Detection and mitigation of intrusion in the Internet of Things

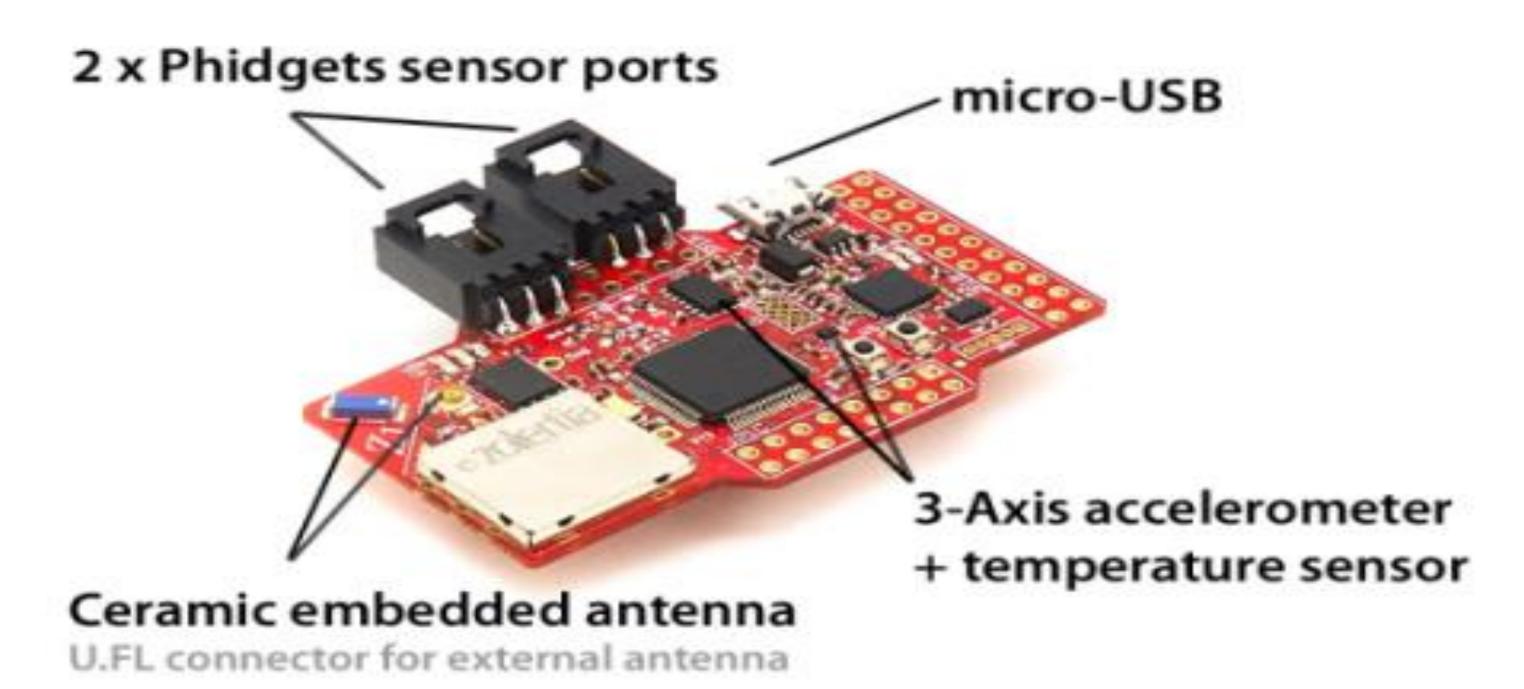


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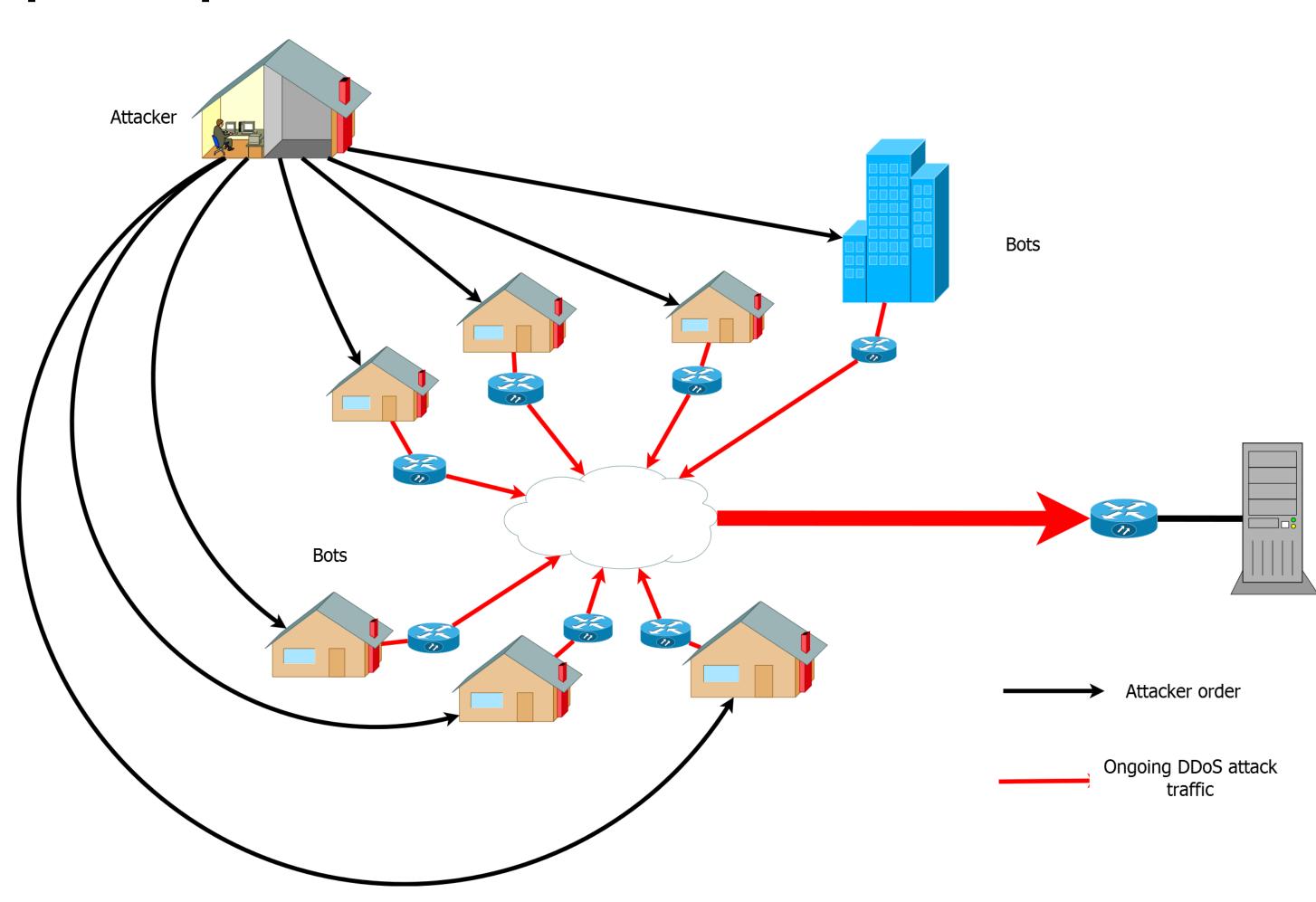
Internet of Things

The number of interconnected devices already surpasses the number of connected people and this difference will become even larger with the Internet of Things (IoT).

Due to the permanent connection of things with the internet, they will become the preferred target for malicious person to launch attacks on internet like Distributed Denial of Service Attack (DDoS).



