

CHAPTER 4

CHARACTERIZING THE EXISTING INTERNETWORK

Expected Outcomes

Characterizing the Network Infrastructure
Checking the Health of the Existing Internetwork
Tool for Characterizing the Existing Internetwork

Scalability

- Ability to handle growing amount of work
- Capability of a system to increase total throughput under an increased load when resources are added
- A scalable system is that whose performance improves after adding hardware, proportionally to the capacity added
- A routing protocol is considered scalable with respect to network size, if the size of the necessary routing table on each node grows as $O(\log N)$, where N is the number of nodes in the network.

Availability

- The degree to which a network is operable and in a committable state at the start of a mission, when the mission is called for at an unknown, *i.e.*, a random, time. Simply put, availability is the proportion of time a system is in a functioning condition

Security

- Consists of the provisions made in an underlying computer network infrastructure
- policies adopted by the network administrator to protect the network and the network-accessible resources from unauthorized access
- consistent and continuous monitoring and measurement of its effectiveness (or lack) combined together

Adaptability

- network infrastructure, topology etc is delivering value to the users
- User can get benefits from the network provided by the vendor.

Usability

- how well the users can use the facilities provided by network.
- Good usability requires that the network can be easy to use

Manageability

- refers to the activities, methods, procedures, and tools that pertain to the operation, administration, maintenance, and provisioning of networked systems