


Synchronizing automation and reskilling through modernization



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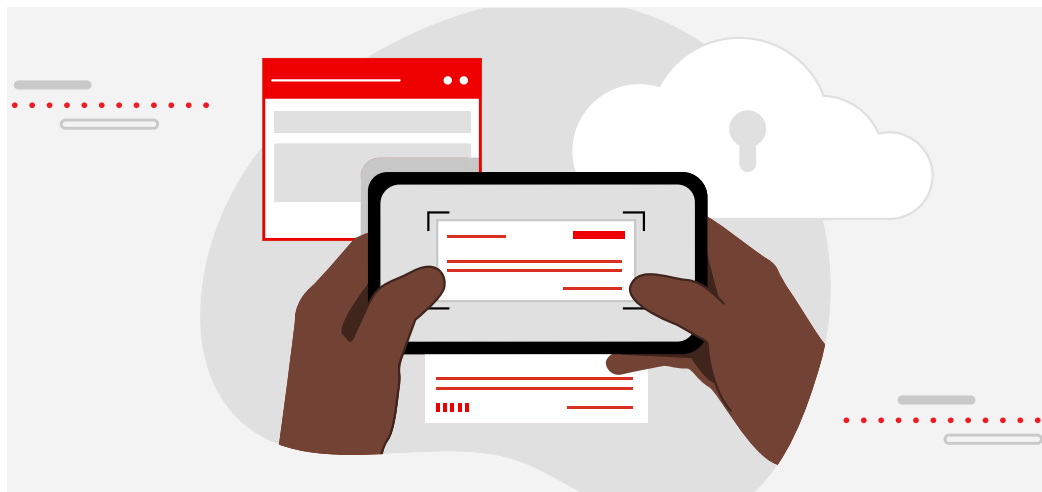
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"This modernization initiative entails advancing automation and transformation of development processes, which allows even those who are unfamiliar with the Acom system to do system development."

Tatsuya Funaki

Section Manager,
Renovation Development Team,
System Development
Department,
System Division,
Acom Co., Ltd.

Acom Co., Ltd. began its modernization journey in 2015 when it formed a cross-organizational project team to address its increasingly complex and massive core systems. A key feature of this modernization effort is that it incorporates automation to enhance the system development process. Using Red Hat OpenShift and Red Hat Application Foundations as a base, Acom has established a microservices architecture with the goal of shortening development release cycles and increasing release frequency. At the same time, Acom is also promoting the reskilling of the technical staff who will be in charge of the new systems.



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Benefits

- ▶ Provided clarity through proprietary common modeling and automation
- ▶ Eliminated dependency on specific individuals through interconnected processes
- ▶ Shifted required skillsets to more creative ones through automation and transformed development process

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(from left) Satoshi Kurosaki,
Kota Nakayama, Tatsuya Funaki

Implementing a phased and gradual approach to modernization

As a leader in Japan's consumer finance industry, Acom has a history of pioneering the latest technologies for user services. It was the first in the industry to install 24-hour ATMs and automated contract machines, as well as enter the credit card sector. However, like many large Japanese enterprises, Acom faced significant challenges in dealing with legacy systems that had become increasingly complex and massive.

"With mainframe maintenance costs ballooning and a decreasing number of engineers experienced in COBOL programming, modernizing our core systems became a challenge that we could not avoid," said Tatsuya Funaki, Section Manager of the Renovation Development Team in the System Development Department of Acom's System Division.

In 2015, Acom decided to modernize its core systems. After around five years of planning, the company established implementation phase guidelines based on the principles of "maintaining current business processes without fundamental changes" and "transforming the structure through componentization and streamlining while utilizing existing resources". The goal is to complete the modernization by 2028.

- Phase 0: Develop pilot versions of highly versatile functions.
- Phase 1: Develop functions that require transformation as a business priority.
- Phase 2: Develop high-priority functions building on Phase 1.
- Phase 3: Select functions outside of Phases 1 and 2, and develop from scratch.

Building flexible systems with container technology and open source

The project team working on the modernization initiative promotes application optimization, visualization, and business process modeling.

"First and foremost, we emphasize a mentality of ownership," said Funaki. "While external support is needed in various situations, it's crucial to clearly define and remain steadfast about what we want to achieve. We also strive to maintain a perspective that considers not just short-term effects but also medium- to long-term outcomes."

As the team's modernization goal was to create a sustainable and flexible system, container technology and open source solutions were options from an early stage. Funaki notes that the team had particularly high expectations of Red Hat OpenShift.

"After the project team launched, we received modernization proposals from various companies, including Red Hat Consulting. The team soon settled on Red Hat OpenShift," said Funaki. "We trusted it for its potential to improve agility, operational efficiency, and future scalability, as well as its proven track record across various industries."

The company began its modernization by combining Red Hat OpenShift with Red Hat Application Foundations middleware.

"Red Hat Consulting has worked together with us on the challenges in our modernization efforts."

