



# Retail giant unifies IT operations and accelerates digital transformation

Established in 2005, Seven & i Holdings Co., Ltd. oversees the planning, management, and operation of its group of companies, which includes convenience stores, superstores, supermarkets, department stores, specialty stores, food services, financial services, and IT services. These companies include well-known brands such as 7-Eleven, Ito-Yokado, Sogo & Seibu, Seven Bank, and Denny's. The Group has 22,600 retail stores across Japan's 47 prefectures and 74,000 stores in 17 countries as of the end of December 2020.

## Industry

Retail

## Strategic priorities

- Elimination of IT infrastructure silos across operating companies
- Gaining independence from IT vendors to improve safety and agility
- Improved security and management of endpoints

## VMware Footprint

- VMware Cloud Foundation™
- VMware Horizon®

Seven & i Holdings Co., Ltd. (Seven & i) launched an offensive digital transformation (DX) to provide additional value to its customers. As part of this strategy, it built a logistics platform in 2021 called the “Last Mile DX Platform” to transform its product delivery through the use of data. At the same time, the Group also advanced a defensive DX to support this plan. To achieve this, the Group has adopted VMware Cloud Foundation™ and VMware Horizon® as its core technologies, integrating the siloed IT infrastructures of each operating company to build a flexible and highly secure IT infrastructure and drive synergies and innovation across the Group.

## About Seven & i

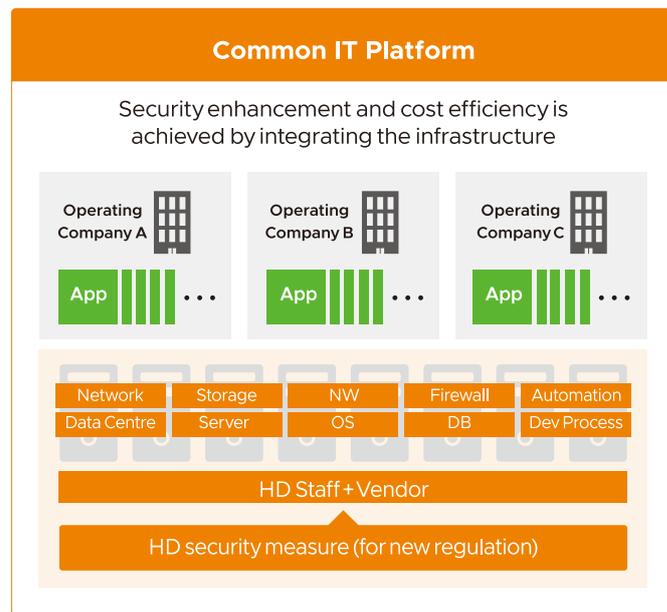
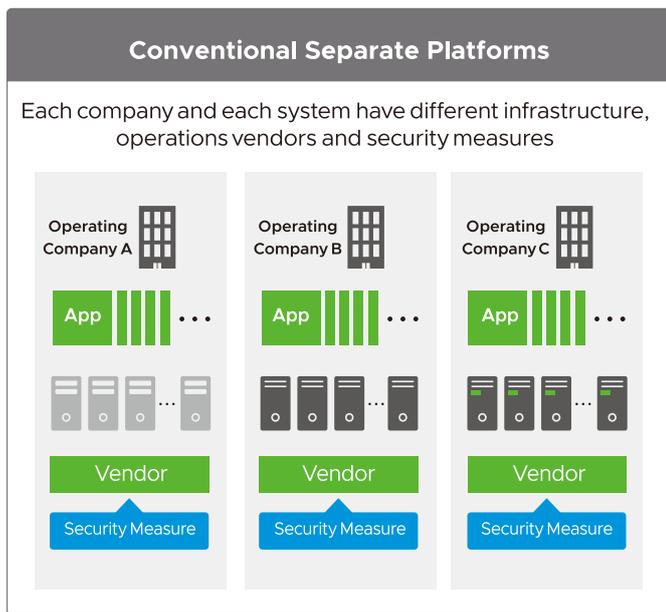
Seven & i Holdings Co., Ltd. is the parent company of various businesses, including the convenience store chain 7-Eleven and the supermarket Ito-Yokado. It operates a total of 74,000 stores in 17 countries and regions around the world. In addition, it has expanded its business into other sectors, ranging from financial services to general merchandise stores. The Group's stores cater to a wide range of customers and strive to meet the needs of people of all ages. To accelerate digital transformation (DX) in the Group, Seven & i formulated its Group DX Strategy Map for 2020. This strategy is divided into two major areas: defensive DX and offensive DX. Defensive DX focuses on security and efficiency, while offensive DX concentrates on creating new customer value through various innovations, including AI and in-house development.

