

# IT Operation Workshop: Day-2

## Interior Gateway Protocols

Keyword: RIP, OSPF

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# 1 RIP

RIPv2 is specified in [1]. RIP has following major limitations.

1. network's diameter  $\leq 15$  hops
2. may depend upon "counting to infinity" to converge

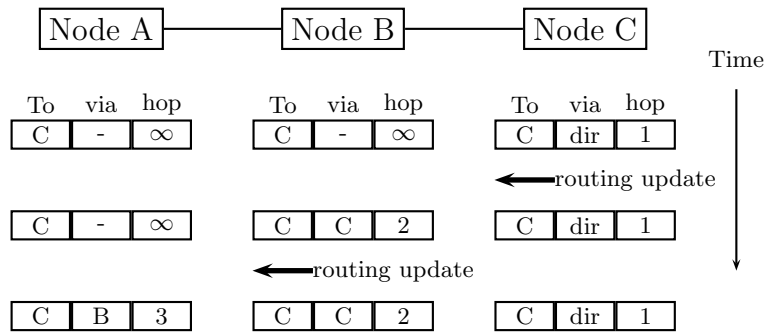


Figure 1: distance vector principle

# 2 The problems and remedies

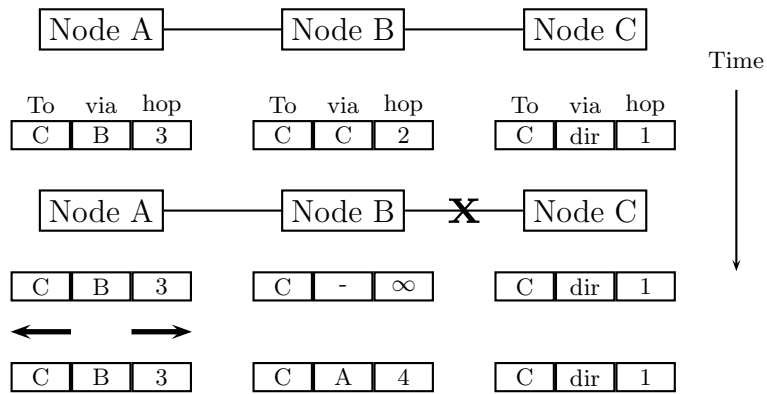


Figure 2: Bouncing Effect

- Split horizon
- Split horizon with poisonous reverse
- Triggered update

### 3 OSPF

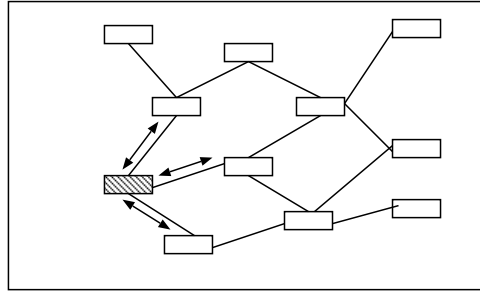


Figure 3: Database exchange

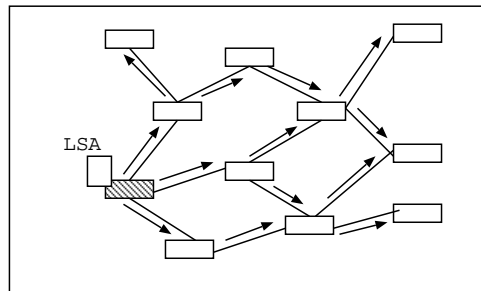


Figure 4: LSA flooding

- link state principle
- Link State Advertisement and LSDB
- Dijkstra algorithm or SPF computation
- Hello Protocol
- DR Election
- Areas
- How to set Costs !?

## References

- [1] G. Malkin. RIP Version 2. RFC 2453, IETF, November 1998.