DXC TECHNOLOGY

TOYO ENGINEERING

Toyo Engineering Corporation advances large-scale PC roll out and management with Modern Device Management model

CUSTOMER
Toyo Engineering Corporation

LOCATION
Japan

INDUSTRY
Engineering and Construction for Industrial Facilities

Challenge

- Moving from a single specification enterprise-wide managed PC model to a flexible choice, multi-specification model, each optimized for general desktop use, industrial design work, etc
- Provide features that allow users to “self-provision” their PC, reducing the mid to long term cost of large scale PC deployment and maintenance
- Reorganize into a new user support structure based on “self-provision” capabilities

Solution

- Adopted Windows Autopilot and Microsoft Intune to implement the self-provisioning infrastructure and support structure
- Provided user documentation and support desk to assist self-provisioning users
- Manage the entire PC lifecycle, from procurement, operation and maintenance to disposal with an as-a-service (monthly fee) model

Results

- A new PC deployment and management infrastructure, designed for the next 5 to 10 years
- Transition to an efficient PC operation system based on “self-provision” features
- Launch feasibility studies for global deployment of similar device management solutions

Toyo Engineering Corporation advances large-scale PC roll out and management with Modern Device Management model

Toyo Engineering Corporation is a general engineering company that engages in engineering, procurement, and construction (EPC) of industrial plants and power stations on a global scale. Their competitive strength is in the construction of large-scale plants for petroleum refining, petrochemicals, and fertilizer production.

Toyo Engineering Corporation has implemented a Modern Device Management solution to modernize the PC environment for over 2,000 employees at its Integrated Engineering Center head office.

The company also has a strong presence in the next-generation energy domain, including fuel ammonia and sustainable aviation fuel (SAF).

The corporation's mission "To contribute to the sustainability of our planet Earth and society through engineering" was established in 2009. Hideto Tange, General Manager of the IT Service Department, Digital Integration Division explains:

"Toyo Engineering Corporation is pursuing a growth strategy based on two pillars: exploring new technologies and business opportunities that focus on environment and energy (Green Strategy) and reinforcing EPC to further develop our plant construction capabilities (Blue Strategy).

"Toyo Engineering Corporation is particularly focused on advancing new technologies and businesses to meet the demand for carbon neutrality, and is leading with initiatives that transcend industry boundaries in the building of a supply chain for fuel ammonia."

Toyo Engineering Corporation has business locations in Asia, Europe, North America, and Latin America. The Head Office/Engineering Center in Narashino, Chiba prefecture, serves as its core center for technological development and global operations.

Enabling users to provision their own PC

"In March 2023, we launched a new PC management infrastructure with the deployment of the 'self-provisioning PC modernization' project for the 2,000 employees located in the Integrated Engineering Center head office. In the past we had supplied PCs 'pre-provisioned' to a single standardized specification. Now, each users PC experience is personalized based on

"In the past we had supplied PCs 'pre-provisioned' to a single standardized specification. Now, each user picks their PC specification, sets up the PC, and installs the necessary applications to create an environment that fulfills their business needs."

— **Hideto Tange,**
General Manager IT Service Department, Digital Integration Division, Toyo Engineering Corporation

the PC specifications and applications they need to fulfill their business needs," said Tange.

Behind Toyo Engineering Corporation's workplace transformation was the growing need for high-performance PCs, especially in the engineering department. The provisioning team had to be greatly expanded to manage the increasingly complex tasks of procurement and asset management of multiple PC specifications, deployment of various master images, and installation of department-specific applications. Tange recalls the challenges:

"In the process of considering how to streamline and outsource the entire PC lifecycle management, we focused on the use of Windows Autopilot, which was starting to show use cases in Japan. We kicked off a proof of concept (PoC) for a self-provisioning environment with DXC Technology in early 2022, and since DXC had already implemented Autopilot and Intune on a large scale globally, we expected them to provide us with practical knowledge."

Building a self-provisioning environment with Autopilot and Intune

Windows Autopilot is gaining acceptance as a cloud service that automates the initial PC setup. With Windows Autopilot, users can start their initial setup by simply activating their PC, connecting it to a network, and signing in with a Microsoft Entra ID account provided by the IT department. IT administrators, on the other hand, can configure many PCs and manage multiple applications via the cloud using Microsoft Intune.

"Automation features of Autopilot seemed very attractive, but through the PoC process, we discovered that there were a number of issues that needed to be resolved before we could actually use Autopilot in our environment. We discussed these issues with DXC and came up with a solution for each and then examined the infrastructure and support structure that would enable us to effectively use Autopilot in our environment," Tange recalls.

