Providing robust security and balancing tasks

The system ensures secure client environments through collective security updates. Administrators can significantly reduce security risks caused by operational errors and missed security patches. Furthermore, thin client terminals eliminate the risk of data loss by prohibiting any external device connections. With standard PCs, that risk never reaches zero no matter how the use of USB keys is restricted. Moreover, convenience has been greatly improved. According to Mr. Osada, "Old

A step forward to realizing e-governance through "VirtualPCCenter"

NEC's solution has brought three major benefits: reducing maintenance costs, improving data security, and increasing the work efficiency of the city office's staff members. "The virtual PC thin client system is a widely used, proven solution and a critical foundation for mission-critical operations," says Mr. Sakaue.
In a time of rapid expansion of decentralization of the government authority, e-governance is one of the important themes to the local governments. The Gotemba City's latest approach marks a revolutionary step to establish a new IT infrastructure. NEC's solution, **VirtualPCCenter**, is truly a cornerstone for tomorrow's local e-governance.

PCs usually take at least five minutes to boot. But with the thin client terminal, we are ready in about 30 seconds." He adds that the thin client terminal is comparable in graphics speed. Mr. Sakaue says, "Thin client terminals do not affect how and where you work. The client users and administrators always have their own PC environment. Both office staff and administrators can balance their tasks." Mr. Osada also says, "We have access to our own client environment wherever we are, as long as we are online. The new thin client system will undoubtedly help us work more efficiently and provide better services."

● Project members

From the front left
Administration Department, Expert of Administration Section, Mr. Hidenori Tsuchiya
Information Management Section, CIO Assistant, Mr. Fumiaki Osada
Information Management Section, Assistant general manager, Mr. Kazuki Tashiro

From the back left
Administration Department, Administration Section, Assistant Manager, Computer Administration Staff, Mr. Kazuaki Osada
Administration Department, Administration Section, Senior Manager, Computer Administration Staff, Mr. Fumihiro Yoneyama
Information Management Section, Senior Manager, Mr. Tsuyoshi Sakaue

Today, the Gotemba City is using the system for its administrative services and the real-time broadcast of its parliamentary sessions. The city is planning to apply NEC's thin client solution to its meeting rooms to take the advantage of mobility of the system, which enables users to use their own environment from any terminal. "Instead of bringing in a PC with data stored on it, meeting participants will be able to access their client environment to retrieve necessary information and take a look at it in the middle of a meeting," says Mr. Sakaue.

VPCC

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Empowered by Innovation

Desktop Consolidation Solution Case Study
The Gotemba City Government

Concurrent deployment of 630 thin clients as a desktop consolidation solution. Consolidated management of the client environment in city hall and municipal branch offices. -Drastic reduction in maintenance costs

Gotemba City has long promoted the introduction of IT by providing a PC environment for each staff member. But the city found that management costs and IT staff workloads were gradually increasing because a limited number of staff members had to maintain many PCs located both in city hall and branch offices. To resolve the situation, the city selected NEC's desktop consolidation solution "**VirtualPCCenter.**" The city deployed 630 thin client terminals for mission-critical tasks which sustain administrative services. With this solution, the client environment of each worker is consolidated and easily managed on a central server which helps reduce management costs. Moreover, security is enhanced due to more efficient delivery of patches. The city also expects improvements in operational performance thanks to application compatibility, optimal resource allocation of CPU and memory, and the quick launch of applications.

Information Management Section, CIO Assistant,
Mr. Fumiaki Osada

Administration Department, Expert of Administration Section,
Mr. Hidenori Tsuchiya

Information Management Section, Senior Manager,
Mr. Tsuyoshi Sakaue

Increased workloads of IT staff with more developed and diversified systems

Overview of the customer and its progressive approach to IT

Gotemba City, with the population of about 90,000, is located in the north-east area of Shizuoka Prefecture, Japan. Located at the foot of Mt. Fuji, the city is on a plateau which abounds with beautiful natural surroundings. Many tourists visit the city throughout the year. It continues to grow as a commercial and residential center for Tokyo and Yokohama as it is in the economic zone and workers can easily commute from the city.
Being well-known as an advanced IT municipality, the city had provided each office staff member with a PC in order to develop an infrastructure for e-government. According to Mr. Fumiaki Osada, Assistant CIO of Information Management Section, "We have set a policy for strict security measures. This policy includes access authority based on Active Directory, file management through common folders, and prohibiting the use of notebook PCs outside city hall."

