



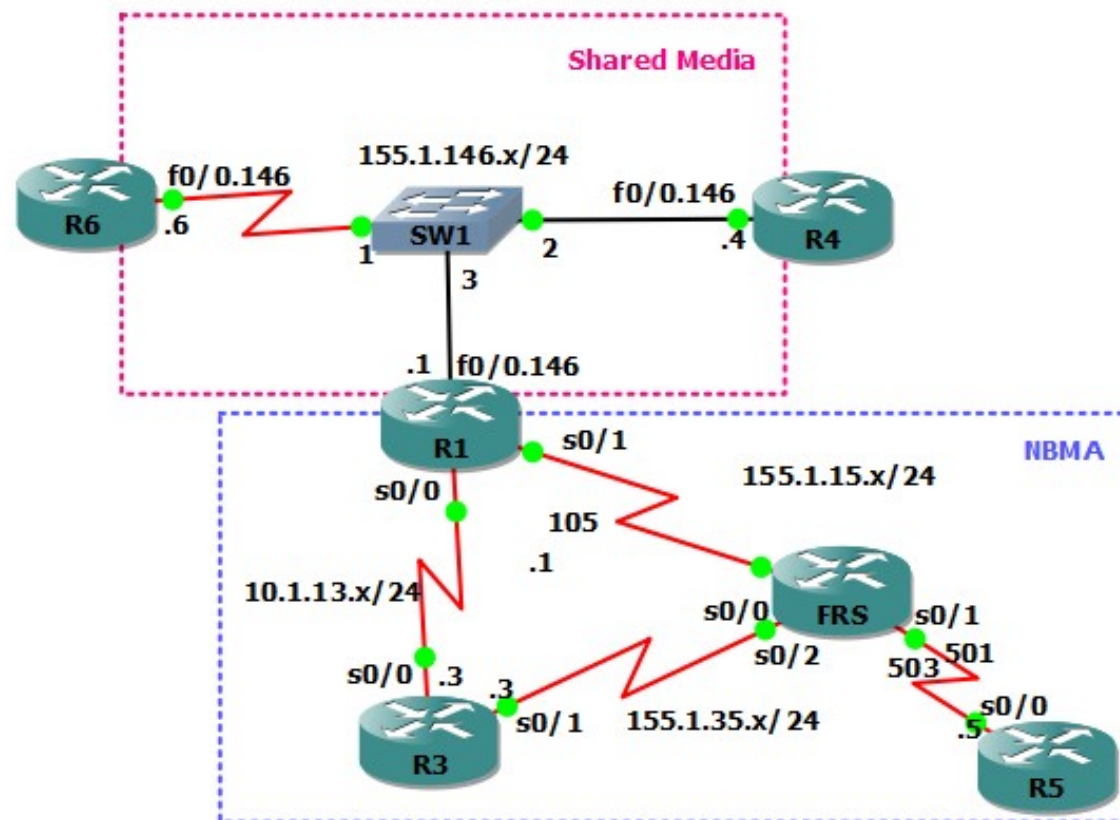
Computer Network

Network Layer part IV

RIP

- Routing Information Protocol
- RIP is a routing protocol for exchanging routing table information between routers.
- Routing updates must be passed between routers so that they can make the proper choice on how to route a packet.
- Oldest **Distance Vector** Routing Protocol
- Update routing table every 30 sec
- Use **Hop count** as Metric To Found Best path to the destination
- It has two version
 - RIP Version 1
 - RIP Version 2
- RIP version 1 is the **classful routing** protocol
- RIP Version 2 is **classless routing** protocol

RIP





OSPF

- Open shortest path first protocol
- Classless routing protocol
- routing protocol for Internet Protocol (IP) networks
- uses a **link state routing algorithm** and falls into the group of interior routing protocols
- The updates for IPv6 are specified as **OSPF Version 3**
- OSPF was developed as a replacement for the distance vector routing protocol RIP
- Use **cost** to find the best route to find the destination



