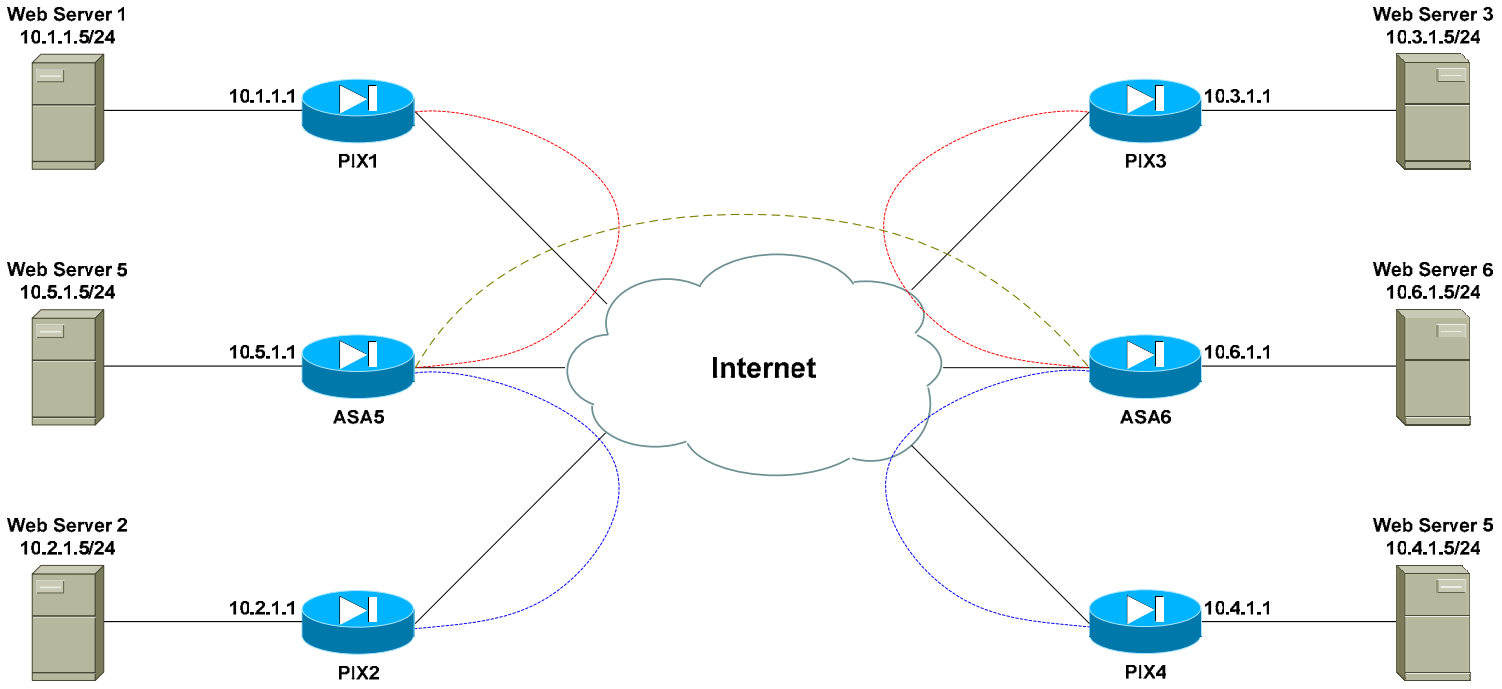
- PIX Advanced IPSEC Lab -

Configuring Advanced PIX IPSEC – Lab



Basic Objectives:

