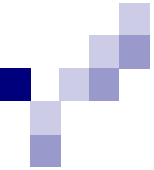

SNMP vs TMN

SNMP limitations

- Networks are expanding fast, more agents need to be added, the amount of data has increased, resulting in complex heterogeneous network,
  - in such scenarios simpler SNMP protocol stack with fewer operational commands is inadequate and could not provide scalability.

Cont…

- SNMP is based on connectionless protocol UDP which makes it unreliable because
  - one is never sure whether operations Set, Get or even Trap issued are received or not,
    - Moreover there is no means to be assured whether commands issued has worked as per requirement.

Cont…

- Managed objects defined in SNMP are based on variable oriented and don't have inherited properties.
- SNMP wastes Bandwidth with unnecessary information carried out in each message like
  - SNMP version, multiple lengths and data descriptors etc.
- Business requirements and policies dictate the network is one of important demand of industry
  - while SNMP doesn't provide any liaison between business requirements and technology, i.e., with changing business needs, SNMP framework can't reconfigure managed elements automatically.

TMN Limitations

- Today's Industry demands are for low cost, off the shelf tools,
  - while Programmer of TMN's OSI Management Frame work is faced with expensive tools and complex APIs.
  - TMN is based on object oriented approach but it again lacks from object location transparency because manager requires knowing complete detail of agent.
  - TMN agents are also dumb and have no intelligence to handle on their own important management decisions.

Comparison (SNMP vs TMN)

Areas	SNMP	TMN
Reliability	SNMP is based on connection less UDP and can't guarantee the delivery of messages.	TMN supports both TCP and UDP, thus message delivery is guaranteed.
Management View	SNMP traditionally focuses on network and element only	TMN provides better conceptual frame work called logical layer that provides Enterprise and service view of Network,
Programming approach	SNMP is based on variable oriented approach.	TMN is based on object oriented paradigm

Cont…

Network management	In SNMP, there is no separation between network that's to manage and network that is used carrying management tasks,	TMN has conceptual separation between network that's to manage and network that is used carrying management tasks,
Complexity	SNMP has simple design and architecture.	TMN framework is comprehensive but complex. Data Modelling and abstracting are very complex.
Cost	SNMP is cost effective and open in standards.	TMN is more costly than SNMP due its complex architecture.

Cont…

Protocol stack	SNMP is light weight protocol with fewer operational commands and it is inadequate and	TMN is based on heavy weight CMIP protocol stack. It provides
	doesn't provide scalability	comprehensive set of operational commands.