OSPF

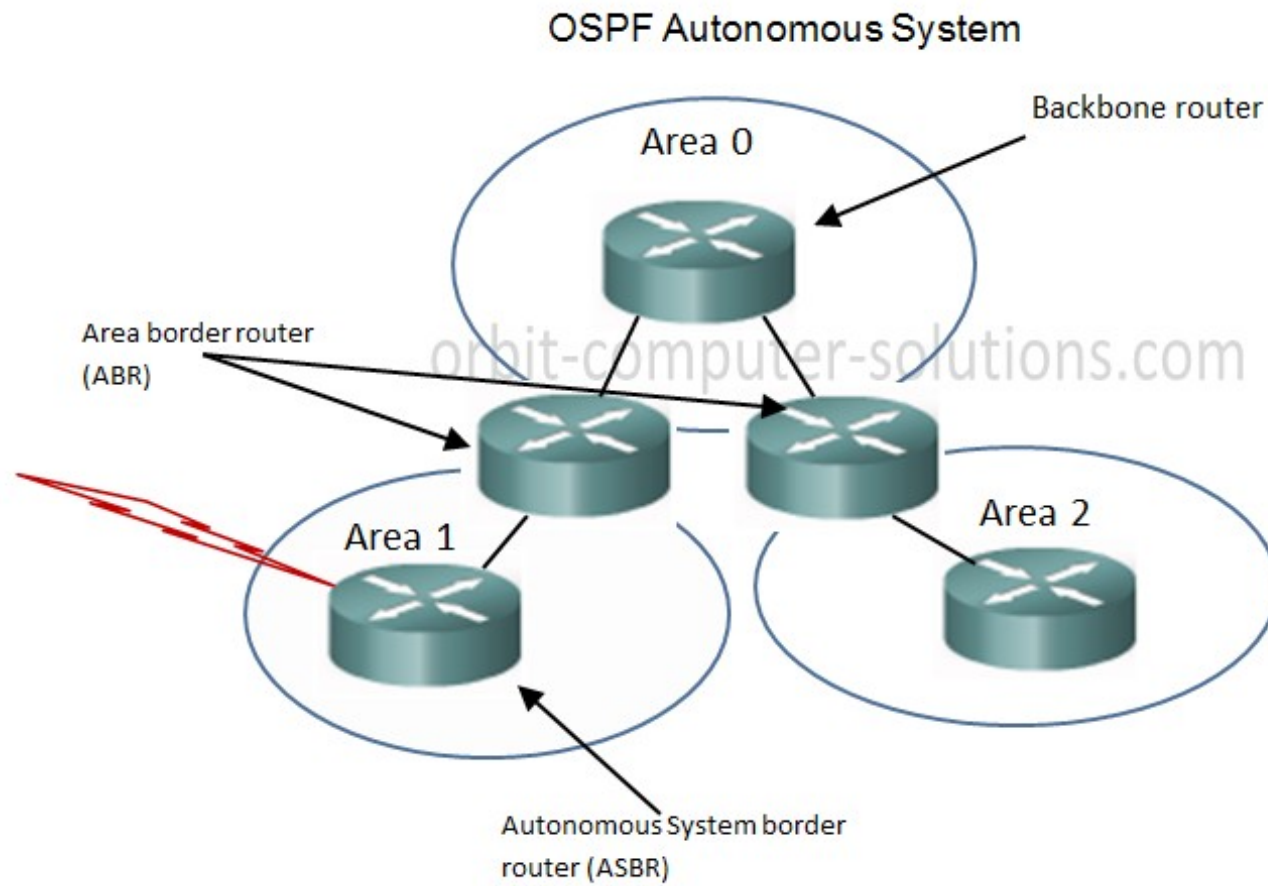
OSPF Hello Packets

- The OSPF Hello packet is used to establish neighbor adjacencies. By default, OSPF Hello packets are sent
 - Every 10 seconds on multi-access and point-to-point segments
 - Every 30 seconds on non-broadcast multi-access (NBMA) segments (Frame Relay, X.25, ATM).

OSPF Dead Intervals

- OSPF dead interval is measured as the period of time an OSPF router will wait before terminating adjacency with a neighbor. The Dead interval is four times the Hello interval, by default.