DXC's Modern Device Management solution optimizes the operation and management of devices such as PCs and smartphones throughout their lifecycle. DXC manages more than 6.9M devices, 4.7M desktops and 920K mobility devices globally, and manages tens of thousands of PCs for multiple Japanese companies. Jokei Shibata of DXC Technology Japan explains how this solution was introduced to Toyo Engineering Corporation.

"One of the most important aspects of Autopilot implementation is the infrastructure and support structure that will facilitate a smooth provisioning experience for the users. Specifically, there was a need to build a basic foundation consisting of a dedicated cloud access environment, user manual where safe provisioning procedures are described, and a new support desk. In the case of Toyo Engineering Corporation, enabling the users to self-install a set of dedicated applications that varied with each department, was also part of the project requirements."

When the actual self-provisioning process started, some users were able to complete the setup in roughly two hours.

The scope of DXC's involvement in providing its solution to Toyo Engineering Corporation extended beyond the design, construction, and operation of Windows Autopilot/ Microsoft Intune environments and technical support. It also included the procurement of PCs and asset management, as well as service desk operations that also handled OS and Microsoft 365 updates. In addition, DXC applied an as-a-service model (monthly fee) to provide a one-stop environment to run the Modern Device Management solution.

Preparing a user manual that was easy to read and understand

Toyo Engineering Corporation's IT Service Department, Digital Integration Division took the lead in developing the cloud access environment for using Windows Autopilot. While resolving issues unique to this corporation, procedures for safe user provisioning were repeatedly confirmed, and a user manual was prepared with ease of use in mind.

"In March 2023, we completed the Autopilot implementation and began supplying new PCs to employees based on a schedule of having 200 to 400 of them perform and complete the self-provisioning process per week in order to distribute the impact to the network. Prior to this, DXC set up a dedicated contact point called 'Hyper Care' within the service desk to prepare for user help requests," said Kuraki Ishikawa, Technology Consultant at DXC Technology Japan.

The process for the service desk and users using Windows Autopilot/ Microsoft Intune are summarized below:

DXC service desk

- Register the hardware ID pre-obtained from the PC manufacturer with Microsoft Intune
- Apply various device policies and assign the basic setting
- List each application on the Microsoft Intune portal site
- Deliver the PC to the user at the service desk counter

Jokei Shibata,
Sales and Business Development Manager, Modern Workplace, DXC Technology Japan

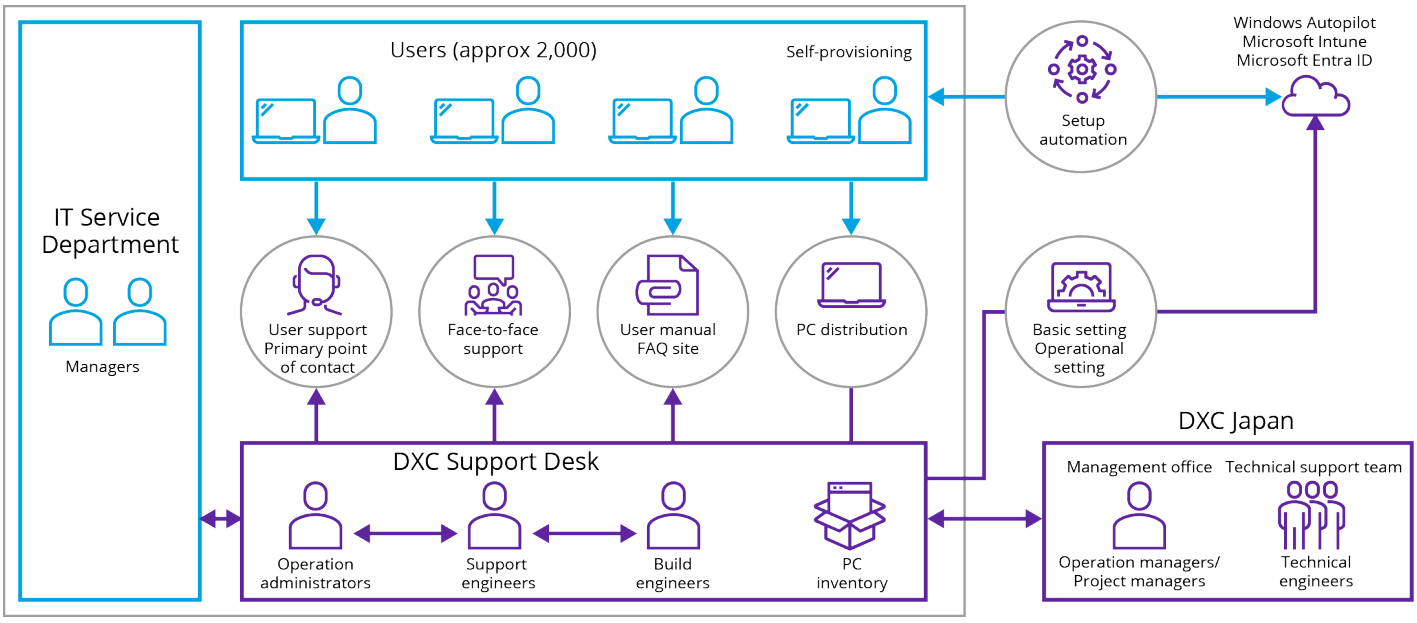
Kuraki Ishikawa,
Technology Consultant, Technology Consulting, DXC Technology Japan