Simplifying maintenance and enhancing security were the goals

While the city promoted its progressive approach, several challenges became obvious. One of the striking issues was increased maintenance costs. The city accelerated the open systems for mission-critical tasks. As a result, Computer Administration Staff had to maintain terminals and other devices in addition to host computers. Their tasks were continuously increasing.
The number of installed PCs grew to over several hundred. There was a great variety in the installed OSes and applications. Many office staff did not have much knowledge about PCs. Therefore, Computer Administration Staff were overloaded. They had to provide on-site support and answer inquiries at 43 branch offices in the city when any issues arose.

"When we could not solve problems on site; we had to bring PCs back to city hall. Then we had to deliver the PCs back to the branch offices after completing repairs. For the better convenience and stability, the Computer Administration Staff of the Administration Department were initially only in charge of maintaining the host computers and systems to support administration services. However, other tasks including troubleshooting, maintaining software settings, and updates were affecting operations," says Mr. Hidenori Tsuchiya, the Expert of Administration Section, Administration Department.

In addition to maintenance, enhancing security was a top priority. As previously mentioned, issues with patch deliveries might trigger serious security risks. Moreover, additional budget was needed for security measures for any PCs running an obsolete OS.

The city has enforced its own security policies. As long as data is stored on PCs, however, risks from PC theft and lost still exist. "Since the city deals with the personal information of citizens, it is important that the city deploy strong security measures. Therefore, strong physical security was required in addition to the city's current security policies," says Mr. Osada.

Virtual desktop thin client systems enable consolidating management and enhance security

Select NEC among multiple vendors for the deployment of thin client systems

The city started to compare many possible systems. The IT staff discussed the installation of new systems from many aspects including evaluating systems from some vendors, attending seminars, and so forth. Among the vendors, NEC's thin client system "**VirtualPCCenter**" received high marks during the evaluation process. Eventually the city narrowed the list of vendors down to few companies including NEC. In December 2008, it held a selective tendering. **VirtualPCCenter**, a virtual desktop thin client solution, was selected as the system which fulfilled the city's requirements.
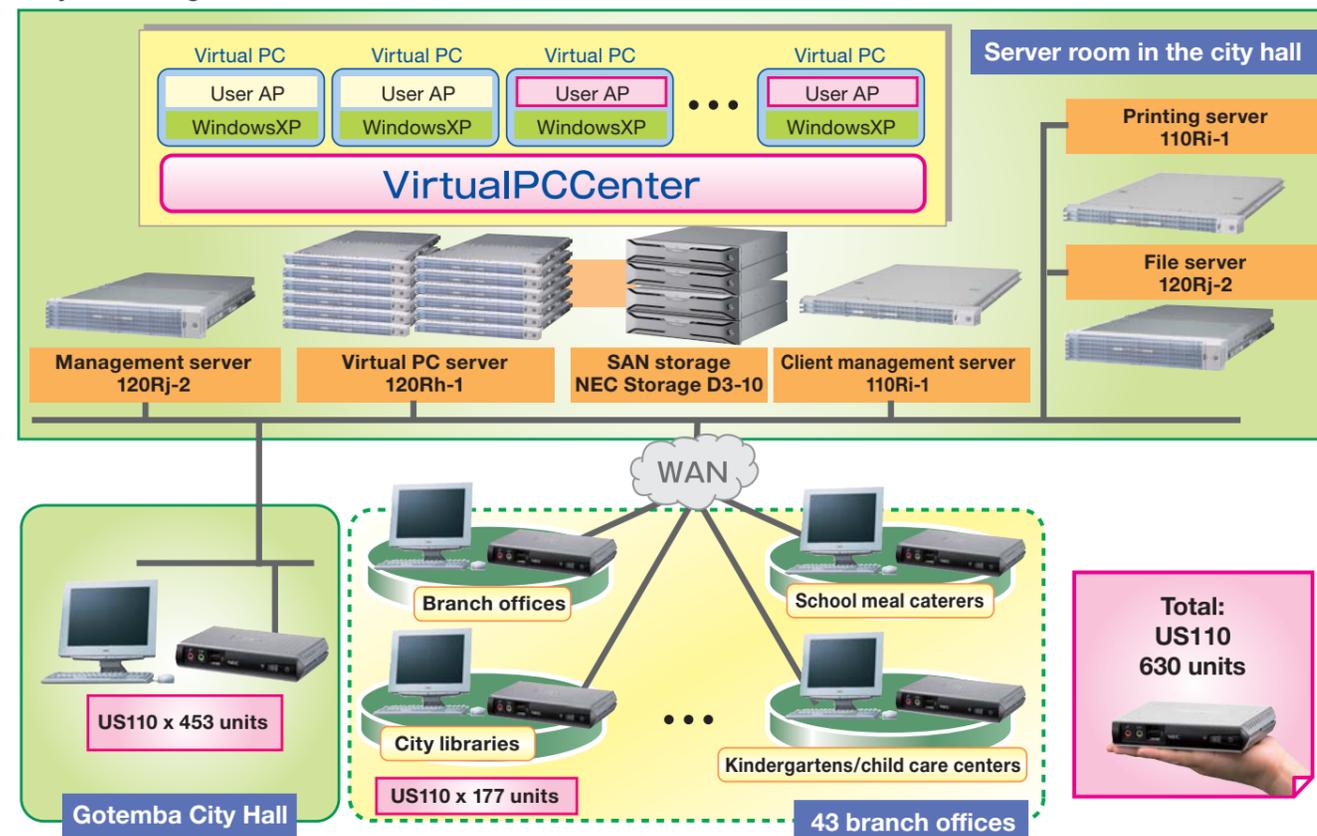
The features of "VirtualPCCenter" fulfill advanced requirements

