

August 17,
2011

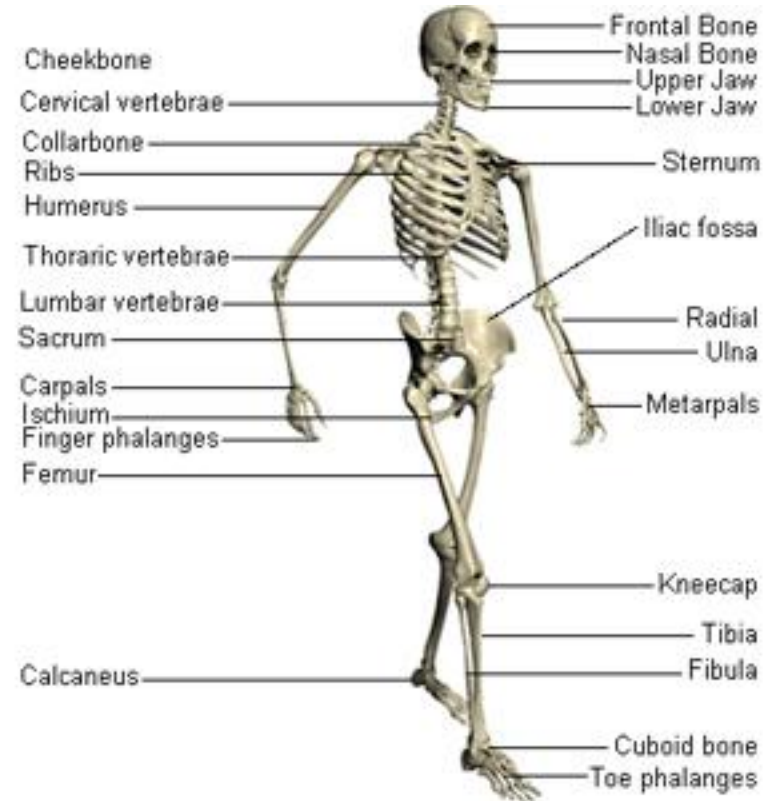
Class 3: Layer 3

Presented by Tom Ammon

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August 17, 2011

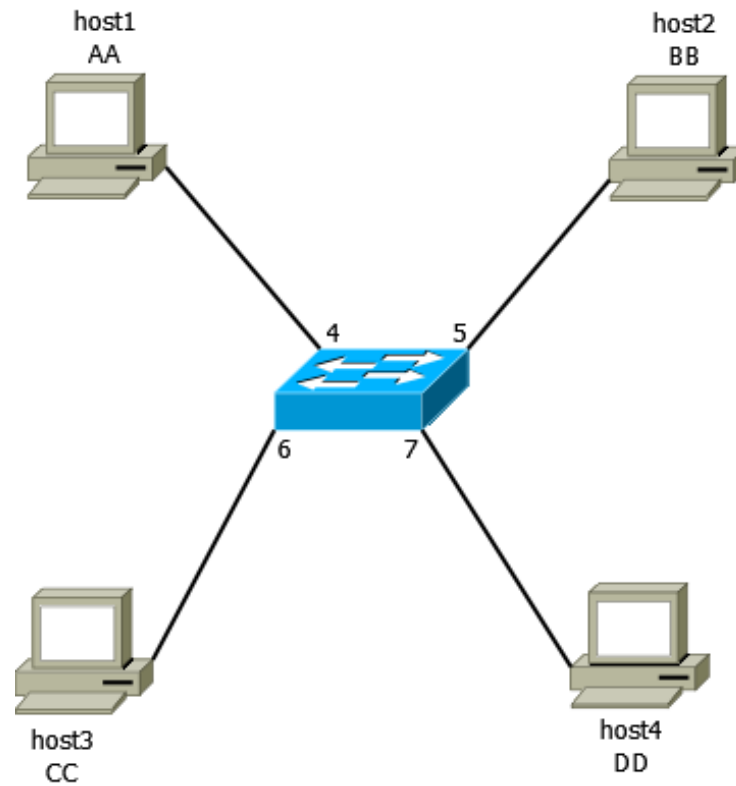
How We'll Get It



What We're Not Doing

- History, except to give context
- Infiniband, Fiberchannel, or other “niche” technologies

Review...

