



Week3 – Wireless Attacks

Advanced Network Security

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Task 1:

The presence of multiple disassociation and de-authentication packet designated to a single host in a relatively short amount of time is a good alert flag.

Task 3:

The European Union's Cybercrime Convention Committee criminalizes denial of service attacks in T-CY Guidance Note #5, Article 2, 4, 5, 11, 13 (Cybercrime Convention Committee, 2013).

In the UK particularly, the spectrum management and licensing is managed by the Office of Communications (Ofcom), which has a statutory duty to ensure the optimal use of the electromagnetic spectrum. The Communications Act 2003 transferred regulatory powers, functions and responsibilities to Ofcom. The Wireless Telegraphy Act 2006, which came into effect from 8 February 2007, is the principal legislation on the regulation of radio spectrum in the UK and the powers available to Ofcom, consolidating several earlier pieces of legislation.

Signal jamming can be addressed by Ofcom using the power it holds under Section 8 of the 2006 Act, which forbids the installation or use of wireless telegraphy (radio) equipment in the UK, mainland Northern Ireland and territorial waters, the Isle of Man and the Channel Islands, unless an appropriate licence has been obtained from Ofcom, or there are regulations in force exempting it from the licensing requirements. Licences are usually granted subject to terms, provisions and limitations, which must be complied with.

The implications are simple, not applying security countermeasure layers makes a system more vulnerable to attack.

Task 4:

The message integrity code (MIC) is a 64 bit message calculated using the “Michel” algorithm inserted in TKIP packet to detect content alteration. Message digest algorithms are created such that a given input it will always produce the same message digest assuming the same algorithm is used to generate both. Included in the MIC calculation there is also a frame counter (one use number) to prevent the “Man in the Middle” attack, If a MIC error is thrown, that means that the wireless frame has been replayed by a third party or the client computer has a fault.