

# **Research and performance evaluation of the CoAP application layer protocol**

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**Abstract:** This topic aims to study and evaluate the performance of the CoAP application layer protocol, a lightweight Internet standard for IoT devices. The reason for choosing this topic stems from the strong development of IoT, where CoAP plays an important role in optimizing transmitted data traffic. The objective is to identify the key characteristics and overall performance of this protocol through theoretical and experimental analysis. The research method includes evaluating processing power, bandwidth usage, and the ability to provide high-quality services for resource-constrained devices. The expected result is to establish a basis for improving the efficiency of CoAP usage in IoT applications, contributing to the sustainable development of sensor networks.

**Keywords:** CoAP, IoT protocol, performance evaluation, IoT, network standard