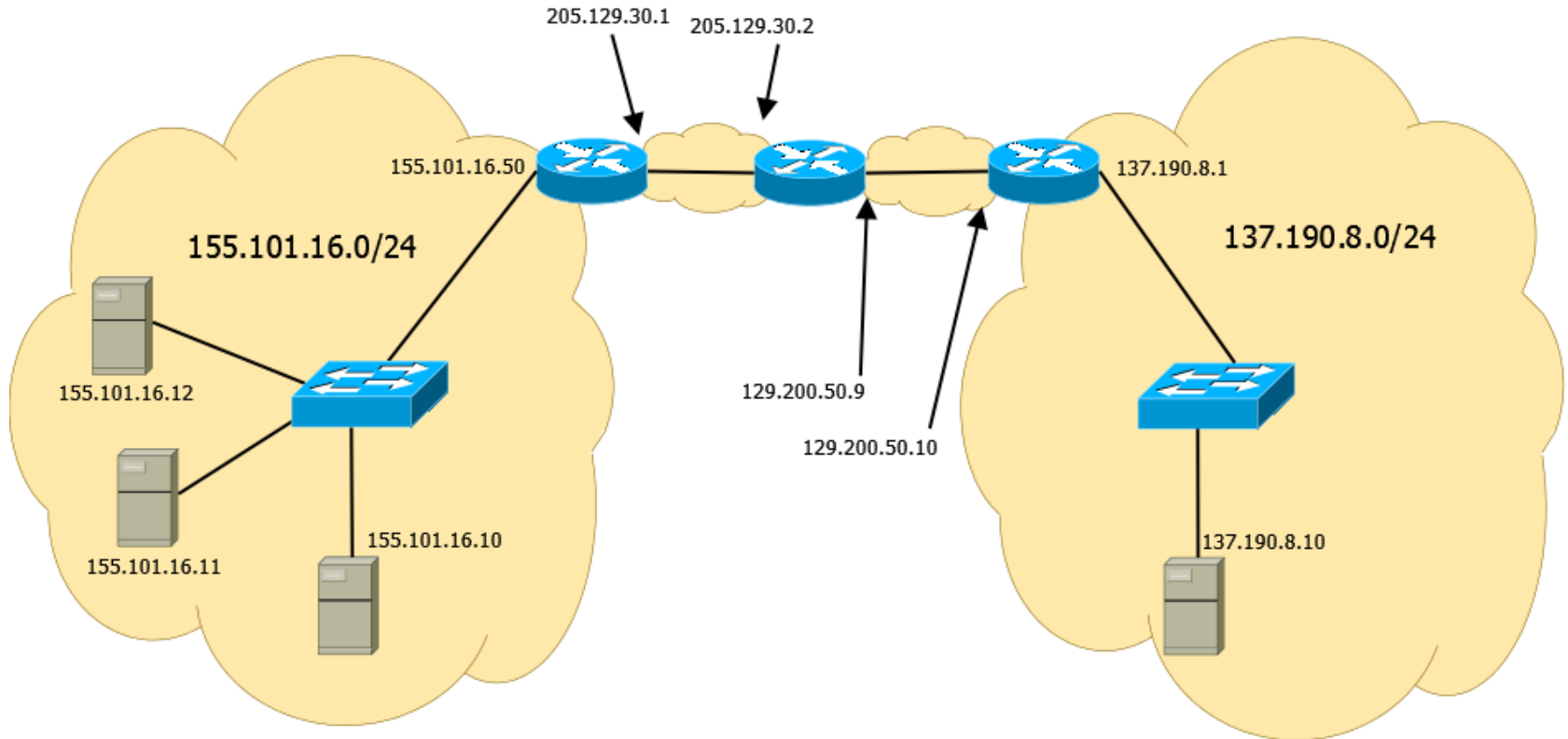


IP Routing



It really **IS** about the destination

IP Routing



IP Routing

3 Types of Routes:

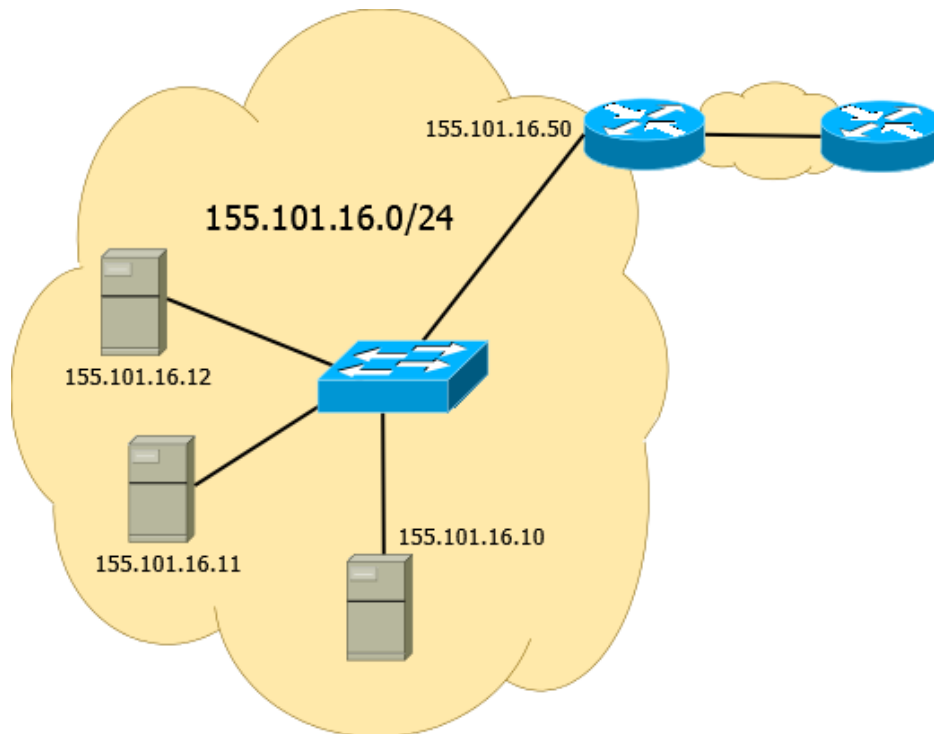
1. Directly-connected

