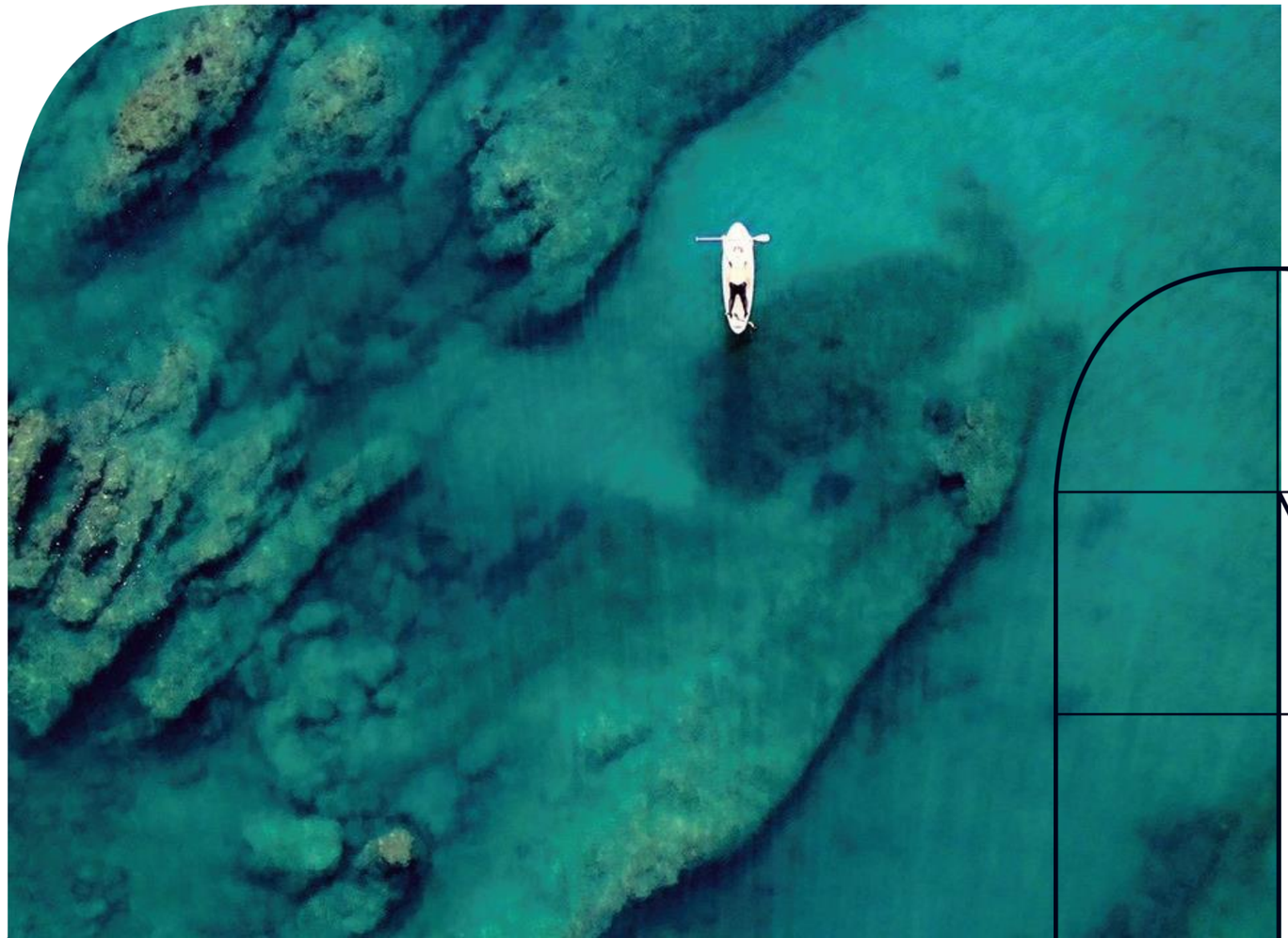
The Business Benefits of Hyperautomation for Legacy Application Migration



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Executive Summary

Migrating legacy applications to the cloud offers operational and financial benefits for businesses but the process can be complex and challenging. The Clonika hyperautomation platform from NTT DATA combines automation and process monitoring tools with the latest cognitive technologies, such as generative AI, to automate and accelerate legacy application migration. It is accessed as a SaaS service, which means no upfront investment is needed and the client organization does not need to recruit staff with specialist skills.

Introduction

Background

Cloud computing is now a mature technology and businesses that have adopted cloud services typically report important operational, financial and customer-centric benefits.

Many large enterprises now want to go further and move legacy applications to the cloud to improve operational agility, boost efficiency and reduce the often high costs associated with running and maintaining legacy applications in their own data centers.

Migrating legacy applications to the cloud as part of a full or hybrid cloud strategy offers numerous advantages to businesses, but it is a different proposition from using cloud-native applications and can create significant challenges, particularly if the legacy applications are business-critical.