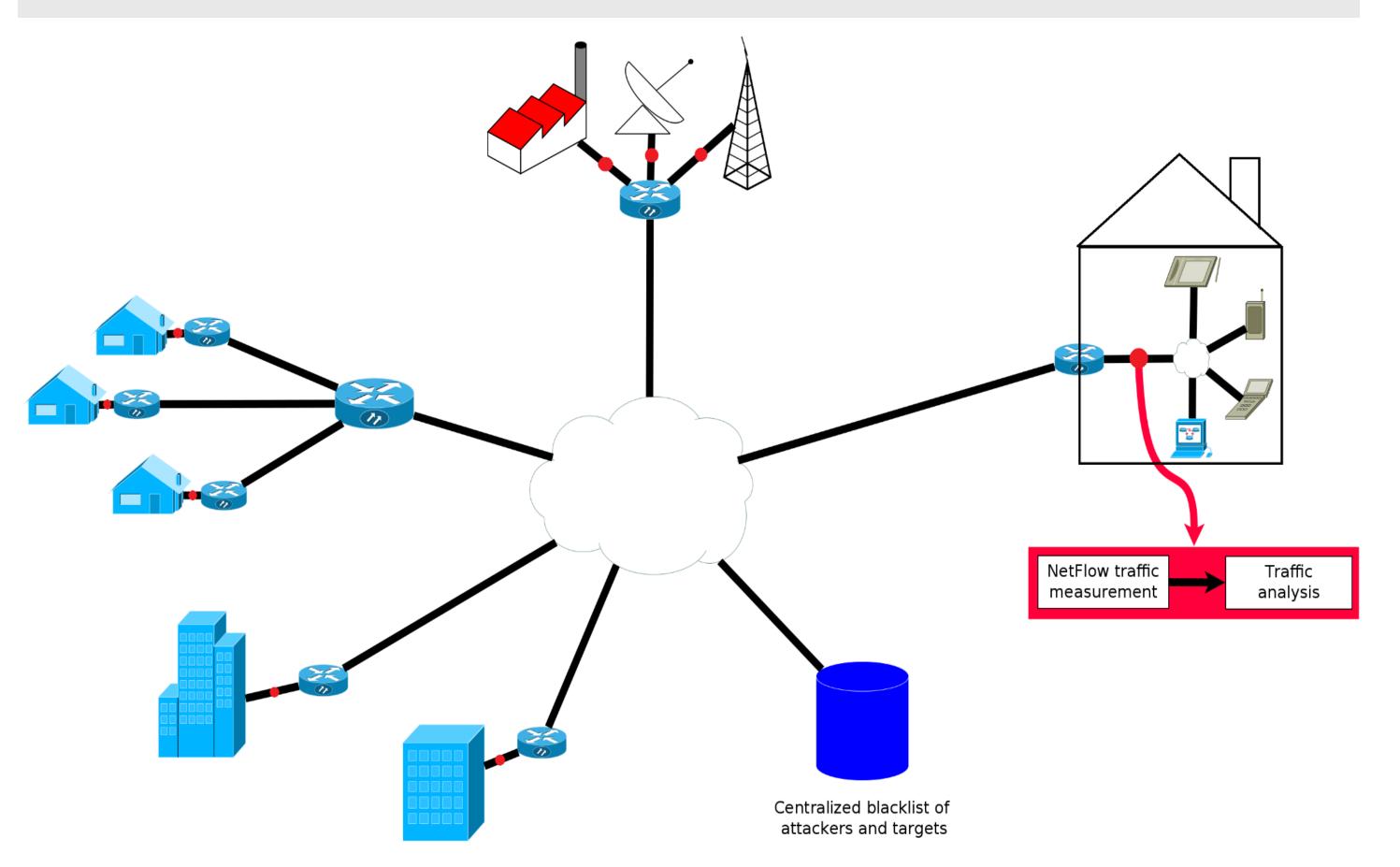
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