2. Static

3. Learned from a routing protocol

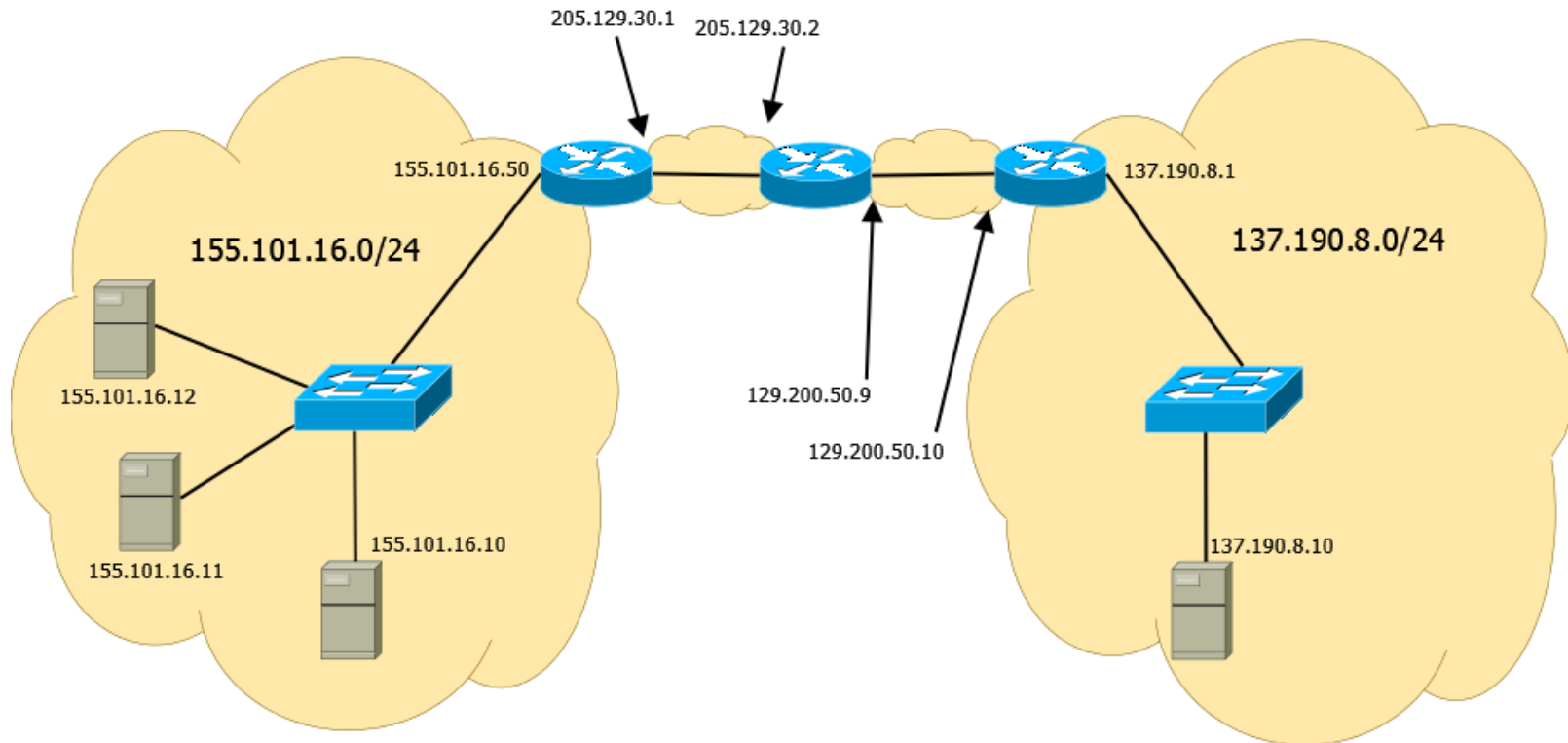
IP Routing

Host Route Table

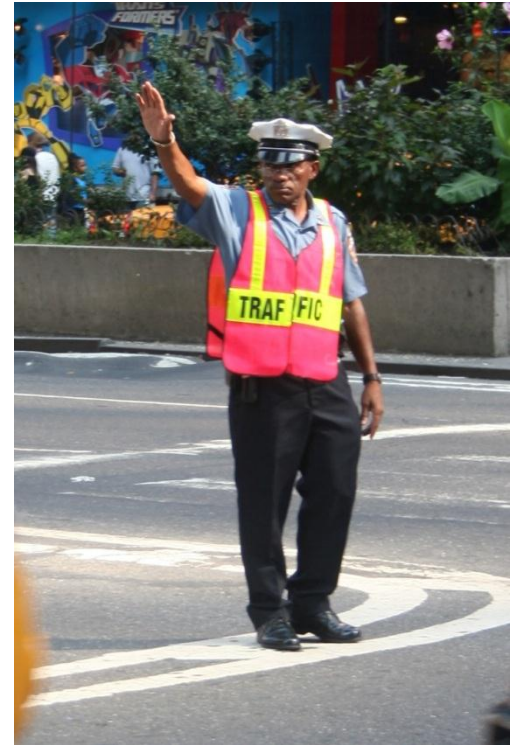


IP Routing

Routing table on a router



