Remote PC Array Case Study

Miyagi Prefecture Onagawa Town Public Office

"Remote PC Array" allows for quick and inexpensive Internet isolation, secure screen transfer and reduced risk of performance problems while maintaining the same OS environment as the PC being used.

Rebuilding the town hall internal information system, taking into account the roadmap for the future

Onagawa is located in the east of Miyagi Prefecture on the Pacific coast. The town area has been designated as a "Sanriku Reconstruction National Park" area, built in the Sanriku area that was damaged by the Great East Japan Earthquake. There is a thriving aquaculture industry for oysters, scallops, sea squirts, and silver salmon, and the proximity to the Kinkasan offshore fishing grounds, one of the world's three largest fishing grounds, provides the fish market with an abundance of fish species landed throughout the year. The town has been focused on fisheries as well as the tourism industry which leverages fresh seafood, but the town center was devastated by the Great East Japan Earthquake that hit on March 11, 2011. Currently, the town of Onagawa is mobilizing all its resources to create a new port town and work towards the earliest possible recovery.

The Onagawa Town Public Office, which assists its residents in their daily lives, is located in the Onagawa Town Hall, completed in October 2018.

The first floor of the town hall building houses departments that provide various resident services such as town life, health and welfare, and tax accounting, while the second and third floors house departments related to reconstruction and city planning.

In 2020, Onagawa Town Public Office started to rebuild the town hall internal information system, which supports various administrative services. Yoshio Matsui, Assistant Manager of the Planning Division of Onagawa Town Public Office, explains the purpose of the rebuilding.

"The Onagawa Town Public Office had been running the internal information system with one server per each of the services (functions) such as e-mail and file transfer. However, most of these servers supporting the system were converted from those used in other facilities after the Great East Japan Earthquake, or were introduced through donations, etc. They are therefore accompanied by all sorts of problems such as inability to recover in the event of a breakdown due to lack of maintenance. Under these circumstances, we have started rebuilding the internal information system (hereafter the "Project"), taking into account the roadmap for the future including the reinforcement of information security measures by the Ministry of Internal Affairs and Communications and the review of the "3-tier security measures" based on the requirements of the new era, such as telework."

Introducing "Remote PC Array" to realize strong and flexible infrastructure for new services

In April 2020, Onagawa Town Public Hall began Phase 1 of this project to rebuild services such as screen transfer and file exchange on a virtualized common platform, and began providing the new services in September of the same year. In Phase 1, the following major initiatives were implemented.

Onagawa Town
Yoshio Matsui (middle)
Yoshiaki Sato (left)

RICOH JAPAN Corp.
Yoshinori Kaneda (right)

Profile of municipality

Name of local government:
Onagawa Town, Miyagi Prefecture

Address of head office:
1-1-1 Onagawa, Onagawa-cho, Oshika-gun, Miyagi Prefecture

Population:
6,243(projected population, as of November 30, 2020)

Onagawa Town is located at the base of the Oshika Peninsula in the east of Miyagi Prefecture, and is designated as part of the "Sanriku Reconstruction National Park", built in the Sanriku area affected by the Great East Japan Earthquake. The picturesque rias coastline where the Kitakami Mountains and the Pacific Ocean merge forms a rich natural harbor, with a thriving aquaculture industry for oysters, scallops, sea squirts, and silver salmon. With the proximity of the Kinkasan offshore fishing grounds, one of the world's three largest fishing grounds, the fish market boasts an abundance of warm and cold-water fish species that are landed throughout the year.
https://www.town.onagawa.miyagi.jp/

- **Switch to the new shared file server**
- **Switch to the new screen transfer service**
- **Renewal of file exchange service**

"Remote PC Array" was employed as the infrastructure to support these services. It is a remote access solution planned and commercialized by Ascentech based on more than 20 years of experience in building virtual desktops. A single unit enclosure houses multiple physical PC cartridges and components needed for virtual desktops. In addition, the remote connection to the physical PC eliminates the need for a hypervisor, thus greatly reducing the cost of implementing VD (Virtual Desktop Infrastructure) that provides a virtual desktop environment through the network.

Matsui describes the features of "Remote PC Array" as follows.
"The Remote PC Array eliminates most of the causes of performance failures by allocating one PC cartridge per user with physical access, with no load interference from other users and no use of hypervisors. In this project, we installed 6 chassis (equivalent to 180 terminals) of "Remote PC Array 200," which mounts 30 PCs in a 1U enclosure. All of our staff's work environments and data are managed centrally, so they can work from any location."

Assistant Manager,
Planning Division,
Onagawa Town

Yoshio Matsui

Building a highly convenient service and system environment that is stress-free for staff

Ricoh Japan Co., Ltd.
ICT Business
Headquarters ICT
Technology Headquarters
ICT Infrastructure 1
Group, Tohoku Solution
Department

Yoshinori Kaneda

In Phase 1 of this project, Ricoh Japan Co., Ltd. is responsible for proposing and constructing the system and providing maintenance after the service is launched. Yoshinori Kaneda, ICT Business Headquarters, Ricoh Japan Co., Ltd., talks about the key points he focused on in proposing and building the system.
"Initially, we were thinking of other products as a VDI method, but we suggested "Remote PC Array" as a comparison product. This resulted in the adoption of "Remote PC Array" because of its user-friendliness and ease of management and operation. The priority in building the system was to make sure that each service could be used stress-free in the new environment. Rather than creating a state-of-the-art environment, we focused on optimizing the environment to allow the smooth transition of existing operations."
In order to provide the new service, the members of the ICT Study Group in Onagawa Town repeatedly conducted trial operations to adjust and improve the convenience of the service. A briefing session for all staff was held on September 17, 2020, and over four consecutive weekends from September 19 to 22 of the same year, the changeover to the new system and setup of staff PCs were carried out. Since the new service was launched, there has been no interruption in use.

Safe access from PCs on "Town Hall LGWAN Network"

New services built on the virtualized common platform in Phase 1 of this project include the "screen transfer service" and the "file exchange service."

The "screen transfer service" is a network service that allows secure access to Internet websites from PCs on the "Town Hall LGWAN Network" used for business. Regarding the features and improvements of the new service, says Yoshiaki Sato, who is in charge of system design and project operation from the grand design including operation and monitoring of various systems and checking of documents for Onagawa Town Hall.

"Previously, the service was available on a different operating system from the one used by the user's PC. This limited the number of users, as well as the browser and printing environment. The new service allows users to use the same OS environment as the PC they are using, eliminating various restrictions, and also enables Internet website pages and other documents to be printed using LGWAN network printers."

On the other hand, the "file exchange service" is a network service for safely importing files obtained from the Internet using the screen transfer service into the "Town Hall LGWAN Network". It also allows files to be securely exported from the "Town Hall LGWAN Network" to the Internet. Regarding the features and improvements of the new service, Sato says, "Data transfer, which used to be done via USB memory, is now carried out via a shared folder. In addition, it is now possible to import secure files that have been made safe and harmless, and to carry files out of the office with the necessary approvals and records, all from one's own PC using a file exchange folder designated for each staff member."

Finally, Matsui spoke about the future of this project, "In Phase 2, we will build systems and networks, and strengthen security measures in response to the Ministry of Internal Affairs and Communications' review of the "3-tier security measures". March 11, 2021 marks the tenth anniversary of the Great East Japan Earthquake, and we will continue to build systems and provide services to support the people of Onagawa to help them recover as quickly as possible.

Onagawa Town
Information System
Operation Management
Support leader
Yoshiaki Sato

System conceptual diagram