**Difference b/w Operational Technology Networks and Informational Technology Networks**

**Report by - Harsh Sharma**

**Introduction to the terms:**

Operational Technology Networks

More like Information technology Operational technology stores data and manipulate things. But, the main purpose of OT’s is to analyse how physical processes are working for example “How much electricity is being stored in the power grid.” Operational Technologies can be combined with Information Technology for sharing data with each other.

Examples: Nuclear Power Plants, PLC based Automatic Dam Shutter Control System

Operation Technologies as more related to Industrial Control Systems and SCADA (Supervisory Control and Data Acquisition) systems.

OT networks are the major concern of any governments and big organizations because these technologies make huge impact in the day-to-day life and economy of the nation.

As an application, we can imagine a water pump gives water to the villages. If something got wrong within there will be a scarcity of water. To prevent and protect this type of SCADA and ICS are used.

Information Technology Networks

The main purpose of Information Technology is to:

1. Store data
2. Manipulating data
3. Analysing data
4. Securing data

Example: Laptops, Surveillance Cameras

These types of Networks are being used within the rooms, floors such devices can be CCTV cameras, Infrared sensor. All these data are aggregated in the databases which is then analysed. To prevent these types of devices being hacked multiple firewalls are deployed within the network.

**Difference b/w OT and IT Networks**

|  |  |
| --- | --- |
| **OT Networks** | **IT Networks** |
| Needs more attention as they are real time | Needs attention but less in terms of  OT networks. |
| Can result in catastrophic event if got attacked by a cyber-attack for example short circuit in the electricity grids. | IT networks do not result in catastrophic events as they are small devices and only used to store data. |
| Needs high maintenance at regular basis | Needs updates at regular basis |
| Components life: 15 – 20 years | Components life: 3-5 years |
| Components must be from same company and checked first. | Diversifying is allowed in components |
| Skilled and Experienced Cyber Security professionals are needed to operate these kinds of networks. | Cyber Security professionals with basic to advanced knowledge can handle these types of networks. |
| High scale of land is needed | Low scale of land is needed |

**Conclusion**

Both IT and OT networks are important within the industry and have their own purposes and aspects. IT networks are endpoints and OT networks are the big machines, different mechanisms that are used in dams, power grids which are networked within the organisations with the help of ethernet or wired connections/wireless connections.