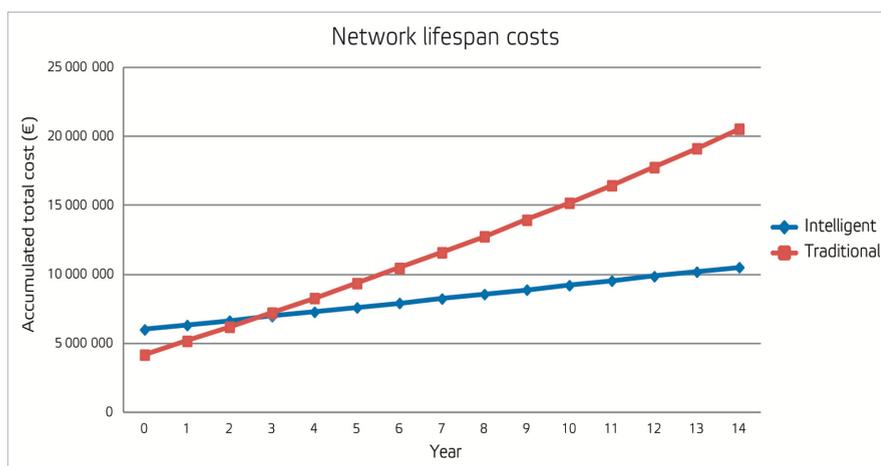# THE ART OF INTELLIGENT NETWORK MANAGEMENT

How to cut operating expenses by 50 percent and improve service levels

As Sun Tzu said, know your enemies and know yourself, you shall be victorious in a hundred battles. The enemy in broadband cable networks is very familiar: constantly increasing operating costs. With new services such as HDTV and VOD requiring more capacity and technologies such as OTT disrupting market dynamics, cable operators are faced with a situation where they need to both invest in new network equipment and lower their operating expenses to remain competitive. Traditionally, the main reason for high operating expenses in cable networks has been manual maintenance. It doesn't have to be.

Network maintenance has always been laborious and costly. Operators need to have a number of skilled field personnel to go on site to repair faults and perform installations and adjustments. These operations are prone to human mistakes, which in turn lead to unnecessary truck-rolls, service interruptions, and higher operating costs. This manual work can be greatly reduced by introducing intelligence to network management and maintenance.

Know your enemy

Locating the enemy in cable networks is often tricky – when there is a problem in a network, operators cannot see where the problem actually occurs without having to go through complex network diagrams showing where network elements are located. This slows down the process and results in longer repair times and higher costs.

Lifespan costs of a traditional network of 120 000 subscribers compared to a similarly sized network equipped with intelligent devices.

Although information on the status of network elements is a basic feature in many network management systems, they often fail to deliver accurate information on where these elements are physically located and what their impact areas are. Service crews waste valuable time driving around and trying to locate where the faulty device is. Additionally, the management systems seldom link problems with appropriate documentation. If documentation is not easily and quickly available, lots of time can be lost and a great deal of frustration generated both among the customers and the maintenance crew.

And know yourself

Teleste's Intelligent Networks concept allows operators to know exactly what is happening in their network and where the problems are – on a real world map. Teleste's Intelligent Networks concept is based on intelligent devices capable of monitoring and adjusting themselves automatically and a management system that allows administrators to monitor and control the whole network. Network intelligence is built on the combination of Access series automatically configuring intelligent fibre optic nodes and amplifiers, and CATVisor management system that allows operators to control the whole network and remotely address problems.

Just as it is wise to monitor and take care of your own health before something breaks down, Intelligent Networks provide a wealth of information that allows operators to quickly recognise and fix problems in the network - sometimes even before they affect end-customers. By providing comprehensive information on network health, Intelligent Networks help reduce mean time to repair and minimize the effects that service outages and maintenance operations have on end-user service.

For example ingress problems, that can disrupt services and irritate end-users, can often be challenging to locate and handle. With Intelligent Networks, ingress becomes less of a problem because the intelligent network devices feature automatic ingress suppression and enable operators to easily pinpoint and isolate ingress sources.

And you shall be victorious in a hundred battles

The business benefits of Intelligent Networks are remarkable. According to our research, moving to an intelligent network architecture in a medium sized network of 120 000 users can amount to operational savings of close to 10 million euros over 15 years, reducing the accumulated total cost to less than 50%. For a large network of 1.2 million users, this means savings of almost 100 million euros over 15 years. With this type of reductions in operating costs, payback times for intelligent network equipment investment are very short, typically 2-3 years.

By utilizing intelligent network devices and management software, operators can reduce OPEX and service outages, provide better service to end-users and eventually reduce churn.

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