

## Efficient Solutions for DSL Deployment



# 3M Telecommunications

3M has transformed our world with new ideas for more than a century: we have developed products for the home and workplace since 1902. From the start, our mission was to satisfy current, as well as future market needs. Today, more than 30% of our sales volume is generated by products less than four years old, with a new product being added virtually every day.

# 3M



After more than 100 years in the telecommunications industry, 3M serves every major network operator in the world. Our products, systems, and services are optimised to help construct, rehabilitate, and maintain networks for faster, more reliable, and higher-bandwidth transmissions.

3M's commitment to practical innovation has transformed telecom industry practices worldwide, with breakthroughs such as the first insulation-displacement-connector (IDC) and the first multiple pair copper splicing system - one of the most successful telecom products ever.

## Higher broadband demand means greater pressure on you

Demand for broadband services, such as high-speed Internet and data access, is rising fast. Network operators face enormous pressure to capitalise on the impressive revenue opportunity as quickly and cost-effectively as possible. Digital Subscriber Line (DSL) technology is a strategic choice, as it allows the use of high-speed services over existing copper-based networks. Yet, physical layer network limitations and technology skill levels can hinder DSL deployment speed, reach, quality, and service levels. This leaves many network operators struggling to build out, rehabilitate, and upgrade their networks to accommodate the demands of DSL.



Whatever your DSL service demands may be: Our solutions guarantee a fast and seamless DSL implementation in all sections of your network - no matter what your requirements or your country-specific network characteristics are.

## Simplify DSL deployment with 3M

3M makes it easy for service providers – as well as network equipment manufacturers and integrators – to find and obtain the DSL-enabling infrastructure product solutions you need.

3M is the only single-source manufacturer of comprehensive, customisable DSL solutions to connect, protect and test your networks.

We offer an extensive range of central office, outside-plant, and test and measurement solutions with industry-proven scalability and service uptime. Working with DSL product solutions from 3M, you can take advantage of current broadband revenue opportunities, while establishing a framework for emerging services, such as voice- and video-over-DSL.

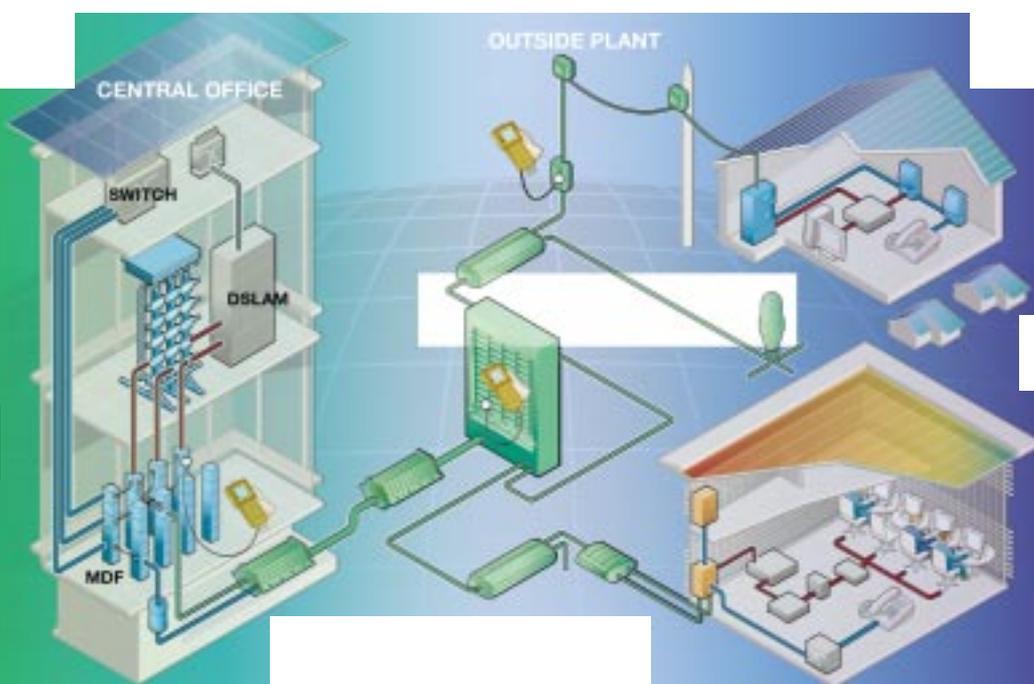
## Cost effective DSL implementation with 3M

