FACULTY OF ENGINEERING & TECHNOLOGY

Brajesh Mishra

Assistant Professor
Department of Computer Science & Engineering
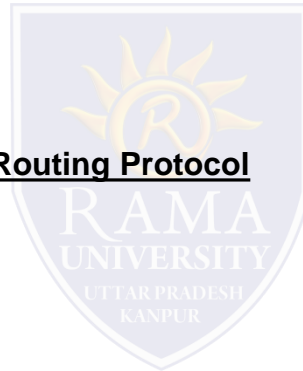
global state routing (GSR)
Concept : Global State Routing
Global State Routing Protocol : Working
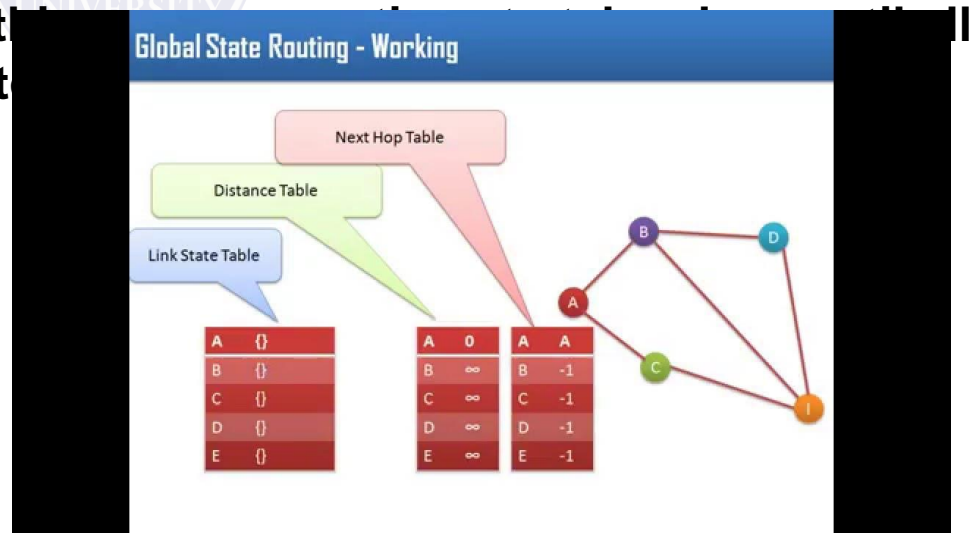**Advantages and Disadvantages: Global State Routing Protocol**

Global State Routing is based upon the fundamental concepts of link state routing.

In Link State Routing(LSR), one of the node floods out a single routing table information to its neighbors and those neighbors floods out that table to further nodes. This process continue to take place until the routing table is received by all the nodes throughout the network.

But in case of Global State Routing, the routing table of a particular node is broadcast-ed to its immediate neighbors only. Then initial tables of those neighboring nodes are updated. These updated tables are further broadcast one by one and t[...]**the nodes broadcasts their tables t**[...]
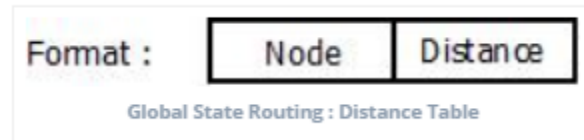

Global State Routing - Working

Concept : Global State Routing

GSR protocol uses and maintains three tables for every node individually. These tables are:

1. Distance Table : This table contains the distance of a node from all the nodes in network.

Format :	Node	Distance

Global State Routing : Distance Table

Topology Table : This table contains the information of Link state data along with the sequence number which can be used to determine when the information is updated last.

Format :	Node	Link State	Sequence

Global State Routing : Topology Table

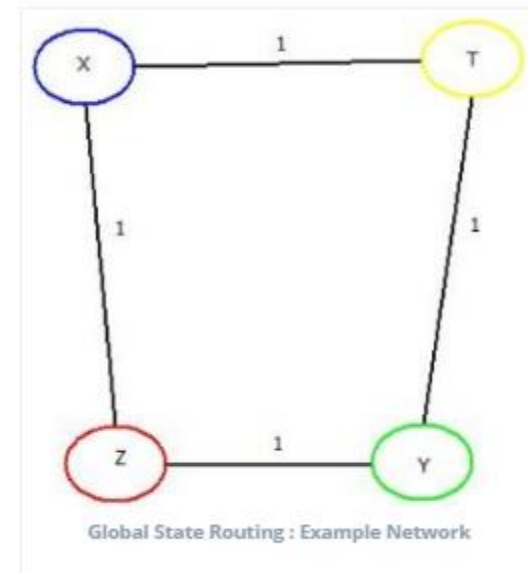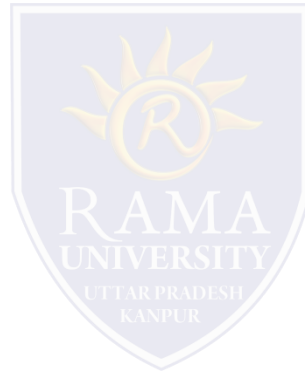Next Hop Table : Next hop table will contain the information about the immediate neighbor of a particular node.

Format :	Node	Next Hop

Global State Routing : Next Hop Table

Global State Routing Protocol : Working

GSR broadcasts the routing tables to its immediate neighbors rather than flooding it to all the nodes as Link State Routing protocol does.
Consider a network of 4 nodes having a distance of "1" on each of its edge. Below mentioned steps will let you know how GSR works and how its routing tables are updated.

Global State Routing : Example Network

Advantages : Global State Routing Protocol

Higher accuracy of GSR in generating optimal path as compared to LSR.
Broadcasting reduces error rate as compare to flooding used in LSR.

Disadvantages : Global State Routing Protocol
Large bandwidth consumption.
Higher operational cost.
Large Message size resulting in more time consumption.