Access Control Lists



Access Control Lists

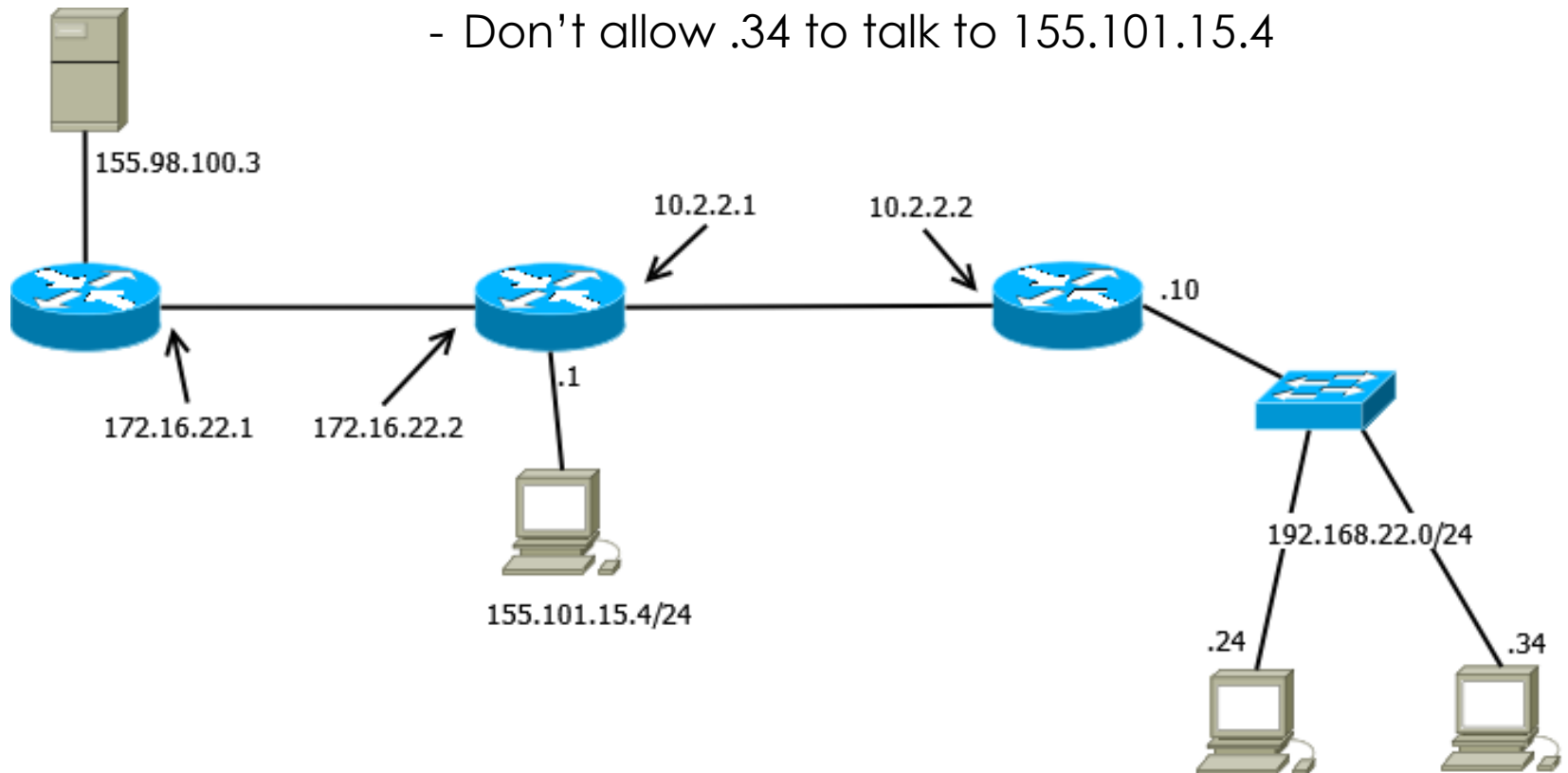
Top-down, first match logic

Condition 1
Condition 2
Condition 3
Condition 4
Condition 5
(Implicit Condition)

