THE SECURITY STANDARDS IN WIRELESS NETWORK AND TYPES ENCRYPTIONS

**Abstract** - The network is widely used in recent years to connect to the Internet and it has become one of the basics that are used in work, home and even public places

The security of these networks is important to protect the privacy of their users.

One of the safety criteria in the currently available Internet networks is

(WEP, WPA, WPA2 and under development WPA3).

They differ in the security level, from WEP to WPA2

In terms of algorithms and encryption .

**Keywords** : Security Standards, Wireless Network, WEP, WPA, WPA2, WPA3.

**1 . Introduction**

The technology of wireless releases the wire network users from copper wires. With wireless technology, a user can freely move and use devices such as laptop and cell phone. Hence, users can stay online whenever the wireless signal is available. Based on wireless technology principle, electromagnetic waves are used to carry the signals then these waves are transmitted to the receiver of signal. Table 1 categorizing the wireless technology into three layers [1].

Currently the Wireless technologies are employed in everywhere since it featured with the low cost, mobility and simplicity [2]. This rapid growth of this technology requires tackling its limitations in order to seamless its usage. Sending the packet by air makes it vulnerable, so security is needed to prevent eavesdropping by third party. Thus, secreting data during transmitting is very significant to prevent eavesdropping [3]. In addition, many application suggested the use of additional methods to secure the exchanged data [4]

**2 – WEP ( Wired Equivalent Privacy )**

“Despite revisions to the protocol and an increased key size, over time numerous security flaws were discovered in the WEP standard. As computing power increased, it became easier and easier to exploit those flaws”.

**3 – WPA & WPA2 ( Wi-Fi Protected Access )**

Encryption and security technologies with the release of WPA, but with the passage of time hackers techniques evolve

Then came the newly used WPA2, which is the current highest level of security for wireless networks .

**4 – Encryptions and Wireless Network**

How encyption secure wireless network ?

When using a router, we often change the wireless network password, and it is difficult made up of letters and numbers, and we neglect the importance of encryption

Encryption splits data so that its content cannot be accessed or understood and have a key to collect data and convert it to its original

**5 – What is the best type of encryption?**

Based on the research paper, the best encryption that can be used to protect a wireless network is Type WPA2.

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