NEM/Networld2020 Joined WG on Media 5G Slicing

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Agenda

1. Objectives
2. Use cases taken into account
3. Media&content application requirements
4. 5G Capabilities and parameters
5. 5G Media slice description
6. Next steps
7. Q/A

Joined Networld2020/NEM WG objectives

- This is the second paper after the one made in 2018 which has addressed the 5G Media pilots description, it provides a high level description of what a 5G Media&content slice is.
- Taking as basis of the work the most relevant Media&content use cases requirements provided by participants, 5G PPP projects and standardisation bodies, the group has to identify which 5G network parameters are the most suitable in order to satisfy the requirements of all M&E use cases, both in the uplink and downlink, for all stakeholders such as end-users, production houses and Mobile Network Operators (MNOs).
- The basic motivations of such a slice are to increase the usage of network resources, to enable its shared use for multiple applications posing very diverging requirements on the network and to add the required flexibility and scalability to meet these requirements
- In the course of identifying the requirements for the 5G networks, a large number of use cases have been described and analysed by standardisation bodies. These different requirements have been consolidated and agreed in three main classes:
  - Enhanced Mobile Broadband (eMBB) - also called Extreme Mobile Broadband
  - Ultra-Reliable and Low Latency Communications (URLLC) and
  - Massive Machine Type Communication (mMTC).
- This paper has the objective to check the necessity to have a specific slice for Media and content applications and then to propose a design.

5G Media slice paper ToC

1- Context
2- Potential Media&Content use cases
3- Media&content application requirements
4- 5G capabilities and parameters
5- 5G Media slice description
6- Conclusions & recommendations

Use cases

- In order to identify the requirements that such a 5G slice should fulfill, the group worked on the number of relevant use cases:
  - Ultrahigh fidelity imaging for medical applications
  - On site live event experience
  - Immersive and Integrated Media
  - Audio Streaming in Live Productions
  - Remote, Cooperative and Smart Media Production Incorporating User-Generated Content
  - Professional content production
  - Machine generated content
  - Collaborative design including immersive communication
  - Dynamic and Flexible UHD Content Distribution over 5G CDNs
  - Linear TV and radio
  - Smart Education

Media&content applications requiements

- From the list of use cases identified, this section is identifying what are the technical requirements of regarding the network
- The following technical topics have been identified and for each use case, a qualification has been made:
  - Experience data rate
  - Latency
  - Reliability (IP packet within latency bound)
  - #devices
  - Battery
  - Coverage
  - Mobility
  - Interwork/roaming
  - Security
  - Positioning
  - External dependencies
- At the end an analysis will be conducted in order to identify the common requirements.

5G capabilities and parameters

This section is describing what are the capabilities of 5G networks and which parameters could be activated by applications to configure the network.

A number of parameters should be configure such as :

- Delay
- Packet loss
- Bandwidth
- CPU
- Memory
- Broadcast and multicast point to multipoint (PTM)
- Etc

An exhaustive list of them will be provided

5G Media slice description

This section is the result of the overall work as far as it proposes the main functionalities of such a slice.

It will be the conclusion and the recommendation of the group to the standardisation bodies (NGMN, 3GPP, …) for future standard and development.

Today, we are going to propose 2 complementary slices

- One covering content production
- One covering content distribution

This is still under discussion in the group

Next steps

Our objective is to have a first version end of June in order to be able to influence the standardisation bodies

Most of the chapters are in a final version, we still have to work on the last chapter which propose the slice description

Comments are welcome from any NEM or Networld2020 members

The paper should be validated buy both Steering boards before publication

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