The Challenges of Legacy Applications

Moving legacy applications to the cloud involves several stages: planning, development, testing, and final deployment, typically to a commercial hyperscaler platform. It can be quite time-consuming with challenges waiting in many areas:

Outdated Technologies: Legacy applications are built using outdated technologies and architectures that might no longer be widely used or supported. Upgrading or refactoring these technologies to align with modern standards requires significant effort and expertise.

Complexity: Legacy applications often have complex and interdependent codebases that have experienced many incremental changes. Untangling this web of code and ensuring it remains functional during modernization is a challenging task.

Poor Documentation: Developers may struggle to understand the logic and functionalities of legacy code if comprehensive documentation is lacking. This necessitates reverse engineering and thorough analysis, adding to the time and effort required.

Integration Challenges: Legacy applications might rely on custom integration with other systems and technologies, which may no longer be compatible with modern solutions. Updating integrations and ensuring seamless connectivity can be time-consuming.

Data Migration: The data that underpins a legacy application may be stored in proprietary formats or outdated databases. Migrating this data to modern cloud-based databases, while ensuring data integrity and security, is a complex process.

Project Management and Skills Issues

As well as these technical considerations, the process of modernizing legacy applications can take longer than originally predicted and this may have a detrimental impact on the business if not managed well. Careful planning and testing are needed to ensuring a smooth transition while maintaining functionality and data integrity.

Comprehensive testing for functional correctness, performance, and security will also add considerably to the time required for the process, but rigorous testing is essential to identify and resolve issues during modernization. Similarly, ensuring that the modernized application complies with the latest regulations will require additional scrutiny, particularly in regulated sectors.

Finding developers with expertise in both legacy technologies and modern development stacks can be quite a challenge and trying to bridge the skill gap through training or hiring specialized resources not only takes time but defeats what is often one of the key arguments for moving to the cloud, namely to downsize the internal IT function.

Despite the challenges, legacy application modernization is essential for organizations to remain competitive, improve efficiency, and meet evolving customer demands. With careful planning, skilled resources, and a structured approach, organizations can successfully navigate the complexities and reap the benefits of a modernized application.

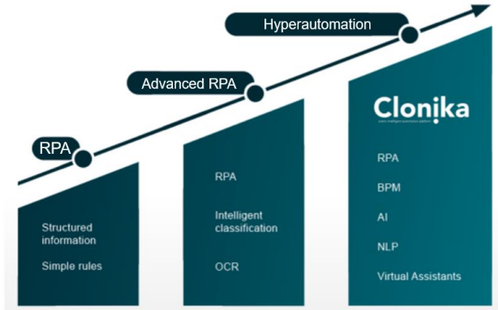
Clonika hyperautomation platform

Clonika hyperautomation platform

NTT DATA's hyperautomation service has been created to help enterprises overcome the technical and organizational challenges associated with running cloud-native applications and, more specifically, with legacy application migration, so reducing the time and effort needed to adopt a cloud-first IT strategy.

The service is powered by Clonika, NTT DATA's intelligent automation platform, and backed by a team of NTT DATA professionals skilled in legacy application modernization.

Figure 1 The Evolution of Process Automation



It is important to realize that hyperautomation goes beyond the limitations of traditional IT automation strategies based only on robotic process automation (RPA). Instead, Clonika combines a variety of technologies including RPA, artificial intelligence (AI), machine learning (ML), natural language processing (NLP) and business process mining (BPM). Together, these technologies are employed to streamline, optimize and automate the many processes involve in legacy application modernization with minimal human intervention.

NTT DATA has considerable experience using RPA in a variety of business areas and currently runs more than 300 business processes on Clonika on behalf of more than 30 commercial clients.

This experience has taught us that the way to automate processes more precisely and improve both ROI and Time to Value is by including cognitive elements that complement RPA technology. Real-world business processes are complex and while some will have tasks that can readily be automated with RPA, others will require cognitive solutions or manual intervention.

In the case of legacy application modernization, this is particularly important because, for the reasons mentioned earlier, it may not be immediately obvious what functions a piece of legacy code performs, how it interacts with other code or whether it is still even necessary. The cognitive technologies in Clonika help address this problem by better supporting the reverse engineering process, reducing the burden on human developers and increasing the degree of automation achievable when creating new code or generating documentation.

Generative AI:

The integration of generative AI into the Clonika platform offers myriad benefits for optimizing processes, automation and, ultimately, speeding innovation.

By analyzing historical data, a generative AI can spot patterns in the data and offer insights for refining processes, optimizing resource allocation, and automating decision-making and task execution, so boosting the overall efficiency of the migration process.

Rather than replacing human workers, generative AI models amplify their capabilities. This is a key feature of Clonika and so the expert knowledge of humans is used to guide AI systems, ensuring generative outputs align with the required objectives.

Business Benefits of Clonika

Clonika enables organizations to automate a broader range of tasks and processes, so offering a truly end-to-end solution for automating complex processes and projects,

It can handle both structured and unstructured data, meaning Clonika can tackle more complex and diverse workflows compared to traditional automation tools, and it has been designed to integrate with existing systems and applications, making it easier to implement automation across the entire organization.

