CLIENT CASE STUDY

ESB TELECOMS

DAMOVO LINKS POWER UTILITY TO TELECOMS MARKET

Helping ESB Telecoms become a major telco carrier

The primary business of Ireland's Electricity Supply Board (ESB) is, as its name suggests, the generation and supply of electricity to every household and business in the country, a function it has performed since shortly after the foundation of the state. In today's world, however, diversification and exploitation of key assets and abilities are among the orders of the day and so the ESB is broadening its reach by moving into the telecoms business.

Its subsidiary, ESB Telecoms, has been established as "the carriers' carrier" providing core telecoms infrastructure connectivity and services to other telecoms operators and to large organisations with major connectivity and networking requirements of their own.

A key ally in this strategy is the communications solutions and services provider Damovo, which is performing a vital advisory and implementation role in helping ESB Telecoms to become a force in the Irish telecoms market. Damovo's expertise is being used to marry the assets and infrastructure of ESB Telecoms with the requirements of its customer base.

As a vendor-independent services company, Damovo is free to evaluate, recommend and implement best-of-breed technology from a variety of equipment suppliers to customers such as the ESB. It has been a long-time supplier to the ESB in general, and as such participated at an early stage of ESB Telecoms development in helping the company to decide on the technology and products it needed to roll out its services.

Modern requirements

Modern business depends on communication and so the widespread availability of low-cost, high-speed telecoms infrastructure is vital to the success of the economy as a whole. The growth of the Internet, and the gradual deregulation of telecommunications services, presents an opportunity for many different types of company to enter that market, introducing competition to the incumbent telecoms carriers and bringing down prices for consumers.

DAMOVO HAS THE FREEDOM TO SEEK OUT THE BEST TECHNOLOGY APPLICABLE TO A PARTICULAR TASK

A key component of telecommunications infrastructure is the backbone or high-capacity network that runs through the major population centres and delivers capacity to smaller local networks. If a telecommunications infrastructure can be likened to a road network, the backbone is the equivalent of a motorway, a high-speed high-capacity link which connects major population centres and from which smaller towns and cities are served by lower capacity connections.

Thanks to its existing infrastructure of pylons and cables, ESB Telecoms has the advantage of a ready-made path to most areas of the country to which it can add telecommunications infrastructure. ESB Telecoms has built an optical fibre backbone, called the National Fibre Optic Network (NFON) alongside its existing power infrastructure.

Completed in 2004, the NFON is built in a "figure of eight" configuration. "The Figure of Eight consists of a Northern Ring (Dublin-Dundalk-Carrick on Shannon-Galway-Shannon-Stradbally-Dublin), a Southern Ring (Dublin-Arklow-Wexford-Waterford-Cork-Limerick-Shannon-Dublin) and a Northern Spur (Carrick on Shannon-Sligo-Letterkenny).

"Our main strategy is to exploit the infrastructure the ESB has in place such as overhead power lines and pylons," says George Doherty, Engineering and Operations Manager with ESB Telecoms. **"Since 1999 we have been installing a fibre network alongside these power lines so that we can provide backbone services to other telecoms carriers.**
We can also provide connectivity to individual large corporate customers who have high-bandwidth requirements of their own."

Linking to carriers

Having put in place the optical fibre backbone, ESB Telecoms now needs to be able to link it into the networks operated by other telecommunications service providers who supply individual connectivity to businesses and residents around the country. Such service companies include fixed-line and wireless Internet operators and mobile-telephony companies.

This is where Damovo's market knowledge and systems integration skills come in. As it is not tied to any manufacturer, Damovo has the freedom to seek out the best technology applicable to any particular task. At the development stage, Damovo took part in workshops with the ESB to discuss the types of technology it needed to link its backbone to other carriers' networks. It brought different partners and different technologies to the table, and was able to configure and provide cost estimates for a number of solutions based on those partners' products.

In many cases, technology from the large equipment providers who are household names in the industry will be the best choice for a particular application. In other cases, however, technology from smaller or emerging companies may be the most appropriate.

ESB Telecoms provides a case in point. Among the most successful solutions that Damovo has supplied to ESB Telecoms are systems built on products from the Scandinavian companies Axessit and Lumentis, the latter now being part of Transmode. Damovo officially represents both companies in the Irish market.

> **"...backbone services to other telecoms carriers and connectivity to large corporate customers"**

VERSATILITY OF THE DAMOVO SOLUTION HAS HELPED ESB RESPOND TO CHANGING CUSTOMER DEMANDS

ESB Telecoms is currently rolling out Axessit Axxedge consolidation units, provided by Damovo, at a number of locations around the country. These units allow local telecommunications service providers to connect to ESB Telecom's high-bandwidth fibre backbone and will broaden the range and availability of broadband telecoms services throughout the country.

They are versatile, compact cost-effective units that can either be used to connect a backbone network to a local fixed wired or wireless network, or alternatively as a high-end integrated access device for a customer's premises.

Each consolidation unit can be used as a terminal multiplexer, an add-drop multiplexer, a layer-two packet switch, an IP wire-speed router or any combination of these. Network operators can choose either to purchase "dark fibre" connections from ESB Telecoms or to enter into managed service agreements using these products whereby ESB Telecoms takes responsibility for the operation of the network traffic.

Damovo engineers worked alongside ESB Telecoms personnel to install and integrate the consolidation units into the ESB infrastructure. Damovo also provided training programs on the operation and maintenance of the equipment so that ESB Telecoms staff could take over the running of the new systems themselves at an early opportunity.

