"It surprised us how fast we could add new services and rapidly upgrade existing systems. The new solution enables us to respond to the actions of our competitors and developments in the market with agility."

Masanori Shikimi
Director of Information Systems
NTT DOCOMO, Inc.

Flexible technology for business innovation and competitive advantage.

At a glance
Country: Japan
Industry: Infrastructure
Founded: 1991
Employees: 24,860 (consolidated)
Website: www.nttdocomo.co.jp

Challenge
For many years, NTT DOCOMO has worked hand-in-hand with Fujitsu to upgrade ALADIN, which is essential for expanding DOCOMO's business and services. The two companies embarked on a project to develop the second generation of ALADIN in 2006.

Solution
Fujitsu has worked with NTT DOCOMO to develop a robust system framework that enables flexible system upgrades without compromising its services.

Benefit
- Reduced the time for application upgrades by 30 percent to 70 percent

- Agile system that supports its business by quickly responding to customer needs in the fast paced mobile market

- Total development workload decreased by 40 percent, able to respond to 50 percent more demands for functional upgrades, resulting in a 2.5 times productivity improvement

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Customer

NTT DOCOMO, Japan's largest mobile network provider, transformed its customer data management system, 'ALADIN', which handles around 65 million customer contracts and related information. NTT DOCOMO is working towards its vision of creating a new communication culture, and introduced the world's first third generation (3G) mobile network services in 2001. Beginning with the DOCOMO iMode services, the company was a pioneer of the mobile internet market.

Products and services

- xFramework - foundational framework for ALADIN jointly developed by Fujitsu and NTT DOCOMO

Challenge

Fujitsu has worked with NTT DOCOMO to develop a robust system framework that enables flexible system upgrades without compromising its services. This framework has reduced the time for application upgrades by 30 percent to 70 percent. NTT DOCOMO now has an agile system that supports its business by quickly responding to customer needs in the fast paced mobile market.

DOCOMO's ICT system is one of the most advanced in terms of performance in Japan. Its customer data management system, ALADIN, is an example. The system connects the DOCOMO information centers with its shops all over Japan, controlling all procedures for contracting and sales, for example entering customer information and checking credit risks. Processing one of the biggest volumes of customer data in Japan, ALADIN also integrates and manages network usage statistics, tariff plans, and the application of discount services of each subscriber.

Solution

For many years, DOCOMO has worked hand-in-hand with Fujitsu to upgrade ALADIN, which is essential for expanding DOCOMO's business and services. The two companies embarked on a project to develop the second generation of ALADIN in 2006. In the same year, a new regulation was introduced in Japan, allowing mobile phone users to switch providers much more easily. The ALADIN system had to be transformed to meet this new challenge.

Over time, large systems become more complicated, and ALADIN was no exception. Repeated upgrades and changes had left the system applications bloated and made further upgrades more difficult. There are normally four major service releases per year to introduce new services. Each of these took four months from design through development and testing. Even a minor service release between the major releases took over two months to produce. ALADIN could not keep pace with the speed of DOCOMO's business needs, becoming a bottleneck for growth.

The target of the ALADIN transformation was to halve the time and costs for new service releases. In order to reduce the testing time, it was crucial to identify clearly which elements within ALADIN would be affected by the system upgrade. It was also required to maintain the structural integrity of the application despite the repeated upgrades. To respond to these two challenges, DOCOMO collaborated with Fujitsu to jointly develop a new foundational framework for ALADIN, named 'xFramework'.

Benefit

xFramework has two main features. First, it can adapt to changes flexibly. xFramework places the business layer as the core, comprised of Business Process Management (BPM - reviewing multiple business processes and systems then optimizing them through integrating, controlling and automating the processes) and Business Rule Management System (BRMS - a computer system that automates complex business decisions based on a combination of business rules) functions. Any newly developed business flows and rules are reflected to the program in the business layer. This enables new functions for new services to be implemented in ALADIN with quick turnarounds. Second, xFramework is highly robust, built on logical data objects. DOCOMO defined a structured data object of all the information, such as a tariff plan and a model of mobile phones, in ways it is linked to each subscriber's phone number. ALADIN designers and developers use this data object to maintain application integrity under repeated system upgrades.

After the introduction of the second generation of the ALADIN system, unnecessary program development and testing were eliminated, because information from the system upgrade clearly shows where to change in the application structure. As a result, the development time for major service releases was reduced by 30 percent and finished within three months. Simultaneously, the time required for minor releases was cut by 60-70 percent to just three weeks. In June 2014 DOCOMO introduced two new tariff plans: one was the first flat rate plan for voice calls, and the other was the shared mobile data plan for families. The new ALADIN system enables DOCOMO to release attractive plans first to market prior to the competition.

While the total development workload decreased by 40 percent, the company has become able to respond to 50 percent more demands for functional upgrades, resulting in a 2.5 times productivity improvement. The productivity gains mean that DOCOMO can now finish updates to the ALADIN system faster than many other activities associated with the launch of a new service, such as staff training or brochure creation. The ALADIN system is no longer a bottleneck. It is transformed to support the business with agility.

DOCOMO continues to improve ALADIN to meet the demands for new tariff plans and new services tailored to customer lifestyles. The possibilities of mobile services are unlimited. DOCOMO is expanding the scope of its business, transforming from a mobile network operator to an integrated service provider.

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