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

2. Configure a web server for each network, and apply an IP address as diagrammed.

3. Your instructor will configure a router or Layer-3 switch to function as a pseudo “Internet.”

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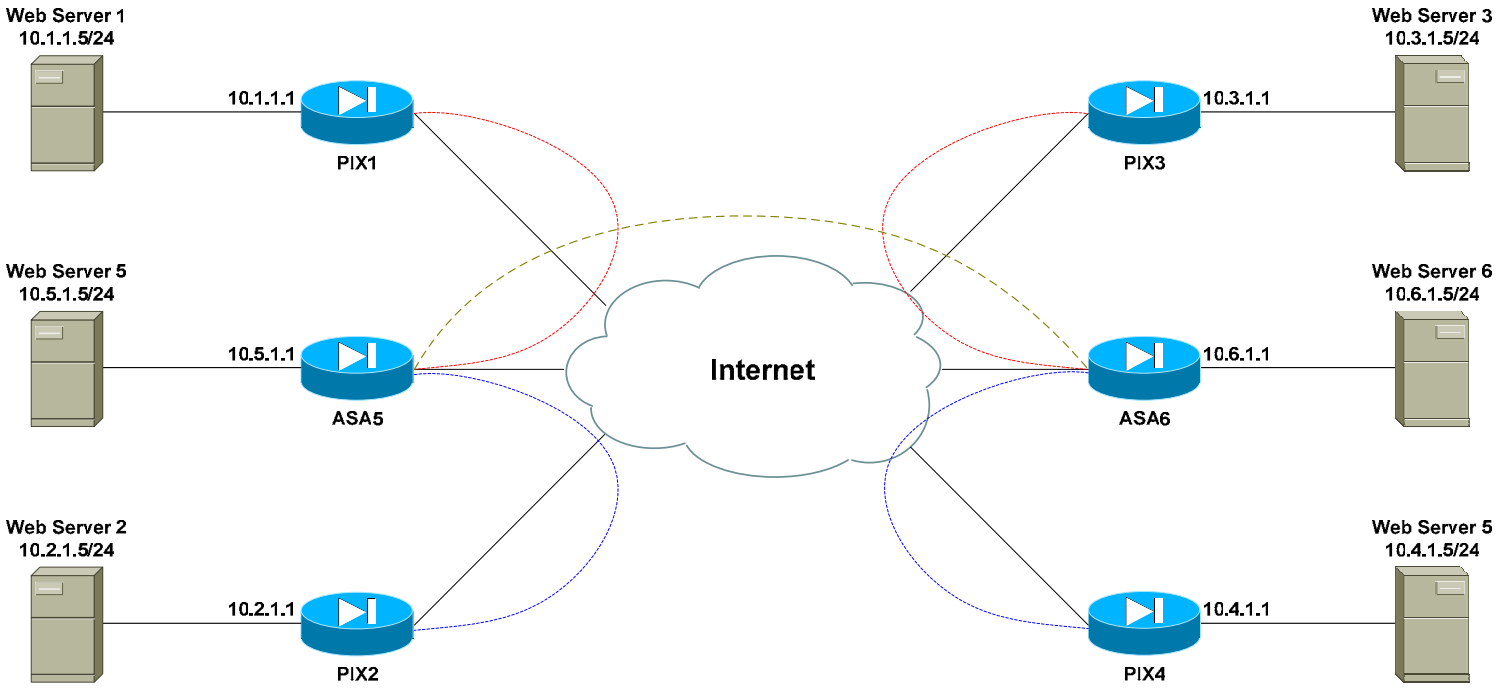

PIX Objectives:

4. Each network has been assigned a pool of public addresses, in the YY.YY.YY.64/29 range, where "Y" is the network or PIX/ASA number. For example, PIX3 has been assigned the 33.33.33.64/29 range of public addresses. Similarly, ASA5 has been assigned the 55.55.55.64/29 range of public addresses.

5. The first usable address in each public range will be the next-hop address to the Internet. The second usable address in each public range should be applied to the outside interface of each PIX/ASA.

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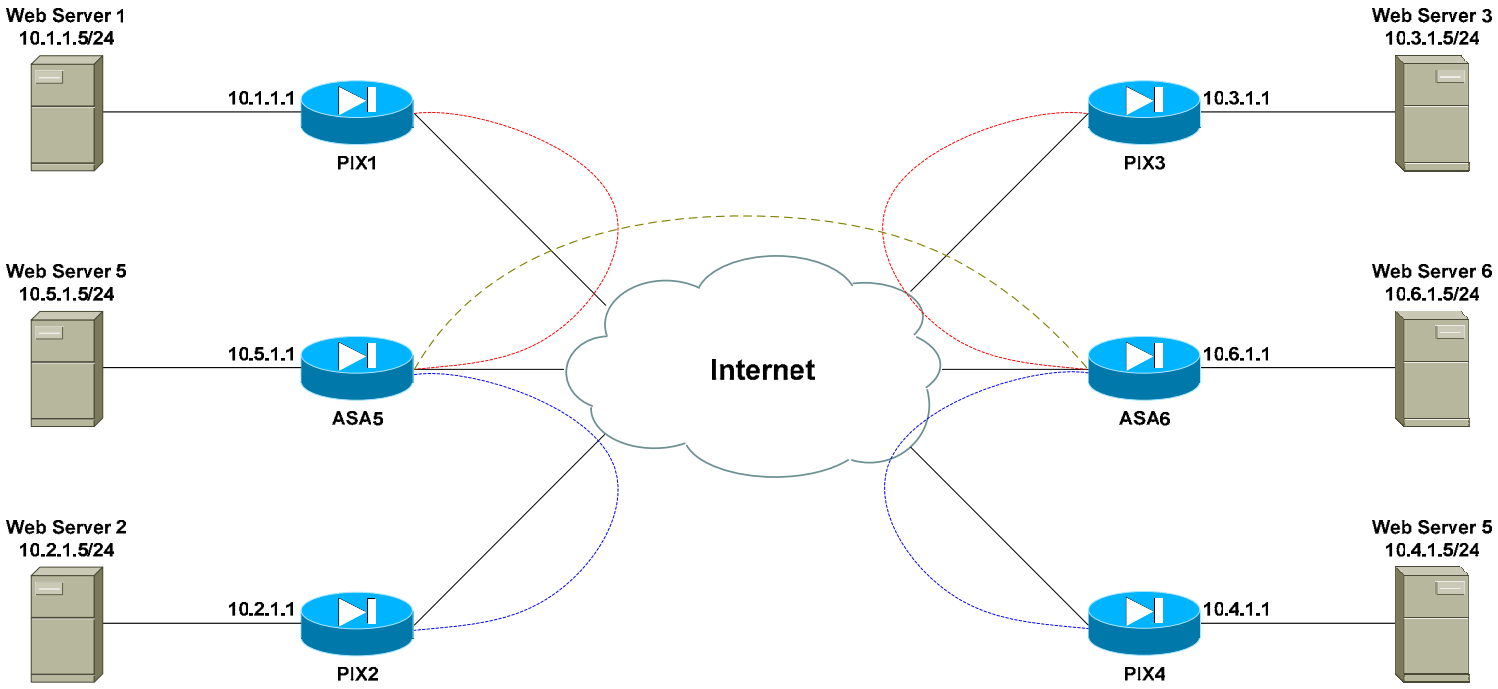