Take-up of the consolidation units has exceeded expectations, according to George Doherty, engineering manager at ESB Telecoms. **"When we first deployed this technology less than a year ago, we only intended to offer it in 14 main locations,"** he said, **"but we have already rolled it out to 30 locations."**

The versatility of the Damovo solution has also helped ESB Telecoms respond to changing demands among its customers. Doherty said: **"We expected a big take-up of STM-1 links but many of our customers also want to link Ethernet to our backbone. We can now offer connectivity to anything from a 34Mbits/s E3 to Gigabit Ethernet."**

Urban data centres

Whereas the consolidation units are being used to allow local service providers around the country to connect to ESB Telecoms' backbone, in urban areas with "metropolitan area networks", i.e. local high-speed fibre networks running around the perimeter of a town or city, the requirements are somewhat different.

Typically, large organisations with data centres that house round-the-clock transaction processing systems or disaster recovery facilities will want to avail of these networks. According to George Doherty, when such customers want high-bandwidth connectivity, they want it installed quickly and reliably. **"When we get orders, we typically have to deliver them within three months,"** he says. **"We also have to deliver a range of services: Gigabit Ethernet, STM-1 and Fibre Channel. We have to work with a wide range of applications including storage area networks (SANs) and disaster recovery. We were so impressed by the management capability of the Damovo supplied Lumentis\Transmode solution that it is now the benchmark we measure all others against."**

> **"...so impressed by the Damovo solution, it's now the benchmark we measure all others against"**

ALLOWED ESB TELECOMS TO CONNECT UP CUSTOMERS' DATA CENTRES QUICKLY AND GIVE ACCESS TO MUCH GREATER BANDWIDTH

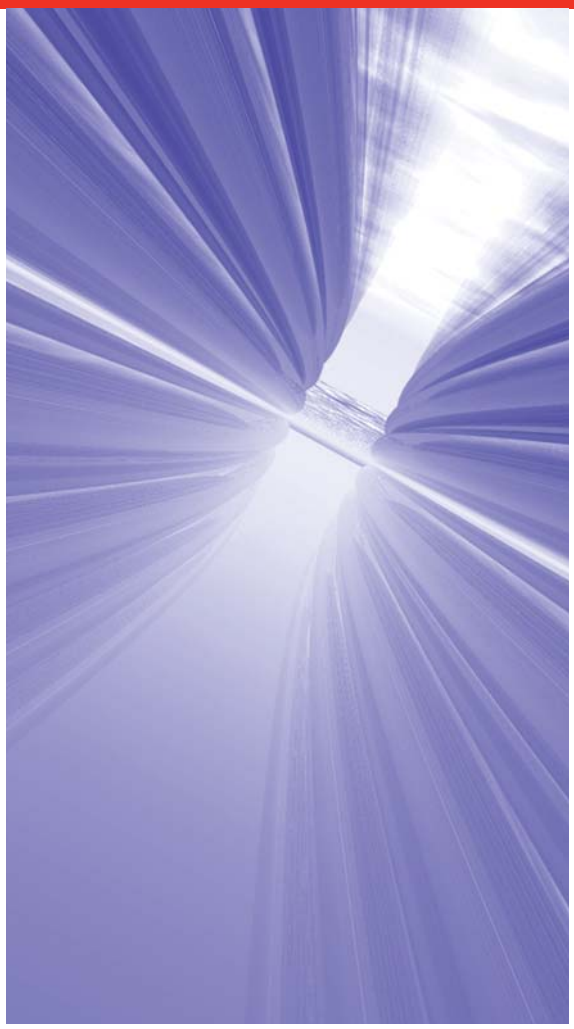
For linking to metropolitan area networks, Damovo has also been able to provide ESB Telecoms with an appropriate solution based on Wavelength Division Multiplexing (WDM) technology from Lumentis\Transmode. This, explains Doherty, allowed ESB Telecoms to connect up its customers' data centres quickly and also gave them access to much greater bandwidth.

As he explains: **"Our SDH technology platform could only get up to 2.5Gbit/s and could only make use of one wavelength per pair of fibres. The WDM technology allows multiple wavelengths per fibre, so the bandwidth capacity becomes much higher. It allows us to offer a variety of services – and to deploy them quickly and cost effectively."**

The WDM products are deployed mainly in Dublin where there is a local fibre-optic ring encircling the city and linking many of the technology parks together. They are currently in use in six locations and are currently being evaluated in several other centres around the country.

Because WDM technology allows several wavelengths to be used on the same piece of fibre, Damovo's solution allows ESB Telecoms to offer its customers the option of their own dedicated wavelength, essentially a leased-line connection which the customer will manage themselves, or alternatively, ESB Telecoms can take charge of the connection itself and provide the customer with a managed telecoms service based on a service level agreement.

Damovo personnel were intimately involved with the installation and integration of the WDM products into ESB's existing infrastructure and with developing training programs to enable a speedy handover of day-to-day operations to ESB Telecoms staff. ESB Telecoms handles first-line maintenance issues themselves, Damovo has put in place service-level agreements (SLAs) to provide in-depth maintenance support should it be needed. These SLAs are in place to support both Lumentis WDM products and Axessit consolidation units.



"WDM technology allows multiple wavelengths per fibre.....allowing us to offer a variety of services and deploy them quickly and cost effectively"

Damovo
Citylink Business Park
Old Naas Road, Dublin 12
Tel: 01 429 3000
Fax: 01 429 1259
Email: sales.ireland@damovo.com
www.damovo.ie

DAMOVO