

# Success Story

## IPv4 IPv6 Transitioning for a leading Cable/ISP in the US



### Customer Requirement

IPv4 addresses are 32 bits which limits the addresses space to  $2^{32}$  addresses. With the growing demand of internet connected devices there is a need of bigger address space. IPv6 provides 128 bit addressing mechanism. As IPv4 address space is exhausting, IPv6 migration becomes imminent. IPv4 to IPv6 migration is not an easy task considering the complexity of the internet. This solution to transition IPv4 to IPv6 is yet to be discovered and the immediate solution is interoperability between existing IPv4 and upcoming IPv6 networks.

### The problems which have been encountered:

- Absence of seamless and transparent connectivity between incompatible and disjoint IPv4 aware applications across external IPv6 network.
- Legacy applications unable to communicate on newer IPv6 Network.
- Often there are DoS (denial of service) attacks on IPv6 routers, and even legitimate traffic generates excessive load on endpoint routers.
- Incompatibility with I2tp implementations with various independent software vendors.
- Incompatibility with PPP with some telecom equipments.

### Business Benefits

- Transparent and seamless communication between newer IPv6 and Legacy applications.
- Increased rating on the American Consumer Satisfaction Index.
- Increased satisfaction from end users.
- Legacy applications need not be rewritten and they continue to function normally without any changes.
- No need of investment on newer routers and only firmware was modified.
- Reduction in round-trip packet transport latency within tunnel by optimizing code.
- Easy web interface based management of device to make configuration changes.

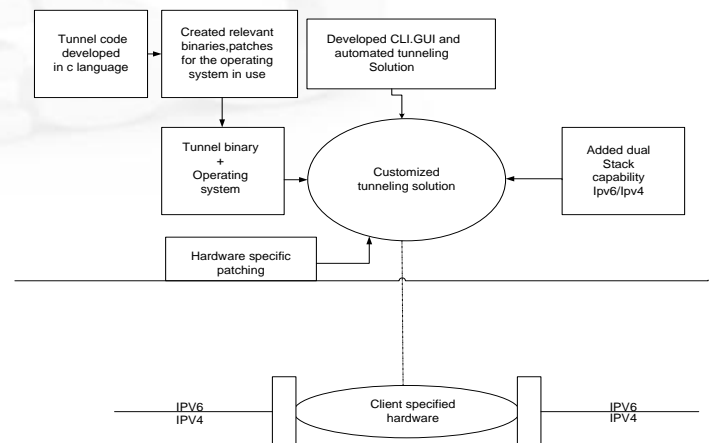
### Xavient's Role

We aimed to achieve seamless end to end connectivity between customer premise equipment (router) to ISP routers. Measurable improvement in reduction to Average Ping Latency Time through better implementation of transport algorithms.

The solution was provided while giving consideration to the following scenarios:

- Customer (IPv4) to ISP's IPv4 network though a IPv6 intermediate network using IPv4 over IPv6 tunneling.
- Customer (IPv6) to ISP IPv6 network using tunneling over IPv4 intermediate network.

Following diagram depicts how Xavient developed the required solution on both client and server end.



### About Xavient:

Xavient Information Systems, headquartered in Simi Valley, CA is a major provider of global IT and engineering services and solutions focused on the telecommunication industry. Xavient's array of IT services include strategic consulting across product & vendor evaluation, business process re-engineering, outsourcing & off-shoring; product implementation & support; custom solution development and IT professional services. Xavient leverages its proven expertise in Onshore/Offshore delivery models with centers of excellence in Application Development, QA & Testing, Managed IT Infrastructure services and IT Application & Production environment support.

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