Study on Media Production over 5G NPN Systems

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Justification

- The media production vertical has an established way of working

  - Need based configuration of the different media production devices such as cameras, displays, etc

  - Setting up and management of IP flows between various devices

  - AMWA NMOS is defining a set of protocols and tools to handle different scenarios

- The media production verticals deploy different codecs, protocols and formats such as ST 2110, NDI, SRT, RIST, etc.

  - The feature configuration depends on the scenario, like production or contribution

- 5G NPN Systems provides a set of beneficial network features

  - Network Slicing, different QoS classes and QoS separation, network event reporting and assistance

- The study aims to identify potential gaps in 3GPP specifications and the need for normative work

Study Item ([SP-210241](#))

4 Objective

The intention of the study is <mark>to identify standardization needs and potential standards gaps</mark> when using 5G Systems for media production. More specifically:

- To id<mark>entify the relevant media production use cases</mark> (professional, semi-professional, production, contribution), based on existing use-cases from TR 22.827 as well as requirements from TS 22.263, that may benefit from 5G System functionalities. This includes collaboration use cases between media producers and 5G System operators.

- To develop one or several reference media production architectures and <mark>to map the variety of different media and control flows (such as uplink video, return video, tally, etc</mark>) involved in media production onto 5G System delivery components.

- To identify <mark>relevant QoS requirements for media production workflows,</mark> including required bit rates, loss rates, formats, latencies and jitter, and <mark>to identify their impact on the relevant KPIs</mark> for media production workflows (reliability, mean-time-between failure, service-level agreements, etc.).

- To identify <mark>relevant 5G System features like</mark> NPNs, Network Slicing, QoS classes, network event reporting and assistance, etc. that are useful for media production, and to clarify their usage for media production.

- To identify the suitability of existing media production <mark>content delivery protocols, codecs and service layers</mark> for 5G System usage, evaluate benefits and gaps, and recommend profiles or extensions in collaboration with organizations that develop and deploy existing protocols and codecs.

- To study media device and <mark>network orchestration solutions (such as AMWA NMOS),</mark> and their integration/interactions with the <mark>5G exposure framework.</mark>

- To collaborate with relevant other 3GPP groups and external organizations (VSF, 5G-MAG, EBU, etc.) on media-related aspects of Media Production use cases.

- To <mark>identify potential normative</mark> work on media level for media production use cases in 5G Systems.

The work primarily focuses on the usage of 5G Systems including <mark>NPNs (both Standalone NPN and Public Network Integrated NPN</mark>) and aims to identify needed normative specifications. The study follows the use-cases and requirements from TR 22.827 and 22.263. Interactions with SA2 and RAN, e.g. around <mark>time synchronization of devices,</mark> time sensitive communication, <mark>5G NPN aspects,</mark> etc. are expected.

SID Supporters
(not limiting contributions)

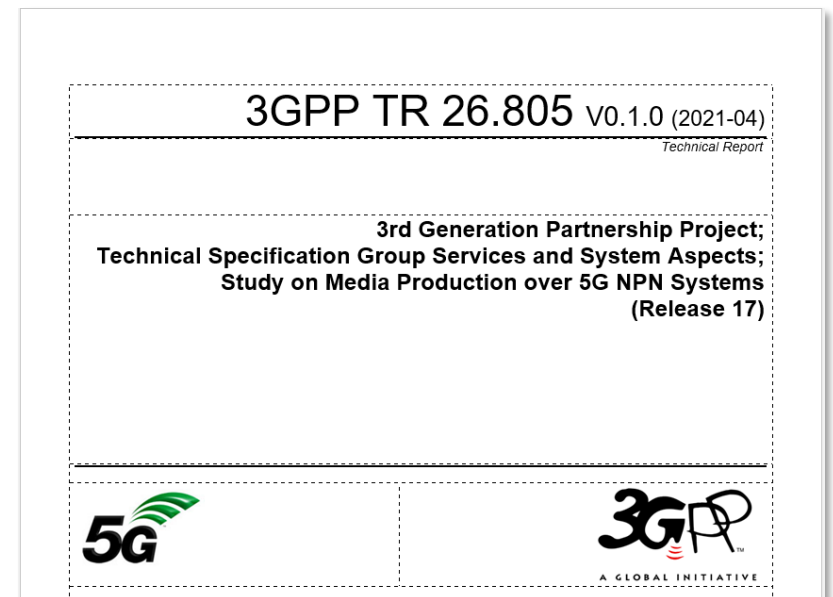| Supporting IM name |
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Time Plan and result documentation

Technical Report

- **Time Plan (S4-210642)**
  - SA4#113e   6th April to 14th April 2021

  - SA4#114e   19th May to 28th May 2021

  - SA4#115e   18th August to 27th August 2021

  - SA4#116e/p   15th November to 19th November 2021

  - SA4#117e/p   either 14 February to 18 February 2022
                  or 14 February to 23rd February (2022)

- Several ad-hoc conference calls scheduled between SA4 plenary meetings

	New specifications {One line per specification. Create/delete lines as needed}				
Type	TS/TR number	Title	For info at TSG#	For approval at TSG#	Rapporteur
TR	26.805	Study on Media Production over 5G NPN Systems	94	95	Thorsten Lohmar, Ericsson

3GPP TR 26.805 V0.1.0 (2021-04)

Technical Report

3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Study on Media Production over 5G NPN Systems
(Release 17)

5G   3GPP
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Current Version (v0.1.0) in S4-210678
All versions here