The main distribution frame (MDF), as the physical node within the central office, plays a vital role for integrating DSL services. Our integrated splitter block Quante™ ID 3000™ shifts the splitter function out of the shelf into the main distribution frame. That reduces the required cabling paths and trunks by 50%, saving installation time and cost.

Due to the central arrangement of the integrated splitter, testing and monitoring of all signals in all directions is permitted, which is of vital importance for heterogeneous networks.

Alternatively utilisable through-connect modules allow the usage of the network in a flexible manner, making it possible to also run SDSL, ISDN, and POTS services in the same infrastructure.

Thus, your investment in DSL technology is protected and future-proof.



The scalability of the integrated splitter blocks permits them to grow with the network, from the first introduction of the new service up to the complete expansion of the network. Here, they cover the complete range from large central offices over small main distribution applications to remote cabinets. Special configurations, as they are required by the "deregulation process" or the utilisation of existing infrastructure, can be implemented easily and conveniently due to their modularity. This flexibility today is the basis for a network extension tomorrow.

## Fast and seamless DSL deployment with 3M

Splitter-shelf-based central office solutions, however, have to be integrated into the network quickly and efficiently, as well. This process is facilitated by the use of compact, DSL-capable IDC blocks. These can be integrated seamlessly into existing distribution frames or can be built up as compact, new distribution frames.

And with 3M's flexible "fit anywhere" designs, these product solutions may be deployed as required throughout the network – from the central office to remote terminals or cabinets – independent of the active transmission technology which is used. Their compact design provides the necessary space for the active transmission technology and makes it possible to use applications in enclosures housing DSL remote equipment.



Whatever your DSL service demands may be:  
Our solutions help to speed up DSL implementation  
with simplified installation at impressive cost savings.  
Unlike other suppliers, 3M provides after-sale technical  
service, product training, and field support with  
every product purchased.

## DSL network qualification & rehabilitation with 3M

In the process of evaluating whether existing copper lines can be used for DSL deployment, obstacles are bound to arise. Often enough, you know the problem, but you cannot identify the cause.

But whether the obstacle is related to loop resistance, load coils, bridge taps, interference, insulation failures – or a host of others – the issue is the same.

You must diagnose and locate the line impairment as quickly and cost-effectively as possible, in order to determine and implement the appropriate solution.

*“Testing is a critical step towards the successful turn-up of a DSL loop. A test device can assist the service provider in all steps of DSL deployment – before, during, and after installation and turn-up...”*

\*Loop Management System Standards: An Automated Approach\* White Paper  
DSL Forum July 16, 2001



## DSL network qualification

3M™ Dynatel™ test and measurement solutions allow you to deploy DSL more effectively while reducing time and cost.

