Rocket®software

Developing a Successful Modernization Strategy for IBM® i

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Introduction

Businesses are always in a state of flux. The changes brought on by the post-pandemic lockdown and geopolitical, economic, and security threats have placed additional strains on companies' legacy systems.

Companies cannot afford to waste years of investment by simply casting off legacy applications. Simply adding fancy GUIs without sufficient back-end support is ineffective and short-sighted. For companies that have already invested heavily in IBM® i applications, the strategic advantage lies in modernizing and renewing the investments they have already made. By successfully modernizing traditional business applications rather than rebuilding from scratch, companies can achieve higher productivity, better return on investment, and faster time to market. So, enterprises are increasingly asking their IT and operations teams to help them respond more quickly to market needs—like accelerating the delivery of APIs or finding more effective ways to automate internal workflows.

As a result, IT departments are pressed to create high-performance, secure, and reliable software applications that span multiple platforms to support their business needs while enhancing legacy core applications. That said, they need help discerning business-critical needs and components from superficial improvements to determine the required digital business investment leading to long-term resilience.

In other words, these IT leaders must evaluate ways to address legacy applications' productivity challenges adequately.

> A McKinsey study revealed that US banking CIOs are resetting their technology agenda. Patterns observed include channeling 50% of technology investments toward speeding up a digital-led economy and increased efforts to improve IT productivity to boost cost efficiency by 30%
>
> Source: Modernizing Core Technology, without Breaking the Bank. McKinsey and Company.

Taking the Right Step Forward

IBM i remains an industry mainstay—from banking and finance to healthcare, manufacturing, distribution, and retail. Known for their stability and reliability, these industries run a high percentage of critical business applications on these systems. However, when we speak of IBM i, the picture that comes to mind is a green-screen interface that needs to be revised and made more intuitive. If you've been working with IBM i, you know this is far from true. The system has continuously evolved, and with support from modern tools, it can recognize present-day languages and functionalities.

The solution appears simple enough: modernize the green screens or build APIs and robots to integrate systems and create automation. The real challenge lies in determining where to start and which project to prioritize.

To ensure that your modernization effort quickly impacts the business, you must build a data-rich and informed plan that includes end-to-end visibility into how the company engages with the applications.

In addition to the blueprint of your processes and workflows, you'll also need to understand the following:
* How users navigate through an application
* What data users are calling, changing, etc.
* How frequently do workflows take place

Such insights will help you identify and prioritize the best opportunities for modernization. We will explore how you can plan and execute a successful strategy by leveraging workflow visibility.

> Only 7% of business decision-makers on IBM i/Z said they are confident that they have the insights needed to build an intelligent modernization plan that drives bottom-line value for the business quickly.
>
> Source: Organization Strategic Needs Around Modernization Efforts on IBM® i and IBM zSystems® Executive Report. Rocket Software.

Intelligent Automation and Modernization

Modernization—including automation—is a continuous process. As businesses finalize their initial automation and modernization projects, they often make ongoing changes. Some examples include altering the application UI to align with the current UI trends, RPA robots because of an update to a regulatory requirement, or an API repository to enable and support new technology or ERP tool. **When it comes to addressing IBM i application challenges, the best practice is to have a consistent, data-driven plan that includes the following steps:**

Step 01 Process Discovery

Modernization and automation must begin with a detailed and accurate understanding of how your company uses the IBM i application. A thoughtful assessment of your workflows enables you to gauge the time and effort required for your project and reduce the possibility of cost overruns.

Step 02 Project Prioritization

With greater visibility of your workflow and processes, you can identify hot spots for automation and modernization improvements that will drive real value for the business. The ability to prioritize enables you to set the project up for success and gain approval from vital business stakeholders because you can show a direct link between the work proposed and the impact on the business.

Step 03 Automation Execution

Once your plan is clearly defined, the fastest way to a quick ROI is to start with RPA. Build robots to take on mundane tasks within a workflow to improve productivity. This frees users to focus on more exciting work, increasing user satisfaction.