PIX Objectives:

6. Ensure that hosts on each local LAN are NAT'ed using PAT when accessing the Internet. Use a public address of your choosing.

7. Ensure that all interfaces on each PIX/ASA are pingable.

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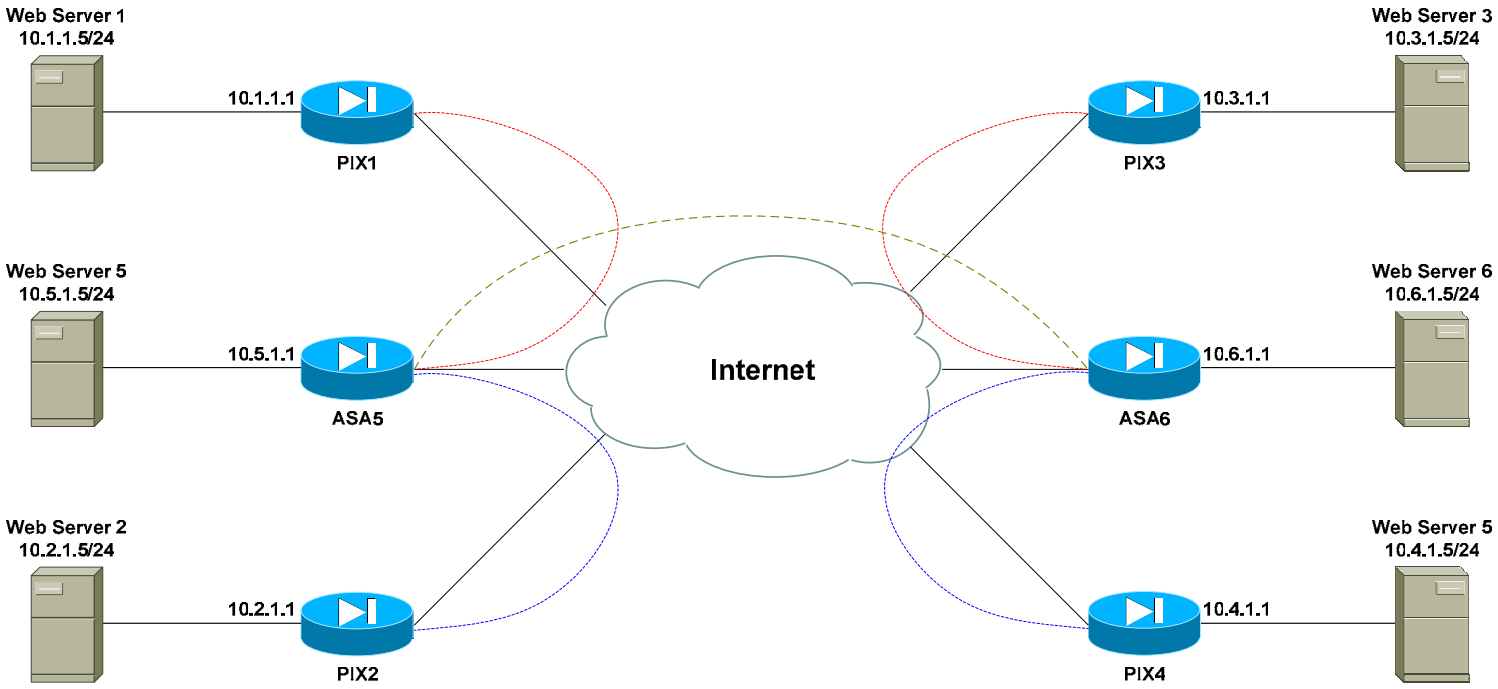

PIX Objectives:

8. Configure the following site-to-site IPSec tunnels:

   PIX1 to ASA5 PIX3 to ASA6
   PIX2 to ASA5 PIX4 to ASA6

   Use the strongest supported forms of encryption and hashing. Use a pre-shared key of CISCO.