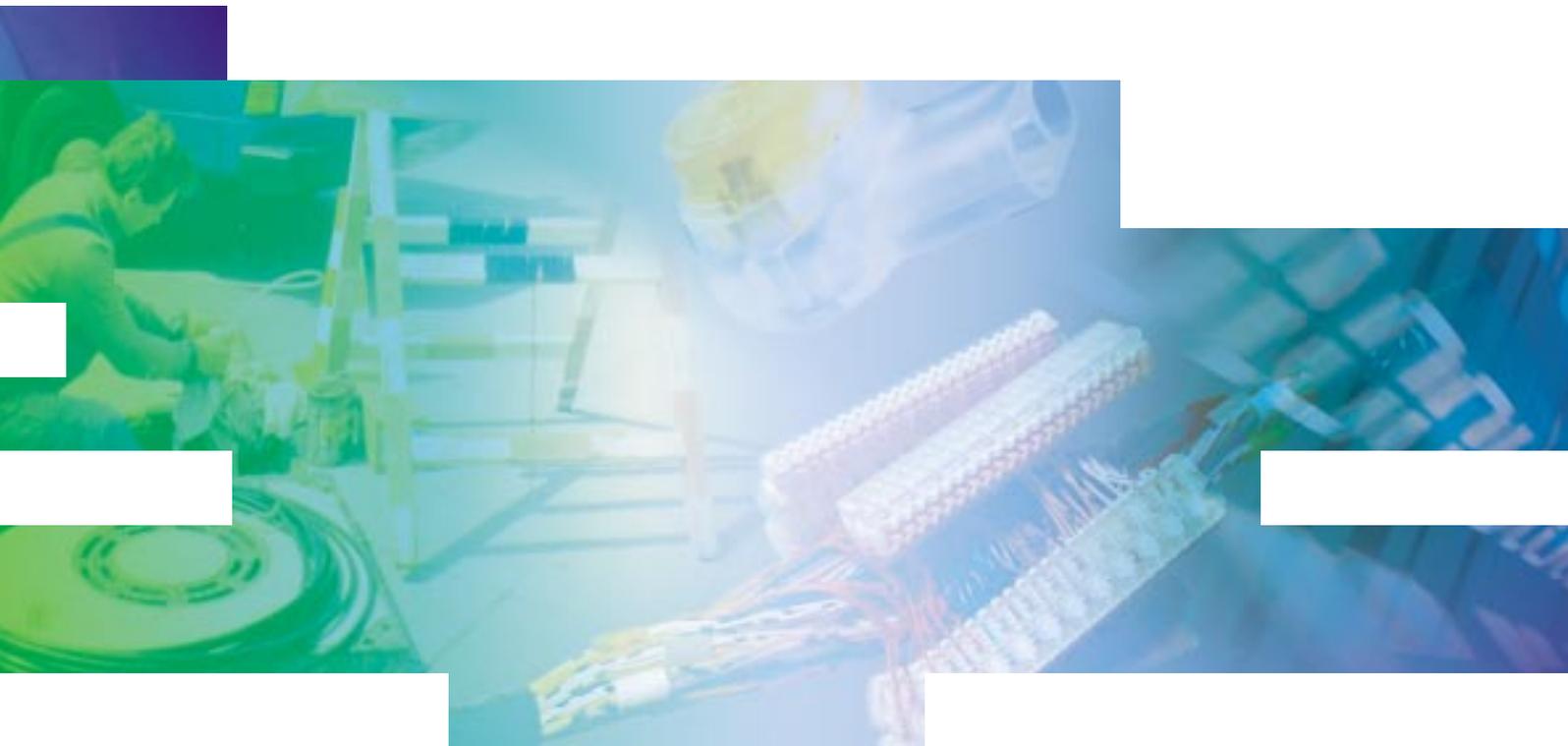
Our instruments help you qualify the available data rate on each line, permitting you to inventory the level of service that can be deployed.

With full-featured POTS, wideband, and DSL-specific testing, you can quickly, easily, and accurately determine whether any line problem exists. If so, you can then pinpoint the location and extent of the impairment.

3M DSL test and measurement solutions can also be used to effectively maintain the lines, helping eliminate future errors and manage ongoing maintenance costs.

## DSL network rehabilitation

If your qualification process has identified some obstacles for a successful DSL deployment 3M network solutions will help you, to recover, repair, reconnect and reuse, or simply upgrade as required – with simplified installation and maintenance to reduce human error and boost productivity. Placing higher-frequency DSL signals on a copper pair creates a greater risk of signal attenuation. At those points in the network where significant attenuation may occur, namely splice and cross-connect points, 3M quality works to maintain signal integrity, thereby improving DSL service quality.



### What can we do for you?

At 3M, we have given more than 100 years of serious thoughts to telecommunication networks and how to improve them.

However you choose to integrate DSL into your access network environment, 3M will assist you in doing it in the most efficient, future-prove and cost-effective way.

For more information, please contact your local 3M representative and find out more about how we can help you.



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