Step 04 Modern User Experience

Find workflows where the navigation across myriad green screens significantly slows down the user. But don't build a modern UI that is 1:1 of the green screen. Build a UI that fits the user's workflow, including consolidating screens with practical moving fields, so the flow is more intuitive.
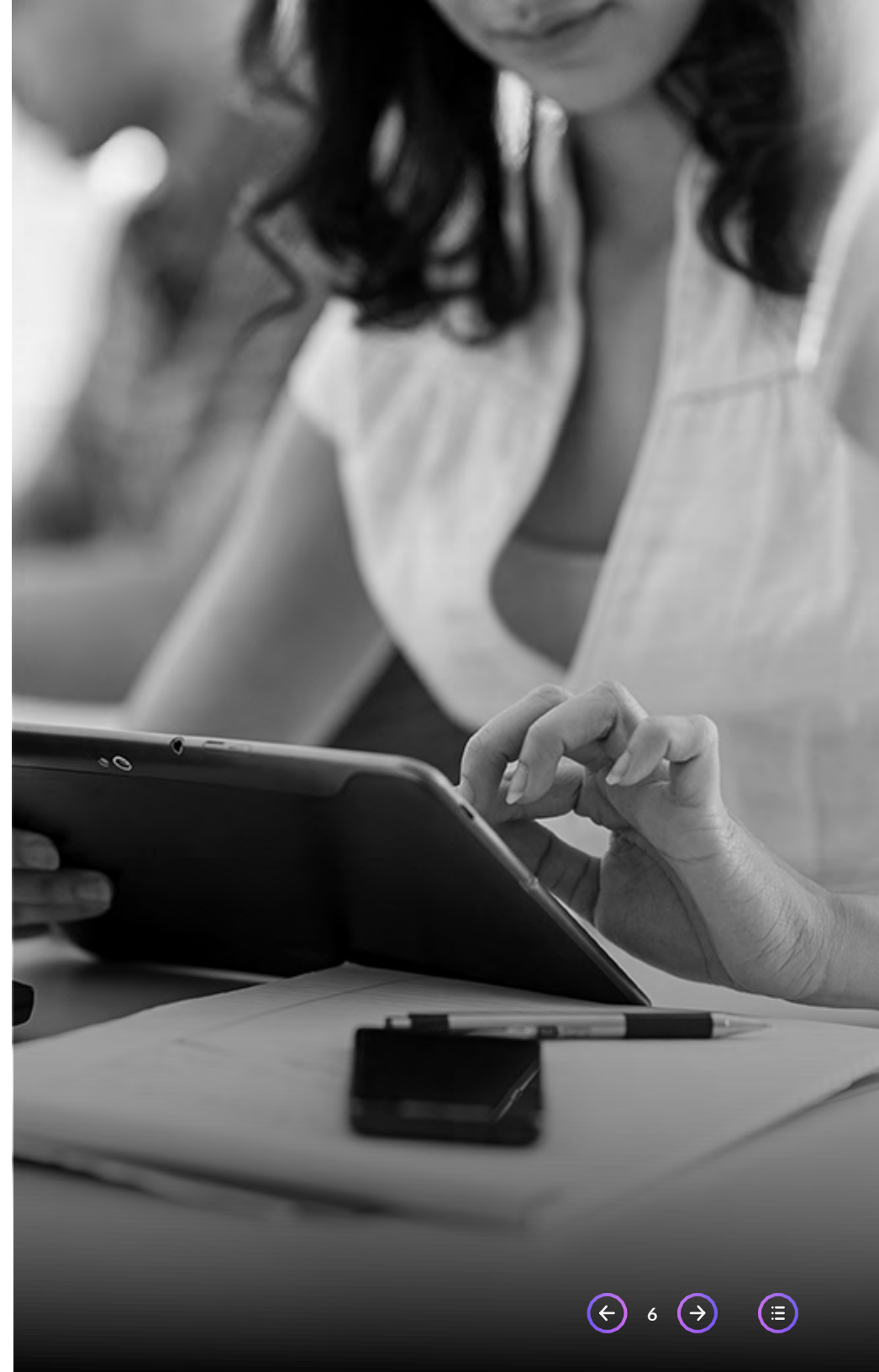
Step 05 **Process Integration**

Improve business alignment by building APIs that integrate your IBM i applications with the rest of your critical business applications. Process integration un-silos your legacy applications, creating an interactive and symbiotic system that untethers business operations and customer engagement from the constraints of IT infrastructure.

Step 06 **Automation Management**

Once you've built robots and APIs, centrally manage their development and deployment with a DevOps-lite tool. This further extends modernization and automation improvements into the developer environments. It automates the process, enforces policy and controls, and improves developer productivity.

Now, start the process over again. What new processes, technologies, or trends within the business, or the larger market, warrant a review and update of the IBM i application workflows?

Process Discovery is a Critical Step

Process Discovery is the one step where corners are often cut to conserve time and resources throughout an intelligent automation and modernization process. It is the key with which businesses unlock fast and significant bottom-line value from their modernization and automation projects. Below are the top 5 business drivers of modernization and automation plans where results can be magnified with Process Discovery.

