



Ireland's Education Network Case Study

The Problem

Ireland's economic growth is surging. Yet, the "Celtic Tiger" suffered from one of the lowest levels of computer literacy among developing nations. In 2003, broadband adoption was just 0.3%, and computer use as an educational tool in secondary schools lagged far below the OECD global average.

In 2004, Ireland's government decided that to grow and sustain a knowledge-based workforce, it must ensure that every school on the island was technologically proficient — beginning with universal access to broadband connectivity.

The Approach

To achieve this, the Irish government teamed with the industry body representing telecom and Internet companies to jointly fund an €18M national broadband network for Ireland's schools. The network would integrate terrestrial and satellite communications and be centrally managed by HEAnet, Ireland's national education and research network.

With more than one third of Ireland's schools beyond the reach of DSL or wireless connectivity, satellite communications would play a major role in the network. But the broadband network had to meet several stringent criteria that required advanced functionality from the satellite system.

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- All traffic had to be routed through a central operations center at HEAnet to control which websites were accessible.
- The satellite system would need to provide an end-to-end VLAN solution which could be configured to control access between the network's different workgroups.
- Satellite communications needed to integrate seamlessly with terrestrial solutions and be managed easily.

The Solution

To support the network's satellite component, the Irish government selected Digiweb, a broadband provider based in Dundalk, Co. Louth. Digiweb presented a plan that met HEAnet's criteria and provided rich functionality, bandwidth efficiency and ease of network management.

Through iDirect's advanced Quality of Service Digiweb was able to segregate each school into its own virtual network. As a result, the Dept. of Education and Science could monitor Internet usage at every school and control access to content.

By leveraging iDirect's VNO (Virtual Network Operator) program, Digiweb could tap the resources and network of a professional teleport operator, while avoiding the capital expenditures associated with building and operating a teleport of its own. Intelsat's Fuchsstadt teleport in Germany provided the bandwidth, network redundancy and skilled satellite engineers utilizing an existing iDirect chassis.

Despite the distance, Digiweb maintains full control from its network operations center in Dublin. Web content is filtered by Ireland's HEAnet educational network and backhauled through redundant terrestrial circuits via London and on to Fuchsstadt, inhibiting direct access to the Internet.

The Result

Digiweb installed iDirect satellite routers at 1,300-plus schools. Each school receives a broadband service of 512Kbps to 2Mbps, depending on requirements. The satellite network is seamlessly integrated with terrestrial systems that together comprise Ireland's national education broadband network.

Now every school in Ireland — from Dublin to the Aran Islands — has access to high-speed, broadband connectivity. Ireland's students, teachers and administrators can tap global information sources and collaborate with other schools domestically and abroad. Terrestrial and satellite communications together play a critical role in Ireland's economic future as the nation forges a competitive knowledge-based workforce.



Keys to Success

An iDirect-based solution was the clear winner for Ireland's Department of Education and Science. Only iDirect could meet these critical criteria:

- ◆ Scalability — As a VNO, Digiweb could add line cards as bandwidth needs increased. In addition, bandwidth levels at each remote could be increased via simple modifications made from iVantage, iDirect's network management system.
- ◆ Seamless integration — HEAnet required that all routing hops be completely transparent. With iDirect's ability to accelerate traffic within an encapsulated tunnel, Digiweb was able to deliver a secure and efficient solution.
- ◆ Powerful features at a competitive cost — iDirect's VNO model enabled Digiweb to combine affordability, rapid deployment, advanced network features and high-powered broadband connectivity. Digiweb could reduce overhead and increase profitability on the network from day one.



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