



## MPI Vietnam – Towards e-Governance

A look inside the fully integrated, high-availability data center facility of MPI in Vietnam and its plan for e-Governance



The Ministry of Planning and Investment (MPI), a Government agency in Vietnam is a pioneer in implementing e-Governance in the country.

Frost & Sullivan examines the case for next generation data centers in creating a comprehensive e-Governance network, and documents how its collaboration with Cisco is likely to help MPI achieve its goal.

## 1. Introduction

The booming Vietnam ICT sector has become the growth engine for the country, currently contributing 6.7% to the country's GDP, according to Deputy Prime Minister Nguyen Thien Nhan. The sector is witnessing growth of 20% to 25%, year over year. A good example is the telecommunications market: mobile & fixed phone subscribers has grown from 300,000 and 3.5 million respectively in 2000 to 163.8 million subscribers in total at present, with mobile accounting for 90%. Similarly, total Internet subscribers has grown to 23.6 Million (as of March 2010 data), with broadband subscribers currently accounting for 19.5% of the total. This is a huge growth compared to just five years ago, and has been possible due to the active encouragement from the Government of Vietnam. The Government is now trying to improve ICT adoption across various state departments; all of these initiatives are helping push economic growth to new heights.

The Ministry of Planning and Investment (MPI) is a government agency that manages planning, investment and provides general advice on strategies. The ministry has three offices and about one thousand employees that plan the socio-economic development and policies for general economic management in specific areas like domestic and foreign investment, industrial parks and export-processing zones.

In order to attract additional foreign investment and boost investor confidence, Vietnam needs to improve its infrastructure in various sectors, including public IT infrastructure. This means the ability to provide a fast and flexible option for offering government services. MPI Vietnam embarked on a long-term plan to meet this objective by investing in cutting-edge network infrastructure solutions. The first step was to build and operationalize a captive data center, which was to not only provide computing and storage resources on demand but also data protection and security on a 24/7 basis.

e-Governance is a growing trend in the Asia Pacific due to an ever increasing population, thus a greater need to offer better quality and cost effective government services. e-Governance is the application of Information and Communication Technologies (ICT) for delivering government services, exchange of information, online transactions, integration of various disparate systems and services between government, its citizens, and the business community. It is useful for improving and transforming relations with citizens and businesses alike.

In the process of e-government implementation, MPI is consolidating its operations in a data center for internal use. In the future, MPI intends to deploy an e-portal that will enable investors to fulfill many formalities that are performed manually at present. For instance, management of foreign investment information, tracking and evaluation of projects, and plan for a private cloud to provide e-government services to citizens in 63 provinces in the near future.

## 2. MPI's need for a next generation data center

Considering the convenience and efficiency of e-Governance, MPI decided to build a captive data center for internal use as a first step. The data center would bring high degree of security, internal control, and tighter management. MPI was in need of consolidation of servers, load balancers, as well as the improvement of application performance for remote users, better application availability and in need of faster application rollouts. Besides, application performance issues, there was also the issue of server

overload in some instances. MPI realized that the legacy system was both expensive to maintain and inefficient.

The organization expected the future implementation to increase productivity in a small data center environment, reduce complexity and improve business continuity, as well as help to improve the data center virtualization. Cisco, who provided the LAN switches provider to MPI, was selected at the end of the tender process help MPI take the first step in developing an e-governance system.

MPI's long-term goal is to build a cloud network with consolidated data centers that would be used to provide additional services expanded to include all citizens in the country. To enable this, MPI will need to increase its data center investments and build a cloud infrastructure that will help to drive down costs as well as help improve the quality of daily transactions that citizens have with government agencies. These goals were reinforced by Cisco being able to provide and cater to their long-term vision while offering cutting-edge solutions today.

MPI chose Cisco due to the vendor's systematic approach, expertise, as well as its large and efficient collaboration system. This approach was shared with MPI through Cisco's Datacenter Evolution Path, which would help solve the lack of flexibility, one of the key challenges for data centers today. Specifically, Cisco's vision was to bring consolidation for standardization, virtualization for asset optimization, and automation for improved service delivery.

### 3. Cloud Computing in the Public Sector

Cloud computing brings a paradigm shift in how organizations operate. Its features such as on-demand service, instant scalability and variable consumption offers a lower cost of ownership, reduced infrastructure and management responsibility, allow for unexpected resource loads, and enables faster application rollouts.

e-Governance with cloud computing offers various benefits: integration management with automated problem resolution, end to end managed security, and helps budget based on actual usage of data. At a national level, Cloud architectures can benefit government to reduce duplicate efforts and increase effective utilization of resources. This in turn helps the government going green, reducing pollution and effective waste management. Enterprises and Small and Medium businesses are already reaping the benefits of cloud by using the pay-as-you-use service model, unparalleled scalability and ready availability. Since government requires a massive infrastructure compared to businesses, it is important for the government to use cloud architecture on long-term basis.

According to recent Frost & Sullivan research in the Asia Pacific region, 21 percent of the respondents in the government vertical have adopted cloud computing in one form or the other. Furthermore, it also revealed that given the governments concerns around security of data and location of data centers, private and hybrid clouds are witnessing significantly higher adoption in the region.