VirtualPCCenter is a system which virtualizes each user's unique PC environment on a server. It displays the output of the OS and application processes, which run on virtual machines, on the thin client terminals. About 50 virtual PCs can be consolidated on one server. This enables more efficient updates and delivery of the OS, application software, and patches.
Moreover, most of the applications are compatible with the system. So, existing applications on the city's host computers can be used without any problem.

● System Design

Virtual PC   Virtual PC   Virtual PC   Virtual PC

User AP | User AP | User AP | ··· | User AP
WindowsXP | WindowsXP | WindowsXP | | WindowsXP

VirtualPCCenter

Server room in the city hall

Printing server 110Ri-1

File server 120Rj-2

Management server 120Rj-2 | Virtual PC server 120Rh-1 | SAN storage NEC Storage D3-10 | Client management server 110Ri-1

WAN

Branch offices

School meal caterers

City libraries

US110 x 453 units

US110 x 177 units

Kindergartens/child care centers

Gotemba City Hall

43 branch offices

Total: US110 630 units

In the municipality, the budget to deploy and use IT devices is limited. Therefore, the city expects to use devices for a long time. The thin client terminals have a longer life expectancy than business PCs because they are diskless and fan-less. This is one of the great benefits of thin client terminals. Virtual PCs for office staff can be easily added by replicating master images which are prepared in advance. Delivery of OS patches and application installation are completed collectively. Data and applications are consolidated on servers. Therefore, there are no risks of data loss from retiring employees or PC disposal.
In other words, from a life-cycle point of view, consolidated management is available from the initial installation through daily operation to final disposal. According to Mr. Tsuyoshi Sakaue, "The system enables a drastic reduction in on-site work hours by consolidating management of the client environment. Compared to the fat PC, we expect better cost performance for the municipality."

Centrally managing virtual PC environment across the city hall and 43 branch offices

Quickly deploying the thin client systems

Starting in February 2009, setting up was completed at the city hall in about a month. Following this, a total of 630 thin client terminals "**US110**" were installed across local branches and became fully operational in April.
If these had all been standard desktop PCs, it would have taken tremendous time and effort to install the operating system and application software on every single PC.
"NEC's **VirtualPCCenter** solution allows us to manage all remote terminals from a single server. The installation took much less time than I expected," says Mr. Sakaue." Mr. Osada adds, "NEC has excellent experience in deploying its thin client system for enterprises and local governments. That explains why NEC was able to install the system smoothly within a short period of time."

Ensuring the continuity of public services

The picture of system design is the overview of the system installed for the city. A total of 630 **US110** terminals were installed at 43 locations including the city hall, branch offices, kindergartens, child care centers, libraries, and school meal service facilities. The remote terminals are all managed as virtual PCs on virtual PC server **NEC Express5800/120Rh-1** and have access to **NEC Storage D3-10**.

Consolidated management is enabled by NEC's platform management software, **SigmaSystemCenter**.
If a virtual PC server should fail, it automatically moves the failed virtual PCs to a standby server and enables continuous operation without rebooting. Mr. Osada says, "The city hall staff members are able to work on their terminals even in the event of a severe failure and continue to provide high quality administrative services."

Dramatically reduced troubleshooting and improved operational performance through quick-launch

Reduce workload for terminals and other devices. Allow workers concentrate on their individual tasks

Replacing existing PCs with NEC's thin client terminals was the right decision to reduce demanding management tasks. Since the new system started operations in April, no failures have been reported. "One of the major benefits of NEC's solution is that we no longer have to travel to remote sites as we did for PC users. Now we can remotely install the OS and software updates on the central server in a machine room, and focus more on system management and maintenance tasks," says Mr. Tsuchiya.

A palm-sized thin client terminal "**US110**" with a high-speed video/audio processing capability