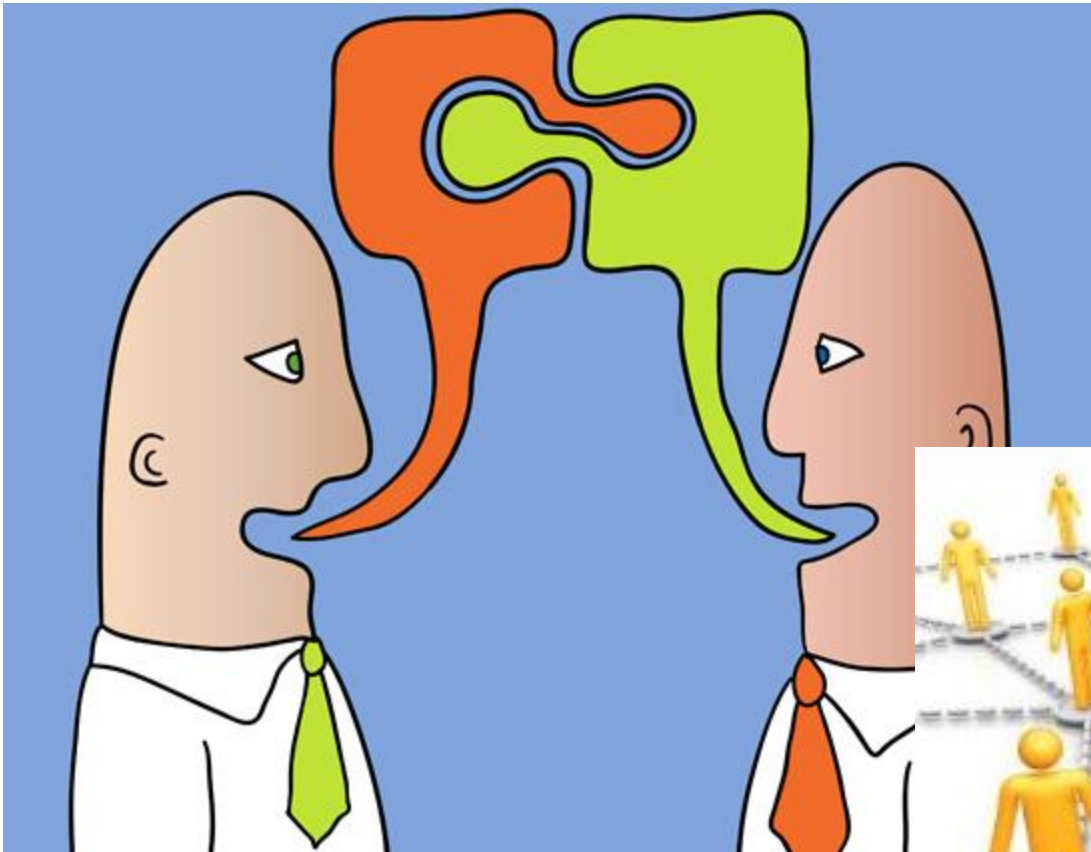
Access Control Lists

Exercise: Create ACLs

- Allow web to server, but not mail
- Don't allow 155.101.15.4 to talk to the server at all
- Don't allow .34 to talk to 155.101.15.4



