

Lab 5.4.3 Planning a WAN Upgrade

Objectives

- Create a business proposal based on a scenario of an organization that requires a WAN upgrade.

Background / Preparation

You are currently employed at an ISP. A local business has contacted the ISP to inquire about establishing a WAN connection between its main office and a second office that is opening in the next few months. You have been assigned to the new business account. You are asked to provide a proposal that outlines what the ISP can offer the business to meet its requirements for a new WAN connection.

You first visit the site to examine the existing setup. Currently, there is only one employee who accesses the head office using dialup and a 56 K modem. This employee requires access to a database server that stores the data for the company contact management software application. The new office will initially have 10 people who need to access the database server, but the business anticipates the second office having 30 employees within one year.

After running some benchmarking tests, you determine that each connection to the database uses 50 Kbps to function optimally. You also discover that if the database server cannot be reached, the application fails to function, and the employee can no longer work. After talking with the customer, you learn that the availability of the new WAN connection is critical to the business and that service disruption needs to be kept to a minimum.

The ISP you work for has a variety of WAN connection options for business customers. These are the available options that you can offer the customer.

WAN Connection	Upstream Bandwidth	Downstream Bandwidth	SLA Availability	Cost
Dialup	33.6 Kbps	53 Kbps	No	\$12.95/month
ADSL	1.0 Mbps	3.0 Mbps	No	\$64.95/month
Fractional T1	768 Kbps	768 Kbps	Yes	\$149.95/month
T1	1.544 Mbps	1.544 Mbps	Yes	\$299.95/month
Fractional T3	9.264 Mbps	9.264 Mbps	Yes	\$1399.95/month
T3	45 Mbps	45 Mbps	Yes	\$2499.95/month

Step 1: Identify the business requirements for the WAN upgrade.

Outline the business requirements for a WAN connection between the two offices. Document these requirements in the WAN Upgrade Proposal included in this lab.

Step 2: List available WAN options for the business.

List the ISP offerings for WAN connections that meet or exceed the requirements for the WAN connection between the two offices. Include this information in the proposal.

Step 3: Identify the best WAN connection option for the business.

Based on the list of suitable WAN connection options, identify the most appropriate connection for the business. Justify the answer you give.

Step 4: Group discussion.

Assemble in groups of two or more to discuss the answers. Identify any items that you missed when filling out the WAN Upgrade Proposal and correct the proposal as needed.

WAN Upgrade Proposal

Objectives

- Establish WAN connectivity between the two offices for a company.

Existing Environment

Main Office

- Presently 45 employees connected over a 100 Mbps Ethernet network
- Main database server that stores data for contact management application
- Single external user using dialup to connect to corporate network to access database server

Second Office

- Opening in a few months
- Across town from main office
- Initially to have 10 people, but is anticipated to grow to 30 people over the next year

Business Requirements

The new WAN connection between the two offices must meet these minimum specifications to satisfy the business requirements:

- 1.
- 2.

Available WAN Connection Options

WAN Connection	Upstream Bandwidth	Downstream Bandwidth	SLA Availability	Cost

Recommendation

The following WAN connection is recommended to satisfy the requirements.
