- Multi-Protocol Lab 2 -
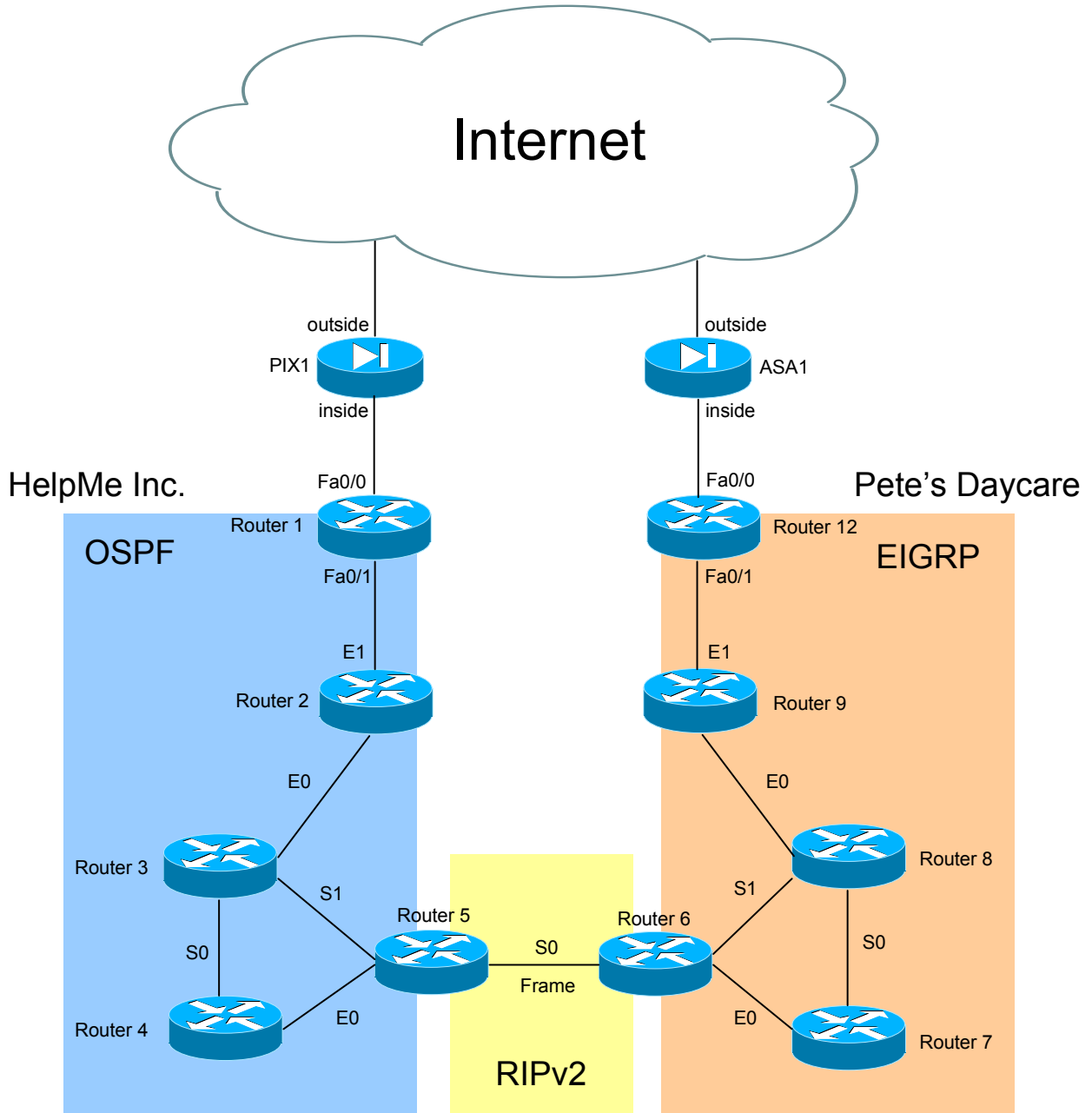
Multi-Protocol Environment - Lab 2

Note: Tear off this sheet, to use as reference for the following objectives.

Multi-Protocol Environment - Lab 2

Background:

Two organizations, **HelpMe Inc.** and **Pete's Daycare**, are in the throes of a merger. You have been charged with integrating their two infrastructures.

- *HelpME Inc.* utilizes **OSPF** for IGP routing, on a 192.168.x.x scheme.
- *Pete's Daycare*, utilizes **EIGRP** for IGP routing, on a 172.16.x.x scheme.

A 128-Kbp Frame-Relay link has been provisioned to directly connect the two networks together. This is a temporary measure until a higher bandwidth solution becomes available.

High availability between the two organizations is a requirement. Thus, as a backup link, you wish to use a site-to-site VPN connection through the Internet, if the frame-relay link fails.

Basic Objectives:

1. Configure and cable the Serial/Ethernet interfaces as indicated in the above diagram.

2. Configure IP addresses between the routers using the following schemes:

PIX1 outside = 66.66.1.x/24   ASA1 outside = 66.66.2.x/24
Router 1 – PIX1 = 10.1.1.x/24   Router 12 – ASA1 = 10.2.1.x/24
Router 1 – 2 = 192.168.12.x/24   Router 6 – 7 = 172.16.67.x/24
Router 2 – 3 = 192.168.23.x/24   Router 6 – 8 = 172.16.68.x/24
Router 3 – 4 = 192.168.34.x/24   Router 7 – 8 = 172.16.78.x/24
Router 3 – 5 = 192.168.35.x/24   Router 8 – 9 = 172.16.89.x/24
Router 4 – 5 = 192.168.45.x/24   Router 9 – 12 = 172.16.129.x/24
Router 5 – 6 = 10.1.56.x/24

3. Configure a loopback interface on each router. The interface should have an address using the following scheme: Y.Y.Y.Y/24. For example, Router 4's loopback should be 4.4.4.4/24.

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Core Objectives:

4. Configure the IGP routing protocols as diagrammed. Loopback interfaces must be included in each routing process. Routing updates should be authenticated between all neighboring routers, using the most secure method available.

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5. Perform route redistribution on Router 5 and Router 6. Loopback routes from HelpMe Inc.'s network *should not* be injected into Pete's network, or vice versa. Ensure reach-ability to all other routes between the two networks.

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6. Router 3 should prefer the route through Router 4 to reach all destinations in Pete's network. Router 8 should prefer the route through Router 7 to reach HelpMe's network.

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Core Objectives:

7. PIX1 and ASA1 should secure their respective networks from the Internet using NAT. Use PAT to accomplish this.

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8. Configure a secure VPN tunnel between PIX1 and ASA1. Traffic across the VPN *should not* be NATed. Force all routers to use this path **ONLY** if the Frame-Relay route fails.

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