A bayesian inference-based detection mechanism to defend medical smartphone networks against insider attacks - DTU Orbit (18/12/2018)

A bayesian inference-based detection mechanism to defend medical smartphone networks against insider attacks
With the increasing digitization of the healthcare industry, a wide range of devices (including traditionally non-networked medical devices) are Internet- and inter-connected. Mobile devices (e.g. smartphones) are one common device used in the healthcare industry to improve the quality of service and experience for both patients and healthcare workers, and the underlying network architecture to support such devices is also referred to as medical smartphone networks (MSNs). MSNs, similar to other networks, are subject to a wide range of attacks (e.g. leakage of sensitive patient information by a malicious insider). In this work, we focus on MSNs and present a compact but efficient trust-based approach using Bayesian inference to identify malicious nodes in such an environment. We then demonstrate the effectiveness of our approach in detecting malicious nodes by evaluating the deployment of our proposed approach in a real-world environment with two healthcare organizations.

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