

# **Presentation on NMS**

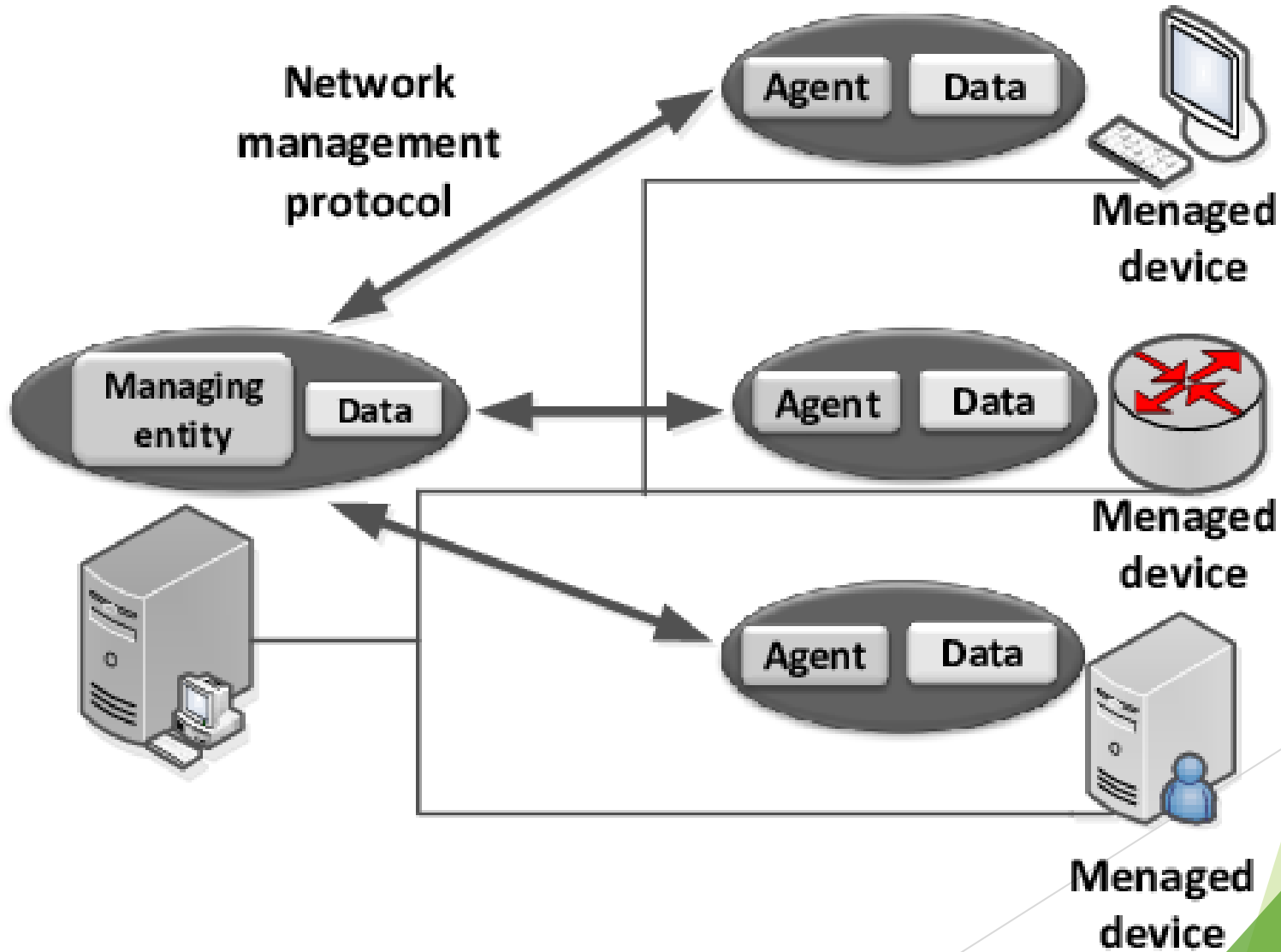
# Definition of NMS

**A network management system, (or NMS), is a server that runs a network management application. Network elements (such as OLTEs/IP Phones, Routers etc) communicate with the NMS to relay management and control information**

# Fundamental Areas of NMS

- ▶ **Performance Management**: To quantify, measure, report, analyze, and control the performance. Trunk healthiness, number of trunks, trunk details etc can be identified
- ▶ **Fault Management** : Detect, isolate, and correct any non-normal network conditions.
- ▶ **Configuration Management** : Allows hardware and software configurations
- ▶ **Accounting Management** : Specifies usage quotas and the allocation of resource-access

# NMS Architecture



# Network Protocols

**Network protocols can be defined as languages which enable the ability for devices to communicate even if their structure, design, or internal processes differ.**

**There are three types of network protocols:**

- ▶ **Network management (ICMP, SNMP)**
- ▶ **Network security (HTTPS, SFTP, SSL)**
- ▶ **Network communication (TCP/IP, HTTP)**

even used to  
protect network

# Network Management Protocols

*Network management protocols* determine the policies and procedures required for monitoring, managing, and maintaining a computer network. They are used to monitor the network, detect network faults, and to configure remote devices

The two common protocols are :

**ICMP: Internet Control Message Protocol**

**SNMP: Simple Network Management Protocol**

# Simple Network Management Protocol (SNMP)

- ▶ **SNMP is an application layer protocol, uses UDP at Transport Layer**
- ▶ **It is an application layer protocol in which a manager station handles a set of agents**
- ▶ **The protocol has 3 components :**
  - ▶ **Manager :** It is a centralized system used to monitor network. It is also known as Network Management Station (NMS)
  - ▶ **Agent:** It is a software management module installed on a managed device. Managed devices can be network devices like PC, routers, switches, servers, etc.
  - ▶ **Management Information Base (MIB) :** MIB consists of information on resources that are to be managed. This information is organized hierarchically.

A close-up photograph of a hand holding a white rectangular card. The card has the words "THANK YOU!" printed in a large, bold, black, sans-serif font. The background is a soft, out-of-focus green, suggesting an outdoor setting with foliage. On the right side of the image, there is a vertical decorative graphic consisting of several overlapping, semi-transparent green triangles of varying shades, creating a modern, geometric design.

**THANK  
YOU!**