration company in the market today that has this wealth of knowledge.

How does Boomi AI help?

Boomi has active Boomi AI Agents to help developers autonomously design, manage, and orchestrate digital cohesion

- **Boomi GPT:** Enable developers to call on AI agents for actions through natural language conversations.
- **Boomi DesignGen:** Design integration process based on 300M+ common patterns and best practices.
- **Boomi DataDetective:** Protect sensitive information with AI-powered data classification and track where data is being moved across regions.
- **Boomi Scribe:** Automatically write documentation for integration processes detailing process descriptions and business use cases.
- **Boomi Pathfinder:** Provide suggestions on the next best steps to take when building integration processes with automated data mapping, building blocks, and more.
- Boomi Answers: Save time and effort from searching through user community discussions and articles when developers run into questions.

The Boomi AI agents above are examples of how Boomi changes the game with unprecedented speed and time savings in integration and automation initiatives. The company has many more agents on the roadmap to help developers improve productivity and complete tasks across use cases and industries.

The Legacy Integrations Dilemma: Migrate or Rewrite?

A choice enterprises face in adopting a modern iPaaS such as the Boomi Enterprise Platform is around how to move their existing integration landscape to the new platform. There are two major choices: either rewrite the complete body of integrations from scratch, or migrate them.

The rewrite approach essentially utilizes existing specifications, such as data mapping documents and functional requirement specifications, and requires implementation of integrations as new code is developed against these specifications. Some elements of the existing legacy integration implementation, such as test scripts and test data, could also be reused. However, for the most part, this path is a fresh implementation on the new, modern platform.

The alternative is the migration path: utilizing the existing implementation code as an input to generate a modernized integration solution on the to-be state platform. This approach requires reverse engineering of the existing code assets, comparing them against specifications and updating the specifications where needed, and using migration tools to generate the to-be solution.

Migration makes sense for many enterprises, for reasons including:

- Preserving business logic: Existing integration flows often encapsulate critical business logic and rules that have been fine-tuned over time. Migrating these flows helps preserve this valuable intellectual property.
- Minimizing disruption: Rebuilding integration flows from scratch can be timeconsuming and disruptive to ongoing business operations. Migrating existing flows can help ensure continuity and minimize downtime.
- Reducing risk: Reverse engineering and forward engineering existing flows can reduce the risk of introducing errors or functional gaps compared to rewriting integrations from the ground up.
- Leveraging existing mappings: Existing data mappings and transformations can be carried over, saving significant effort and reducing the risk of mismatches or data quality issues.
- Compliance and auditing: Migrated flows may be easier to validate for compliance and auditing purposes, as their functionality is already proven and documented.

By migrating existing integration flows, enterprises can take advantage of the new iPaaS capabilities while minimizing disruption, reducing risk, and preserving the investments made in their current integration landscape.

Despite these clear advantages, enterprises often have significant worries around the migration approach, with questions such as:

- How do we know that the migration process produces code that is functionally identical to the original, legacy implementation?
- Are we unwittingly carrying over legacy design choices that are not optimal for the new platform?
- Will the migration approach end up taking longer than even a complete rewrite?
- Should we just leave the old integrations as-is, and only utilize the new platform for new integrations?

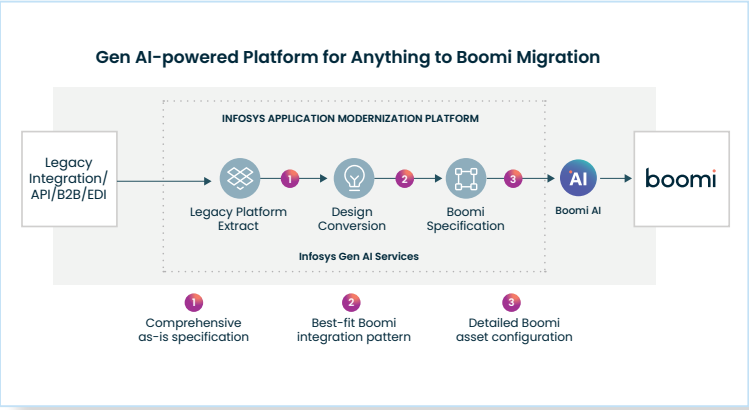
Understanding the AI-Powered Infosys Application Modernization Platform for Anything to Boomi

Overview

Infosys Application Modernization Platform for anything to Boomi is a gen AI-based solution built by Infosys in collaboration with Boomi. It is a scalable platform that enables automation and accelerated migration of any legacy/existing technology to the Boomi Enterprise Platform. The solution leverages Infosys Application Modernization Platform, powered by Infosys Topaz AI, to reverse engineer the flow in any existing integration platform and subsequently forward engineers the same flow in Boomi leveraging Boomi AI.

