

# Leading Vietnamese Service Provider deploys 100G DWDM Transport system



## Executive Summary

**Customer Name:** FPT Telecom  
**Industry:** Telecommunications  
**Location:** Vietnam  
**Number of Employees:** 5000+  
 (as of 30 June 2013)

### Business Challenge:

- Increasing customer demands for IP traffic driven by video and collaboration applications
- Need to quickly expand network capacity while maintaining existing services
- High operational costs and long lead time to increase capacity in existing network

### Network Solution:

- 100G Dense Wavelength Division Multiplexing (DWDM) for greater capacity
- Coherent optical technology enables 100G services mixed with 10G channels in the same system to meet service flexibility requirements
- Nearly 2000km length of backbone infrastructure (from the North of Vietnam/border with China to the South/Vung Tau province)

### Business Results:

- Double number of sites managed with only 10 percent increase in staffing
- Expand network capacity significantly to 400 Gbps and 42 nodes in first phase to meet service growth objectives
- Improved network resiliency

*Coherent DWDM technology enables FPT Telecom to deliver unprecedented capacity in Vietnam.*

**"With Cisco's coherent optical solutions we can meet our capacity requirements without the need to deploy new fiber optic cable."**

**Nguyen Van Khoa**  
 Chief Executive Officer  
 FPT Telecom

### Business Challenge

Established in 1997, FPT Telecom (a subsidiary of FPT Corporation) started the first Internet product in Vietnam under the name of "FPT Online Exchange". After nearly 16 years of operations, the company is one of three largest Internet service providers in Vietnam, with more than 5000 employees and a presence in 50 cities and provinces nationwide. FPT Telecom is offering broadband internet services to over 1 million households and transmission solutions to over 10,000 enterprises and organizations (government, banks, etc.) The company's annual revenue exceeds US\$ 230 million with a growth rate of 25-30 percent.

The major products and services provided by FPT Telecom include:

- **Residential and business Internet services:**
  - Broadband Internet services: xDSL, FTTH
  - Value-Added services: Personal Cloud Storage (Fshare), IPTV (OneTV), smart handheld devices (FPT Play HD)
  - Internet leased line
- **Data Center and data transmission services:**
  - Cloud computing: Email, hosting, virtual server, hosted PBX, co-location
  - Leased Line, IP VPN: Virtual Private Network
  - Video conference: support clients to organize video conferences with customized terminal devices from anywhere at any scale
- **Television services:** provide 100 TV channels (SD and HD) to residents in 60 cities and provinces throughout the country

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According to the Cisco® Visual Networking Index, Internet traffic in Asia Pacific will increase three-fold from 2012 to 2017. However, the Social, Digital & Mobile in Vietnam Report by WeAreSocial conducted in October 2012 shows that 88 percent of Vietnamese netizens are going online from home. It is also reported that 90 percent of Vietnamese netizens are watching online video, while that percentage for the Asian average population is just 69 percent, endorsing the high demand for broadband Internet service of Vietnamese users. These data points validate FPT Telecom's belief that a potential demand for high speed Internet services will drive local bandwidth demands significantly higher than the broader figure for Asia Pacific. As a result, FPT Telecom faces the challenge of how to meet customer demand for services while also helping ensure that financial goals are also achieved.

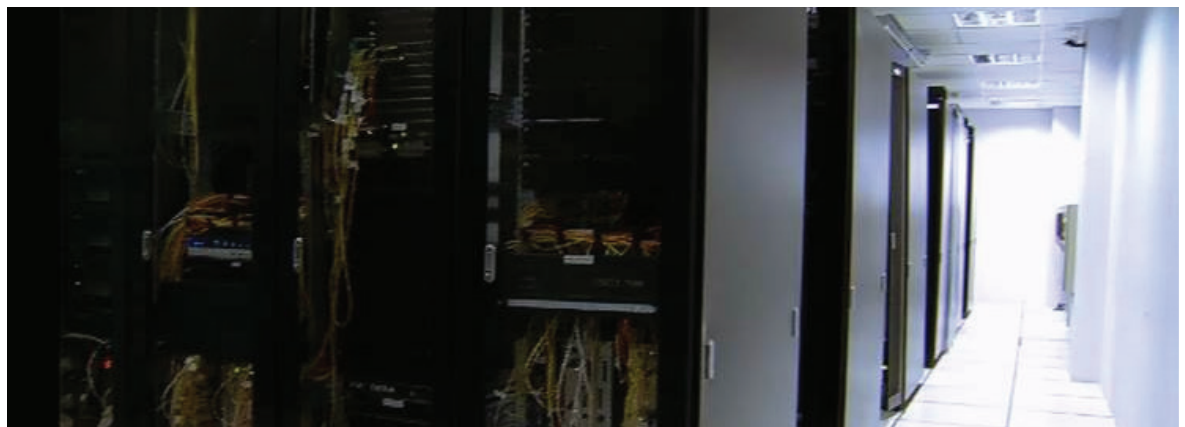
For example, business customers in Vietnam will need high bandwidth collaboration services such as video conferencing, which was not available just a few years ago. Cloud computing applications are putting more traffic on the network. Residential customers are using the Internet to access video services online for both entertainment and distance learning purposes. All of these trends are driving vastly increased network loads. However, as with most other service providers, FPT has a limited capital budget for network infrastructure.