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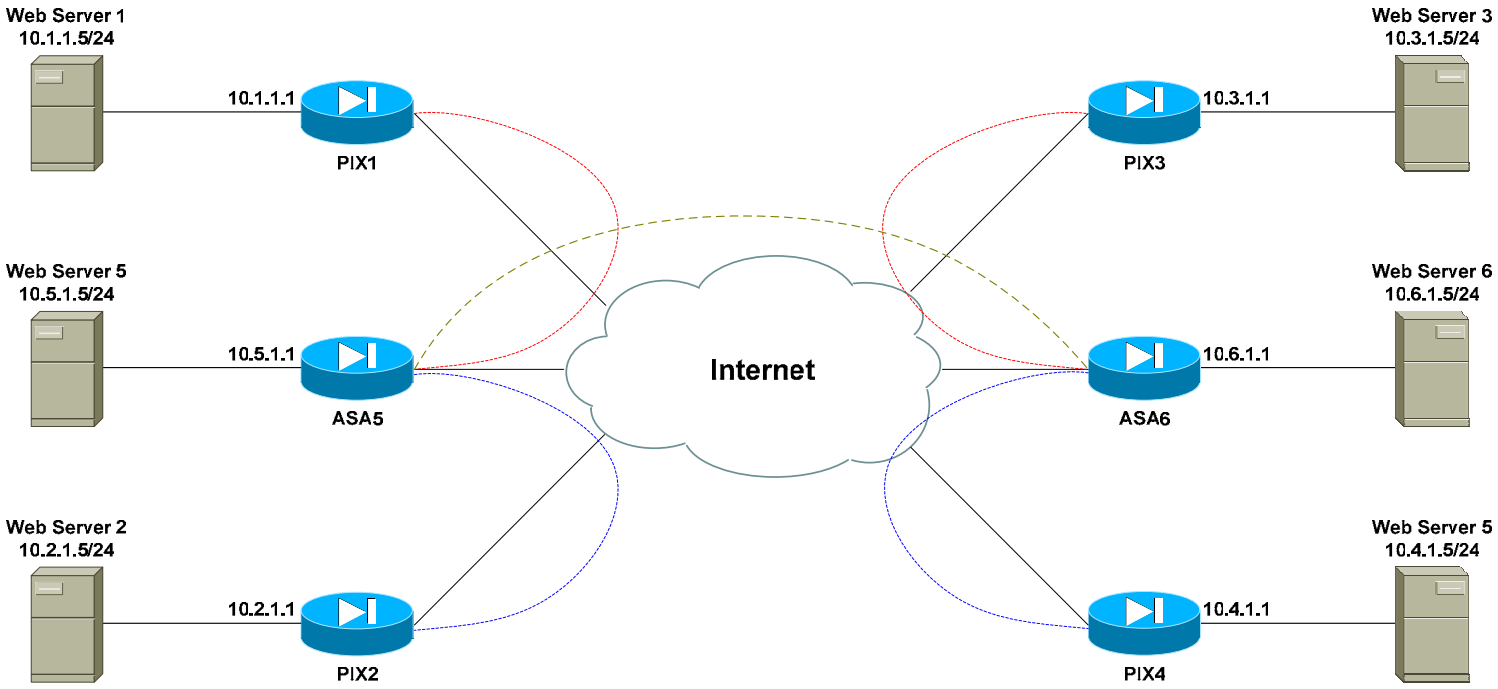

PIX Objectives:

9. Ensure that Web Server 1 and Web Server 2 can access Web Server 5 by its private address (and vice-versa).

10. Ensure that Web Server 3 and Web Server 4 can access Web Server 6 by its private address (and vice-versa).

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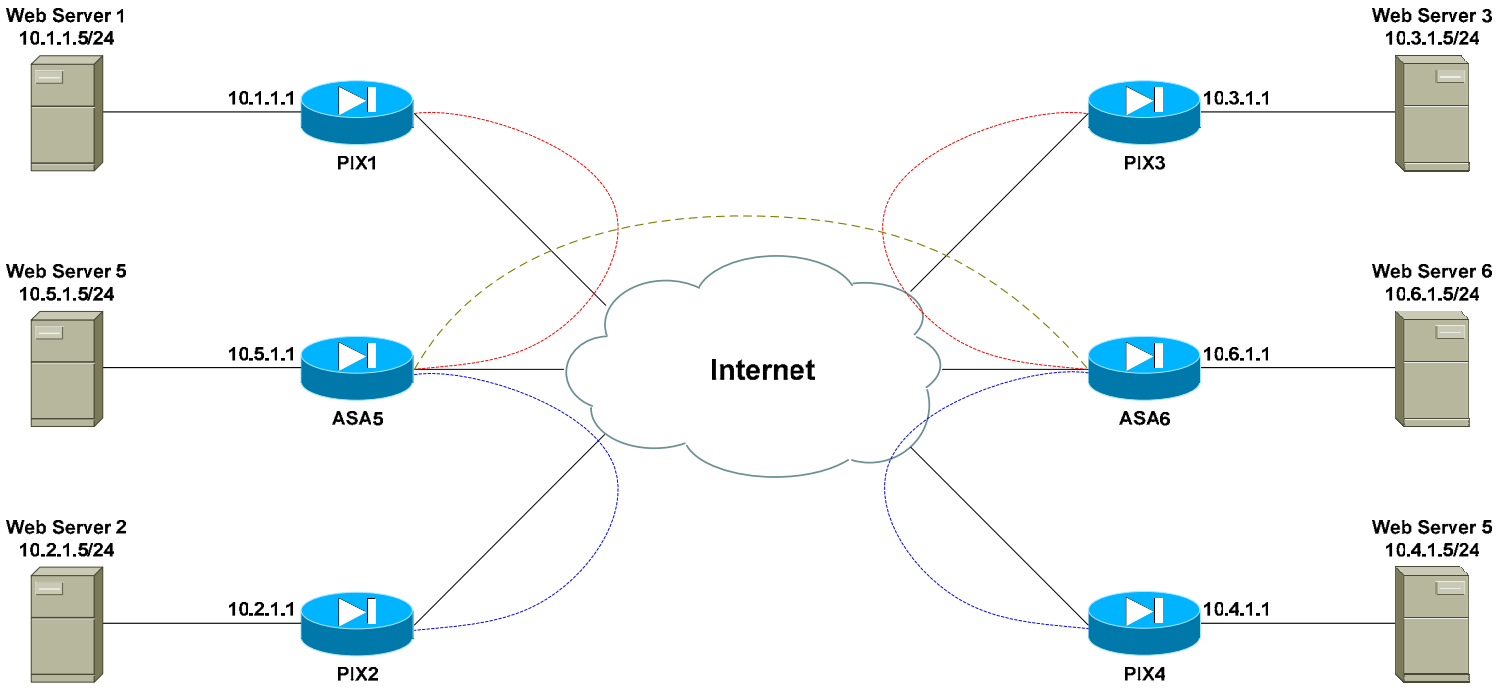

