

2007

**CISCO
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AWARDS**

WINNER 2007

Best Broadband IP Service of the Year

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2007**CISCO
NETWORKERS
INNOVATION
AWARDS****WINNERS REVIEW 2006**

**Best Broadband IP Service of the Year**Winner: **Siminn**Project: **Nationwide IP TV Service Network****The Company**

Siminn provides all telecommunication, mobile and Internet services to private and corporate clients in Iceland. Its range of services and solutions includes fixed and mobile subscriptions as well as Broadband/DSL solutions, Live TV and Centrex network solutions.

The Project

The design and implementation of a nationwide NGN MPLS network to support multi-play services for residential users took place in just six months – from conception through to production.

Cisco 7600 series routers both as core and aggregation delivered over 70 multi cast TV channels, video-on-demand, voice over-IP and high-speed internet access.

The access network uses Siminn's existing copper loop network for service delivery over ADSL2+ using Alcatel IP DSLAM's. This equipment and technology was deployed at the same time as the IP NGN network.

Siminn already had an operational TV service utilizing its existing FTTC/B network. This was limited though as it only reached 40% of Icelandic households and lacked the options needed for an interactive service.

It was therefore decided to offer TVoDSL and VoD service over the existing copper loop, which are on average less than 1,4km. To accompany DSL services with TV, VoD and VoIP decreased churn and added differentiation from their competitors' service offering.

The plan was to build a scalable and resilient NGN network capable of supporting both existing services, such as the customers IP-VPN service, and future services such as voice trunking, AToM and VPLS. Ultimately this would result in operational savings and increase flexibility and reaction time to changes in a competitive environment.

In excess of 45000 customers, i.e. 80% of all DSL customers, were migrated from older ATM DSLAMS to the new network in the space of just 6 months. Any problems encountered during the implementation were resolved relatively quickly.

Innovative use of Technology

The network is one of the first operational IP-TV networks in Europe with the highest market penetration per capita. Siminn has over 25.000 customers with IP-TV services. He population totals 300.000 people in 114.000 homes.

Services on the platform include; internet access to select web pages; complete VoD rental with a wide range of titles; and a Full range of free material including recordings of news and popular free-to-air programs.

The platform also includes Radio stations and a newly launched image library for storing and viewing family photos and videos. The most recent addition to the already feature rich platform is an interactive real-time voting capability utilized by TV-shows and service polls.

These services plus high-speed internet access and VoIP are delivered over a copper loop network using Alcatel IP DSLAM's and ADSL2+ technology simultaneously deployed. An even higher speed service using VDSL or GPON is currently being tested.

Functionality and Features

Services:

- L3 unicast video on demand
- PIM SSM multicast TV
- PPPoE for internet service termination
- VoIP – SIP to central voice gateways
- Full featured IP-VPN (L3) services

Network:

- SSO / NSF
- ISIS + MP-BGP
- MPLS pseudowire internet aggregation from DSLAM to BRAS
- Elaborate QoS scheme
- Control Plane Policing
- Distributed forwarding
- Redundant and resilient design

Successful implementation - successful business

The implementation has allowed the company to increase its market share in a fiercely competitive environment. Since deployment the company's share in the Icelandic broadcast TV market has gone from 6% to 33% nationwide.

VoD is now used by over 20% of all homes in Iceland with a buy-rate of more than one purchased VoD stream per month. Market share in residential DSL has also increased gone from 50% to 60%.

Customer satisfaction with the TV/DSL service is high and this has allowed the company to maintain a market image of being technologically innovative and of "leading the way into the future".

The newly deployed NGN core is a key strength in the corporate market with the widest coverage and highest service level for IP-VPN service of all local carriers. With this new deployment the corporate sector has access to higher bandwidth (up to 1 gigabit) than before in a wider range of locations plus a more robust, full featured and higher quality service.

The implementation has converged services for the company ultimately enabling operational time and cost savings.

The residential DSL, TV, VoD, VoIP and IP-VPN services now share one core / aggregation NGN network instead of many separate networks resulting in all round operational savings.

For residential users the network and the services offered bring to life the company concept of Digital Living where different types of mediums such as TV, Internet, Voice and Multimedia merge and combine to enrich every day life.

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The implementation has enabled the company to maintain and even increase its market share. Additional revenue is generated by the value added services offered such as the photo album service and the VoD service. Uptake of these has far exceeded all expectations.

End-users now experience internet access at much higher speeds. Interactive TV services, video-on-demand and the family photo album centrally are securely stored and available for convenient viewing on the living-room television set, PC and soon the mobile.

The MPLS NGN network and the TVoIP service has helped maintain Icelandic society's status as a one of the worlds most sophisticated in information and communication technology demand and adoption.

Icelandic society has the highest IPTV per head/household, the highest ADSL penetration in the world and the highest VoD reach per capita in Europe. Such a high level of technological sophistication with a broad reach to all levels of society helps raise productivity levels by enabling people to do more, faster and in more ways than ever before.

Operations Excellence, scalability, and replicability.

The 7600 series platforms are robust and scalable, easy to maintain and flexible enough to meet changing demands. Operational savings result from the low cost of operation and maintenance. A key factor is the minimal service downtime and stability.

The platform is inherently scalable. Initial bandwidth requirements are 10-gigabit core links and gigabit aggregation links to DSLAM's. As a result the 7600 platform can easily scale to multiple 10-gigabit core links and beyond.

Switching capacity is much higher than current demand allowing for substantial growth in traffic for many years ahead.

The network design lends itself to a very straightforward upgrade path to higher capacity components / platforms without interruption in service and with a fully redundant core and aggregation network. The network design and overall solution is made up of readily available components making the implementation easily repeatable by any carrier.

Impressing the judges.....

At an early stage Siminn aimed to capture a major share of the market providing interesting services across both residential and business sectors. In a demanding environment in a country that has one of the highest Internet penetrations in Europe they succeeded in capturing an impressive market share. The judging panel described them as 'head and shoulders above the competition'.