

A Review of In-Vehicle Network for Cloud Connected Vehicle

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Abstract : Automotive industry targets to provide an improvement in safety and convenience through realizing fully autonomous vehicle. For partially realizing fully automated driving, Current vehicles already feature varieties of advanced driver assistance system (ADAS) for safety and infotainment systems for the driver's convenience. This paper presents Cloud Connected Vehicle (CCV) which connected vehicles with cloud data center via the access network to control the vehicle for achieving next autonomous driving form and describes its features. This paper also describes the shortcoming of the existing In-Vehicle Network (IVN) to be a next generation IVN of CCV and organize the 802.3 Ethernet, the next generation of IVN, related research issue to verify the feasibility of using Ethernet. At last, this paper refers to additional considerations to adopting Ethernet-based IVN for CCV.

Keywords : autonomous vehicle, cloud connected vehicle, ethernet, in-vehicle network

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