



## EMC's view of cable network development

### Background

Regarding to the demand for broadband services from the residential sector, it must be observed that incumbent cable network operators have increased their access network capacity in response to customer demand, with a conservative view. As the use of more intelligent home devices such as PCs, multimedia and entertainment consoles, set-top boxes grows, the trend for more service and technology convergence will be accelerated and operators will be forced to provide new ways of communicating. The expectation is that IP-based Ethernet services will show significant growth.

### Transition

However this transformation toward end-to-end digital network will not happen within one or two years but probably over decades. During this transition time a key task for CATV operators is to expand and secure existing business while lowering operation expenditure. At same time, competitive environment in the telecommunication will create numerous challenges for operators, who need to prepare their infrastructure to support evolution of broadband access. The question is how to achieve this aim. The first decision is over technology and the choice between continuing with coaxial infrastructure or moving today to a fiber-based access network.

### CATV HFC vs. Fiber to the home FTTH

The coax infrastructure being built over the last few years represents a huge asset for cable operator. Even if the costs for deployment of new fiber cable is comparable to that of coax cable, it is usual today to rationalize networks by re-using existing coax infrastructure. Despite of this fact there is hardly any doubt that fiber-based access infrastructure is the ultimate goal and at a certain point in time need to be deployed.

### Fiber to the home

A large number of new players are successfully deploying and operating new fiber to the home network infrastructures challenging incumbent operators with open access networks and new broadband services. In contrast to new players, incumbent cable operators are regarding FTTH with different perspectives and rely on more traditional business models. Before even thinking about new services, cable operators need to select favorable environment and carefully evaluate migration concepts to ensure low-risk network transitions.

### Favorable environment

Some of the major drivers which are prompting operators to deploy fiber-based access infrastructure include:

- The need to refurbishing aged coax plant.
- The need to reduce active electronics in the field.
- The need of a new infrastructure in green-field areas.
- The prospect to assign high bandwidth connections to specific housing communities.
- The need to connect remote residences to the existing CATV HFC network.

### Migration concept

Fiber-based access networks are proposed based on different designs. The choice of any particular architecture depends very much on compatibility and coexistence with the existing infrastructure and naturally of Return-on-Investment (ROI).

The concept *SUBONET* is based on the idea that cable operators need to ensure compatibility and coexistence with existing infrastructure including currently deployed DOCSIS1.0/2.0 platforms, while offering the ability to accommodate new broadband applications at a convenient time.



Thanks to its compatibility with DOCSIS platforms, familiarity to CATV HFC architectures and simplicity of deployment *SUBONET* appears to be a practical and cost effective alternative for access technology applied to CATV environment.

EMC offers three solutions, enabling cable operators maximum flexibility for deploying fiber to the home architectures.

The **BASIC**<sub>SUBONET</sub> supports both broadcast analogue/digital television and DOCSIS based-services.

The **ENHANCED**<sub>SUBONET</sub> is provided with high speed connections beyond the capabilities of the Basic version.

The **ADVANCED**<sub>SUBONET</sub> as an extension of the Enhanced version, includes an Ethernet interface connectivity for high speed data.

The choice of any particular solutions depends on the operator approaches to network evolution, which need to be weighted appropriately to define the right solution for any given network scenario.

### Summary

Cable operators need to drive down the operational costs and to simultaneously open the door to new revenue-generating services. *SUBONET* has been designed and developed to meet these challenges. By implementing *SUBONET* in a favorable environment, cable operators will find an economic way of migrating their existing network architectures while improving reliability and operational expenditure of delivering legacy services.

It is a matter of reasonable business case and favorable environment.

### Additional Information

To find out more about EMC's *SUBONET*® solutions contact us via email at: [sales@emc-web.com](mailto:sales@emc-web.com)