

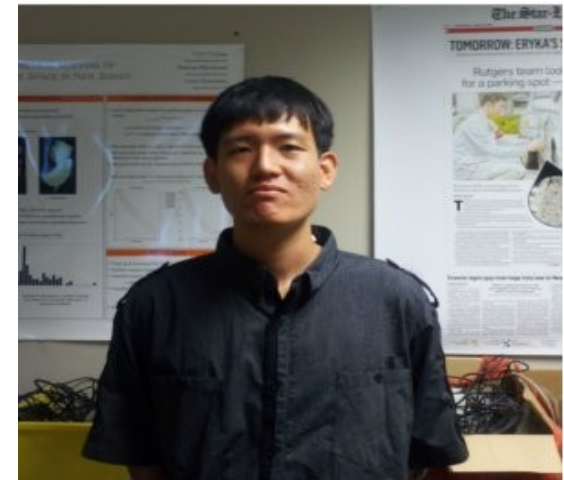
Extending GSTAR to Support Multicasting and Inter-Domain Routing



Shreyasee
Mukherjee



Sowrabh
Moily



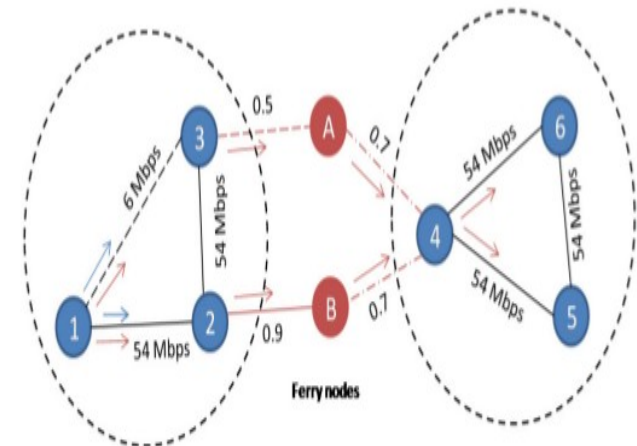
Jay Lee

Long Term Goals

- Understanding Generalized Storage Aware Routing (GSTAR) protocol
- Implementing multicasting in intra-domain using the Global Name Resolution Service (GNRS)
- Extending GSTAR to support inter-domain routing

GSTAR Protocol

- Uses intra-partition and inter-partition graphs
- Intra-partition routing table contains fine-grained Expected Time of Transmission (ETT) information disseminated through Flooded Link State Advertisements (F-LSA)
- Inter-partition routing table contains coarse grained Average Availability (AA) information of nodes disseminated through Disseminated Link State Advertisements (D-LSA)



Intra-Partition Table at node 1

Destinations	Next Hop
2,3	2

DTN Table at node 1

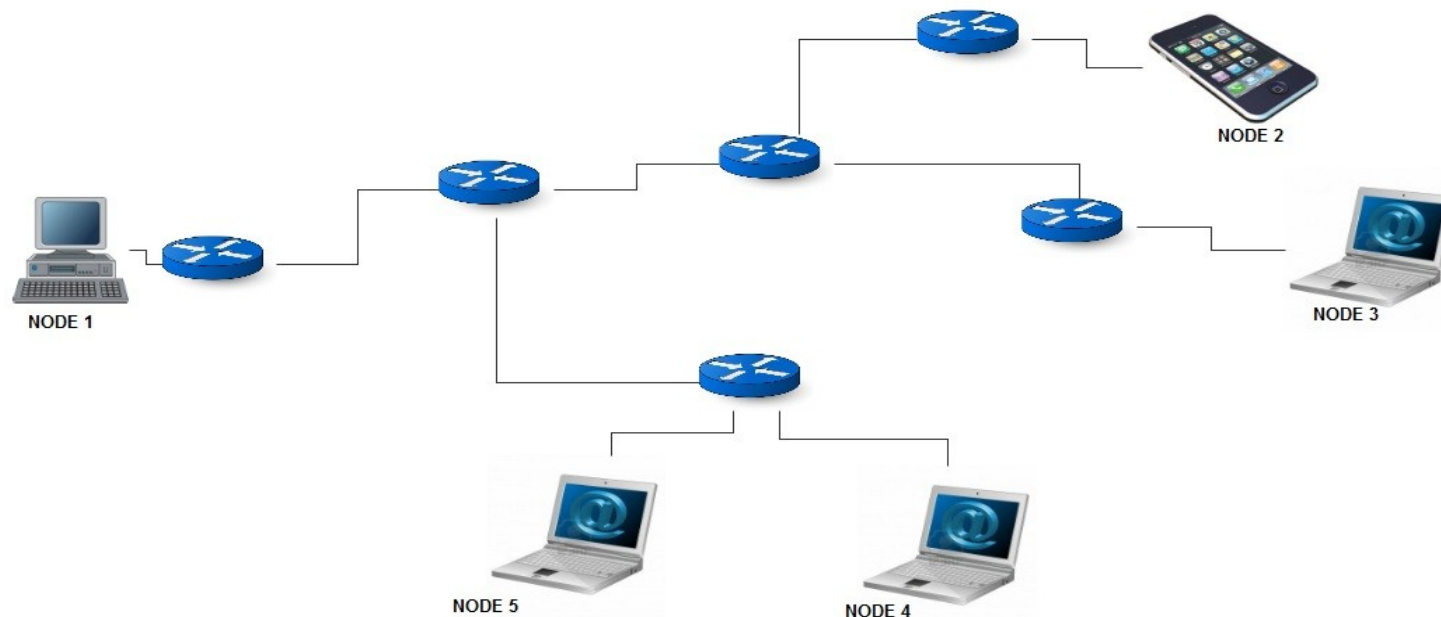
Destinations	Next Hop	Weights
2,3	2	0.01
4,5,6	2	0.4