Dynamic IP Routing Protocols



Dynamic IP Routing Protocols

Distance-Vector

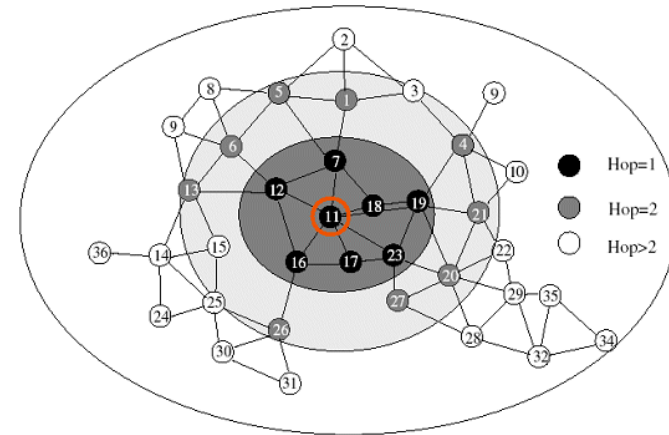
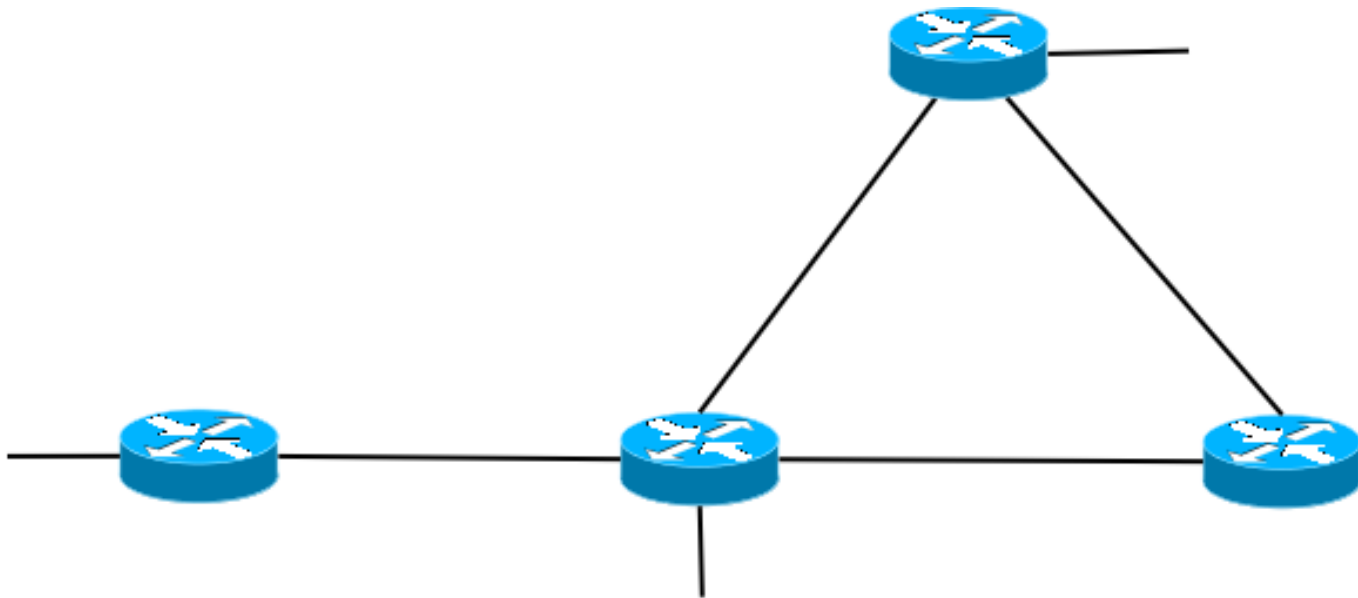


