Next Generation of IPTV Services

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IPTV by ITU-T

IPTV (Internet Protocol Television) is a multimedia service encompassing television, video, audio, text, graphics and data delivered over IP based networks which are managed to provide the required level of QoS and QoE, security, interactivity and reliability.

ITU-T Q13/16 is the group responsible for standardization on IPTV
ITU-T H.700 series

- ITU-T H.700 – General aspects
- ITU-T H.720 – Terminal Devices
- ITU-T H.730 – Middleware
- ITU-T H.740 – Application Event Handling
- ITU-T H.750 – Metadata
- ITU-T H.760 – Multimedia App. Frameworks
- ITU-T H.770 – Service discovery
IPTV as a convergent platform

• IPTV metadata is flexible
  – Extensible metadata allows for offering new services
  – Any multimedia service can be announced
  – IPTV service providers can even offer QoS-enabled services carried from non-QoS sources

• New services, integration with other platforms
Seamless experience

• Multi-sourced services (IPTV, Web, OTT, FTA, SAT…)

• Cross-platform recommender systems with AI
  – End user may lose the perception of content sources and source switching

• IPTV as a convergent, aggregative platform
  – is the starting point that enables the acquisition of the needed metadata in a standardized way.
Multi-device Service

• User interaction can be transferred to secondary devices
  – Notifications, content selection, additional content, device switching
  – Augmented Reality
  – Virtual Reality
  – Device synchronization may be required
• Under study in Q13/16
Enhanced user interface

• Touch, voice, gestures as system-wide supported inputs
• These may not be enough if used separately
  – Advanced and Immersive applications will require new forms of user interaction
• Multimodal interaction
  – Interaction based on the combination of inputs of different kinds
  – e.g: Pointing to a product on the video and saying “Buy that!”
• Under study in Q13/16
Scene-based metadata

• Enhanced search services
• Scene semantics may be captured
  – Include movie script information
• Scene compilation services
  – User-generated compilations
  – Auto-generated compilations
• Fine-grained recommendations
• Under study in Q13/16
Virtualized terminal device

• Separation between
  – Physical terminal (PT) – end-user side
  – Function platform (FP) – network-side

• Cloud-based IPTV
  – Thin terminal devices, inexpensive
  – Easily updated with new services and application frameworks

• Under study in Q13/16
UHDTV and beyond

- UHDTV resolutions and beyond are supported
- They may not represent just better video quality
  - Interactive, immersive content based on UHDTV delivery are possible
    - 360º video
    - Free Viewpoint video
  - How to support these new kind of content formats and interaction?
Media things

• IPTV terminal devices can be connected to sensors and actuators
  – Home automation
  – E-health
• May be used for more immersive experiences
  – Lights, Thermostats, Wind, Smells etc, may be synchronized with the content
• How to support this new kind of content format and the media things?
And more...

- How software-defined networks can ease the management of IPTV services?
- How to provide IPTV roaming services with the required QoS?
- How the IPTV architecture can easier keep up with the evolution of content formats and their new interactive experiences?

Join ITU-T Q13/16 to help us addressing these and the questions to come
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