

Proposing a Framework and Prototype for Applying Security Updates for Things of the IoT

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Abstract:

Higher popularity of IoT devices in various industries brings new crucial security issues the main one of which refers to management and updating the devices to maintain their correct functionality. To this effect, this project outlines a framework and a prototype of how updates can be securely rolled out to IoT devices while mitigating on the above-mentioned shortcomings. The solution includes the centralized control system that would enable secure connection between IoT objects and their manufacturers, incorporates strict safety measures such as encryption and authentication, and optimizes methods of updates dissemination. In so doing, the framework provides increased security and system reliability within IoT applications, through the pre-approving of updates and synchronization with device makers. Some of these are; the ability to handle compatibility issues, dealing with regulatory frameworks and making the necessary changes in order to accommodate new focuses in cybersecurity. The concept presented is a basis for a large-scale IoT management across various applications with optimal protection against cyber threats and optimal device performance.

Keywords: Security Updates, IoT devices, automatic updates, control the (IoT)