01 Innovate quickly and smartly

Total workflow visibility provides high-level information captured at scale within a short time. This offers in-depth insights into common workflows and the daily challenges employees face. It helps organizations make intelligent modernization decisions, highlighting the most time-consuming and frequently executed tasks.

02 Retain valuable talent

Working with unintuitive application interfaces with too many complex green screens to navigate can be frustrating, leading to employee churn. Detecting and removing the bottlenecks can help alleviate productivity lags, improve workflow, and, most importantly, eliminate a big chunk of employee dissatisfaction. You will also put your organization in a better position to recruit valuable talent who can drive business growth.

03 Boost productivity

Green screens and 1:1 modernized UIs are known to cause productivity issues, slowing down employees, causing frustration, and delaying their response time to customers. A bird's eye view of your IBM i system can help you pinpoint the areas holding your employees back and make essential modernization decisions that give them more time and space to work more efficiently.

04 Improve customer experience

Improving customer experience is a vital concern of every business. Still, when employees are forced to navigate so many obstacles, the quality of service they provide to customers suffers. To improve customer experience and do so quickly and well, businesses need to remove barriers that box in employees.

05 Achieve high ROI

Most business stakeholders will understand the need for modernization and automation, but whether those projects get continued support depends on the speed and impact. Modernization projects, automation projects specifically, can drive significant ROI for the business very quickly.

Setting up your modernization projects for success relies on your ability to build a plan that prioritizes high-return tasks across each of these drivers—i.e., employee and customer experience, productivity, and ROI. To do that, you need workflow visibility.

The Three Levels of Workflow

01

Low-hanging fruit

This level references workflow matters typically prioritized first and concerns a high volume of inefficient work hours brought on by easily identifiable challenges. For example, if a customer service representative must navigate ten green screens to update one customer's information, the source of the inefficiency is too many green screens.

02

Knowledge from expert workers

The second level goes deeper and involves the knowledge of faster workflow approaches, optimal workarounds to typical issues, and exception handling. Often it is only the power user who truly understands the workflows at this level.

03

In the shadows

The third level of visibility is the most overlooked. These parts of the workflow work through backend processes that even the power users don't know about. This deeper level of visibility requires an advanced tool to understand what is happening across the entire workflow.

What Does Good Process Discovery Look Like?

To get real end-to-end visibility, your process of discovery to uncover valuable insights should have the following steps:

Step 01

Set up a proxy between your workers and the application that will record the workers' activity. This activity captures all the processes and workflows associated with those applications and is typically considered digital worker analytics.
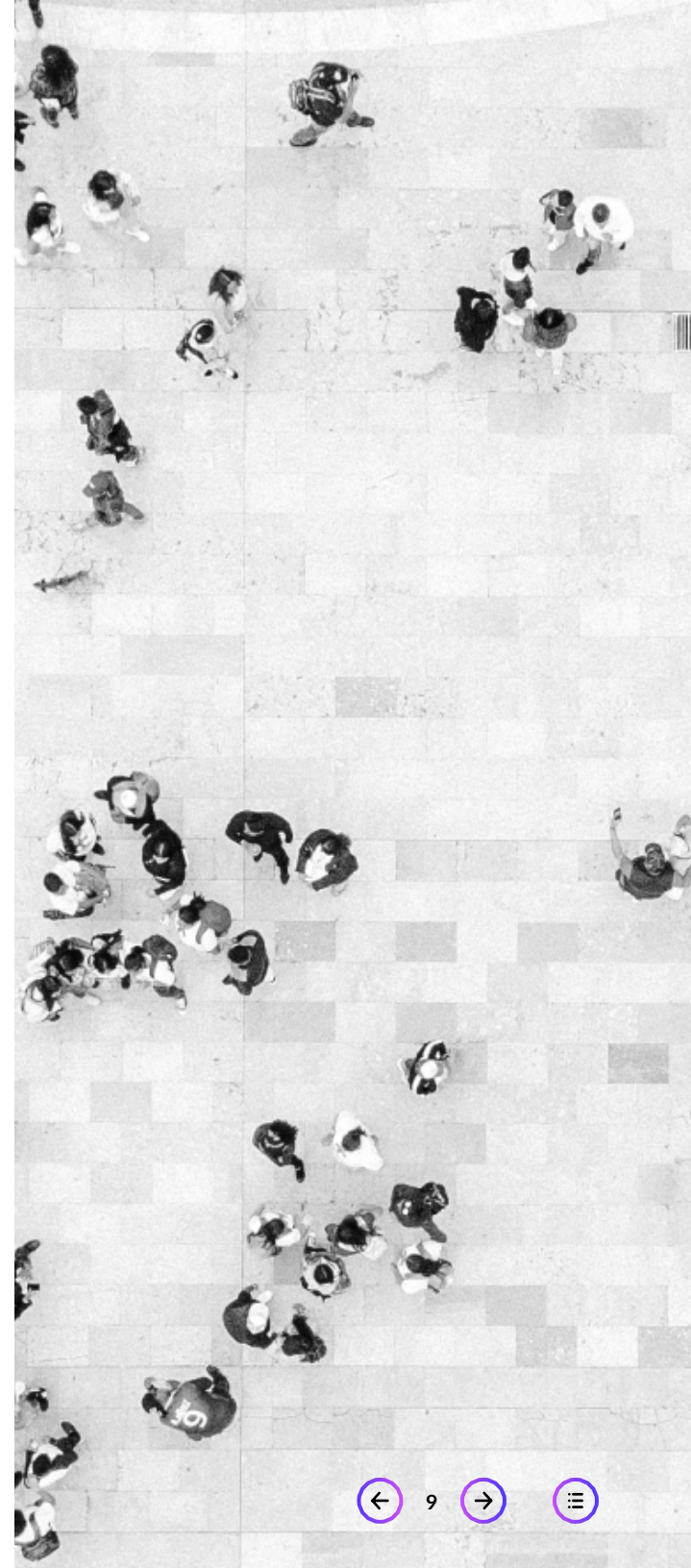
Step 02