PIX Objectives:

11. Perform whatever additional configuration is necessary to allow Web Server 1 to access Web Server 2 by its private address, **without creating a direct VPN tunnel between PIX1 and PIX2.**

12. Perform whatever additional configuration is necessary to allow Web Server 3 to access Web Server 4 by its private address, **without creating a direct VPN tunnel between PIX3 and PIX4.**

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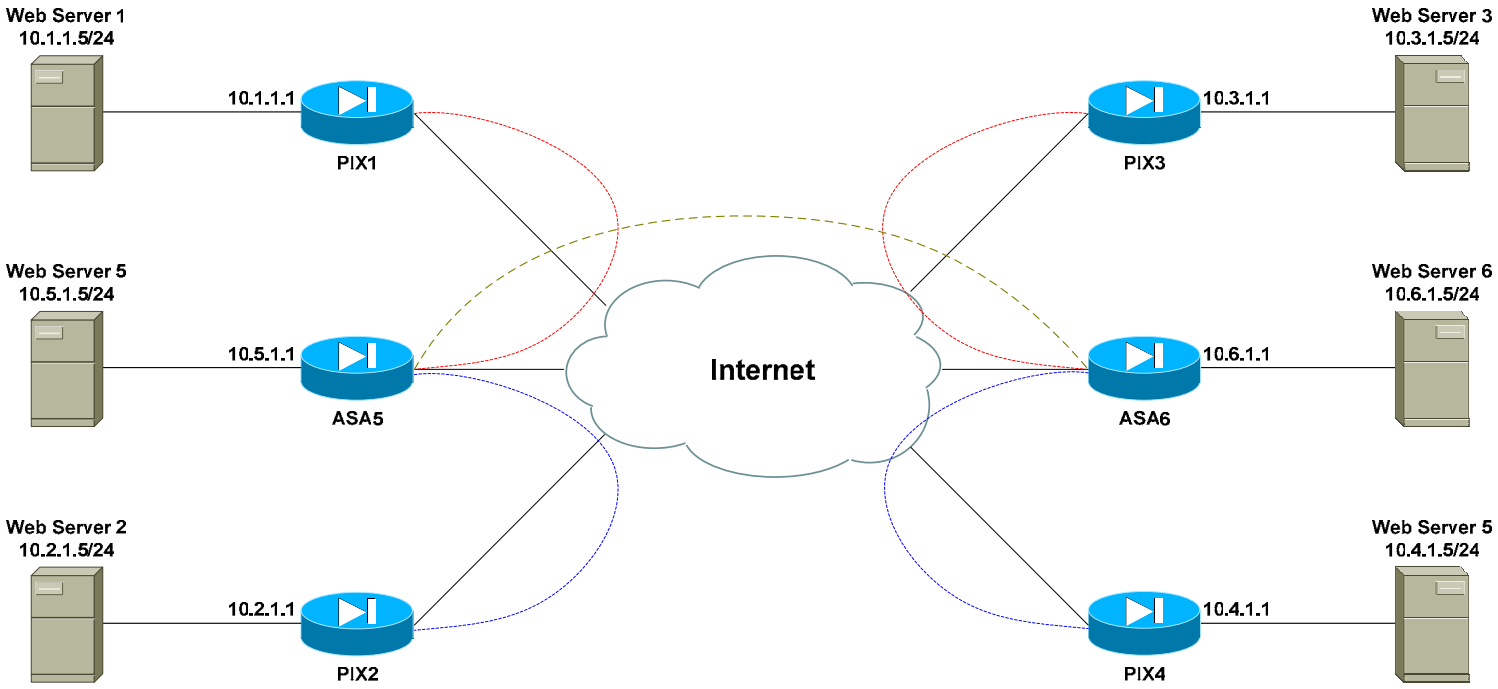
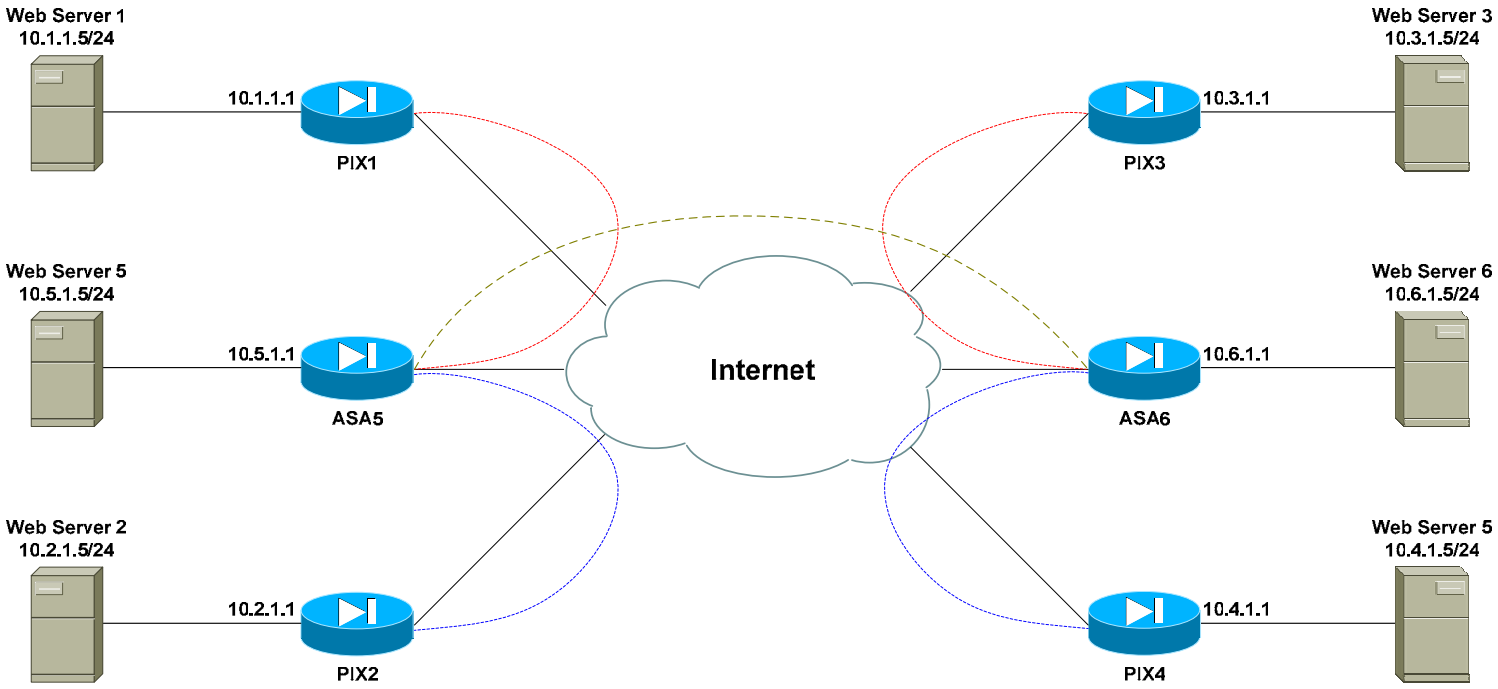
Configuring Advanced PIX IPSEC – Lab (continued)



PIX Objectives:

13. Create an additional IPSec site-to-site tunnel between ASA5 and ASA6. Use the strongest supported forms of encryption and hashing. Use a pre-shared key of CISCO.

Configuring Advanced PIX IPSEC – Lab (continued)



PIX Objectives:

14. Perform whatever additional configuration is necessary to allow Web Server 1 to access Web Server 3 by its private address, **without creating a direct VPN tunnel between PIX1 and PIX3.**

15. Perform whatever additional configuration is necessary to allow Web Server 2 to access Web Server 4 by its private address, **without creating a direct VPN tunnel between PIX2 and PIX4.**