Organizations have a lot of legacy integrations built over a period of time which often have limited and/ or inaccurate documentation. To understand the existing integrations is typically a long and manual process with a lot of dependency on the SMEs for legacy technologies, leading to delays in migration and increase in cost. With complex integrations comprising integrations with multiple end points, transformation rules, maps, and routing logic, it becomes even more cumbersome to migrate to new integration platforms like the Boomi Enterprise Platform.

Leveraging the power of gen AI, the solution provides key capabilities for migration from any legacy technology across integration middleware, EDI/ B2B, and API management, to Boomi as the target platform.



AI-powered migration benefits

Massively accelerate migration speed: Traditionally, migrating legacy integrations involves manual code analysis and translation, leading to lengthy project timelines that can stretch for months or even years. This not only delays the realization of the benefits associated with Boomi's modern iPaaS, but also ties up valuable IT resources. AI-powered solutions revolutionize this process by automating the reverse engineering of legacy code. By intelligently analyzing the logic and functionality of existing integrations, AI can accurately capture the underlying business processes. This automation translates to significantly faster migration cycles, potentially reducing project timelines by 50% or more. This frees up IT personnel to focus on other strategic initiatives and accelerates the time-to-value for the organization's integration modernization efforts.

Reduce risk of migration errors: Manual code conversion during legacy integration migrations is a well-known source of errors. These errors can introduce integration issues that may not be identified until after the migration is complete, leading to disruptions and delays in critical business processes. Our AI-powered solution mitigates this risk by employing sophisticated algorithms to analyze legacy code and generate equivalent Boomi configurations with high fidelity. This ensures

a more accurate representation of the original integration logic within the Boomi platform. By minimizing the risk of errors, AI-powered migration fosters a smoother transition with fewer post-migration surprises. This results in a more stable and reliable integrated environment, allowing organizations to confidently leverage Boomi's capabilities.

Lower cost of migration: Traditional legacy integration migration methods rely heavily on IT personnel to manually analyze, translate, and configure integrations within the new platform. This reliance on human effort drives up the overall cost of the migration project. AI-powered solutions offer a significant cost advantage by automating a substantial portion of the migration workload. By intelligently deciphering legacy code and generating corresponding Boomi configurations, AI reduces the need for manual intervention. This translates to potential cost savings of 40% or more compared to traditional approaches. This significant cost reduction allows organizations to invest in other digital transformation initiatives or allocate resources towards ongoing maintenance and optimization of their Boomi integrations.

Migrate to best-of-breed design: Legacy integrations often reflect the technological limitations and best practices of the era they were built in. They may be inefficient, complex, or not leverage the full potential of modern integration platforms. AI-powered migration goes beyond simply replicating legacy integrations. During the analysis phase, AI can identify opportunities to optimize the integration logic and recommend configurations within Boomi's platform that leverage its advanced capabilities. In addition, migration developers have access to detailed auto-generated system specifications, giving them the opportunity to tweak or update the integration flows as needed. This approach facilitates migration to a "best-of-breed" design, maximizing the benefits of the Boomi Enterprise Platform. The resulting integrations are not only functionally equivalent to the legacy systems but also offer improved performance, scalability, and maintainability. This ensures that organizations can leverage the full potential of their modern integration platform for years to come.

A closer look at the specifics of the AI-powered migration solution

Core platform features:

- A secure and scalable platform hosted on Kubernetes cluster.
- UI to upload all legacy integration artifacts for migration including options to retrieve artifacts from Git.
- Migration Monitor to check the status of past migration executions and artifacts created.

Reverse engineering:

- Interprets legacy code and configurations.
- Extracts valid integration artifacts and configurations for Boomi.
- Understands flow sequence and complexities leveraging Infosys Topaz AI.
- Creates the business requirement document for developers to understand the flow as well as configurations and validation.

