EFFICIENT AND SECURE CODE DISSEMINATION IN SENSOR CLOUDS
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ABSTRACT
In this paper, we present an efficient and secure code dissemination technique aimed towards sensor clouds. Previous code dissemination techniques were geared towards traditional wireless sensor networks and did not take into account the dynamic nature of a sensor cloud. The technique presented in this paper first finds out the code which is common across various wireless sensor applications and distributes this code in the form of functions \textit{a priori} into the network. During the code dissemination these common functions are picked up by the sensors from the network and only a part of the code needs to be transmitted from the base station. Thus, reducing the overall code transmitted and reducing the energy consumption. Since security is important in sensor clouds, we further present a security scheme based on symmetric proxy re-encryption to provide confidentiality and integrity of the code. We also evaluate our scheme in terms of energy consumption and the reduction in disseminated code size to illustrate its efficiency.