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“VMware Cloud Foundation provides excellent security. As a result, IT developers within the Group can [now] develop solutions and meet a wide range of security requirements at the same time.”

Seigo Kawamura, Senior Officer, Common System Infrastructure Unit, IT Infrastructure Department Group, DX Solution Headquarters, Seven & i Holdings Co., Ltd.

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## Eliminating siloed IT infrastructure with defensive DX

Consumer needs have become far more diverse because of the maturity of the Japanese market and lifestyle changes over recent years. The COVID-19 pandemic has further accelerated this trend. For the retail industry, the restrictions on movement have increased the utilization of e-commerce services and have made consumer purchasing more localized. In response to this change, Seven & i decided in 2021 to build a new logistics platform called “Last Mile DX Platform”. In addition to improving customer convenience, the platform will optimize logistics through AI-enabled delivery control, helping the Group to deliver products more efficiently to consumers of its e-commerce and online supermarket services.

However, the scale of the Group and the IT silos of the companies within the Group became hurdles as Seven & i proceeded with this offensive DX strategy.

The size and quality of their systems varied from company to company because each one deployed different IT infrastructures. Furthermore, the lack of consistency made it difficult for the Group to take advantage of its scale. To address this challenge, it was necessary to launch a defensive DX strategy that could bring about flexible IT infrastructure development and better security at the same time.

## Supporting operating companies through integration and cloud solutions

Seven & i’s defensive DX strategy started with the construction of a common platform. The objective was to standardize IT resources by integrating IT infrastructure, thus making the impact of investments tangible while standardizing security system quality. To meet the requirements of various systems, which differed in nature and size between companies, the Group turned its attention to private cloud solutions.

“What we aimed for was not only to consolidate and streamline the IT resources but also to unify the security and quality of the systems that support our business operations. Until that point, our IT infrastructure had been inconsistent. The design and quality of IT Infrastructure in each operating company had been vastly different. Therefore, cloud and on-premise environments were needed to solve the challenge of consolidating resources and ensuring quality while meeting the demands of multiple systems with different update frequencies and business speeds,” said Seigo Kawamura, Senior Officer, Common System Infrastructure Unit, IT Infrastructure Department, Group DX Solution Headquarters, Seven & i Holdings Co., Ltd.

Even though they are on-premise, the Group’s private clouds needed to be simplified so that multiple systems of different sizes and system requirements could be easily managed. Furthermore, the Group hoped to reduce its dependence on system integrators by reducing its reliance on hardware and virtualizing as much as possible.