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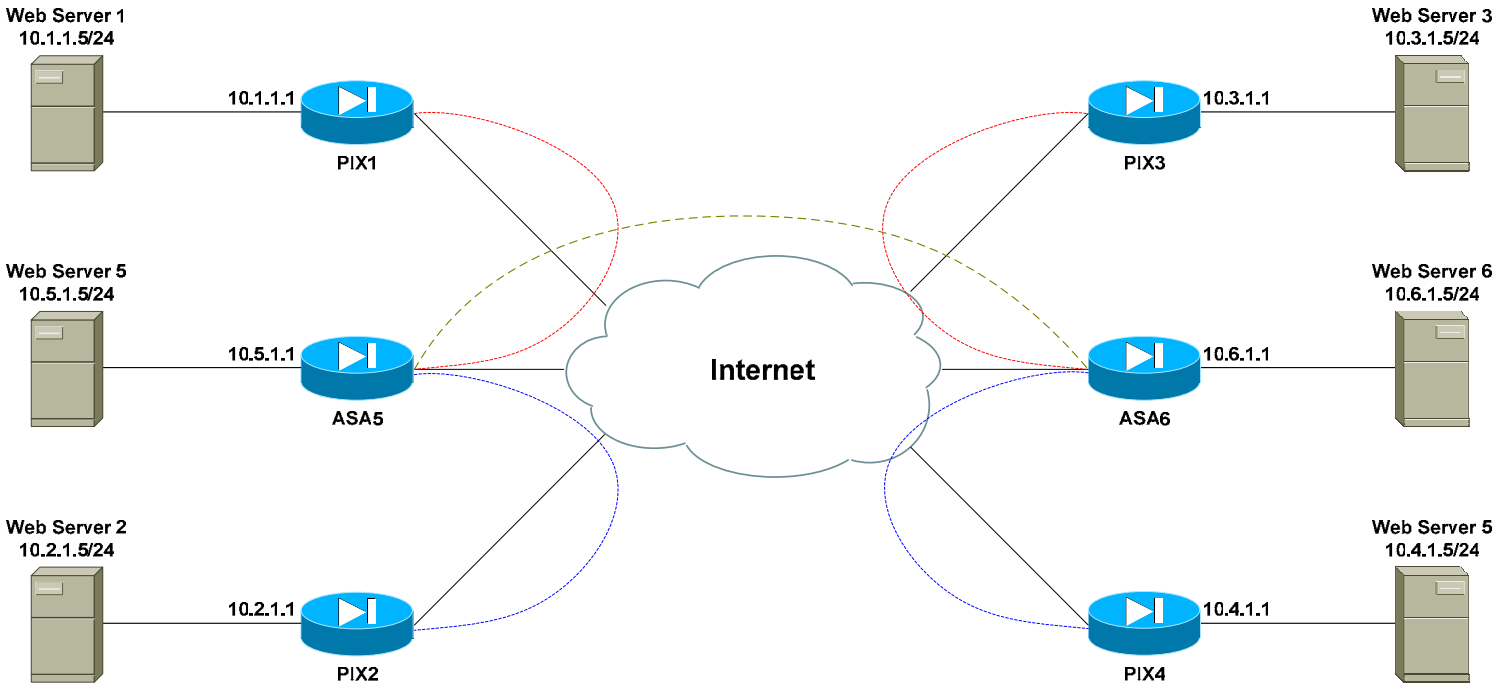
Configuring Advanced PIX IPSEC – Lab (continued)



PIX Objectives:

16. Configure all PIX/ASA firewalls to accept incoming client VPN connections from the Internet. Use the following parameters for the VPN Group Policy:

Group Name:	ClientVPN*x* (where *x* is your PIX/ASA number)
Group Password:	CISCO
IP Pool:	10.*x*.10.1 – 5 /24
Domain Name:	mydomain.net
DNS Server:	10.*x*.1.10

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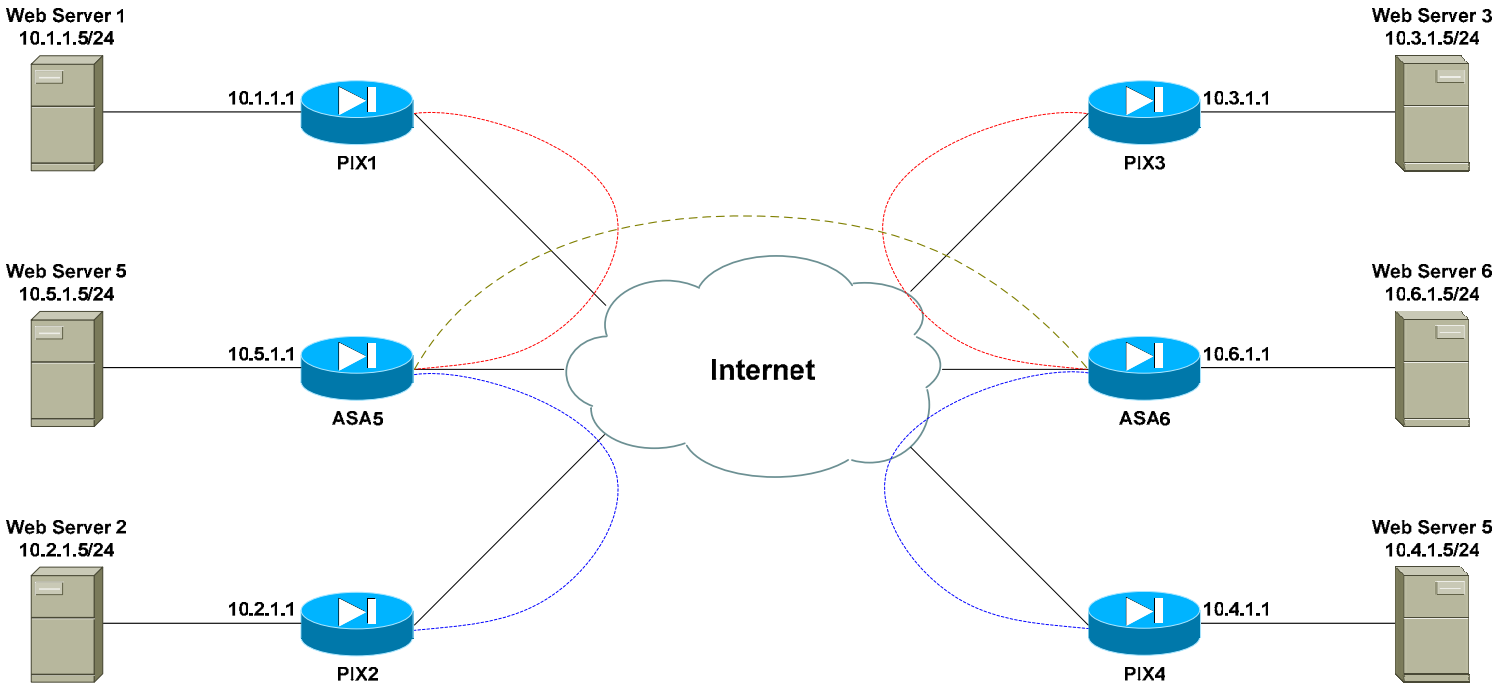

