

# Managed Bandwidth - maximising value

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**W**ith the relatively high cost of bandwidth in today's market, and the increasing usage of more complex applications, it is now more important than ever to ensure your network is managed effectively. We examine 'Managed Bandwidth' from a service provider's perspective, and 'Bandwidth Management' services from a business consumer's point of view.

Most carriers' IP infrastructures offer managed bandwidth, ensuring that the delivery of IP, frame network, and ATM connectivity to name a few can be effectively managed through to the customer's premises. This will ensure SLA's are achieved, and if not, rebates can be applied for services not delivered. *Mark Crockett, Marketing Manager of Colt Telecom said, 'COLT's EuroLink Services offers an International Managed Bandwidth Services. The service is designed to meet this demand by providing customers with fast, reliable connections between every one of the key European business cities. Furthermore, COLT has recently completed the third phase of its Dublin city network. COLT's network in Dublin is now over 120km in length and connects the city's main business parks such as City West, Park West, Blanchardstown, Santry, Clonsaugh etc. to the City Centre and the IFSC, and then into the COLT EuroLAN'.*

Different carriers offer different levels of service, from fully managed IP networks to voice and DSL services that are not managed. If you experience disruption of service on your PSTN lines, and the carrier is not monitoring the lines, you will find the fault before the carrier does. In the case of DSL this may also be true. However, when evaluating a solution for a mission critical application, it is of importance that you utilised a fully managed bandwidth network. *Fergal McKenna, Sales Manager of Cable & Wireless Global Networks says, "Our industry leading service level agreements dictate that we own and manage end-to-end IP infrastructure. The public Internet is great for browsing for example, but it is ultimately an unmanaged network; however to meet the demands of corporate communications, Cable &*

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*Wireless manages its network from follow-the-sun global Network Management Centres".*

Once you have established your carrier of choice, and the delivery method for your chosen applications, the next step is to manage your bandwidth internally. If you are a large corporate with multiple offices globally, or a small to medium size business with basic network requirements, the need to manage your bandwidth successfully should be a priority. Too often, businesses upgrade bandwidth on their existing WAN's or LAN's, which will theoretically ensure that their applications are running smoothly, and therefore critical applications are not affected by insufficient bandwidth; however this may not always be the ideal solution. It is important to classify your traffic, analyse its behaviour and enforce policy based allocation procedures.

Before embarking on a decision to purchase additional bandwidth for your network, consider if your network is running as efficiently as it could be. There are several ways you can establish the facts before considering upgrading your bandwidth requirements. Bandwidth management can ensure that each user and / or application receives the appropriate treatment. Effective implementation of bandwidth management requires the prioritisation of mission critical applications and more detailed analysis on your network.

Many companies rely on distributed network services as a significant part of their entire business model. Typically, these expenses represent a significant cost, and one that is sure to increase with time. In order to help contain these costs, service providers and consumers must monitor traffic to determine normal or abnormal usage and establish

baseline metrics to ensure that you can efficiently monitor productivity. Some factors to consider may be burst traffic, interactive traffic, mission critical traffic, and non-mission critical traffic. It is also important that SLA's are measures to ensure that your service provider is meeting their contractual obligations.

There are a number of ways to classify traffic, such as requested file type, destination IP and port, server names, etc. Classifying traffic enables network managers to better track requests and allocate resources based on priorities. Once traffic is classified, specific configurations can be defined to control how bandwidth is distributed. The two most widely used methods are partitions and policies.

Since applications flow across multiple networks, before reaching the end-user, it is often difficult to determine where and when problems arise. Support costs can spiral out of control, and both service providers and client can spend too much time troubleshooting problems that fall outside their responsibility, so they must carefully define service boundaries, which lie beyond their control. Good bandwidth management can help bridge this gap, ensuring IT resources are utilised effectively.

The consumer will want to confirm that they got what they paid for. The service provider should provide a comprehensive analysis including detailed per-application metrics. The optimum solution should offer the flexibility to assist multiple parties and include high-level graphics and reports for clients to compare committed versus actual performance. Remote access that enables remote validation such as browser-based user interface, and detailed graphs and reports for diagnostic and planning purposes should be accessible.

When evaluating a bandwidth management solution, one should look for a scalable, flexible solution that merges with your existing network infrastructure while adding intelligence and value. A comprehensive strategy for generating business success will include the control of application performance and network costs, and will include a multi-level approach to implementing appropriate network resources. Bandwidth management enables expert support.