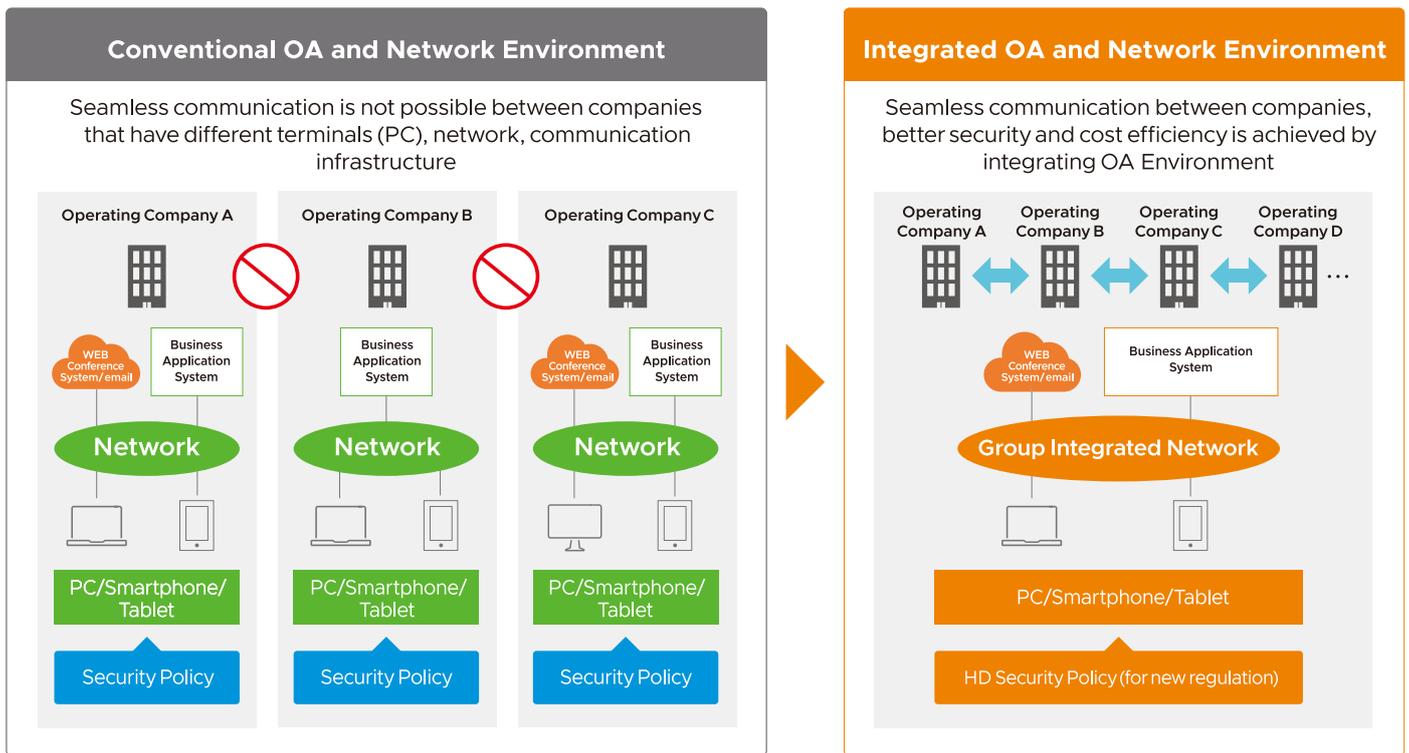


Figure: Overview of integrated office automation

Aggregating siloed systems isn't enough to ensure security or to satisfy the requirements of individual systems. Therefore, to prevent information leaks from operations and development staff, it was necessary for Seven & i Holdings to build an architecture that covered communication control, encryption, and authority management.

In the end, Seven & i adopted VMware Cloud Foundation as the core technology for its new infrastructure and used it to integrate the Group's siloed IT environments. In addition, VMware Cloud Foundation's centralized hybrid cloud platform integrated all the different systems, improved security, and met the Group's detailed IT requirements. These benefits supported the rationale for the adoption, together with VMware vSphere® vMotion®, which is indispensable for operations.

"VMware has participated in the project as a partner right from the system design stage. They not only proposed an expansion of network virtualization and automation, but also helped us motivate our staff. In addition, our company and the integrators have also been able to leverage the free training programs to deepen our knowledge. Furthermore, VMware Cloud Foundation is also very secure. With this, we believe that IT developers within the Group can develop solutions without worrying about security," said Mr. Kawamura.

Today, Seven & i has deployed approximately 2,000 virtual machines, and 22 systems are already operating. In addition, eight large-scale systems are now hosted on a private cloud and they are supporting each operating company's DX.

### Better security with minimal impact on operating companies

Seven & i has been working on integrating the office automation (OA) and network (NW) environments of the Group companies that run in silos to achieve a uniform, sophisticated, and cost-effective security system.

Integration was a challenge and required the standardization of the desktop environment and OA software. With a large number of business applications being used across various operating companies, migrating these applications without disrupting operations would be difficult.

To address this, the Group decided to use VMware Horizon to virtualize its business applications. This process doesn't require changes to legacy business apps, which means they continue to run on Windows 10, effectively minimizing the impact on the overall business.

With each employee using the same environment, uniform security measures can be implemented, eventually leading to cost efficiencies. Seven & i Holdings expects these cost savings to be significant compared with the siloed arrangement, where each operating company adopted measures to ensure the same level of security. In addition, allowing employees to use standardized OA software will result in better communication and collaboration between operating companies.

### Advancing defensive DX and delivering more customer value

Seven & i will continue to collaborate with VMware to conduct semi-annual IT environment assessments. The Group also plans to strengthen its infrastructure with further improvements in security and cost efficiency as the key priority.

It sees VMware CloudHealth® and VMware Secure State™ as promising solutions that could improve their cloud environments' visibility and security. Also, VMware Tanzu® is a potential solution for the containerization of applications, while VMware SASE™ could be a valuable solution for enhancing the security of its OA/NW environments.

“With the COVID-19 pandemic, the number of places our employees work from has increased tremendously, requiring enhanced security. In all of these, I believe that VMware SASE will contribute to reforming the way we work by integrating security while improving convenience,” said Hiroshi Kobayashi, Senior Officer, Internal Infrastructure Unit, IT Infrastructure Department, Group DX Solution Headquarters, Seven & i Holdings Co., Ltd.

Advancing the defensive DX will create an environment where the offensive DX can be scaled securely and quickly as the Group continues to innovate and deliver new value to customers.