### Network Solution

FPT Telecom was impressed with the Cisco solution and roadmap, which emphasizes fully converged IP and optical layers using the Cisco nLight 100G coherent technology over its existing fiber infrastructure. Leveraging the acquisition of CoreOptics in 2010, Cisco has developed digital signal processing (DSP) solutions for high-speed optical networking, including advanced 40G/100G transmission technology that can operate at long distances in systems designed for 10G services. This technology provides operators such as FPT Telecom flexibility to use traditional 10G as well as 40/100G channels in the same DWDM systems to meet capacity requirements with significant flexibility to grow in the future. Ultimately, FPT Telecom decided that Cisco was the best company that could deliver dependable 100G backbone technology and that would help ensure its integrity in carrier-class environments.

The Cisco ONS 15454 100G DWDM optical transmission system meets all requirements for a bandwidth capacity up to 100G per wavelength, while at the same time ensuring security, high quality, anti-interference and large span. The system also offers many essential benefits during utilization and service provisioning that reduce costs and simplify operations. These benefits include the ability to remotely reconfigure services on the network and the automation of optical failover switching.

FPT Telecom has deployed the Cisco optical transmission system carrying 10G and 100G wavelengths across Vietnam and traffic has been live since September 2012. This network allows simultaneous transmission of traditional time-division multiplexing (TDM) traffic, multi-service traffic over Ethernet, and storage area network (SAN) traffic.



### Business Results

Today, FPT Telecom's 100G DWDM backbone is making possible various cost efficiencies and provides the foundation for the expansion of new services. With a low initial capital investment for channel upgrades (100G channels can be done one at a time, using existing fiber infrastructure) and short channel provisioning time, FPT Telecom is now able to expand bandwidth and transmission channels cost effectively when needed.

Use of Cisco DWDM systems allows FPT Telecom to add capacity between any nodes in its network in minutes, due to

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advanced management capabilities and ROADM technology used in the network. In addition, technical and system management issues are more easily resolved due to the high level of automation available with the Cisco Network Management tools.

Internally, the productivity of the company's technical staff has also significantly improved. Although the management workforce has increased by approximately 10 percent for the DWDM system deployment, they are able to manage the double scale of sites and nodes.

"FPT Telecom strives to deliver the most advanced communication services to Vietnam. We need a carrier-class, scalable and cost-effective network foundation to meet the growing demands of our current customers and for future growth. With Cisco's coherent optical solutions, we can meet our capacity requirements without the need to deploy new fiber optic cable. FPT Telecom is satisfied with Cisco's solutions and services, and we are happy to recommend these technologies to other projects. We strongly believe that the cooperation between Cisco and FPT Telecom will be strengthened in the future." said Nguyen Van Khoa, Chief Executive Officer, FPT Telecom.

### Next Steps

According to the Vietnam Network Information Center, the number of people with access to broadband Internet in Vietnam was 4.3 million in April 2013, climbing from less than 10,000 in 2003. The demand for broadband users in Vietnam, especially from home users, is on the rise. This collaboration with Cisco provides FPT Telecom with a flexible, scalable, and secure network that will enhance its revenue, expand subscriber relationships and increase its market reach.

Today, because FPT Telecom has a simple and scalable solution to grow capacity in newly built DWDM network with the Cisco 100G coherent DWDM solution, the company is free to focus on meeting new customer demands for high-capacity services. Ultimately the company is looking ahead to offer even more compelling HD online entertainment and faster Internet speeds for residential customers. For business customers FPT Telecom seeks to offer more sophisticated cloud and big data solutions along with greater international access.

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### Product List

#### Optical Transport

- [Cisco ONS 15454 Multi-service Transport Platform](#)

To learn more about Cisco 100G Solutions, go to: [Cisco 100G Solutions](#)



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