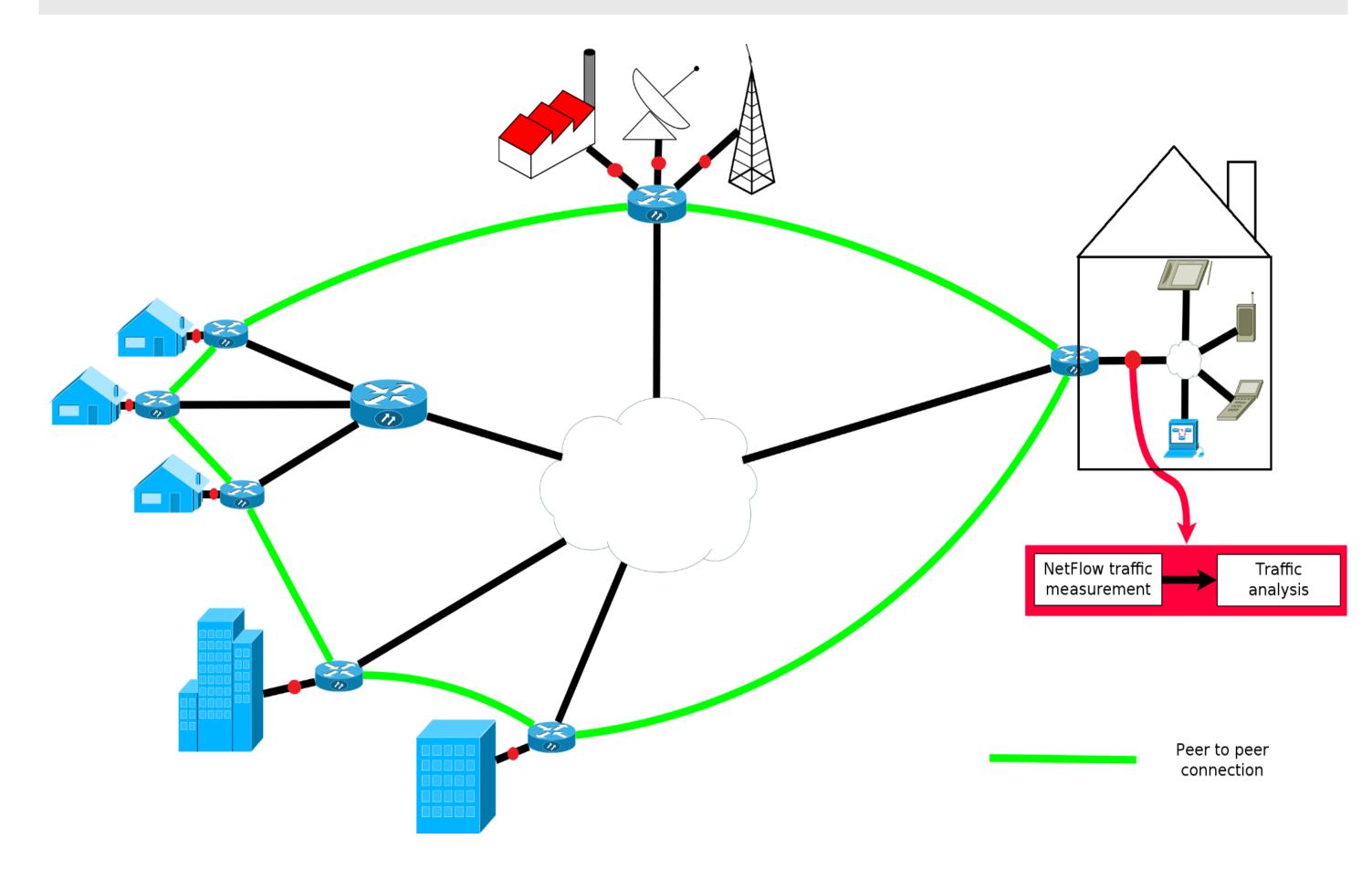
DDoS Attack

