

# Improving Network Security through Software Defined Networking (SDN)

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**Abstract:** *The Internet of Things (IoT) connects many of the world's home appliances, from intelligent thermostats to intelligent cars. We had 9 billion connected things by the end of 2015. According to Gartner, the total number of networked devices will approach 50 billion by 2020. The majority of linked devices in the existing network use outdated security technology and encryption, and many do not allow for remote device updates. Given the vast number of IoT devices available, ranging from off-the-shelf motion monitoring to machine tools, it is impossible to determine which functions are associated with any given service or product. In a nutshell, this is the issue: you can't trust the device's security and integrity. K-times anonymous authentication (k-TAA) is an important access control approach used in ecoupon and e-bill. It allows a user to authenticate himself anonymously to a distant server a set number of times. However, most known k-TAA techniques need a lot of processing, which makes them difficult to use on devices with low resources. In 2018, Tian and colleagues published Tian et al presented a remote user authentication system that protects users' privacy. Considering untraceability of k-times In contrast to the typical k-TAA, Tian et al method . 's is better suited to mobile devices.as a result of avoiding costly pairing operations They're also claim that their system ensures user trust and authenticity. Untraceability k times Unfortunately, we are unable to do so in this paper Analyzing their scheme reveals that it is insecure. Their Neither scheme can stop a rogue user from sending information neither the authentication.*

**Keywords:** Internet of Things

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