- F-LSA of node 1 reaching all nodes in network.
- D-LSA of node 1 reaching nodes in current partition.

Multicasting Considerations

Design Considerations:

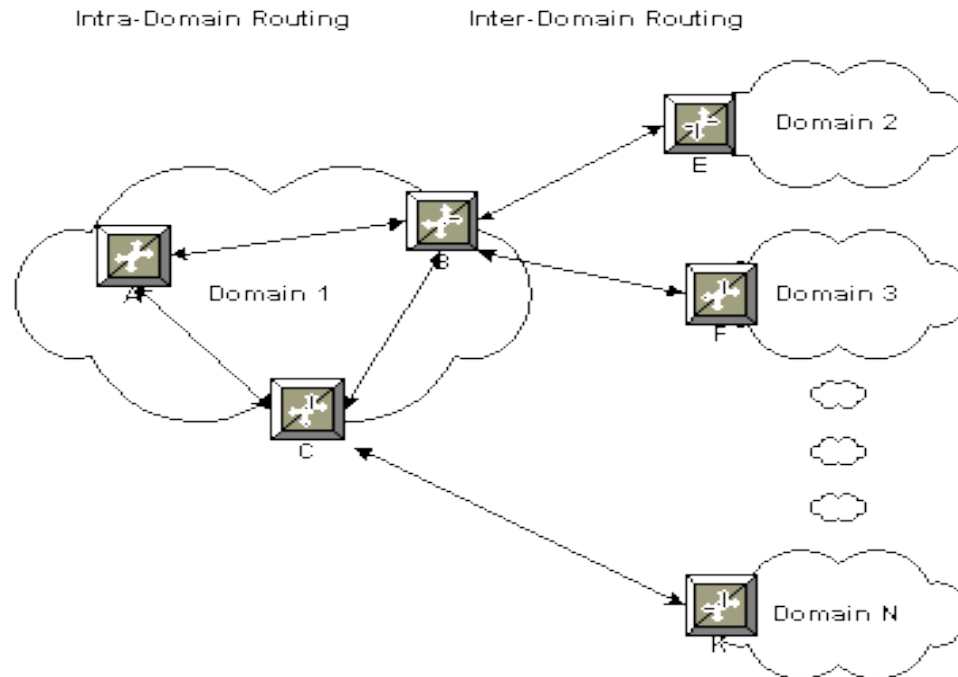
- Where to copy and forward the packet, where to store, whom to send, when to send?



Inter-Domain Considerations

Design Considerations:

- Scalability, Multi-path routing, link-quality information
- Uniformity in intra and inter-domain protocol



Work Done in Current Week

- Installed and learned the basics of Click modular router
- Explored GSTAR implementations on Click and NS-3, using available code and running sample topologies

Work to be Done in the Coming Week

- Look into some open issues of the existing NS-3 code.
- Identify the requirements for multicast in MobilityFirst and start with the design.

