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|  | WEP | WPA | WPA2 |
| The main purpose | Security is provided in contrast to wired network | Implementation of IEEE 802.1 Li standards with WEP without requiring new hardware | Complete IEEE 802.1 li standards are implemented with new enhancement of wpa |
| Data privacy | RC4 | TKIP | Authentication is provided through chipper blocks with CCMP and AES |
| Authentication | WEP-open  WEP-shared | WPA-PSK  WPA-Enterprise | WPA2-Personal  WPA2-Enterprise |
| Data integrity | CRC-32 | Data integrity is provided through message integrity code | Cipher block chainning message authentication code (CBC-MAC) |
| Key management | Is not provided | The 4 way hand shaking mechanism is used to provide key management | Same as wpa |
| Compatibility interm of hardware | Possible to deploy in current hardware infrastructure | Possible to deploy in current and previous hardware | Older network interface cards are not supported , olny 2006 and newer |
| Vulnerability | Vulnerable against chopchop,bittau’s fragmentation and DoS attack including variety of DoS attack | Vulnerable against chopchop,ohigashi-Morri,wpa-psk and DoS attack | Vulnerable against DoS attack due to unprotected frame control and MAC spoofing |
| Deployment interm of complexity | Easy to deploy and configure |  | Wpa2 requires complicated setup with wpa-enterprise |
| Replay attack protection | No protection | Implements sequence counter for replay protection | Implementation of 48 bit datafram/packet number protects against replay attack |

2.Weak point of WEP

-vulnerability to offline dictionaries attack

-vulnerable to bruteforce attack

-lack of encryption in data packets

-WEP key distribution is done using shared secret key between distribution points and end points

-if an attacker can capture a frame containning secret key then he can compromise the security of all devices on the network

-wep is susceptible to packet sniffing , where an attacker will capture transmitted frame from wireless connection and later analyze them for the sensitive information

-short encryption key

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