PIX Objectives:

17. Use a local username and password database on the PIX/ASA firewall to authenticate users. At a minimum, create a user named 'cisco' with a password of 'cisco'. Feel free to create additional accounts as well.

18. Test your new configuration using the Cisco VPN client.

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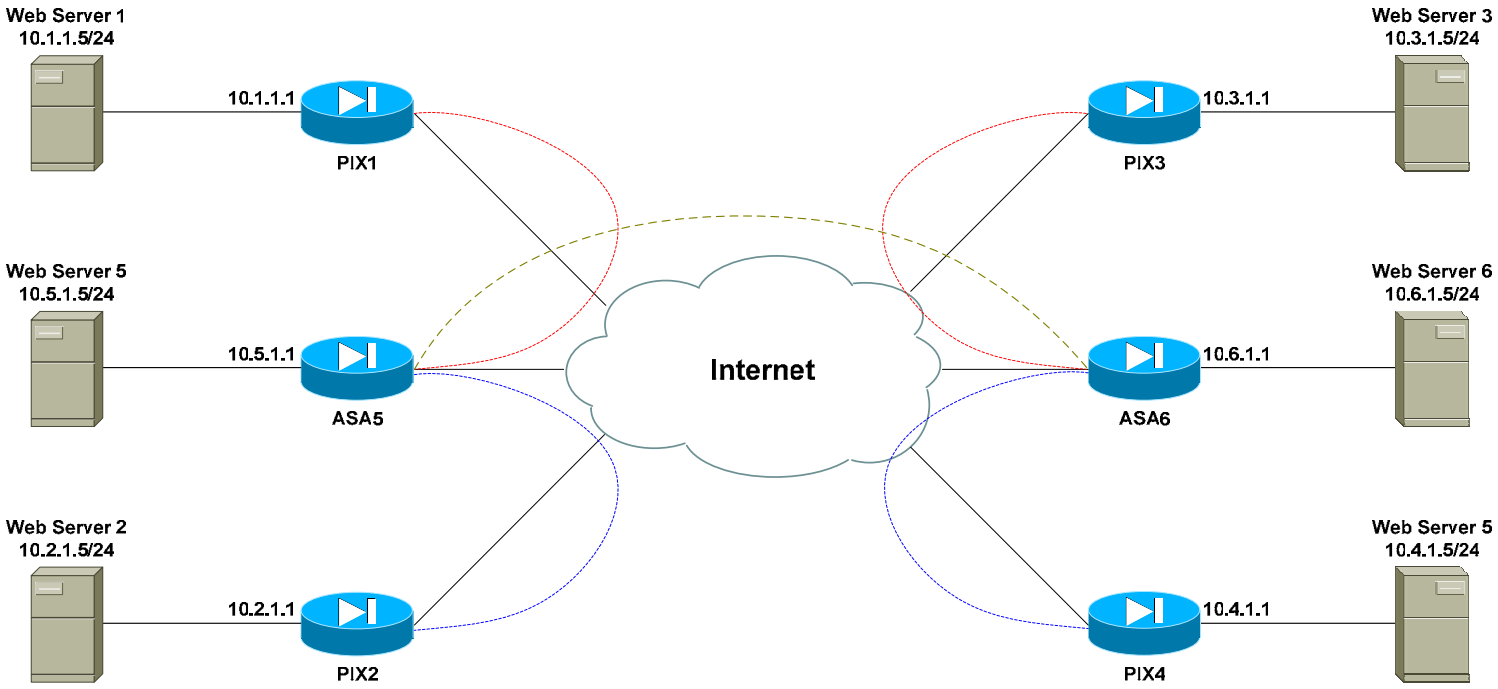

PIX Objectives:

19. Remove any locally created usernames/passwords on each PIX/ASA. Install RADIUS on each Web Server. At a minimum, create a user named 'user' with a password of 'user'. Feel free to create additional accounts as well. Use this RADIUS server to authenticate client VPN users. Use a key of CISCO between the RADIUS servers and each PIX/ASA.

20. Test your new configuration using the Cisco VPN client.

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