

## Lab 7.3.6 Identifying Risks and Weaknesses in the Design

### Objectives

- Identify areas of risk and weakness in the server farm design implementation.
- Recommend solutions that will support eventual growth of the data center while maintaining desired network performance.

### 640-802 CCNA Exam Objectives

This lab contains skills that relate to the following CCNA exam objectives:

- Interpret network diagrams.
- Identify and correct common network problems at Layers 1, 2, 3, and 7 using a layered model approach.

### Expected Results and Success Criteria

Before starting this lab, read through the tasks that you are expected to perform. What do you expect the result of performing these tasks will be?

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What documentation should you gather to help you with the tasks you will perform in this lab?

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### Background / Preparation

At the conclusion of the server farm prototype testing, the network designer is satisfied that the network performs as expected. However, several areas of concern exist that should be addressed. Future growth in the network could magnify these areas of risk and weakness, resulting in suboptimal network performance. Some design changes should be considered at this stage to prevent this from happening. In this lab, you will identify possible areas of risk and weakness, and suggest possible changes to eliminate or minimize them.

### Task 1: Identify areas of risk and weakness in the server farm implementation

#### Step 1: Analyze the physical topology

Examine the server farm topology as one entity and as a part of the entire FilmCompany topology. Look for each of the risks and weaknesses listed in the chart. Describe the devices, connections, and issues that you find, or record **None found** if the design appears to avoid risks in that area.

Weakness	Risk	Description of Location and Devices
Single point of failure	If a device fails, a portion of the network will be inoperable.	
Large failure domain	If a device or link fails, a large portion of the network will be affected	
Possible bottlenecks	If the traffic volume increases, there is a potential for response time to degrade.	
Limited scalability	If the network grows more rapidly than expected, a costly upgrade will be needed.	
Overly-complex design	If the design is too complex, the current staff will not be able to support it properly.	
Other possible weaknesses (specify):		

## Step 2: Analyze the results and conclusions of the testing

Basic router and switch configurations were modified to support the following protocols and functions. Evaluate the results and conclusions that were drawn from the testing. Identify any areas where modifications to the configuration would provide better results, both now and in the future.

	No Change Needed	Modifications Possible
VLAN port assignments		
VTP client/server assignments		
Root bridge designations		
Switch security		
Traffic filtering through ACLs		
Other (specify):		

## Task 2: Suggest modifications to the design to address identified risks and weaknesses

From the analysis performed in Task 1, list each risk or weakness and suggest possible changes to the design to minimize or eliminate it.

Risk or Weakness Identified	Modification Suggested