



## > TRIPLE-PLAY SERVICES BECOME A WORKABLE REALITY

# NORTEL



### Case Study

#### Tiscali Italia

“The Nortel solution has proven to be operationally very reliable, as well as cost effective and simple to operate.”

> **Andrea Podda, Chief  
Technology Officer,  
Tiscali Italia**

**Customer:** Tiscali Italia

**Country:** Italy

**Industry:** Telecoms

**Challenge:** To provide Tiscali Italia with the infrastructure it needed to deliver next-generation broadband services. With end users looking to Tiscali Italia for fast, reliable triple-play, this infrastructure would need to include an efficient core network and a secure network edge.

**Solution:** A new optical communications infrastructure, using the Nortel Optical Metro 5000 with the Nortel Optical Multiservice Edge 6500.

**Benefits:**

- Reliability – Nortel’s Optical products provide 99.999% reliability at the network core and edge
- Cost-effectiveness – through reduction in real estate costs
- Scalability – the solution was cost-optimised for today’s requirements but ready for the next phase of the project
- Confidence – though an established, trusted partnership

tiscali.



“Nortel offered us a great solution from every point of view – it was affordable, but came with superior technology and thorough project management.”

› Roberto Cavaggion,  
Architecture and  
Development Manager,  
Tiscali Italia

## The scenario

The telecommunications industry is at a crossroads. Unbundling the local loop has made the ‘last mile’ an open, competitive marketplace for the very first time. It also means Internet Service Providers (ISPs) are in a position to offer their customers a range of leading-edge broadband services, including triple-play (the simultaneous delivery of voice, data and video over an IP network).

However, as with anything that’s new, across any industry sector, customers will only pay for services that work quickly and consistently – and it is here that many ISPs are running into problems. Unstable infrastructures, unexpectedly high traffic volumes and an already stretched workforce often mean ISPs cannot deliver these next-generation services with anything near the level of reliability their customers demand.

So when the Italian local loop was earmarked for unbundling, Tiscali Italia asked Nortel to ensure the ISP’s optical communications infrastructure was robust enough to support their ‘last-mile’ plans. With Nortel’s support, Tiscali Italia would be able to aggregate IP DSLAMs (Digital Subscriber Line Access Multiplexers) and deploy Optical Ethernet to backhaul their DSL traffic. This way, Tiscali Italia would be able to create a cost-effective, high-capacity network to support the delivery of integrated Internet, telecommunications and entertainment services.

This wasn’t the first time Nortel and Tiscali Italia had worked together. In 1998, Nortel deployed 7,000 km of backbone optical networks across Italy to help Tiscali Italia reduce its capital and operating costs. This is why, when it came to the next, critical stage in the company’s development, it trusted Nortel to deliver the service it needed.

## The solution

The fact that Tiscali Italia knew it could trust Nortel was vital. This was a crucial project, demanding both a creative approach and total reliability in equal measure. Nor was the project a small one. The installation phase alone required working with Telecom Italia to place equipment in more than 500 exchanges all over Italy.

Nortel’s approach was to deliver cutting-edge technology – designed to ensure total network reliability – with a timeliness based on exact planning in the shipping and installation phases. For this to succeed, a close commercial relationship was a must. Nortel worked with Tiscali Italia from the outset, instigating a comprehensive joint planning operation that included shared project management.

Nortel’s policy that all equipment should be standards-based also paid dividends. For instance, the DSLAMs were supplied by another manufacturer, but the open-standard policy that is integral to all Nortel equipment meant that interoperability was seamless.

But more than anything, Nortel’s Optical portfolio was the key to the success of the project. The Optical Metro 5000 allowed Tiscali Italia to use metro Wave Division Multiplexing (WDM) to deliver up to 32 wavelengths on a fibre pair, increasing the utilisation of this valuable asset. Tiscali Italia used each wavelength to carry Gigabit Ethernet traffic from its IP DSLAMs. Indeed, the Optical Metro 5000 can support up to 10 Gbps per wavelength across a range of protocols including Fibre Channel and SDH. This provides Tiscali Italia with enough capacity to handle a growing volume and mix of traffic types – a crucial element in the delivery of quality bandwidth to the end user.

The Optical Metro 5000 extends the reach capability of the optical layer, enabling Tiscali Italia to meet its distance requirements without the need for costly intermediate electrical regeneration and amplification. In addition, the Optical Metro 5000 supports interconnecting rings; coupled with the inclusion of Coarse WDM and Dense WDM in the single platform, this greatly reduces the physical footprint of the equipment. When you're dealing with a deployment in more than 500 exchanges, that translates into a sizeable reduction in real-estate costs.

For Tiscali Italia, the unbundling of the local loop is a huge opportunity and challenge, and this project not only led to an upgrade of their metropolitan network but required an evolution of the existing core network. Nortel's Optical Multiservice Edge 6500 meant that Tiscali Italia could extend the benefits of WDM and Optical Ethernet into the core network and still retain SDH transport and switching capabilities. The Optical Multiservice Edge 6500's unique Layer 2 switching capabilities allowed Tiscali Italia to transport and aggregate Gigabit Ethernet traffic from the access network in a cost-effective manner. What's more, the Optical Multiservice Edge 6500's modular nature means the platform can be easily configured and scaled to meet precise levels of demand.

In short, it is a single, compact platform that enables Tiscali Italia to deliver the whole range of next-generation broadband services.

This cost-effectiveness would, however, count for nothing if the entire solution had to be replaced within a few years. And since the unbundling of the local loop is an ongoing project, the scalability of the equipment was crucial to Tiscali Italia's plans. Nortel's flexible design offers the possibility of using the smaller Optical Multiservice Edge 6110 and 1000 in the future for lower bandwidth deployments.

## The results

When Tiscali Italia started to investigate the opportunities that lay within the unbundling of the local loop, it recognised that it needed a partner that could deliver a totally robust solution across 300 Italian cities within very strict timelines. Nortel met both these requirements.

Not only was the project delivered on schedule and on budget – itself an achievement considering the size and complexity of the operation – it has also exceeded all reliability demands. In the first year since its installation, the optical network has recorded zero customer downtime.

And this success is set to continue. Nortel's platform is not only ready to deliver triple-play services, its flexibility also means Tiscali Italia can now offer higher speeds such as 24 Mbps bandwidth across ADSL 2+ to the end customers, as the market demands.

Exploiting the unbundling of the local loop is a considerable challenge – but also an unmissable opportunity. Nortel enabled Tiscali Italia to meet that challenge, and has provided the ISP with a reliable platform from which to continue its proud tradition of delivering cutting-edge services to users across Italy.



**“We have an excellent relationship with Nortel. Working with them has always been a good experience.”**

**> Roberto Cavagion,  
Architecture and  
Development Manager,  
Tiscali Italia**

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**EMEA:**

Nortel  
Maidenhead Office Park, Westacott Way  
Maidenhead, Berkshire SL6 3QH UK

**European Customer Information Centre:**

Telephone: 00 800 8008 9009\*  
+44 (0) 870 907 9009

\*Number accessible from most countries

Email: [euroinfo@nortel.com](mailto:euroinfo@nortel.com)