Users

- Turn on the power and connect the PC to the “dedicated LAN” in the office or home Internet environment
- Sign in with the Microsoft Entra ID account provided by the IT Services Department
- Start the initial PC setup initiated through the OOBE (Out-of-Box Experience) process preconfigured in Windows Autopilot
- Various device policies are applied and general-purpose applications are installed automatically
- Obtain the applications that are difficult to be deployed through Windows Autopilot or other applications that are optionally needed, from Microsoft Intune portal and install them manually

When the actual self-provisioning process started, some users were able to complete the setup in roughly two hours, but quite a few experienced problems that could not be found in the pre-deployment verification phase. The members of Toyo Engineering Corporation’s IT Service Department and DXC worked persistently to solve these problems, exchanging information on the newly introduced service desk system. Tange details the challenges as follows:

“Under the current procedure, Autopilot, Intune, and Entra ID are linked together to automatically perform the initial setup, such as applying various device policies and installing general-purpose applications. However, there are areas where manual work is still necessary, such as for downloading and installing the specific applications used exclusively by each department. We have seen cases where the manual procedure couldn’t be performed smoothly at this stage. We worked with DXC to compile the knowledge we learned from the field members experiencing difficulties while constantly resolving new issues.”



Head Office Integrated Engineering Center

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— **Yukie Sato,**
IT Service Department, Digital Integration Division, Toyo Engineering Corporation

Yukie Sato from the IT Service Department, Digital Integration Division assumed the role of negotiating and coordinating the schedule with the user groups to ensure the smooth launch of operations using Windows Autopilot/ Microsoft Intune, while also contributing greatly in editing the user manual.

According to Sato, "This manual is very important because most of the users had no provisioning experience, and the level of IT literacy varied greatly from user to user. We worked with DXC to create a manual that was easy to read and understand, while focusing on including all the points considered important from the user's perspective."

The benefits of Modern Device Management from a mid to long-term perspective

"We believe that with the Autopilot/ Intune infrastructure in place, we are now at the starting point to gradually reduce the costs associated with deploying and managing 2,000 or more PCs. Importantly, we have completed building a platform that will streamline the process of deploying and managing PCs in the future. From now on, we hope to steadily reap the benefits of this new platform which will lead to positive business results," said Tange.

There is also a possibility now for the infrastructure developed in this project to be deployed on a broader scale. Haruka Goino, manager of the IT Service Department, Digital Integration Division comments:

"The Autopilot/Intune self-provisioning platform that we have developed in this project can be used as-is in our global sites without any modifications. Although we are still in the conceptual stage, we would eventually like to put this scheme into practice globally, along with our operational know-how. In fact, the IT departments in our global business locations are already showing interest in this plan. For now, our immediate goal is to raise the level of user satisfaction by improving the precision of the self-provisioning process, and we look forward to receiving further support from DXC to this end."

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Various activities have also begun to get the new process established, including self-provisioning enablement sessions for new employees. Modern Device Management adopted by Toyo Engineering Corporation is a model that can provide important insights to many other companies facing similar challenges. Tange concluded with the following comment:

"The transition to a new PC deployment and management model, starting with the introduction of Autopilot/Intune, has been a challenge for us, as it involved switching PC management providers.

We selected DXC as our partner for this project after careful consideration, and we believe we have made the right decision. We would like to make full use of the newly developed infrastructure and support structure to acquire more operational knowledge, as we see ourselves reaching a stage where we can now aim at realizing fully automated zero-touch provisioning that does not require our PC users to do anything. To pursue this next target, we expect DXC to continue providing us with beneficial technical assistance along with proposal-based support."

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