Goal

- Design Intrusion Detection System (IDS) on the gateway
- Create cooperation between them



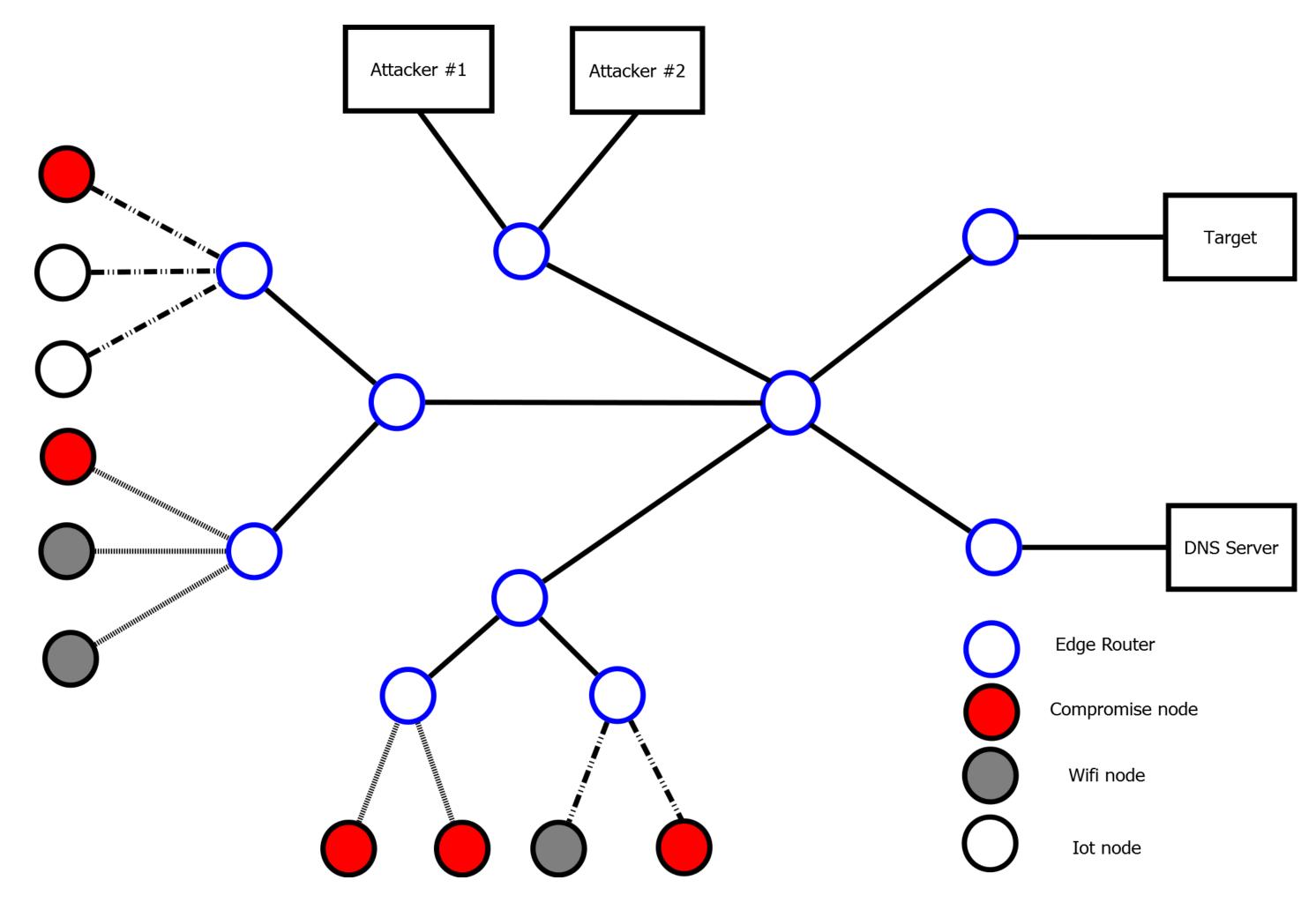
- System with centralized blacklist database
- System with distributed database



Distributed design solution

Methods

- Design the solution on a simulated environment
- Test on real devices



NS3 Simulation

References

- [zolertia] http://zolertia.sourceforge.net/wiki/index.php/Z1
- [Kasinathan13] P. Kasinathan. Denial-of-Service detection in 6LoWPAN based Internet of Things. IEEE 9th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), 2013
- [Raza13] S. Raza et al. SVELTE: Real-time intrusion detection in the Internet of Things. Elsevier Ad Hoc networks, Vol. 11, Issue 8, 2013.

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Centralized design solution