Figure 1: Scope of fisheye

Link State

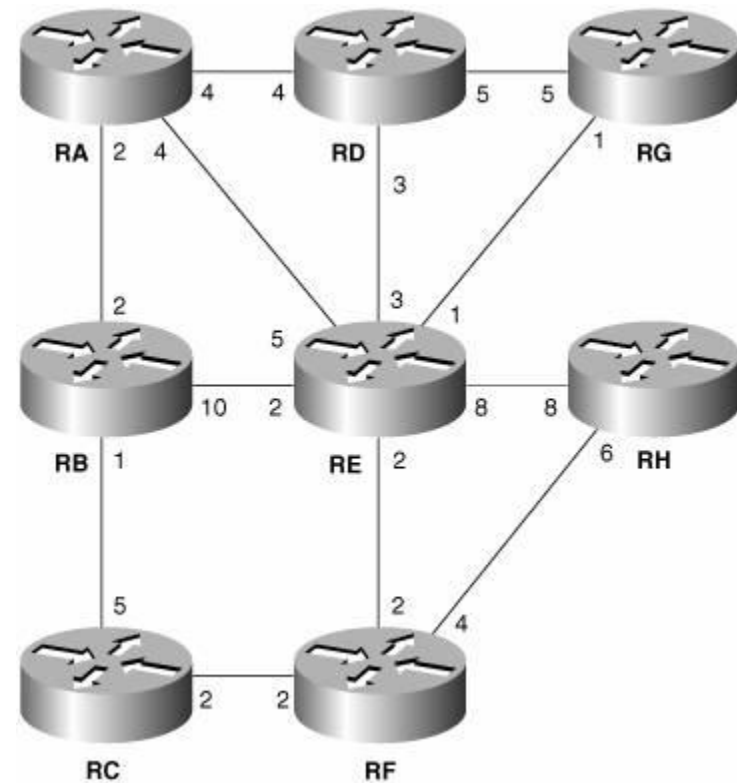
Dynamic IP Routing Protocols

Distance Vector – Simple Network



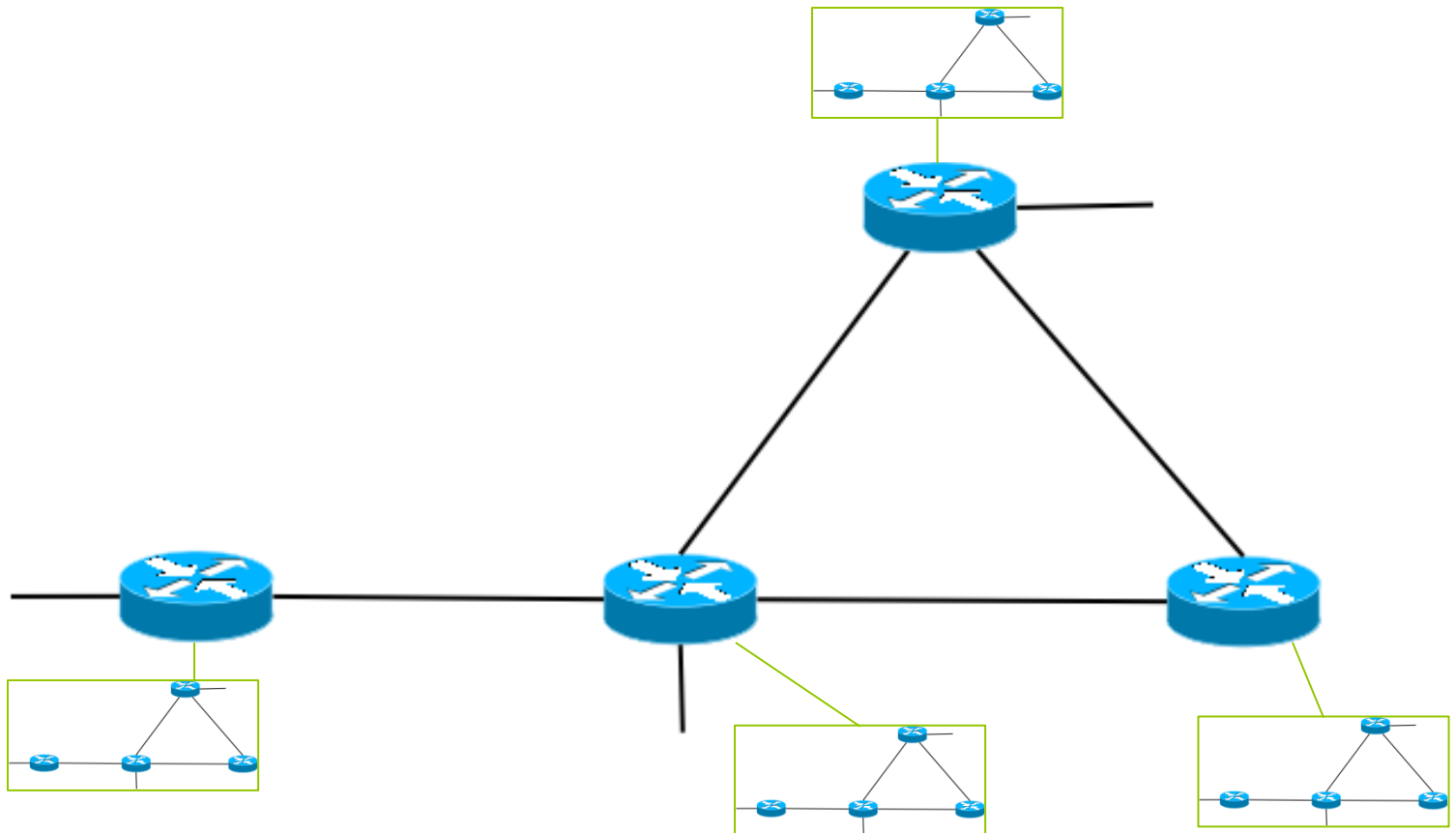
Dynamic IP Routing Protocols

Distance Vector – Complex Network



