

# City Government of Toda, Saitama Prefecture

## Very fast construction, simple server-only operation, and Fujitsu-quality worry-free support services

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Mr. Mizuho Oyama  
Assistant General Manager of the Department of General Affairs and Chief of the Information Policy and Statistics Section, Toda City

Industry ● Local government  
Solution ● Hyper Converged Infrastructure  
FUJITSU Integrated System PRIMEFLEX for VMware vSAN



Toda City has a population of approximately 140,000. It is located in southeastern Saitama Prefecture, which is blessed with rich water and greenery. The city deployed PRIMEFLEX for VMware vSAN ("PRIMEFLEX"), Fujitsu's Hyper Converged Infrastructure (HCI), to replace the hardware for the resident information system, and built converged virtualization infrastructure to gradually consolidate its backbone systems. Since PRIMEFLEX was already verified and set up in the factory, the solution was delivered in September 2017 and a hardware load test was completed that October. The solution supports the city's core operations by achieving simple server-only operation, improving cost efficiency by realizing a hardware-independent environment, and offering Fujitsu-quality worry-free support services.

### Challenges

The client wanted more reliable, stable converged virtualization infrastructure to support the city's backbone systems.

The client wanted a system with a hardware-independent lifecycle.

The client wanted the infrastructure built quickly before the production migration at the end of 2017.

### Benefits

The high reliability of Fujitsu's HCI product and the Fujitsu-quality total support services help achieve stable operation and facilitate core operations.

Virtualized data is hardware independent, and the virtualization infrastructure can be scaled flexibly as needed, thereby reducing migration costs which were previously necessary for every hardware upgrade throughout the system lifecycle.

Using already verified infrastructure eliminates the need for design; because it is set up at the factory, deployment, including a hardware load test, can be done in a single month. Virtual to Virtual (V2V) facilitates smooth migration.

### Reason for choosing "PRIMEFLEX"

#### Focusing on Local Informatization while Informatizing the Administration

In the Edo period, Toda prospered thanks to the Toda ferry, which transported many travelers across the Arakawa river. The city is an "oasis city" with numerous locations that celebrate nature, such as the Toda Rowing Course (which hosted the rowing event at the 1964 Tokyo Olympics) and Saiko Doman Green Park (which attracts more than one million visitors annually). The city's access to central Tokyo and livability have led to the youngest population in Saitama Prefecture\* as well as the fastest population growth, the fastest social population growth (the number of people who moved in minus the number of people who moved out during a one-year period), and also the highest birth rate in the prefecture.\* The city actively leverages ICT to enhance child-rearing support, revitalizes local communities using toco-puri (the city's own smartphone app), and promotes programming education starting in elementary school.

Mizuho Oyama  
Assistant General Manager of the Department of General Affairs and Chief of the Information Policy and Statistics Section  
Toda City

Mr. Mizuho Oyama, who works for Toda City as Assistant General Manager of the Department of General Affairs and Chief of the Information Policy and Statistics Section, remarked as follows on Toda's informatization: "As the information usage environments of citizens and companies become more sophisticated, the city is focusing on its own informatization while promoting informatization of administrative information services

under the Toda Second Program for Informatization Promotion. We are developing an environment to improve administrative work efficiency and citizen services, such as optimizing city information linkage and providing one-stop service windows. Under the Basic Act on the Advancement of Public and Private Sector Data Utilization, which was enacted in 2016, we are also sorting and organizing data to develop a program to promote public and private data usage that aims to realize an affluent society through data utilization."

The city aims for sustainability and, from a long-term perspective, has decided to focus on deploying converged virtualization infrastructure to replace its aging backbone system hardware, including the resident information system that supports city functions.

\* Source: Municipalities in Saitama Prefecture as Seen from Statistics 2016

### Key points for choosing "PRIMEFLEX"

**HCI was selected as the converged virtualization infrastructure for its ease of operation, management and scaling as well as low power consumption**

The configuration defined in the original plan was intended to replace the resident information system's hardware. After assuming the post of Chief of the Information Policy and Statistics Section in Toda in April 2016, Mr. Oyama started reviewing the configuration based on his many years of virtualization expertise. "While the existing system was already virtualized, it had a conventional configuration consisting of physical main servers, backup servers, and verification servers. I changed this to a configuration with a virtualization infrastructure at the core so as to gradually consolidate not only the resident information system but also other backbone systems, including the nursing insurance system and the welfare system, within the initial budget. This gave us the full benefit of hardware consolidation and achieved a system with a hardware-independent



Yoshinobu Enomoto  
Head of the Information Policy and Statistics Section  
Toda City

Enomoto, Head of the Information Policy and Statistics Section in Toda City's Department of General Affairs.

Asked why they did not choose a public cloud, Mr. Enomoto replied: "The city has a datacenter and wants to deploy converged virtualization infrastructure and build a private cloud there to offer ICT infrastructure as a service to each section and help reduce costs."

