To Reduce Signaling Cost for Smart Grid Alarm System by Using Caching Mechanism

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***Abstract*—Information and Communication Technologies (ICT) are one of significant elements in the smart grid. Alarm systems are important thing in the ICT of smart grid. A number of sensors are being connected to the Internet. The abundant information technologies and many sensors demand much more data on their systems than before. Also, the alarm systems require a number of signaling. In this paper, we propose hierarchical architecture which reduces the signaling cost by using caching mechanism. Our alarm system operates Message Queue Telemetry Transport (MQTT). We apply caching mechanism in the features of MQTT's functions. The architecture can reduce the signaling cost than non-applying caching mechanism.**

***Keyword*— Smart grid, Alarm, MQTT, Signaling Cost, Hierarchical Architecture, Caching Mechanism**

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