

5GAA related papers for cloud & connected services

This is just a summary and brief review of some 5GAA papers that may be relevant for our bit-picture analysis and design of the future cloud-connected architectures, and general "gap analysis"
(Therefore, for full information, please read yourself on the 5GAA page <https://5gaa.org/5gaa-in-motion/news/#white-papers>)

https://5gaa.org/wp-content/uploads/2018/08/V2X_white_paper_v1_0.pdf

"NGMN Publish white paper on V2X"

Published by "Next Generation Mobile Networks (NGMN)" group

Title: V2X White Paper v1.0 (this is the simple official title used on the paper itself)

What is it:

There is also a fair summary in press release, read that one also:
<https://5gaa.org/news/ngmn-publish-white-paper-on-v2x/>

What it contains:

8 different V2X use cases were chosen to reflect the three ITS application types: 1) road safety, 2) traffic management & efficiency and 3) infotainment.

This gives a bit of overview on the types of areas that want to be "solved" by communication and the characteristics that should be studied (performance, latency, predictability, ... etc.)

But it then moves to describe C-V2X specifically, and its advantages. Various considerations of deployment - info about the environment in which C-V2X WOULD be deployed, i.e. the car market size, thinking about upgradability, and so on.

<https://5gaa.org/news/5gaa-releases-updated-white-paper-on-c-v2x-deployment-timeline/>

Title: Timeline for deployment of C-V2X–Update

Updated Jan 2019.

What it contains:

As it sounds, this only clarifies the timeline, i.e. when hardware is available from different manufacturers, when the frequency bands are approved, and when certification is done so that deployment in cars is possible.

Summary:

During 2020 all pieces should be in place to (theoretically) have car communication according to C-V2X over 5G.

<https://5gaa.org/news/5gaa-releases-white-paper-on-c-v2x-conclusions-based-on-evaluation-of-available-architectural-options/>

Title:

Title: Cellular-V2X (C-V2X) Conclusions based on Evaluation of Available Architectural Options

What it contains:

31 pages. Comparing possible solutions for V2V and V2N architectures by analyzing the technical needs and what the consequence is to use C-V2X.

It includes some "cloud architecture" pictures that we may consider, but the components therein use different names than we are used to(?) (5G terminology)

Highly technical and detailed in places. The paper is hard to understand for anyone not familiar with MANY 5G related terminology and abbreviations.

Summary:

A little bit useful on use-cases to solve. Useful to learn about C-V2X but many details will be hard to understand if you don't work on 5G. It does not seem to give a generic introduction problems and multiple solutions, more quickly it leads into how C-V2X is the solution.

Title: Paper on Making 5G Proactive and Predictive for the Automotive Industry

Info

<https://5gaa.org/news/5gaa-releases-white-paper-on-making-5g-proactive-and-predictive-for-the-automotive-industry/>

Paper:

https://5gaa.org/wp-content/uploads/2020/01/5GAA_White-Paper_Proactive-and-Predictive_v04_8-Jan.-2020-003.pdf

What it contains:

Info specifically on **Predictive Quality of Service**.

"A mechanism that enables the mobile network to provide notifications about predicted QoS changes to interested consumers in order to adjust the application behaviour in advance."

Summary:

Probably not immediately important to study, unless you are specially interested in that subject.

Other white papers

There are more papers, one compares 5G with 802.11p, and a few others also aim to explain why 5G (C-V2X) is a better solution than any alternatives.