Traditional automation tools often require great effort to adapt to changing requirements. In contrast, a hyperautomation strategy based on Clonika is more agile and flexible, allowing users to adapt their automation processes as needs change.

Because it is a cloud-based, Clonika can be scaled up or down to handle changing workloads and this is particularly relevant to a legacy application migration project, as the timeline and resources available may be heavily conditioned by other business needs.

Clonika can also reduce human error, as it can handle repetitive tasks with a high level of accuracy. This minimizes costly mistakes and ensures consistent output in critical processes.

Undoubtedly, the most compelling reason for using Clonika is that its SaaS usage model provides a more attractive option for organizations that have considered undertaking legacy application modernization themselves but have rejected it because of the uncertain risks, the need for specialist staff and the cost of specialist tools.

Clonika is cloud-based so there is no upfront investment, no IT overheads and no learning curve as NTT DATA owns and runs the software not the client organization. Because it is SaaS, pricing is usage-based and predictable and adapts to your actual needs and workloads as the automation project evolves.

NTT DATA not only has considerably experience using Clonika but it makes those assets and complementary human resources available in a turnkey solution that avoids upfront costs, skills shortages and project management issues for the client.

Clonika Use Case

NTT DATA helped a leading financial institution implement a hyperautomation project designed to automate the provision of linked development resources and repositories in various cloud environments for the migration and modernization of its legacy applications to the cloud.

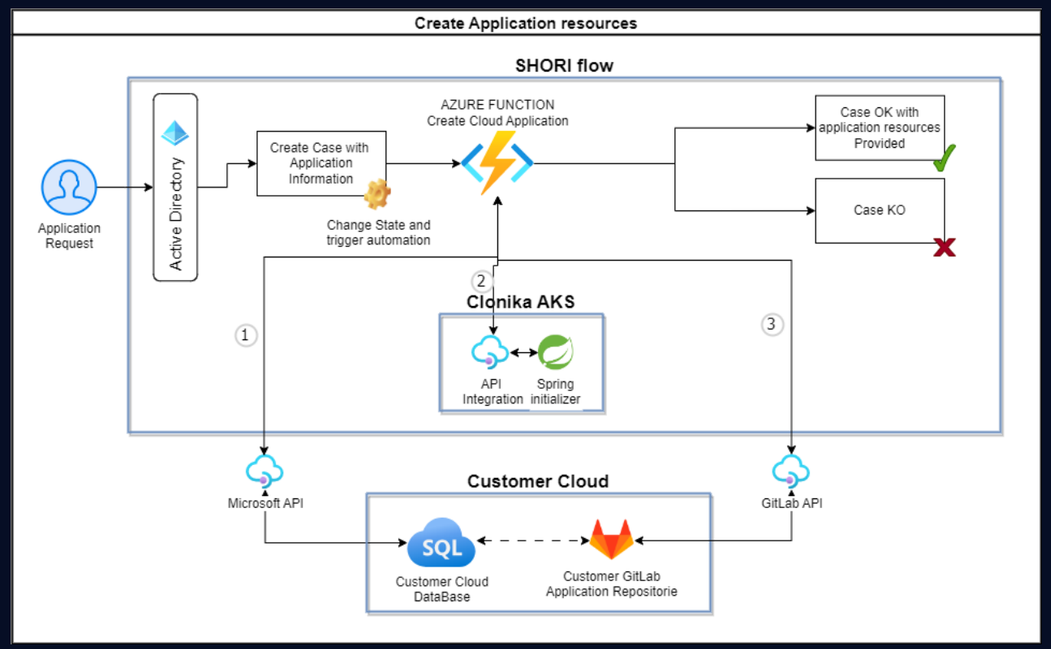
Prior to implementing hyperautomation, requests for resources and repositories for cloud applications were handled manually and the development team had to manually link dependencies, which was not just time-consuming but a potentially error-prone process.

The Proof of Concept developed by NTT DATA overcame this drawback, using a BPM to orchestrate the flow of petitions and approvals from customer managers.

Using hyperautomation, the time needed to perform the task reduced dramatically from 30 minutes to just 5 minutes, a saving of 83%. In addition, the IT team reported that it was easier to meet their SLA target using hyperautomation and the bottlenecks that previously affected their workflow were now avoided.

In terms of business benefits, the solution has enabled the customer to adopt a FinOps strategy by making it easy to identify underutilized resources and take action to right-size or terminate them. By optimizing resource utilization, the customer hopes to maximize the value of its cloud investments.

Figure 2: Implemented Solution Architecture



Conclusion

The Clonika hyperautomation platform comprehensively addresses the challenges created by legacy application modernization. It goes beyond traditional automation strategies, combining RPA, AI, ML, NLP, and BPM to streamline and automate the modernization process, reducing project duration and the costs that an organization would incur if it undertook the migration using internal resources.

By embracing hyperautomation using Clonika, enterprises can modernize legacy applications more efficiently, navigate complexities, and maximize cloud investments while benefiting from NTT DATA's expertise and turnkey solutions.