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System Division,
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Establishing a process of synchronized automation

Provided clarity through proprietary common modeling and automation

As part of Acom's modernization initiative, several independent services operate as microservices that collaborate on Red Hat OpenShift. In transitioning to microservices, the company is focusing on common modeling based on a Unified Modeling Language (UML).

"Because text can be interpreted differently by different people, we pursued visual clarity through modeling, i.e., diagramming," said Funaki. "The fact that applications are automatically generated from models, and what is expressed in the model operates as is, further enhances this clarity."

Common modeling creates a common language and representation system, enabling not only the transition to microservices but also continuous knowledge transfer that prevents dependency on specific individuals' skills. This approach will become crucial for Acom's business continuity when the modernization process is complete.

The company is also incorporating other Red Hat products into its unique approach. "Camel, which is included in Application Foundations, is typically provided for system integration purposes, including UI," said Funaki. "However, our focus was on its engine. Instead of using Camel solely for integration, we considered the possibility of incorporating it into core system automation by combining various components."

Although this was an unusual request, Red Hat worked with Acom to use Camel to drive automation processes based on Acom's proprietary common model. The company is advancing its modernization development using this mechanism.

Eliminated dependency on specific individuals through interconnected processes

A key feature of Acom's pioneering modernization initiative is the synchronization of automation. By adopting Red Hat OpenShift and Application Foundations, the company has built an automation pipeline from container environment construction to the application layer. This includes automating building and modifying container environments, automatic generation of application source code, and automation of application testing and release. The result is a highly automated development process. This not only helps when the company is short of manpower, it also reduces the burden on engineers and minimizes human error.

"Conventionally, processes were fragmented, and the various steps involved could not be connected without manual coordination," said Funaki. "With automation, these processes are now fully connected, the document creation process that was needed for handovers during the design and production phases is no longer required."

As Acom now automatically generates application source code from common models, creating and reviewing source codes are no longer necessary. Additionally, with automation synchronized from container environment construction to application testing and release, Acom is experiencing real improvements in version upgrade efficiency.

Acom will continue with further synchronized automation to achieve medium to long-term development process efficiencies.

Automation and transformed development process shifted required skillsets to more creative ones

The project team is working on knowledge transfer among engineers by engaging in wide-ranging discussions with internal members, including partners, and working on knowledge visualizations and technology mapping.

"If knowledge and technology transfer can be incorporated into the automation system, we can significantly lower the barriers to development," said Funaki. "This modernization initiative entails advancing automation and transformation of development processes, which allows even those who are unfamiliar with the Acom system to do system development."

Automation and development process transformation are also bringing significant changes to engineers' roles, work styles, and motivation. As a result of simultaneously implementing reforms to the development organization and recruitment strategies, the average engineer is now in their 30s, and the contexts in which engineers apply their skills have changed dramatically. As task automation and management across various development phases progress, engineers are now routinely thinking about designing further automations and improving existing automated processes.

"Development checks and management, which were previously crucial processes, have become almost unnecessary thanks to automation," said Funaki. "We've created an environment where the generation that will take a leading role can acquire new thinking and skills while acting autonomously. We expect them to generate new ideas and designs going forward."

Supporting modernization and looking to the future

Although Acom's modernization initiative is moving ahead successfully, to some extent, challenges remain in terms of replacing legacy resources with new technology. However, Funaki says the company is ready to face them.

"Mainframes are built based on an all-in-one, fully supported concept, so compared to that, operations with microservices on a container platform don't always proceed according to plan," said Funaki. "For example, software updates are frequent, and unexpected issues pop up regularly. That said, our synchronized automation approach has enabled streamlined version upgrades. I'm confident that our modernization will keep moving forward as long as we tackle these challenges head-on, with persistence and personal ownership."

The road to system improvement can be paved with heated debate, but meaningful discussions are key to finding optimal solutions.

"Our conversations with Red Hat Consulting sometimes get intense, but that is precisely because both parties are passionate about the system's future," said Funaki. "The best solutions never emerge when one side simply defers to the other. Red Hat Consulting worked together with us on the challenges in our modernization efforts."

As core systems modernization progresses, technical skill requirements shift, and Funaki is exploring fresh training approaches for his team.

"I'm looking to develop new training programs centered on soft skills," said Funaki. "As automation continues to advance, soft skills will ultimately outweigh technical skills in importance."

For its cloud-native platform strategy, Acom is considering migrating from self-managed OpenShift to OpenShift Cloud Services to take advantage of the managed services offered by Red Hat and its partners.

"We're still in the midst of core system modernization, so it's too early to measure business impact," said Funaki. "Once modernization is complete, we aim to progress through phases that boost business agility, creating a cycle where we can quickly respond to business requirements with faster releases and continuous improvements."

About Acom

With nearly a century of history, [Acom Co., Ltd.](#) has consistently led the consumer finance industry with innovative strategies. Today, the company continues to break new ground, rolling out fintech initiatives such as cashless payment solutions, expanding financial services in the booming ASEAN markets, and further strengthening its global footprint.



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