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COMFIT: A Development Environment for the Internet of Things

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Abstract. This paper presents COMFIT (***C*lo**ud and ***M***odel based IDE ***f***or the ***I***nternet of ***T***hings), a development environment for the Internet of Things that was built grounded on the paradigms of model driven development and cloud computing. COMFIT is composed of two different modules: (1) the *App Development Module*, a model-driven architecture (MDA) infrastructure, and (2) the *App Management and Execution Module*, a module that contains cloud-based web interface connected to a server hosted in the cloud with compilers and simulators for developing Internet of Things (IoT) applications. The *App Development Module* allows the developers to design IoT applications using high abstraction artifacts (models), which are tailored to either the application perspective or the network perspective, thus creating a separation between these two concerns. As models can be automatically transformed into code through the *App Development Module*, COMFIT creates an environment where there is no need of additional configurations to properly compile or simulate the generated

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