**Agenda item:** 9.5

**Source:** Tencent Cloud

**Title:** [MeCAR] The EDGAR architecture enhacements

**Document for** Discussion andAgreement

# Reference Device Architecture

We suggest to update the Device architecture to include:

1. Encryption for uplink pipleline
2. Capabilitiy and performance discovery





Note 1: Any of downlink and/or uplink media pipelines may include an optional decryption/encryption. In the figure, this option is only shown for the video.

In the above figure has been updated:

1. Mirroring the uplink with downlink in terms of the order of media types.
2. Adding an optional encryption to the video uplink and also moving the decryption in the video pipeline and added a note.
3. A module for capability and performance discovery is added. This module provides capability and performance metrics to the application on device and/or to edge network:
   1. Media capabilities as listed
   2. The combinations of encoders/decoders/scene rendering that the devices can run in the real time
   3. The power consumption metric of each media capability
   4. The battery/power level of devices

# Categories

Categories for which media capabilities may be defined, are listed in the following:

* Audio
  + Capture
  + Playback
  + Codec
  + Formats
  + Framework (multiple codecs, etc.)
* Camera
  + RGB
  + Depth
  + Camera intrinsic parameters
  + Camera extrinsic parameters (Relative to center of mass of device)
* Display
  + Processing
  + Number of Displays
  + Bit depth
  + Color format
  + Resolution
  + Dynamic Range
* GPU
  + Functionalities/APIs
  + Performance
* Security
  + Content Protection
  + Cryptography
  + Key Management
* Non-media sensors
  + Types and accuracy/resolution: Accelerometer, Magnetometer, Gyroscope, ambient light
  + Access for example through OpenXR APIs
* Video
  + Playback/Decoding
  + Processing
    - Scaling
    - Image video stabilization
    - Denoising
  + Recording/Encoding
  + Formats (bit depth, colour components, chroma subsampling, etc…)
  + Framework (multiple codecs, etc.)
* Runtime
  + APIs
  + Performance
* Combinational metrics:
  + Which configurations of the above can be run in real time

Each of the above categories may include a power consumption factor, defining the relative power consumption of a function or feature.

# Proposal

It is proposed to:

* Update the figure and corresponding text in section 1 and 2 in the draft TR.

# 