Moving to the cloud will not only help in e-governance, but also improve the competitiveness of Vietnamese organizations in the global economy. Various governments across the region have already

*"We are very pleased that Cisco is sharing its experience in building an overall IT strategy, & assist us in growing our expertise within our technology domain, as well as supporting us in training the IT team of MPI... Truly, Cisco is a trusted advisor to MPI"*

**Mr. Mai Huu Dung - Director of the IT Centre**



taken this step. Japan for instance, has implemented the Digital Japan Creation Project, which seeks to create new ICT markets in the range of several trillion yen, generate 300,000 to 400,000 jobs by 2012, and enable next generation services with its 'Kasumigaseki Cloud' network. Australian government agencies such as the Australian Taxation Office and Australian Bureau of Statistics have implemented cloud computing. Meanwhile in China, adoption is being driven at the city level, with cities such as Dongying and Wuxi. The Mayor of Dongying Municipal Government plans to transform the city from a manufacturing-based economy to a high-tech services oriented economy, with aims to achieve this with the help of the cloud computing platform. Other countries in the region such as Singapore, Taiwan, India, South Korea, Malaysia and Hong Kong are in various stages of implementing cloud computing for both e-Governance as well as improving their competitiveness on the global stage.

#### 4. MPI deploys Cisco



*Cisco 7000 Series Switches*

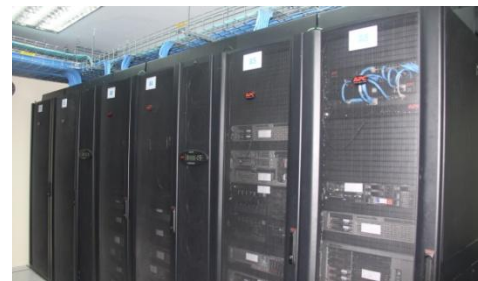
The implementation process, started in January 2011, involved the deployment of Cisco's Core Switching N7000 Series, Access Switching N5000 Router Series, N2000 Router Series, SAN Switching MDS 9134, adaptive security appliance ASA 5580-40, Integrated Service Router (ISR 3900), Catalyst 3560E, Lan Management Solution (LMS), and Cisco Security Monitoring, Analysis and Response System (CS-MARS). Among the above-mentioned technologies, those that satisfied the immediate requirements of MPI were the Nexus 7010, ASA 5580 – 40, and Unified Computing System (UCS).

Cisco Nexus 7000 Series, a modular switch available in 10-slot and 18-slot configurations, is capable of more than 15 terabits per second (Tbps) of switching capacity and

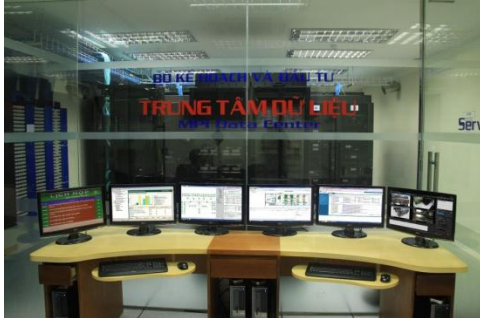
offers market-leading Gigabit Ethernet and 10 Gigabit Ethernet density. The Cisco Nexus 7000 Series incorporates a number of unique features, including integrated lights-out management and integrated packet capture and decoding. It also offers innovative switch virtualization capabilities, which, in combination with the switch's density, allows customers to greatly simplify their switching infrastructure, reducing costs, power and cooling load, and management complexity. The performance level 5580-40 with 10 Gbps of real-world firewall performance delivers radical scalability for network security and VPN concentration applications.

The adaptive security appliance (ASA) is an advanced firewall solution that includes many features such as multiple security contexts, transparent firewall at layer 2 or routed firewall operation at layer 3, and advanced inspection engines.

The unified computing system (UCS) offers higher virtual machine density, standardized connectivity, and ability to consolidate applications. It provides unified, embedded management of all software and hardware components of the Cisco UCS. It can control multiple chassis and thousands of virtual machines.



*MPI Implementing Cisco Technology*



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Upon deploying Cisco's technology at the captive data center, the application response times improved noticeably. Employees at MPI now have access to data anytime without being worried about downtime. The management of applications is also now easier with the Data Center Network Manager (DCNM), the LAN Management Solution (LMS), and the Cisco Secure Monitoring, Analysis, and Remediation System (CS MARS). Furthermore, due to the centralization of resource management, MPI finds it easy to rollout new applications or services.

## 5. The Road Ahead

Vietnamese organizations are handling a large amount of data as many business activities are dependent on the internet, and network security is increasingly becoming the management's top-of-mind concern. Hence, in order to ensure the efficiency and security, there is higher demand for centralization of data and operation management. As such, organizations' awareness of datacenters has improved in Vietnam, and the country witnessed an increase in both demand and supply of datacenters.

The economic recovery in 2010 meant that the budget for IT investment became larger during the year. Urbanization in large cities is leading to improvement in infrastructure, which included better land, water, and electricity supply. This has enabled large organizations to make plan for their own captive datacenters for internal use. Public sector, being sponsored and encouraged by the government, is seen as a pioneer in captive datacenter development. With next generation datacenters and transitioning to cloud architecture, MPI would be able to realize the e-Governance in the country.

Moving forward, MPI is considering further investments in cloud technologies. In order to get ready for the cloud, the ministry is expected to increase investment in core switching, access switching, SAN switching and servers in the near future. This will enable it to achieve its vision of providing comprehensive e-governance services to all citizens of Vietnam.

## About Cisco Systems

Cisco, (NASDAQ: CSCO), is the worldwide leader in networking that transforms how people connect, communicate and collaborate. Information about Cisco can be found at <http://www.cisco.com>. For ongoing news, please go to <http://newsroom.cisco.com>.

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