

NTTPC Communications Inc. Offers Auto Configuration for SP Managed Services

NTTPC Communications Inc. deploys Cisco Integrated Service Routers with IOS Embedded Event Manager to reduce overall cost of operations.

EXECUTIVE SUMMARY
<p>NTTPC COMMUNICATIONS INC. (referred to as NTTPC throughout the document)</p> <ul style="list-style-type: none"> • Industry: Telecommunications • Location: Tokyo, Japan • Number of Employees: 471
<p>BUSINESS CHALLENGE</p> <ul style="list-style-type: none"> • Need to support increased operations while reducing costs
<p>NETWORK SOLUTION</p> <ul style="list-style-type: none"> • Deployed Integrated Services Routers to offer multiple services with a single platform • Leveraged EEM to provide Auto Provisioning of the ISRs
<p>BUSINESS RESULTS</p> <p>NTTPC is benefiting from:</p> <ul style="list-style-type: none"> • Over 50% acceleration of service activation time • Over 20% reduction of connection verification time • Quick and easy recovery in the event of initial mis-configuration <p>As the result of these benefits, NTTPC's customers are enjoying:</p> <ul style="list-style-type: none"> • Over 30% lower initial cost • Over 50% reduction of router installation time • Over 60% reduction of overall deployment time

Business Challenge

The number of broadband subscribers in Japan has already reached 26 million. By 2010, every Japanese household will have broadband access. At the same time, there is a shortage of experienced IT professionals who can manage the full installation and troubleshooting of customer premises equipment (CPE) routers to meet this growing demand, resulting in high initial installation and on-going operational costs for service providers.

NTTPC is always actively seeking ways to reduce its cost of operation. The company needs a solution that can deliver zero touch deployment without incurring expensive Network Management Systems (NMS) costs, as well as the potential capability to automatically maintain the installed base.

Network Solution

Cisco's Integrated Services Routers (ISR) provide unparalleled services intelligence and uncompromised integration to empower today's branches and help them deliver secure end-to-end solutions for voice, video, wireless, and data

applications. Service providers deploying the ISR as a managed offering want to provide accelerated services deployment, generate additional revenue, increase subscriber retention, lower cost of deployment, differentiate their offerings, and ultimately improve their customer experience.

Cisco IOS Embedded Event Manager (EEM) is a powerful tool for device and system management. EEM enables customers to harness the network intelligence intrinsic to Cisco IOS and customize the behavior based on real network events as they happen. It can be deployed to automate tasks, program actions to take based on certain events, write custom syslog messages, or send alerts or e-mail from a router or switch to inform operations personnel. EEM consists of Event Detectors, the Event Manager, and an Event Manager Policy Engine. The policy engine drives two types of policies that users can configure: Applet policies and Tcl-based policies. Customers can define policies to take specific actions when the Cisco IOS software recognizes certain events through the Event Detectors.

EEM outfits Cisco Integrated Services Routers with an extremely powerful and flexible set of tools to automate many network management tasks and to create unique, custom solutions. The results are rapid deployment of ISR-based services, higher availability of the network, and reduced operational expense for Enterprises and SP customers offering managed services with the ISR portfolio.

NTTPC takes advantages of the EEM feature that is readily available with Cisco 1800 Series fixed-configuration ISRs to develop the Auto Configuration capability for its DMVPN service offering. The Auto Configuration capability is designed to work with dynamically addressed Cisco 1800 CPEs to provide automatic provisioning of the CPE routers at end customer locations. It leverages NTTPC's existing UNIX servers as the Config Server and Email Server for configuration download and notification of completed installations.

Business Results

NTTPC's implementation of Auto Configuration using EEM enables zero touch deployment of the Cisco 1800 CPEs, significantly reducing the installation and troubleshooting costs for NTTPC and dramatically improving the overall ISR deployment experience for its end customers.

Next Steps

With the successful experience, NTTPC plans to expand the use of this powerful tool to help cut ongoing operation costs associated with software patching and feature upgrades.

Technical Implementation

Each 1800 shipped to end customer locations is preloaded with a start-up configuration and EEM scripts to allow the CPE to connect to the Config Server during initial boot up. (NTTPC has a custom way of preloading the configuration. Cisco ConfigExpress can be leveraged to accomplish the same objective.) After an IP address via PPPoE/DHCP is dynamically received from the central server, the customer's configuration, identified by the device's serial number, is copied to the CPE's start-up config. Following validation of a successful VPN connection, the Auto Configuration scripts are removed from the CPE and an e-mail notification is sent to the field engineer or end user. Figures 1 and 2 highlight the overall operation of the Auto Configuration capability.

Figure 1. Auto Configuration Model with EEM

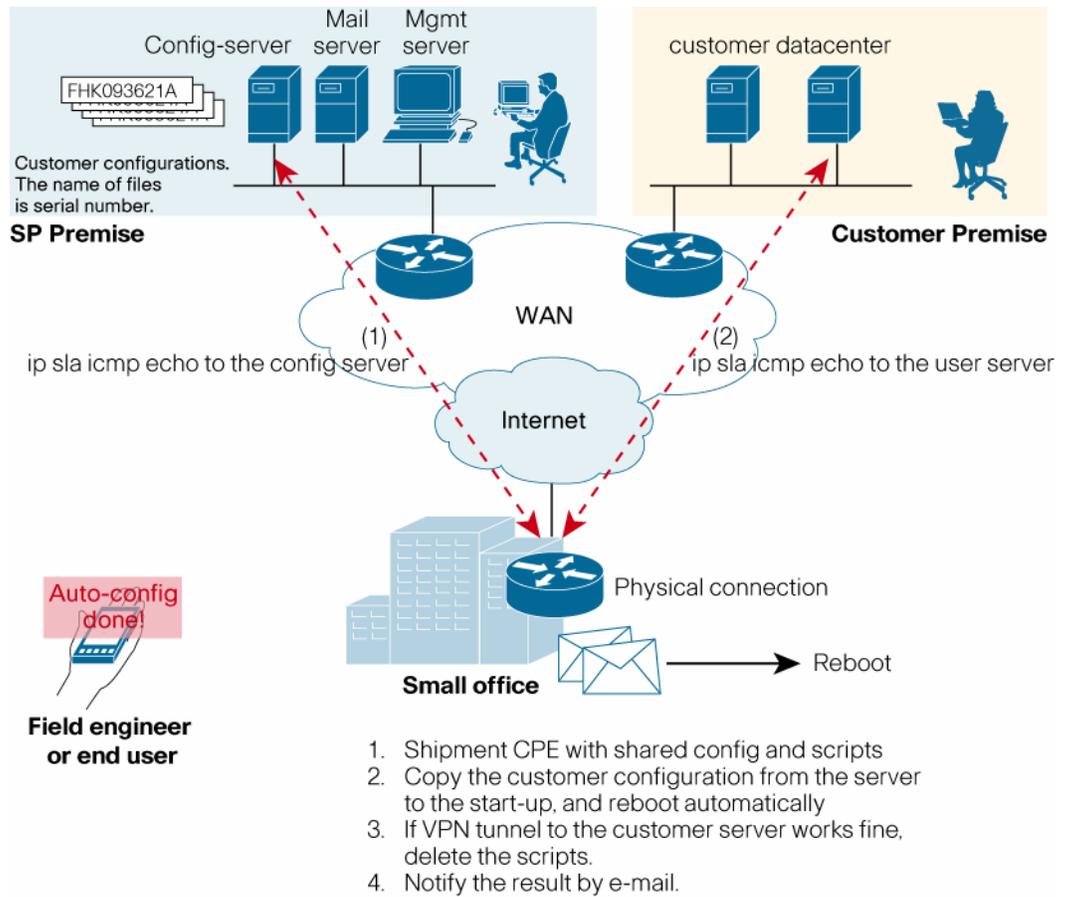
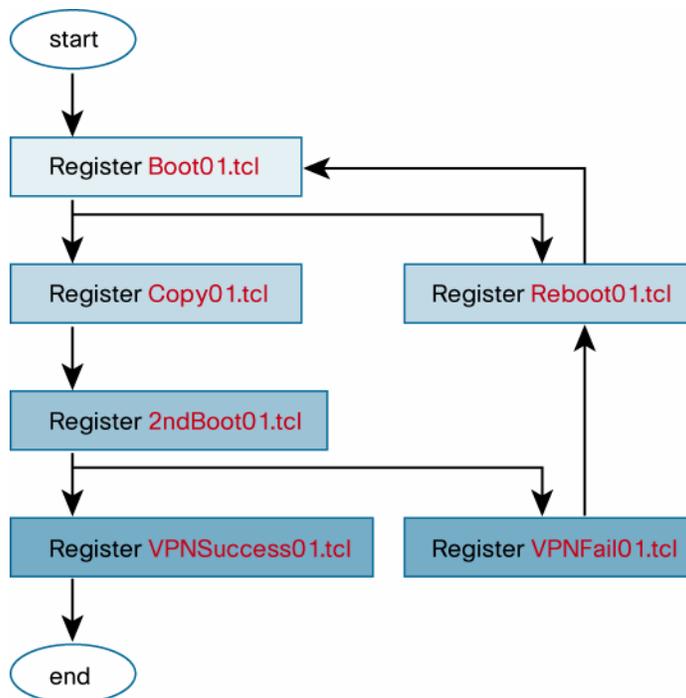


Figure 2. Auto Configuration Script Flow Example



NTTPC's Own Success Story

As an example of Managed Internet VPN deployed by NTTPC, leveraging EEM, we would like to introduce the case of Fujikoshi Corporation which has replaced the existing internet VPN.

Fujikoshi Corporation (<http://www.fujikoshi.co.jp/>) is a distribution company, with 14 retail stores in Fukushima prefecture, which used our competitor's internet VPN in the ordering system. Why did they decide to replace the existing internet VPN? What are the benefits of Managed Internet VPN by NTTPC, using Cisco routers, to them? With regard to these points, we had an interview with Mr. Yamaguchi, Assistant Manager, System division, Sales and Planning Department.

Although Fujikoshi Corporation used the internet VPN of our competitor, Mr. Yamaguchi said, "Internet VPN was not stable. We had a number of packet loss incidents every day. We also had several equipment breakdowns. Fault management was insufficient. Consequently, we decided to consider network restructuring." He added, as another reason of network restructuring, "We aimed to integrate the POS data in the future."

In comparing the options, Managed Internet VPN by NTTPC caught Mr. Yamaguchi's attention. Mr. Yamaguchi explained the attractiveness as "low cost of initial deployment and ease of introduction by automatic configuration of routers".

He also pointed out that monthly fee is lower than that of our competitors'. In addition, automatic configuration enables them to easily add endpoints. After one month of consideration, the introduction of our service was decided. "High level of technical expertise of NTTPC helped us to overcome the technical difficulties in initial deployment", he recalled.

Newly deployed network has been functioning well for the past few months. Mr. Yamaguchi praised our service, saying "there has been almost no packet loss incident. Store managers told me that the network became stable. Any fault that has impact on our business has never occurred. Reliability has significantly increased. We are very satisfied with the new service."

The success of Fujikoshi Corporation's replacement is a good example where automatic functions enabled by Cisco EEM and crystallization of high level of technical expertise of NTTPC are combined to satisfy the customers.

For More Information

To find out more about the Cisco Integrated Services Routers, go to

http://www.cisco.com/en/US/products/hw/routers/products_promotion0900aecd8017150a.html

To find out more about EEM, go to

http://www.cisco.com/en/US/products/ps6815/products_ios_protocol_group_home.html

Product List

Routing and Switching

- Cisco Integrated Services Routers:
http://www.cisco.com/en/US/products/hw/routers/products_promotion0900aecd8017150a.html

Network Management

- EEM:
http://www.cisco.com/en/US/products/ps6815/products_ios_protocol_group_home.html

Security and VPN

- DMVPN:
http://www.cisco.com/en/US/products/ps6658/products_ios_protocol_option_home.html
- GET VPN:
http://www.cisco.com/en/US/products/ps6811/products_ios_protocol_option_home.html



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