Success Story

Allied Telesis™

Nagahama City Hall

Nagahama City Hall, in Japan, creates a new, stable, and automatically managed network, using Allied Telesis Management Framework™ (AMF) with SwitchBlade® x8100 and x510 Series switches.

the **solution** : the **network**

Overview

Nagahama City is located in the Shiga Prefecture of Japan. In 2006, Nagahama City, Asai Town and Biwa Town were merged into one city. Then in 2010, the city merged with a further six municipalities. All of these now form the current Nagahama City.

These mergers were motivated by a number of key needs. The governing parties wanted to achieve:

- more efficient government administration
- better use of specialized resources
- a balance of development across the city
- an enhanced disaster prevention scheme.

Nagahama City has now installed a brand new Local Area Network (LAN) in its newly constructed City Hall. In order to reduce Information and Communications Technology (ICT) costs, simplify network operation and management, and build a long-lasting stable ICT infrastructure, the City Hall wanted to converge their information and IP Telephony (VoIP) systems onto a single network.

Nagahama City Hall choose Allied Telesis

The Nagahama City Hall chose Allied Telesis to provide their new network solution. Their converged network has been constructed from Allied Telesis Management Framework (AMF) capable switches. The core switch is a SwitchBlade x8100 Series Next Generation Intelligent Layer 3+ Chassis Switch, and the intelligent edge switches are x510 Series Stackable Gigabit Layer 3 Switches.

Utilizing AMF greatly reduces the City's network operation and management workload, by automating switch configuration and consolidating network management.

CUSTOMER PROFILE

Nagahama City Hall, Japan

- Address: 12-34 Takada-cho, Nagahama City, Shiga Prefecture
- Area: 539.48 square kilometers
- Population: 123,071 (As of Oct. 1, 2013)
- Number of households: 44,407

Located in the northeast region of Shiga Prefecture, Nagahama city is bordered by Fukui Prefecture to the north and Gifu Prefecture to the east. The city faces the Mount Ibuki range, and overlooks Lake Biwa.

Nagahama City has both a beautiful natural environment, and a rich and colorful history. Nagahama was founded in the late 16th century when Hideyoshi Hashiba (later known as Hideyoshi Toyotomi) renamed this region from Imahama to Nagahama.

On February 13, 2006, the towns of Azai and Biwa (both from Higashiazai District) were merged into Nagahama, which replaced all municipal organizations, including the old city of Nagahama itself. On January 1, 2010, the towns of Kohoku and Torahime (both from Higashiazai District), and the towns of Kinomoto, Nishiazai, Takatsuki and Yogo (all from Ika District) were also merged into Nagahama. Both districts were thereby dissolved as a result of this merger.

The network requirements

Nagahama City wanted to reduce ICT costs, and simplify network operation and management. As part of a new network upgrade they planned to converge their information and digital telephony (VoIP) systems onto a single network.

Personal devices used to access online information, such as smartphones and tablet computers have evolved rapidly in recent years. These devices, information services, and the integration of storage and audio-visual systems, were all required to converge on a new highly available and future-proof business network.

The new City Hall building, which had been in partial use from October 2013, in parallel with the old building, is the new hub from which the City Administration will drive forward the new activities of Nagahama City, including ICT–based administrative services. The new building is planned to be used as the main City Hall office from January 2015.

"Effective use and application of ICT not only improves the efficiency of administrative work and the quality of administrative services, but is also effective in improving the quality of life for citizens and in vitalizing communities. We drew up the plan to specify what ICT-related administrative measures we must engage in during the three years starting in 2013."

Mr. Fumihiko Tsuda
Assistant Department Chief of the Information Policy Department of the Nagahama City Division of Planning

"Along with the construction of the new city hall building, we are installing a network which uses cutting-edge technology. We are aiming at resolving our previous networking problems and building a long-lasting, stable network."

Mr. Fumihiko Tsuda

Reducing costs by 30% by integrating three systems onto one network

As Nagahama City has expanded the scope of its ICT systems through repeated mergers, their employees have experienced a number of challenges. The City deliberately operated separate backbone, information and VoIP networks, for security reasons. Though this setup was effective for security, it was relatively costly because different sets of network equipment were needed for each of the three networks.

The old network had 6 core switches. Each of the three networks had one active and one standby core switch. In addition, there were three access switches located on each floor of the six-story building – one for each network. "Installing separate switches for each of the three systems was not only costly in terms of purchase and operation, but it also increased the risk of problems because of the large number of devices," says Mr. Tsuda.

The City decicded to implement a completely new design, to converge the three systems onto a single network. They aimed to achieve security logically, by dividing the network into VLANs.

This approach was aimed at reducing Capex and Opex costs: "The reduction in physical devices achieved by network and server virtualization should result in an approximately 30% cost reduction." said Mr. Tsuda.

Reducing network downtime and improving reliability

Prior to the redesign, responding to network device problems was often challenging. The ICT department could manage minor problems, but when they had more difficult issues they had to call maintenance staff from Nippon Telegraph and Telephone (NTT) West, who provided the backbone network maintenance and operation. This led to network downtime, due to having to wait for the NTT support staff to arrive and resolve the problem.

