

CASE STUDY

Cable Broadband Operator Sees High Growth After Installing New Device Provisioning System

Challenge

A progressive Asia-based communications company wanted to increase subscribership and revenues with premium-quality voice and data service bundles at competitive prices. The company needed to make investments in hardware and OSS systems, as well as provisioning software that could activate subscriber modems and VoIP devices.

The device provisioning software had to be automated, scalable, robust, and reliable in order to support large-scale subscriber growth and service deployment. For example, in a set of 200,000 subscribers on any given day, some subscribers may turn on their cable modem for the first time, some may re-start their modem due to power outages or computer troubleshooting, and some may revise their service package. This can amount to roughly 1,000 change requests a day – responses that can be fully automated by provisioning software.

Manual processes are too time-consuming, error prone, and expensive to deal with thousands of subscribers and multiple service options. Automated provisioning allows subscribers to self-install modems and MTAs, which leads to faster startup and better customer service. At the same time, the cable operator can reduce truck roll and installation costs, and remove limits to the number of subscribers it can bring online daily.

Solution

Incognito Software and Interactive Enterprise were tasked with solving the operator's OSS and provisioning needs. Motorola led the integration effort and provided the majority of the hardware, including cable modems and MTAs at subscriber sites and CMTSs (Cable Modem Termination Systems) at cable operator headquarters.

Incognito Software's Broadband Command Center™ solution was responsible for device activation using DHCP, TFTP, DNS, and Multimedia Provisioning Service (MPS) components. Interactive Enterprise's Conexon software was responsible for residential service activation, subscriber management, and interfaces between the OSS and Broadband Command Center.

New Subscriber Activation Process

A typical activation now works as follows: The subscriber switches on the Internet access device, which may be a DOCSIS modem. The modem then asks the software at operator headquarters – Broadband Command Center's DHCP service – for an IP address and configuration information. Broadband Command Center's "device discovery" trigger mechanism allows it to start communicating with the

BENEFITS

- Maximum reliability and availability
- Operational efficiency
- Quick deployment of services
- Billing system integration

INDUSTRY

- Cable video, high-speed Internet and phone service providers

SOFTWARE

- Incognito's Broadband Command Center™

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subscriber's device before giving it full access to network services.

Unlike basic DHCP servers, Broadband Command Center's DHCP service can offer different levels of access based on device or subscriber information. After receiving the modem's hardware MAC address and recognizing the need for further registration, the DHCP service sends back an IP address and DNS server identifier that directs the modem to a single web page for subscriber registration.

Once the subscriber completes registration, Conexon software adds the subscriber's modem to the proper service class and tells the modem to reboot. The DHCP service then grants the modem another IP address lease, DNS server identifier, and a TFTP server and filename. The modem next contacts Broadband Command Center's TFTP service to request that file by name, and the TFTP service creates an on-the-fly configuration file based on the configuration information embedded in the filename itself.

Now the cable modem has full access to the Internet as specified in operator's billing database, through a fully automated provisioning process.

Results

After two years of providing these triple-play services with the new system, the operator has seen their cable broadband customer base grow from 100,000 to over 250,000 residential subscribers, including 10,000 VoIP phone subscribers. In fact, their cable broadband group has shown stronger growth in a single year than any other business unit. Revenue in cable broadband increased by an impressive 43% in one year (with revenue per user up by US\$2 to US\$34) compared to 18% growth in mobile and 14% in cable TV.

The cable operator has since decided to introduce SIP-based services: Xbox® live gaming service, PC-based gaming service, and a lower priority voice service. The transition to SIP-based services was made easier because of the support for SIP devices offered by Broadband Command Center software.

The main benefit of a SIP device is its mobility. With PacketCable™, an MTA must be specifically configured to work from a single access point. On the other hand, a SIP-based MTA can move around to any network access point – your home, your office, or your local coffee shop – and still operate because sessions are initiated, and requests are routed to your current location, via network-based proxy servers.

SIP also lets you set Quality of Service (QoS) levels for other services, not just voice. The original DOCSIS specification allowed voice applications to have high QoS levels so that voice data was transmitted with a higher priority over all other general-use Internet data (email, music, video). The purpose was to prevent voice packets from being delayed, which would result in low-quality, phone service with noise and distortion such as crackling, hum, and garbling.

Now with SIP support, the cable operator can establish QoS levels for interactive gaming as well, so that players in different locations can compete without experiencing any choppiness or other disruptions.

The operator is looking forward to the wide range of benefits SIP-based services will bring, including further revenue generation and an enhanced customer experience.