Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Chapter 3 – Link Aggregation**

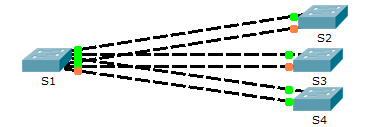
**Study Guide**

**Tips for success: While answering the questions read Chapter 3, review the summary, and complete the practice Quizzes.**

**After completion of this chapter, you should be able to:**

* Explain the operation of link aggregation in a switched LAN environment.
* Describe EtherChannel technology.
* Configure link aggregation to improve performance on high-traffic switch links.
* Configure link aggregation with EtherChannel.
* Verify and troubleshoot link aggregation with EtherChannel.

1. Why must you create an EtherChannel to increase speed between switches, and not just add redundant connections?

1. How does EtherChannel use load balancing?
2. There can be \_\_\_\_\_\_ ports in one EtherChannel and \_\_\_\_\_\_\_ EtherChannels on one switch.
3. According to the diagram, what is the minimum number of EtherChannels that can be created on S1? (Explain your answer):
4. Compare and Contrast the two EtherChannel protocols:

|  |  |
| --- | --- |
| **PAgP** | **LACP** |
|  |  |

1. Explain the three modes for PAgP:
   1. On –
   2. Desirable –
   3. Auto –
2. When using PAgP, what happens when both sides of the channel are in Auto mode?
3. Explain the three modes for LACP:
   1. On –
   2. Active –
   3. Passive –
4. When using LACP, what happens when both sides of the channel are in Passive mode?

1. Complete Activity 3.1.2.4 – Identify the PAgP and LACP modes
2. Explain the following restrictions when configuring an EtherChannel:
   1. Speed and Duplex –
   2. VLAN match –
   3. Range of VLAN –
3. Briefly explain the key features of the following show commands:
   1. Show interface port-channel –
   2. Show etherchannel summary –
   3. Show etherchannel port-channel –
   4. Show interfaces f0/1 etherchannel –
4. What happens when ports within an EtherChannel have different native VLANs?
5. List the commands used to set up an EtherChannel between S1 and S2 on ports F0/1-2 using LACP: