Currently, the new shared platform system is operating in tandem with the old general-purpose machines. However, after adding printing management functionality to the shared platform in fiscal 2012, Nagasaki City plans to phase out the general-purpose machines once other business process systems such as a tax system and welfare system are added in fiscal 2014. NEC also organized and made available all the design sheets and specifications related to the new shared platform system.

"NEC has provided templates so that staff can easily perform work such as database changes and additional batch processing," explains Oota. "Not only is the system easy to use, but because the specifications for linking with the shared platform are transparent, the procurement of new business process systems can be conducted under conditions of fair competition. We expect that this will also lead to cost reductions."

Funakoshi sums up his hopes for the future. "We want to use advanced and open data linking technologies such as web link functionality to link with other local governments and create new citizen services such as a one-stop contact point where residents can complete several different procedures at once. With its extensive experience and proven track record, we are looking forward to receiving proposals from NEC that exploits these new technologies."

Overview of new mission-critical business process system built for Nagasaki City

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
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<tr>
<td>GPRIME business process platform</td>
<td>Business process system authority management and authentication platform</td>
</tr>
<tr>
<td>WebOTX Application Server</td>
<td>Business process system service platform developed by J2EE</td>
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<td>WebOTX Enterprise Service Bus</td>
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<tr>
<td>Oracle Database 11g</td>
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<td>SECUREMASTER EnterpriseDirectoryServer</td>
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<td>UniAssist code conversion</td>
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<td>NetVault Backup</td>
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<td>MasterScope JobCenter</td>
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<td>VMware vSphere 4</td>
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Project members engaged in this implementation

Staff ROW, left to right: Yohko Yoshida – Staff, Halin Goto – Staff, Takanari Funakoshi – Senior Staff, Kenichi Inomoto – Senior Staff

Overview

Nagasaki City’s old mission-critical business process system based on general-purpose machines could no longer cope with increasingly heavy operating loads. Looking to upgrade to a new open system, Nagasaki City turned to NEC to implement a new mission-critical business process system centered on a shared platform utilizing de-facto standard open technologies. Focusing on total optimization, NEC succeeded in building a shared platform system that met the client’s requirements of fairness, transparency, and is scalable, helping them achieve their goals of improved efficiency, reduced procurement and operating costs, and better citizen services.

Challenges

Nagasaki City was using a mission-critical business process system that was running on general-purpose machines from another company. The old system was leading to a lot of issues and challenges for the staff. Yohko Yoshida from Nagasaki City’s Information Systems Department elaborates.

"The general-purpose machines we were using were first installed in 1977. Additional systems had subsequently been developed in collaboration with the vendor and laid on top of the existing system. These continual expansions and upgrades had made the system extremely complex, and we were struggling to work efficiently and respond quickly to new situations such as changes in the law." Staff had to work longer and harder to develop new functionality, which was also driving up costs. In 2008, Nagasaki City decided to rebuild its mission-critical business process system.

In commissioning the rebuild, Nagasaki City had three main goals: to improve efficiency, to reduce costs, and to develop better citizen services. They also wanted to improve transparency and efficiency in procurement operations and to create a system that could be expanded in the future. Studies by the client’s Information Systems Department revealed that the current business process systems were difficult to operate and maintain, and that the—particularly for the staff—were working longer and harder to develop new functionality. The client required a shared platform that demonstrates fairness and transparency, and that can be expanded by integrating new business process systems purchased from different vendors.

Solution

Nagasaki City turned to NEC to implement a new mission-critical business process system centered on a shared platform utilizing de-facto standard open technologies. Following are the inclusions in the built process:

- Built a shared platform using open standard technologies
- Prepared all documents for the shared platform such as design sheets and specifications available to the public
- Provided the shared platform with system sharing functionality that could be used by each section
- Built a test environment based on virtualization technology so that verification could be carried out without stopping the system

Results

- Use of open technologies and standardization provided the required transparency and fairness
- Providing a multi-vendor environment enabled the implementation of competitive procurement hence lowering the costs.
- The work carried out by each section was automated and made more efficient.
- The generated efficiencies saved time for the staff which in turn is utilized in developing new citizen services.

