Cable industry – a frontrunner of innovative content delivery

Paulo Valente

Geneva – 25 January 2018
1. The business shift of the Cable industry

2. Standardization as a business pillar

3. Robust networks to deal with content delivery
The shift of the business model

*From a Network Centric model to a Customer Centric Model*

<table>
<thead>
<tr>
<th>Traditional Model</th>
<th>Present Model</th>
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<tbody>
<tr>
<td>Network Centric</td>
<td>Customer Centric</td>
</tr>
<tr>
<td></td>
<td>Connectivity and User Experience</td>
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<tr>
<td>Video</td>
<td>Video</td>
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<tr>
<td>Voice</td>
<td>Voice</td>
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<tr>
<td>Broadband</td>
<td>Broadband</td>
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<tr>
<td>Fixed Network</td>
<td>Smart Home</td>
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<td>Mobile Network</td>
<td>IoT</td>
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<td></td>
<td>Gaming</td>
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<td>Big Data</td>
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<td></td>
<td>Ubiquitous Network (FMC, NFV, SDN)</td>
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</tbody>
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Evolving Process
The shift of the business model

*Communication style across demographics*

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Communication Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;60 TRADITIONALS</td>
<td>LET'S TALK</td>
</tr>
<tr>
<td>&gt;50 BOOMERS</td>
<td>EMAIL OR CALL ME ON MY MOBILE</td>
</tr>
<tr>
<td>40 GEN X</td>
<td>TEXT ME</td>
</tr>
<tr>
<td>30 GEN Y</td>
<td>FACEBOOK TWEET ME</td>
</tr>
<tr>
<td>&lt;20 GEN ZZZ</td>
<td>SNAP CHAT INSTAGRAM ME</td>
</tr>
</tbody>
</table>
The shift of the business model

Video consumption style across demographics

- >60 TRADITIONALS
- >50 Boomers
- 40 GEN X
- 30 GEN Y
- <20 GEN ZZZ

Linear

Linear + Non Linear

Linear + Non Linear + User Generated Content
Technology impactful areas

Network Capacity & Management
- DOCSIS 3.1
- DOCSIS FDX
- IP Peering
- SDN-NFV

Compliance
- Data Protection
- Transparency Rules
- QoS Measurements

Security
- Cybersecurity
- Data Retention
- Risk Management

Consumers
- New Video Business models
- Technology neutrality
- Spectrum allocation policies

Spectrum
- Road to MNO
- LTE Coexistence
- Wi-Fi
- New Spectrum frequency bands

New services
- Internet of Things
- Big Data
- Business Services
- Privacy

Energy Efficiency
- Gaming e-Services
- Security
- Big Data

Privacy
- Energy Efficiency
- Gaming e-Services
- New services

Non exhaustive
ETSI TC Cable – Organisation

TC Cable
Chairman
Paulo Valente

Vice-Chairman
Volker Leisse

ETSI Technical Officer
Sylwia Korycinska

WG 1 Chairman
Volker Leisse
Architecture, Interfaces, Protocols

WG 2 Chairman
Carsten Engelke
HFC Distribution, Installation, Operational Best Practices

WG 3 Chairman
Carsten Engelke
Engineering, Efficiency and Sustainability

WG 4 Chairman
Volker Leisse
Network, Fault, Monitoring and Performance Management and Test & Measurement Best Practices
ETSI TC Cable – Working Groups

**WG1**
Architectures, Interfaces, Protocols

Creation, development and maintenance of Standards and other ETSI deliverables related to:

- Cable system architectures and architectural elements
- Network and system interfaces
- Data over cable systems
- Advanced head-end architectures
- Customer Premises Equipment and Home Networks
- Cable-Mobile systems including their architecture elements for: (1) Wi-Fi; (2) Mobile; (3) Core network; (4) Convergence
- Review and contribution to activities of other ETSI Technical Bodies and external organizations requiring expertise in architectures, interfaces and protocols of HFC networks

**WG2**
HFC Distribution, Installation, Operational Best Practices

Creation, development and maintenance of Standards and other ETSI deliverables related to:

- HFC network infrastructure and distribution
- Physical HFC plant technologies and characteristics
- Frequency and spectrum management within HFC networks

Establishment of operational guidelines to share experiences and promote best practices

Review and contribution to activities of other ETSI Technical Bodies and external organizations requiring expertise in HFC networks
ETSI TC Cable – Working Groups

**WG3**
Engineering, Efficiency and Sustainability

Creation, development and maintenance of Standards and other ETSI deliverables related to
- Energy Efficiency Requirements
- Energy Efficiency Metrics
- Sustainability Requirements
- Headend Equipment
- Outside Plant Equipment
- Customer Premises Equipment

Establishment of operational and engineering guidelines to share experiences and promote best practices
Review and contribution to activities of other ETSI Technical Bodies and external organizations requiring expertise in energy efficiency and sustainability of HFC networks

**WG4**
Network, Fault, Monitoring and Performance Management and Test & Measurement Best Practices

Creation, development and maintenance of Standards and other ETSI deliverables related to
- All parts of the end to end network
- In-home network
- Access and distribution network
- Core network
- Systems
- Services

Establishment of technical guidelines/reports, implementation guidelines, specifications and promote best practises.
Review and contribution to activities of other ETSI Technical Bodies and external organizations requiring expertise related to the area of responsibility
ETSI TC Cable – Main Supporters

Main supporters of TC Cable activity and deliverables

Together, these supporters, represent and produce deliverables to a sector which goes into the home of 63.7 million customers in the European Union, providing Digital TV, Broadband Internet, and Telephony services
Cable operators are building robust networks to deal with the business shift

**DOCSIS 3.1 + FDX**

- **Fixed Mobile convergence**
- **From HFC to Distributed Access Architectures**
- **SDN/NFV**