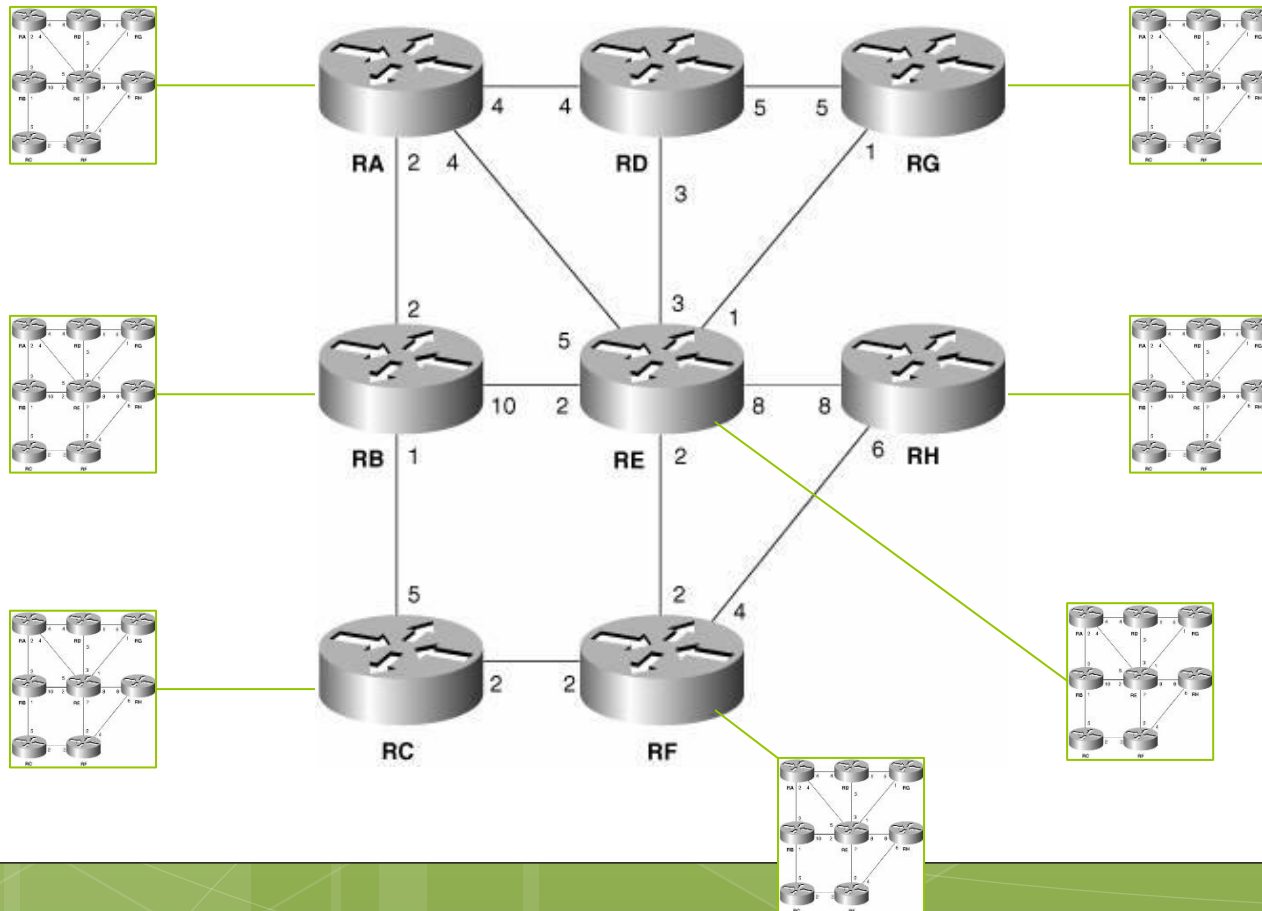
Dynamic IP Routing Protocols

Link State – Simple Network



Dynamic IP Routing Protocols

Link State – Complex Network



Dynamic IP Routing Protocols

Link State – Large Scale Complex Network

