**Introduction of wireless network security**

Nowadays wireless network has become one part of indispensable elements of people’s daily life. People’s personal information or business classifications are all transmitted via wireless network everyday. This valuable information could become the target by some cyber criminals. Stealing personal information or classification is the way how they earning money. In that case, the security of the wireless network is crucially important for wireless network users. Before introducing the security of wireless network, talking about the principles and components of the wireless network is necessary.

Wireless network is divided by the service areas, for example the wireless network works for local area called WLAN (Wireless Local Area Network), for the metropolitan (WMAN) and for personal (WPN). [1] The WLAN uses radio waves to connect devices such as laptops and mobile phones to the Internet and to the business network and its applications. It has many advantages compared with wired network like saving the cost, more convenient and productivity. Previously it was thought that wired networks were faster and more secure than wireless networks; however, after few years developing and enhancements to wireless network technology. The wireless networking standards have eroded speed and security differences between wired and wireless networks.

[2] The wireless network security works for protecting the wireless network from unauthorized and malicious access attempts. The network security has many different layers such as the physical security, firewalls and Intrusion Detection and Prevention (IDPS). Typically, wireless network security is delivered through wireless devices (usually a wireless router/switch) that encrypts and secures all wireless communication by default. Even if the wireless network security is compromised, the hacker is not able to read the content of the traffic/packet in transit without the decryptions. Cryptology is the key part of the security systems. If without the private key, hackers will not be able to easily access the contents. Except the encystation, wireless intrusion detection and prevention systems (IDPS) with many different types also able to protect a wireless network by alerting the wireless network administrator in case of a security breach.

[1]S. Solutions, C. Center and S. Resources, "What Is a Wireless Network? - Wi-Fi Network", *Cisco*, 2018. [Online]. Available: https://www.cisco.com/c/en/us/solutions/small-business/resource-center/networking/wireless-network.html. [Accessed: 09- Dec- 2018].

[2]"What is Wireless Network Security? - Definition from Techopedia", *Techopedia.com*, 2018. [Online]. Available: https://www.techopedia.com/definition/29915/wireless-network-security. [Accessed: 09- Dec- 2018].