



INTERNET OF THINGS SECURITY

IOT SECURITY (WHAT IS IOT SECURITY?)

With the growth of IoT, new security issues arise while traditional security issues become more serious.

The impact factors can be further divided into two categories because each category faces different security problems.

- The diversity of the “Things”
- The communication of the “Things”.

The security problem for the “Things” is generated by vulnerabilities that are created by careless program design, and this make opportunities for malwares or backdoors installation. The security problem for the communication medium of the “Things” occurs because the networking environment for IoT is heterogeneous.

INTRODUCTION

defining IoT as: “a network of physical objects”.

Examples and uses:

- | | |
|---|---|
|  Transport/Logistics |  Smart factory |
|  Smart home |  E-Health |

IMPORTANCE

Internet connected devices are everywhere, it is related to our homes, works, cars or even our bodies, these devices have varied of tasks including track our sleep patterns and do medical process and other.

Also, it has effects on manufacturing, energy production, agriculture and construction and healthcare field. IoT devices create lots of data, which is valuable resource, it can share and collect data with minimal human intervention by benefits of low-cost computing, cloud, big data analytics and mobile technologies. There are definitely safety, data security, privacy, and reliability concerns, where the success of IoT implementation is under constant threat from breach.

METHODS

There are a lots of method for IoT security including:

- Developing Secure Devices.
- Establishing Secure Connection.
- Building a Secure Network.
- Securing Data Storage.
- Securing Internet Gateway.
- Training Cybersecurity teams.
- User's education.

PROBLEMS

- Incorrect Access Control
- Overly large attack surface.
- Lack of encryption.
- Application vulnerabilities.
- Insufficient privacy protection
- Intrusion ignorance
- Hijacking of IoT Devices and Ransomware
- Insufficient Testing and Lack of Updates.
- Home Intrusions.
- IoT-Driven Financial Crime.
- Remote Smart Vehicle Access.
- Rogue And Counterfeit IoT Devices.
- Lack Of User Awareness Regarding IoT Security.

SOLUTIONS

- Change Passwords Often and Make Them Strong.
- Don't Rely on Cloud Technology.
- Avoid Universal Plug & Play Features.
- Use Secondary Network.
- Update Your IoT Device Regularly.
- secure networks.
- Data Encryption.
- Authentication Mechanisms.
- Beware of Latest IoT Security Threats & Breaches.



SRcurity PROBLEMS AND SOLUTIONS OF IOT DEVICES



CHALLENGES ON IOT SECURITY

Security challenges

associated with the principles and functionalities that must be implemented in order to build a safe network.

Technological challenges

occur as a result of the heterogeneous and widespread nature of IoT devices.

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