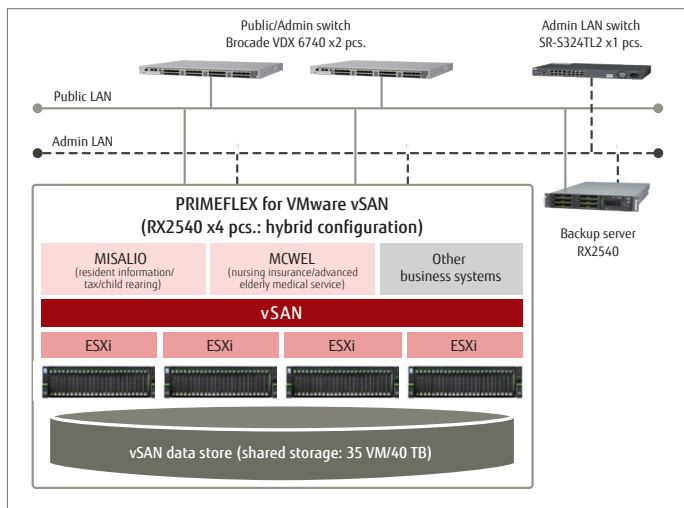
Bidding for this procurement to meet the city's specifications resulted in the deployment of Fujitsu's HCI, PRIMEFLEX.

### Deployment process

#### Fast construction using PRIMEFLEX, which was already verified and set up at the factory

From the construction phase onward, deployment of PRIMEFLEX began to produce various effects. Mr. Oyama explained: "The specifications were submitted and finalized in June 2017, the solution was delivered that September, and a hardware load test was completed that October. The solution arrived after being set up in the factory using a designed, verified configuration, thereby enabling us to launch in several weeks in practice; this is contrary to conventional solutions that typically take several months to be completed. Such speed is very beneficial both in terms of schedule and costs. Since Fujitsu handled all design and setup processes, we simply migrated to the already verified, highly reliable infrastructure; we had no difficulties in the deployment process." In addition, a process known as Virtual to Virtual (V2V) was used to achieve smooth migration. "V2V simply copies one virtual machine to another automatically and is nearly painless. We migrated the backup and verification systems as a rehearsal without incident. At the end of 2017, we will migrate the production system with V2V. Thanks to

System Diagram



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the total support services from Fujitsu, we deployed the solution very fast and smoothly." (Mr. Oyama)

### Benefits of System Deployment and Future Outlook

#### Supporting core operations with high product reliability and Fujitsu-quality, worry-free support services

Reliability and stability are critical for converged virtualization infrastructure, which supports the city's core operations and backbone systems, including the resident information system. "After deployment, the paramount theme is stable operation. The high reliability of Japan-based Fujitsu's HCI product and support services give us great relief." (Mr. Oyama)

Mr. Enomoto expressed high expectations for future full-fledged operation with FUJITSU Software ServerView Infrastructure Manager for PRIMEFLEX ("ISM for PRIMEFLEX"), which is software for infrastructure operation and management. "ISM for PRIMEFLEX can be used as a plugin on the vCenter screen, which we used to manage our virtual environment, thereby enabling seamless, unified management of virtual and physical environments. Visualization of device statuses achieved through easy-to-understand, intuitive design and operability helps us identify failed parts and expedite responses."

### Higher Cost Effectiveness by Building a Hardware-Independent Environment

According to Mr. Oyama, deployment of converged virtualization infrastructure with PRIMEFLEX at the core has had three cost-reduction effects. "First is the reduced deployment cost resulting from the faster construction and automated migration with V2V. Second is higher cost effectiveness achieved by consolidating peripheral systems one after another into the converged virtualization infrastructure, thus enabling effective use of resources. In addition, virtualized data is hardware independent, and the virtualization infrastructure can be scaled flexibly as needed, thereby reducing the migration costs conventionally required for hardware upgrades performed every five years throughout the system lifecycle. Third is the smaller footprint and lower power consumption due to the reduced physical chassis (for servers and storage) achieved by shared storage with server consolidation and SDS. This also simplifies operation and maintenance, reducing overall system operation costs as well."

Besides efficiency, data maintainability and availability have also improved. "Previously, each physical server had to be backed up. With converged virtualization infrastructure, backups can be performed integrally. In addition, VMware vSphere HA automatically migrates servers from a failed physical server to another physical server, thereby achieving uninterruptible operation." (Mr. Enomoto)

Regarding the future outlook, Mr. Oyama commented: "After consolidating the backbone systems, we plan to deploy converged virtualization infrastructure to consolidate other information systems in the Local Government Wide Area Network (LGWAN) segment. Our ultimate goal is to build a software-defined virtual data center. We expect Fujitsu will not only support us in achieving stable operation but provide proposals for leveraging advanced virtualization technology."

Fujitsu will continue to support the city's efforts to actively leverage ICT and attempt to realize a future Toda where residents live happily surrounded by water and greenery.

### Outline

#### Toda City

**Address** 1-18-1, Kamitoda, Toda, Saitama Prefecture 335-8588, Japan

**Representative** Kunio Jinbo, Mayor of Toda

**Total population** 138,662 (as of December 1, 2017)

**No. of households** 64,036 (as of December 1, 2017)

**Outline** Located in southeastern Saitama Prefecture, Toda flourished as a transportation hub with the Toda ferry in the Edo period. The city's rich nature and access to central Tokyo have led to faster population growth and a younger population in Saitama Prefecture, helping the city grow sustainably thanks to its geographic and population advantages.

**Website** <http://www.city.toda.saitama.jp/>



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