Have the proxy create a blueprint of your processes by recognizing patterns within the different workflows, including when patterns are similar.

Step 03

Use the proxy to capture metadata: the frequency of workflow execution, workflow timelines, various workflow states, transitions between states, and interactions with business logic and file systems.

With Process Discovery complete, you will have an end-to-end visual of your workflows. From there, you can quickly build out your data-informed intelligent automation and modernization plan to drive bottom-line results.

IBM i+ Development Strategy

As you work on your modernization plan, you know that application development across numerous platforms and code structures presents a set of unique challenges requiring a requiring a multi-code development strategy for IT directors. The complexity increases with each new factor added to the IT mix. **In a multi-platform, multi-team business development environment, IT must address the following:**

- Incompatibility of IBM i file storage technology with other distributed systems
- Inconsistent development processes and terminology
- Complex and variable build management processes
- Multi-platform code deployment
- Parallel development management
- Multiple development languages
- A wide variety of development tools
- Geographically dispersed and departmentally distinct development teams

Businesses today face greater levels of uncertainty in global markets than ever before. To ensure resilience to constant change and the ability to continue delivering innovative experiences and offerings, establishing robust DevOps practice that includes true CI/CD cycles is essential.

Effective DevOps infrastructure ideally runs on two main principles:

The first is structure, building a repeatable process through automation and controls which drives productivity improvements and is key to simplifying compliance adherence and reporting.

The second principle is flexibility, which empowers those involved in your DevOps infrastructure to experiment with new ideas and the freedom to make changes. This experimentation can happen with code, UX, delivery, process, or anywhere the team believes an improvement can be made. But flexibility can only be enabled when there is structure to support it. This includes testing as early in the process as possible, or "shift left" testing.

Only with structure from automation and controls—and flexibility through early and often testing—can businesses match the speed of market demand and even pull ahead in today's ever-changing markets.

Defending Critical Business Data While Maintaining System Workflow

IT departments are challenged with protecting critical business data while maintaining system availability and optimal performance. As you modernize your application, it is essential to implement measures to prevent and minimize data loss due to disasters of any kind because the financial impact could be catastrophic. With so much at stake, the choice of high-availability (HA) and disaster recovery (DR) solutions should be carefully considered. A solution that includes high-fidelity data replication, fast operational switching, continuous sync check processing, and functionality that can make any server the master are vital factors that should be considered when deciding.

Protection Against Cyberthreats and Security Breaches

Modernizing your IBM i applications and data and extending those applications to the web, mobile, and cloud environments will lead to better digital experiences. But these same conveniences place your organization at a higher risk of cyberthreats and security breaches. Running a network-level over-the-top multi-factor authentication (MFA) solution does not provide the comprehensive coverage you need to bolster the security of your IBM i. Without a layered security strategy that protects your IBM i at multiple levels, someone who gains access to the network can easily take advantage of any static passwords.

