



# Nutanix Constructs System that will Continue Operating even during Large-scale Disaster

Business Continuity Plan Achieved with Construction of Simple Environment Operable by Non-IT Staff

## LOCAL GOVERNMENT

Takatsuki City, Osaka Prefecture

## INDUSTRY

Local government

## BUSINESS BENEFITS

- Constructed infrastructure that stably runs groupware used simultaneously by over 2,000 users
- Reduced log search times to seconds, improving operational efficiency
- Achieved backups with a few clicks by the construction of DR site
- Significantly reduced operational workload for backups
- Constructed simple environment that can be operated even by non-IT personnel
- Created foundation for virtualization infrastructure that contributes to cost reductions
- Eliminated complexity of using products from multiple vendors



“While offering high reliability and performance, it is reasonably priced. Its structure also embodies rationality, being extremely logical. We are enamored with it to the point that we cannot find a reason not to choose it.”

– Naonori Mae, Assistant Manager, Information Strategy Office, Comprehensive Strategy Planning Dept., Takatsuki City

## CHALLENGES

- Demand for IT environment to realize remote work and for business continuity plan to deal with a disaster
- Operational workload in complex 3-tier architecture and system disruption during updates
- Development costs as well as costs for operation and maintenance through various integrated office systems

## SOLUTION

Nutanix Enterprise Cloud OS

- Nutanix AHV
- Nutanix Prism Pro

## APPLICATION

- Groupware
- File Server
- RADIUS server
- Issuing Certificate Server
- Mail Relay server
- Mail Archive Server



“Compared to email and operational log searches of groupware for auditing purposes, which previously took tens of minutes, we were surprised to discover that results returned in seconds.”

– Makoto Tsujino, Senior Staff, Information Strategy Office, Comprehensive Strategy Planning Dept., Takatsuki City

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## CHALLENGES

Takatsuki City in Osaka Prefecture, located northeast of Osaka Plain between Kyoto and Osaka, has been growing as a commuter suburb of big cities, having become one of the designated urban areas in 2003, which are based on local administrative divisions created by the Japanese government. With tourist attractions including Settsu-kyo Gorge, a year-round picturesque location, and some of Japan's foremost ancient burial mounds including the large Imashirozuka Burial Mound located in the Yodogawa river basin, Takatsuki City is very popular not only for its bustling urban setting but also for its abundant nature and the historical and cultural assets that remain to this day.

Takatsuki City has established the IT Promotion Headquarters that operate under four basic principles of an Information Communication Technology (ICT) strategy: Improve government services through use of ICT; promote use of data; improve utilization of ICT; and manage government public finances efficiently through use of ICT. After the COVID-19 pandemic and the earthquake in northern Osaka Prefecture in 2018, the city worked to establish a disaster recovery plan and to reform work style through realizing remote work. One of the objectives raised during the implementation of the ICT strategy was to reduce costs via server consolidation, and reduce maintenance and operation costs as well as development costs of various integrated office systems operating on a common infrastructure.

“Although we had not positioned it as a standardized virtualization infrastructure, we did have experience of consolidating multiple servers with VMware. However, it was not a situation where we could easily operate it,” recalled Naonori Mae, Assistant Manager, Information Strategy Office, Comprehensive Strategy Planning Department. “Previously when shutting down the server environment to comply with legal inspections, there had been cases of the shutdown not finishing in time, or of complicated procedure making it difficult to restart the system, which were due to the complexity of the 3-tier architecture environment. In addition, due to problems with the design, logging into the administration console would require time, so we had been considering the need to fundamentally update the system.” He adds that if they procure infrastructure every time they renew the contract of an individual application, the costs and difficulties in resolving operational issues would be enormous, so when there are budgetary constraints, they occasionally had no choice but to consolidate the servers with the easy-to-use Hyper-V.

Amidst this backdrop, in conjunction with the timing to renew the groupware contract, a plan was brought up to use a virtualization infrastructure, and discussions on deployment ensued, explained Mae.

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## SOLUTION

When the time came to procure an infrastructure for an updated file server, the decision was made to accept bids on a new system that would consolidate the servers and solve outstanding issues in earnest. “Especially after experiencing the Northern Osaka Earthquake in 2018 and the COVID-19 pandemic, with the goal of securing the business continuity for employees and issuing disaster certificate during an emergency, the city had a heightened sense of need for a business continuity plan for operational systems outside of a social security system. So we decided to accept bids for a system that emphasized scalability and disaster recovery, including construction of a business continuity plan site,” said Mae.

