

Management Information

MIB, MO, & Management Protocol

Management Information - Concept

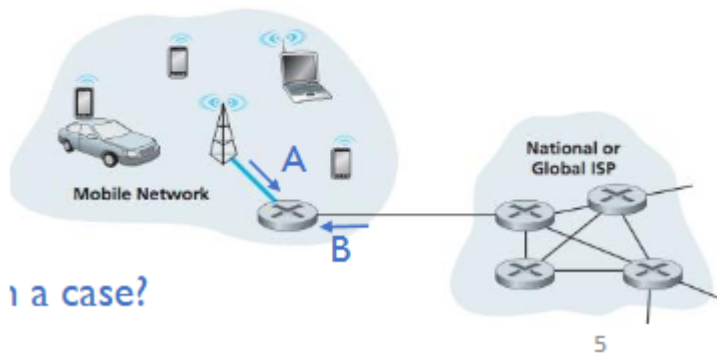
- Management applications (managers) and managed devices (represented by agents) communicate
 - Management Information
 - Anything managers need to know about managed devices
 - Carried in management messages exchanged between managers and agents
 - Used by management functions.
 - Important Questions:
 - *Define management information*
 - *establish common terminology between manager and agent*
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Common Terminology

A central aspect of management information which refers to a mutually understood way in which agents and managers can refer to various aspects of managed devices to prevent problems from arising.

Example Scenario:

- Manager queries an edge router for the incoming (direction A) traffic volume
- Agent has a different definition for "incoming" and returns the outgoing (direction B) traffic volume to manager
- Manager finds unusually high traffic --> Suspects an ongoing attack --> might switch off corresponding port to cut off the suspected attacker.

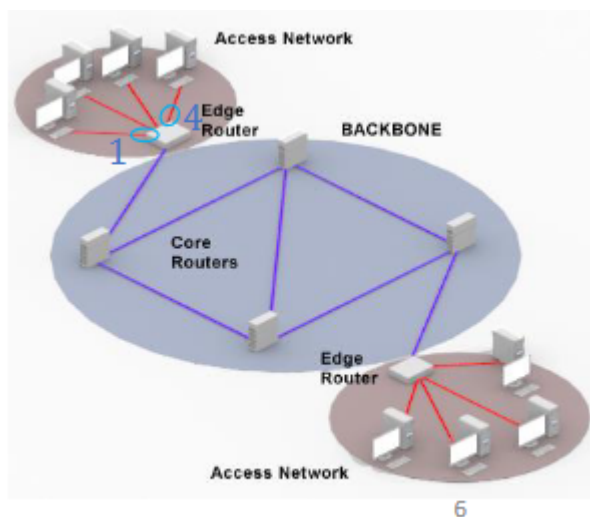


is a case?

Q: Why would the manager find it unusual in such a case Download vs upload speed (Down will always be higher than upload)

Example Scenario 2:

- Manager queries agent for information about port 1
- Agent uses different indexes for ports and refers to port 4 as port 1
- Manager confused what and who connected to the two ports
- Subsequent management decisions building on wrong facts



Misunderstandings:

- Type of information (incoming vs outgoing traffic in) scenario 1
- Particular instance of information (one of several ports) in scenario 2

Difference between MIB and Database

Why would we be using MIB rather than a database and database management system (DBMS)

A1: Footprint

- DBMS: heavier weight as it requires more processing resources
- MIB: Lighter weight which enables more focus on management interfaces
- Network devices have limited processing capabilities making it difficult to run a DBMS
- Much of the general-purpose processing provided by DBMS aren't needed by a manager or an agent.

A2: Management Requirements

- A lot of management information that is hierarchical in nature
- Some management information maintained by the agent (monitoring data for example), others by managers (Configuration settings)