Forward engineering:

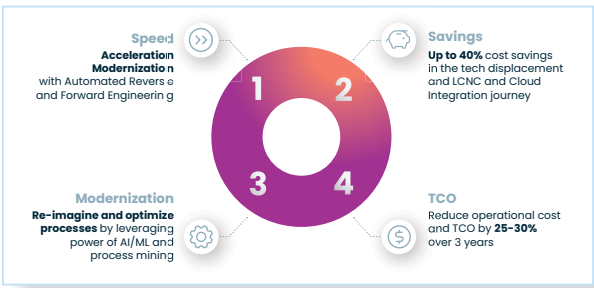
- Interprets flow sequence and artifacts and generates prompts to develop the same in Boomi AI.
- Creates Boomi processes corresponding to legacy integrations.
- Enriches the Boomi processes with all configurations extracted from legacy technologies which includes profiles, maps, and connections.
- Provides mapping specifications for all maps developed in Boomi.

Assets generated by the migration process:

- The AI-powered anything to Boomi migration solution generates the following types of assets as part of the migration to Boomi:
- Boomi processes and subprocesses corresponding to the legacy flow. Process URLs are provided in the UI for easy access.
- Business requirements specifications document (BRD) for the migrated integration.
- Mapping specifications with details of all fields mapped and not mapped, with their business logic.
- All configurations of existing platform in JSON format for easy validation.

Infosys Application Modernization Platform at Work: Success Stories

Infosys Application Modernization Platform has been used extensively for any-to-any technology migration using the power of AI and has produced excellent outcomes. The platform has proven its capabilities and impact through numerous technology migrations across products as diverse as MuleSoft, TIBCO, Angular, Java, PL/SQL, VB6, and many more. It has also been applied to produce as-is system documentation in document, Excel, and Visio formats. The platform is extremely customizable and allows a combination of rules-based and AI-powered migration capabilities for holistic migration solutions.



Customer success examples

Leading beverages company

- Migration of 200+ interfaces from TIBCO BW
- 30-40% reduction in overall migration effort
- Hybrid architecture – on-premises + cloud
- Parallel testing – improved quality of migrated interfaces

Elevator manufacturer

- Migration of 40 Sonic ESB interfaces
- Program completed in 40% shorter overall timelines compared to original, manual migration plan
- Overall cost savings of €900K

Mining company

- Migration of 1200+ interfaces from IBM Integration Bus
- Reverse engineering timelines optimized by 60%
- To-be state architecture realized with high reuse, clean service boundaries, high reliability, and scalability

Conclusion

Clinging to outdated integration middleware hinders an organization's ability to adapt and thrive in today's dynamic digital environment. Legacy platforms often lack the agility and scalability required to support modern business needs. However, the future of enterprise integration is bright, thanks to AI-powered migration tools. These tools can pave the way for a smooth and efficient transition to modern platforms like Boomi. By embracing AI-led migration, businesses can unlock a world of benefits, including streamlined integrations, optimized workflows, and a solid foundation for future digital transformation endeavors. This shift will not only empower businesses to keep pace with the ever-changing market but also position them for continued success in the digital age. So, take action today and explore the power of AI-led migration – it's the key to unlocking the full potential of your integration infrastructure.

About Infosys

Infosys is a global leader in next-generation digital services and consulting. Over 300,000 of our people work to amplify human potential and create the next opportunity for people, businesses and communities. We enable clients in more than 56 countries to navigate their digital transformation. With over four decades of experience in managing the systems and workings of global enterprises, we expertly steer clients, as they navigate their digital transformation powered by cloud and AI. We enable them with an AI-first core, empower the business with agile digital at scale and drive continuous improvement with always-on learning through the transfer of digital skills, expertise, and ideas from our innovation ecosystem. We are deeply committed to being a well-governed, environmentally sustainable organization where diverse talent thrives in an inclusive workplace.

For more information, visit infosys.com.

About Boomi

Boomi, the intelligent integration and automation leader, helps organizations around the world automate and streamline critical processes to achieve business outcomes faster. Harnessing advanced AI capabilities, the Boomi Enterprise Platform seamlessly connects systems and manages data flows with API management, integration, data management, and AI orchestration in one comprehensive solution. With a customer base exceeding 20,000 companies globally and a rapidly expanding network of 800+ partners, Boomi is revolutionizing the way enterprises of all sizes achieve business agility and operational excellence.

For more information, visit boomi.com.

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