With the old design, if a problem occurred with a switch in the information network, this caused inconvenience only to workers using the information network. Although the integration of the three network systems featured in the new design has a cost-saving benefit, "there is also the risk that network problems will now cause inconvenience to users of the information, network backbone and VoIP networks all at once. So we asked NTT West to select network switches that not only provide network stability but also efficient operation and management." Said Mr. Tsuda.

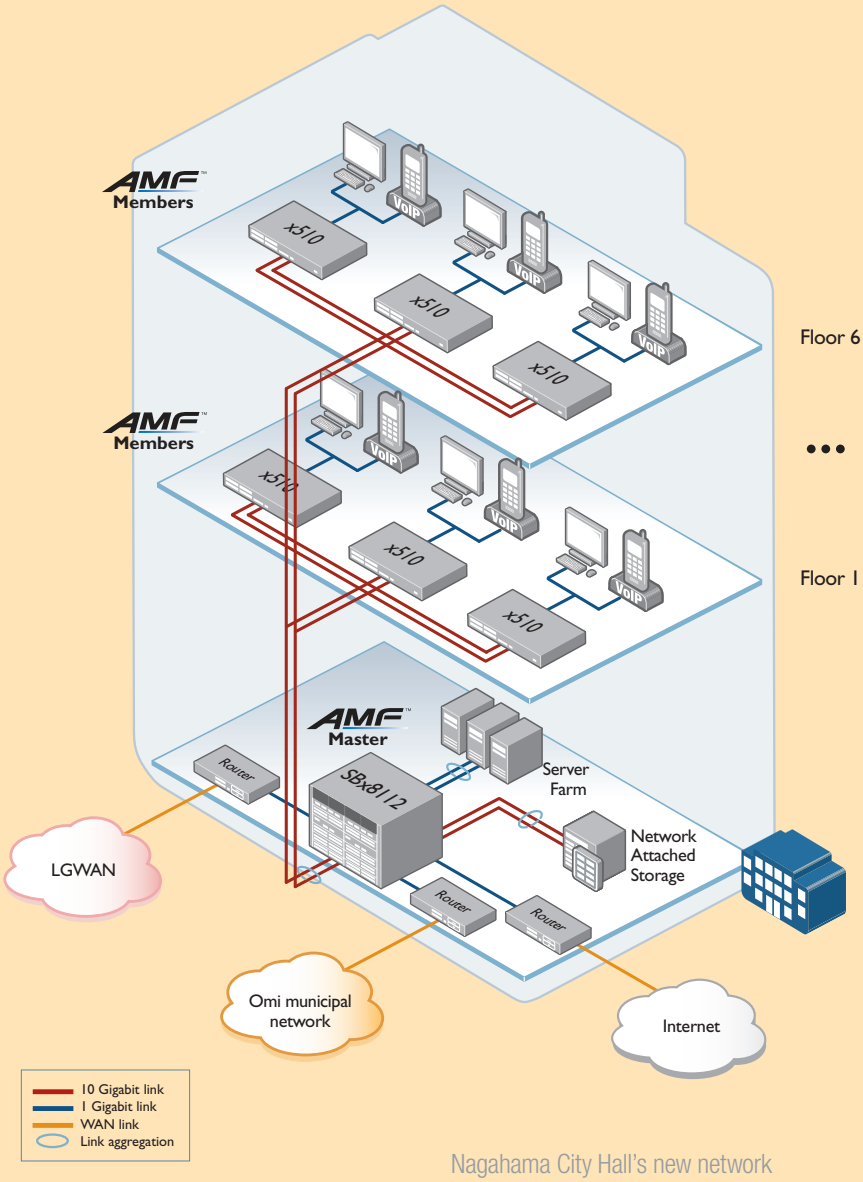
The solution

An updated resilient network from Allied Telesis

After evaluating a variety of switches, NTT West proposed using Allied Telesis products; namely the SwitchBlade x8100 Series chassis in the core, and the intelligent x510 Series Switches at the edge. According to Mr. Keizo Tsuchiya of Shiga Branch of NTT West, this selection was made because "the request was to use VLANs to integrate the three systems into a single network and to enhance the outcome of this consolidation. We recommended the SwitchBlade x8100 and x510 Series as products which ensure reliability, with features such as dual power supplies, and hot-swappable components. They utilize AMF to improve the efficiency of operation and management. The recommendation was also based on the recognition that the previous generation of Allied Telesis switches that had been used in the City Hall LAN had been operating reliably."

Network design and support

Allied Telesis provided network design advice and technical support for the installation of the new network. Mr. Tsuchiya, who was in charge of network design and installation describes, "We built the network while receiving technical support from Allied Telesis including guidance for setting up the SwitchBlade x8100 switch. In addition to other benefits, we are focusing on the use of AMF for efficient, reliable operation of the LAN."