OSPF





BGP

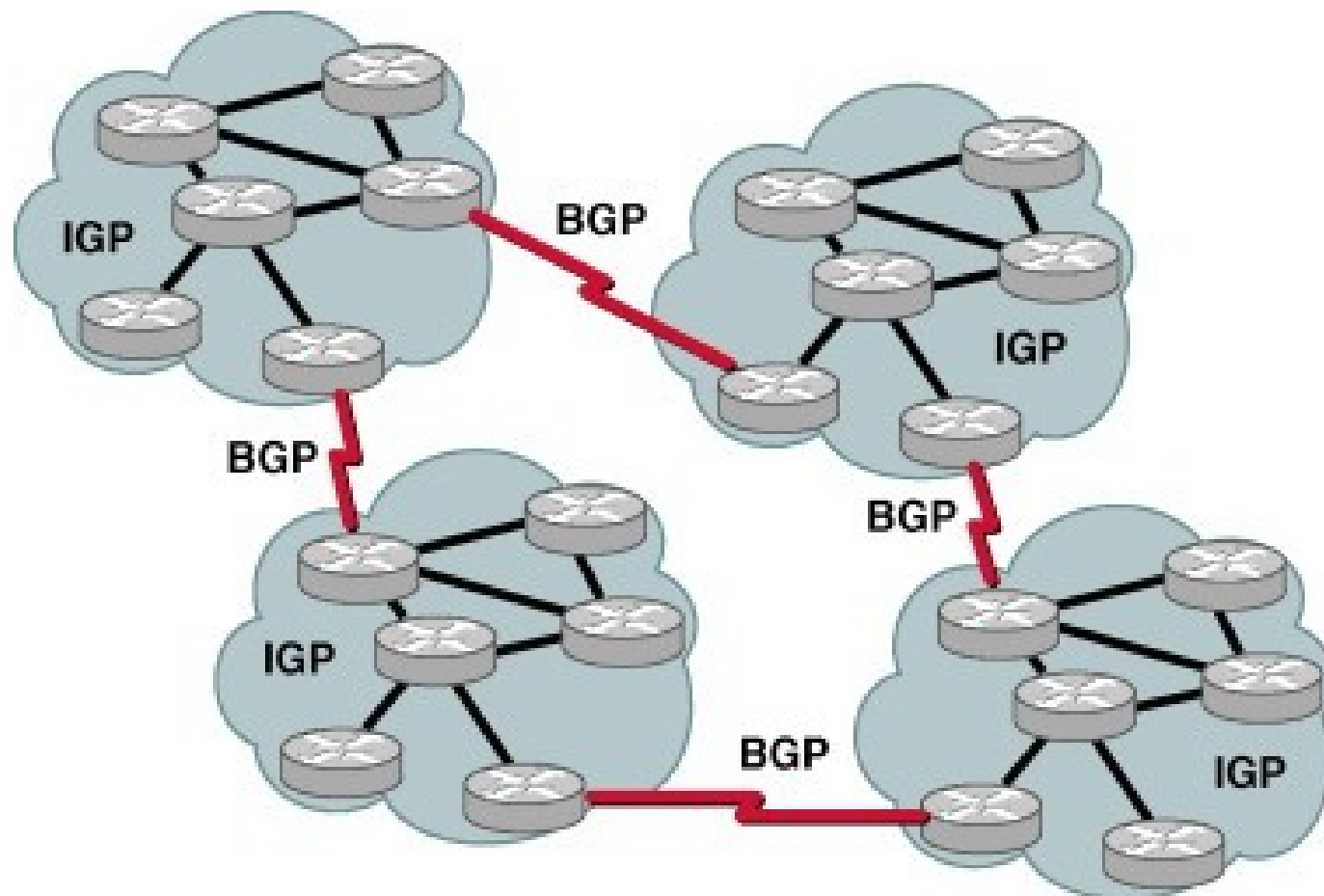
- Border Gateway Routing Protocols
- Designed to exchange routing and reachability information between **autonomous systems (AS)** on the Internet
- Two types
 - Internal BGP
 - External BGP
- Internal BGP has the **Administrative Distance** of 200
- External BGP has the **Administrative Distance** of 20



BGP

- The protocol is often classified as a path vector protocol, but is sometimes also classed as a distance-vector routing protocol.
 - PATH VECTOR PROTOCOL
 - routing protocol which maintains the path information that gets updated dynamically. Updates which have looped through the network and returned to the same node are easily detected and discarded.

BGP





Homework

EIGRP ??

IGRP ??



Thankyou