Customer

- Nagasaki City

Industry

- Local government/public service – Nagasaki City, Nagasaki Prefecture, Japan

http://www.nec.com/
Nagasaki City

System-sharing functionality

For authentication management, NEC implemented an LDAP-based mechanism to obtain authentication information each time someone logs into a business process system. That information is reconciled with the authority information held by each business process system and the required authentication is performed. NEC also provided the shared platform with external character functionality so that all business process systems could be managed and operated using a single character encoding. This kind of flexible addition of functional components was a standout feature of NEC’s shared platform.

Virtualization

When a mission-critical system is up and running, it cannot be stopped to conduct linking and other verification tests before adding new business process systems. Since Nagasaki City is planning to add a tax system and welfare system to the new shared platform, NEC implemented VMware virtualization technology to enable verification to be performed without adding physical servers or purchasing new licenses.

Virtualization

NEC implemented MasterScope JobCenter for monitoring and controlling job execution and managing batch processing schedules, and MasterScope SystemManager to enable centralized management of server configuration information, failure information, and performance information.

Solution details

NEC implemented a single system-linking platform that could provide file transfer functionality (FTP) and database linking functionality (BDL), as well as support nine communication protocols, including the SOAP web linking functionality. NEC also implemented WebOTX ESB, which provides highly versatile data linking functionality.

Solution

Understanding Nagasaki City’s goals, NEC submitted a proposal for a shared platform based on three important elements: viability, openness, and scalability.

Viability

The standardization of shared platforms is in its early stages. Implemented systems often differ in the range, depth, accuracy, and positioning of the data linking and sharing functionalities. Nagasaki City wanted a platform that was above all viable. NEC has developed multi-vendor environments for many clients and is highly skilled in system standardization. Using its extensive experience, NEC was able to make proposals that were not just good on paper, but were viable, realizable in practice and that used technologies that were within the skill set of the client’s staff.

Openness

To facilitate the implementation of new business process systems in the future, Nagasaki City required a shared platform whose specifications and requirements were open to the public. The openness of the system would also encourage the participation of local businesses that will help in building up local industry, and reduce maintenance and operating costs. NEC assured Nagasaki City that all documentation for the shared platform such as specifications and design sheets would be made available.

Results

The new shared platform system and the resident registration system operating on the shared platform started operating in August, 2012. The new system not only resolved all the problems caused by the old system, but it also helped the client in achieving three goals of improved efficiency, reduced costs, and better citizen services. Nagasaki City staff commented on the effects of the new system.

“The new shared platform has improved the efficiency of background operations such as linking between systems, and because the systems on the platform operate more stably, the efficiency of the new mission-critical business process system as a whole is much better,” explains Oota. “We are also excited about being able to exploit the functionality of each newly introduced business process system and concentrate on the work that we really want to do, which is serving Nagasaki City residents.”

“And we will be able to implement new business process system packages based on a more competitive procurement method, which will lower our costs a lot,” adds Funakoshi. “Plus no more long hours customizing our general-purpose machines.”

The mayor of Nagasaki City himself has stated that he wants to simplify and streamline the operations of each section so that more time is used for developing citizen services. Oota elaborates.

“The new shared platform system has made it possible to provide each section with system sharing functionality, which has in turn improved the automation and efficiency of operations. Staff can use the time saved through these efficiencies to plan new and better citizen services.”

Overview of new mission-critical business process system built for Nagasaki City

Integrated operation management

Overview of new mission-critical business process system built for Nagasaki City

Solution

NEC builds an open shared platform to help Nagasaki City in optimizing and improving operational efficiency, reducing costs, and developing better citizen services.

Department revealed that open technologies that did not depend on specific vendors or specifications would be most beneficial in achieving their goals. Open technologies, however, can sometimes lead to disjoint systems that do not link together well. The client’s system therefore has to be fully optimized. Nagasaki City had also visited another local government already running an open mission-critical business process system and could see, firsthand, the benefits of using a shared platform. Deciding that the new mission-critical business process system would be centered on a shared platform, in fiscal 2010, Nagasaki City drafted a procurement specification and called for proposals.

NEC implemented MasterScope JobCenter for monitoring and controlling job execution and managing batch processing schedules, and MasterScope SystemManager to enable centralized management of server configuration information, failure information, and performance information. To boost availability, NEC also implemented NetVault Backup, which performs automatic backup by creating a virtual tape library in the disk. MasterScope SystemManager was also installed as client software in each business process system to allow centralized failure monitoring of the new mission-critical business process system as a whole, leading to improved operational efficiency.