Proposals from companies other than Nutanix primarily used 3-tier configurations, and from the perspective of business continuity there was a large difference between other vendors and Nutanix. Mae was initially weary of a virtualization infrastructure, but during his research he encountered Nutanix Enterprise Cloud OS, which triggered a change in his perspective. Mae, who had been a manufacturing engineer in his previous position, explained, “Honestly, we were skeptical at first, having heard that its operations were extremely simple. But as we dug deeper into the technology, it actually made sense, and we realized that it was valid.” For verification purposes, Nutanix was deployed in a minimal configuration on a test basis as an infrastructure for groupware. The results exceeded expectations in actual operation. “The groupware system had been continuously used by over 2,000 people, so our configurations had been designed to address delays, but we still had encountered situations that the system slowed down. But on the Nutanix infrastructure that we deployed for testing, the system ran faster than expected, and we were convinced that this product was reliable.”

“With Nutanix, we were able to give high marks for business continuity, which was something important to us. For example, recovery from file server service can be accomplished with Nutanix in just a few minutes. As for operation, with a 3-tier architecture you are forced to think about storage, and previously we were not able to resolve the issues we had encountered in operation. Complexity in configuration leads to complexity in operation, which will lead to increase in system engineering and maintenance costs. But with the simplicity of Nutanix, we felt we could solve these operational issues,” said Mae, speaking of his decision to deploy a file server environment running on a Nutanix powered virtualization infrastructure.

Takatsuki City deployed Nutanix AHV as the hypervisor for its file server infrastructure, setting up an identical environment as the main site for its disaster recovery site, and performing replication has helped create an environment that enhances business continuity. Nutanix Prism Pro is being newly used as the administrative tool that enables advanced analysis and profound insight through machine learning, and intends to have the virtualization infrastructure play a key role in future deployment plans.

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## CUSTOMER OUTCOME

Since deploying Nutanix, there has not been a major problem. “Nutanix AHV is operating stably, and while we are monitoring the system, there has been decrease not only in time spent on operations but also in emotional burden, which has been a big benefit,” said Makoto Tsujino, Senior Staff of the Information Strategy Office who oversees operation.

“We feel the speed that takes in groupware log searches has exceeded our expectations. In the previous environment, results could take tens of minutes, and there were even times when searches would time out. But since migrating to Nutanix, log searches have been smooth, with results being returned in only tens of seconds. It has become extremely simple to operate,” said Tsujino.

Nutanix has also contributed to reducing the workload for backup operations. “Previously, we had been writing backups to LTO tape and storing them in a remote location, but with the construction of our disaster recovery site, this has become completely unnecessary. In addition, previously when a problem would arise, we had to depend on our vendors to switch to the backup server, but in the Nutanix environment, just a single click by an employee can restore the system from the disaster recovery site. Availability can now be assured, and we have been able to reduce the impact on users to zero,” said Tsujino glowingly.

There has also been high praise for superior operability, including a single pane of glass to see the AHV and host status instantly from the Nutanix Prism console. “In the case of local governments, the person in charge of IT does not necessarily have advanced IT skills. We are very impressed with the ease of use even for someone who is not an IT specialist,” said Tsujino. Mae also added, “Because it is simple and easy to use, this reduces not only our workload in operating the system, but also for engineers who provide deployment support, leading to reduction of maintenance costs and support for system engineering. VMware requires a certain amount of skill, but my impression is that AHV is suitable for everyone.”

With the deployment of Nutanix and realization of the groupware environment and file servers on a virtualization infrastructure, Mae said, “We have been able to further consolidate the infrastructure, and we have finally been able to create the foundation that will contribute to reducing costs.” He said that it has been a big change to construct an environment that can avoid a situation in which every time a problem arises a separate solution is procured, which had led to an increase in vendor products and ultimately to an increase in risks.

Furthermore, Nutanix was highly praised for making a proposal meeting the city’s budget range, understanding the difficulty to increasing budgets in the local government. “We received an earnest explanation on points such as ease of operation, including for future plans. The proposal we received also had a firm future vision and it was a key point for optimizing the ICT infrastructure in the medium and long term, which was a big factor in our decision to go with Nutanix,” said Tsujino.

The new file server constructed on the Nutanix infrastructure has begun full operations, and it is said to operate about ten times faster than the previous system. “We are extremely satisfied with file write speeds. Our city has been troubled by the performance of previous solutions, and now we think having asked Nutanix to construct our system was rewarding,” said Mae about the results of this deployment.

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## NEXT STEPS

Mae said Takatsuki City would like to expand use of Nutanix as a common infrastructure when the time comes for upgrading to a new infrastructure. “As Nutanix continues to offer superior performance and technology while coming within the budget, there is no reason not to choose them. Our impression is that they offer high reliability and performance at a reasonable cost. With an eye toward improved support for remote work, strengthened security, and system optimization, we are also discussing a hybrid cloud that would connect public and private cloud environments, and we will be counting on Nutanix in the future,” said Mae.



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