Nagahama City Hall's new network

The LAN has been running in the new City Hall building since October 2013, and the SwitchBlade x8100 core chassis and x510 series switches on each floor use separate VLANs to secure the backbone, information and VoIP systems. AMF has greatly simplified network management and reduced administration by automating many tasks required for network alteration or expansion.

Key benefits of the new AMF solution

Automated network management

AMF meets the increased management requirements of the City Hall's new converged network, and automates many everyday administration tasks. AMF has powerful features like centralized management, auto-backup, auto-upgrade, auto-provisioning and auto-recovery.

The SwitchBlade x8100 is the AMF master. It stores firmware and configuration backups for all of the x510 Series edge switches, and provides appropriate files to new or replacement network members.

Centralized management allows operation and maintenance tasks to be completed via single commands on the AMF master, instead of having to interact with many individual network devices.

Automated network expansion

Mr. Mitsuhiro Kino of the Information Policy Department says, "Staff internal transfers are relatively frequent in government offices, so we have high expectations for AMF's capabilities in the automation and simplification of network operation and management. Since AMF will enable automatic management connectivity and device configuration, from now on we will have fewer concerns at times of internal employee transfer." says Mr. Kino.

Reduced network downtime

The City Hall keeps a spare AMF-capable switch on hand in case of any problems. "Previously, there have been times when it took a few hours to complete restoration after requesting a switch replacement. With AMF, we know that restoration will be completed very simply, as all that is required is to connect the standby device to the LAN, and the software and configuration will be automatically sent from the AMF master," says Mr. Yasuhiko Kawamura of the Information Policy Department.

AMF™

Improved network performance

Mr Tsuda says "We have been able to utilize VLANs to provide security while creating a stable integrated network. Since we can now reduce our network operation and management workload, we can put more energy into planning and implementing information system policies."

Another advantage of the high bandwidth LAN is that broadcasts of City council committee meetings, which have been provided for some time via an online video and streaming website, are now running smoothly as live feeds with no interruption.

Future plans

Central management of sub-office networks from the main City Hall building

Nagahama City has eight sub-offices across its large land area, in addition to the main City Hall office. Since it is not possible to locate a dedicated ICT employee at each of the sub-offices, employees of the Information Policy Department at the City Hall office operate and manage the sub-office networks.

When there are network device issues at sub-offices, employees from the main office must travel for up to an hour to carry out replacement and repair tasks. While the main office and sub-offices are currently connected by Allied Telesis AR routers, Mr. Kawamura observes that "In the future, if we placed AMF-capable switches in the sub-offices, it would be possible to remotely manage them from the main office. This would allow AMF auto-recovery for very fast replacement of units, and we would be able to enhance the quality of the network user experience."

No doubt there will be many municipalities who will show interest in the approach that Nagahama City have taken their network operation and management optimization. The Allied Telesis AMF solution is powerful, scalable, and can provide the exceptional benefits of automated network management to businesses of any size.

The products

SwitchBlade x8100 Series

NEXT GENERATION INTELLIGENT LAYER 3+ CHASSIS SWITCHES

Allied Telesis SwitchBlade x8100 Series Advanced Layer 3+ chassis switches are designed to deliver high availability, wirespeed performance, and a high port count. Two control card options, CFC400 and CFC960, provide solutions for medium and large networks. The ability to stack two chassis when using the CFC960 provides a powerful and completely resilient network core solution, which can even be distributed over long distance.

x510 Series

STACKABLE GIGABIT SWITCHES

The Allied Telesis x510 Series of stackable Gigabit switches include a full range of security and resiliency features, coupled with easy management, making them the ideal choice for network access applications. The x510 series comes in 24-port and 48-port versions with optional 10 Gigabit uplinks and PoE+ ports. The ability to stack up to four units with VCStack includes using fiber for long distance stacking.

AMF™

Allied Telesis Management Framework (AMF) is a sophisticated suite of management tools that provide a simplified approach to network management. Common tasks are automated or made so simple that the every-day running of a network can be achieved without the need for highly-trained, and expensive, network engineers. Powerful features like centralized management, auto-backup, auto-upgrade, auto-provisioning and auto-recovery enable plug-and-play networking and zero-touch management.

About Allied Telesis, Inc.

Founded in 1987, and with offices worldwide, Allied Telesis is a leading provider of networking infrastructure and flexible, interoperable network solutions. The Company provides reliable video, voice and data network solutions to clients in multiple markets including government, healthcare, defense, education, retail, hospitality, and network service providers.

Allied Telesis is committed to innovating the way in which services and applications are delivered and managed, resulting in increased value and lower operating costs.

Visit us online at **alliedtelesis**.com

Partner Profile

Nippon Telegraph and Telephone (NTT) West Corporation

- Main office: 3-15 Bamba-cho, Chuo-ku, Osaka
- Founded July 1999
- Capital: 312 billion JPY ($3.065 billion USD)
- Number of employees: Approx. 5,000

The company offers various services including network, phone and Internet services, and business solution services.
http://www.ntt-west.co.jp/

Allied Telesis™ the **solution** : the **network**

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