To protect and guarantee business continuity and competitiveness, deploying a trustworthy MFA solution explicitly designed to deliver a layered defense against password threats is an absolute must. Basic password protection is no longer sufficient to deter cybercriminals who employ creative methods like phishing and malware to overcome your defenses. A layered defense is essential to protect mission-critical applications and data running on IBM i while ensuring unhindered innovation, regulatory compliance, and confidence amongst your employees and customers.

Bringing it All Together to Drive Bottom-Line Results

Armed with an intelligent modernization and automation plan built with the knowledge of how your business truly engages its IBM i applications while also taking into account the implementation of a multi-code development strategy, defending critical business data, and protecting against cyber threats and security breaches, you are ready for action. As you look for tools to execute your plan, evaluate your choices based on which tools and vendors can help you best implement a data-rich and informed modernization and automation plan.

Rocket Software has helped customers like you plan and execute successful IBM i modernization and automation strategy that delivers bottom-line results. Get in touch with us to learn more.

Rocket® Software's Modernization Suite for IBM® i
Rocket Software's complete suite of Automation and Modernization solutions for IBM i

End-to-end visibility of your IBM i application workflows

Rocket Process Insights is a visual tool that lets you see your workflows in totality, giving you the information needed to build an intelligent IBM i modernization plan. It tracks how your organization engages with your IBM i applications' data and business logic and delivers a heat map of the engagement. From that insight, you can create a data-driven plan that eliminates redundancy and wasted time within your workflows. Then, leverage Rocket modernization solutions to build modern user experiences and workflows that provide real results to the business.

Rocket® Process Insights for IBM i

Connect your IBM i applications to the rest of the business

Rocket API enables businesses running IBM i applications to build workflows and innovative experiences that align with how customers and employees engage with your company and not with how IT is built. In addition, it is the only Robotic Process Automation (RPA) solution to deliver quick and significant ROI from automating your IBM i processes. It removes tedious, manual work that causes bottlenecks, introduces errors, and limits innovation without needing in-house legacy development expertise.

Rocket® API (Process Automation)

Deliver transformative user experiences

Rocket Modern Experience empowers businesses to quickly build modern front ends for their IBM i applications without needing in-house RPG development expertise. Build the web, mobile, and cloud experiences that employees and customers are looking for and solidify your leadership position in the market.

Rocket® Modern Experience

Simplify compliance reporting and user access to critical systems

Manual security and compliance administration is tough to scale, costly, and time-consuming, limiting your business's ability to tackle new opportunities or challenges. Stay in lockstep with changing regulatory mandates, and align IT and DevOps compliance with data laws like HIPAA, GDPR, and PSD2 while minimizing the risk of human error with modernized DevOps for IBM i today. Rocket DevOps enables true end-to-end CI/CD for IBM i+ environments. Businesses can extend holistic DevSecOps best practices to the IBM i, pursue innovative experimentation, quickly respond to compliance audits, and adapt to the ever-changing expectations of processes, technology, or experience.

Rocket® DevOps

Cost-effective high availability and disaster recovery for IBM i

Rocket iCluster's high availability/disaster recovery (HA/DR) solutions ensure uninterrupted operation for your IBM i applications, providing continuous access by monitoring, identifying, and self-correcting replication problems.

Rocket® iCluster

Build a layered defense against password vulnerabilities

Rocket MFA (iE) is designed to seamlessly integrate with IBM i, replacing static password protection with multifactor authentication tokens on both the operating system and application layers.

Rocket® MFA (Multi-Factor Authentication)

Access host-based systems from browsers or mobile devices

Ensure users can access critical data and applications running on IBM i systems, even when they work remotely. Enable powerful access to host-based applications via browser or mobile device anytime and anywhere while reducing the total cost of ownership on your terminal emulator deployment.

Rocket® Terminal Emulator

About Rocket Software

Rocket Software is the global technology leader in modernization and partner of choice that empowers the world's leading businesses on their modernization journeys, spanning core systems to the cloud. Trusted by over 12,500 customers and 750 partners, and with more than 3,000 global employees, Rocket Software enables customers to maximize their data, applications, and infrastructure to deliver critical services that power our modern world. Rocket Software is a privately held U.S. corporation headquartered in the Boston area with centers of excellence strategically located around the world. Rocket Software is portfolio company of Bain Capital Private Equity. Follow Rocket Software on LinkedIn and X (Formerly Twitter).

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