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5.論文題目：

An Analysis and Evaluation of Power Saving Mechanisms for Green Office Networks

（　グリーンオフィスネットワークにおける省電力機構の解析と評価　）

6.要旨：

Power consumption in office networks has become an issue due to its running cost. In order to reduce the power consumption, several approaches have been proposed such as Energy Efficient Ethernet which reduces power consumption of Ethernet links by dynamically varying link data rate according to the utilization, or Energy Efficient Wireless aggregation which focuses on the power consumed by office networks and tries to save the power by aggregating low-utilized users to the wireless network and turning off the switches that do not have active users.

However, performance of these technologies strongly depends on several network parameters such as traffic pattern of the clients or topology of the target network. Therefore, evaluating and comparing performance of the technologies is difficult and requires a development of a power consumption model for the specific network we like to study.

In this research, we choose office networks as the target network since it is one of the largest growing area of IT and is presenting a high level of power wasting due to the over-provisioning. The main contributions of our research include: 1) Developing an analytical model for evaluating performance of power saving mechanisms in office access networks. 2) Conducting a performance evaluation and comparison of the existing mechanisms through a theoretical analysis and a simulation.