

Multilevel cloud based Tactile Internet system

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Abstract— Far from the traditional Internet in which audio and visual senses can be transferred, the Tactile Internet will introduce a way for transferring touch and actuation in real time form. However, the fifth generation of the mobile cellular system (5G) will be a great support for realizing Tactile Internet, the 1 ms round-trip-delay still a great challenge in the way of the Tactile Internet realization. Mobile edge computing (MEC) is a solution introduced to reduce the round trip latency and provide a way for offloading computation from the cellular network.

In this paper we introduce a novel approach toward a multi-level cloud based cellular system, in which the small cells are connected with micro-cloud units with small capabilities to present the edge computing facilities. The micro-clouds are connected to mini-cloud units which have greater capabilities. The core network cloud connects the mini-clouds in the whole system. Introducing more levels of clouding reduces the round trip latency and the network congestion.

Keyword—5G, Cloud, Latency, Mobile edge computing, Tactile Internet.



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