

# Lab – Researching WAN Technologies

## Objectives

**Part 1: Investigate Dedicated WAN Technologies and Providers**

**Part 2: Investigate a Dedicated Leased Line Service Provider in Your Area**

## Background / Scenario

Today's broadband Internet services are fast, affordable. With the use of VPN technology, the connection can also be secure. However, many companies still need a 24-hour dedicated connection to the Internet, or a dedicated point-to-point connection from one office location to another. In this lab, you will investigate the cost and availability of purchasing a dedicated T1 Internet connection for your home or business.

## Required Resources

A device with Internet access.

## Part 1: Investigate Dedicated WAN Technologies and Providers

In Step 1, you will research basic characteristics of dedicated WAN technologies, and in Step 2, you will discover providers that offer dedicated WAN services.

### Step 1: Research WAN technology characteristics.

Use search engines and websites to research the following WAN technologies. Put your findings in the table below.

WAN Technology	Dedicated Connection (yes/no)	Last Mile Media			Speed/Range
		Copper (yes/no)	Fiber (yes/no)	Wireless (yes/no)	
T1/DS1					
T3/DS3					
OC3 (SONET)					
Frame Relay					
ATM					
MPLS					
EPL (Ethernet Private Line)					

### Step 2: Discover dedicated WAN technology service providers.

Navigate to <http://www.telarus.com/carriers.html>. This webpage lists the Internet service providers (also known as carriers) that partner with Telarus to provide automated real-time telecom pricing. Click the links to the various carrier partners and search for the dedicated WAN technologies that they provide. Complete the

table below by identifying each service provider's dedicated WAN services, based on the information provided on the website. Use the extra lines provided in the table to record additional service providers.

Internet Service Provider	T1/DS1/PRI	T3/DS3	OC3 (SONET)	Frame Relay	ATM	MPLS	EPL Ethernet Private Line
Comcast							x
CenturyLink	x	x				x	
AT&T							
Earthlink							
Level 3 Communications							
XO Communications							
Verizon							

## Part 2: Investigate a Dedicated Leased Line Service Provider in Your Area

In Part 2, you will research a local service provider that will provide a T1 dedicated leased line to the geographical area specified. This application requires a name, address, and phone number before the search can be performed. You may wish to use your current information or research an address locally where a business might be looking for a WAN connection.

**Step 1: Navigate to <http://www.telarus.com/geoquote.html> to try GeoQuote.**

GeoQuote is a web application that automates the search for WAN technology service providers, and provides price quotes in real-time. Complete the required fields.

- Click the **Service Type** drop-down list and select **Data (High Speed Internet)**.
- Type your **First Name** and **Last Name**, your sample **Company**, and your **Email** address.
- Type the **Phone Number** to connect to the WAN. This number should be a landline number.

- d. Click the button marked **Step 2**.

### TEST DRIVE GEOQUOTE!

Not a Telarus Partner and looking to try out our patented GeoQuote Real-Time Pricing Tool?

Fill out the requested information in this form and proceed to specifying your service type you are looking to get pricing for. Then let the tool serve you up a quote that has plan combinations for bandwidth, install cost, monthly cost, and more!

[See GeoQuote FAQ](#)

#### Service Type:

Data (High Speed Internet) ▾

#### Your Name:

First Name Last Name

#### Company:

#### Email:

#### Phone Number:

- -

[▶ Step 2](#)

### Step 2: Provide Information.

- Choose **Internet T1 (1.5 MB)** in the GeoQuote Step 2 window (below).
- In the GeoQuote Step 3 window, in the **Installation BTN** field, enter your sample business telephone number.
- Enter your address, city, state, and zip code in the GeoQuote Step 3 window.
- In the GeoQuote Step 4 window, click **I am just window shopping**.
- Click **Continue** in the GeoQuote Step 4 window to display the results.

Step 2 - Select Service Type	Step 3 - Enter Installation Information	Step 4 - Contact Preferences
<input type="radio"/> Business DSL <span>real-time</span> <input type="radio"/> Business Cable <span>real-time</span> <input type="radio"/> Fractional T1 Internet (< 1.5 MB) <span>real-time</span> <input checked="" type="radio"/> <b>Internet T1 (1.5 MB)</b> <span>real-time</span> <input type="radio"/> Bonded Internet (3MB to 12MB) <span>real-time</span> <input type="radio"/> Fixed Wireless Broadband <span>real-time</span> <input type="radio"/> Satellite High-Speed Internet <span>real-time</span> <input type="radio"/> Fractional DS3 Internet (6MB to 45 MB) <span>real-time</span> <input type="radio"/> DS3 Internet(45MB) <span>real-time</span> <input type="radio"/> Ethernet (Copper) <span>real-time</span> <input type="radio"/> Ethernet (Fiber) <span>real-time</span> <input type="radio"/> Mobile Wireless Card <span>manual quote</span> <input type="radio"/> High BW Fixed Wireless (> 2.0MB) <span>manual quote</span> <input type="radio"/> 4G WiMax <span>manual quote</span> <input type="radio"/> OC-3 Internet (155MB) <span>manual quote</span> <input type="radio"/> OC-48 Internet (2.5GB) <span>manual quote</span> <input type="radio"/> OC-12 Internet (622MB) <span>manual quote</span>	Installation BTN: (321) 456-7890 Address Line 1: 123 Your Street Address Line 2: City   State   Zip: Your City FL 32003 Tell us about your situation: Enter your comments here	After we calculate your quote, a member of our T1 Sales Department <b>will contact you</b> to explore your options and answer any questions you may have. What is the best way to reach you? <input type="radio"/> Please call me ASAP at (321) 456-7890 x <input type="radio"/> Call me later but email me now at <a href="mailto:User@no-reply.com">User@no-reply.com</a> <input checked="" type="radio"/> I am just window shopping <div> <a href="#">Click here to see pricing!</a> <a href="#">Continue &gt;</a> </div>

### Step 3: Examine the results.

You should see a list of quotes showing the available pricing of a T1 connection to the location you specified. Was the pricing in the area you chose comparable to those pictured below?

What was the range of prices from your results?

Your Quote Results									
Plan	Service Type	Bandwidth	Install	Rebate	Term	Router	Loop	Monthly Cost	Order
 1	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	3 Year	Yes	\$161.00	<b>\$318.00</b>	<a href="#">Order Now</a>
 2	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	2 Year	Yes	\$161.00	<b>\$340.00</b>	<a href="#">Order Now</a>
 3	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	3 Year	Yes	included	<b>\$352.90</b>	<a href="#">Order Now</a>
 4	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	2 Year	Yes	included	<b>\$372.12</b>	<a href="#">Order Now</a>
 5	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	1 Year	Yes	\$231.00	<b>\$433.00</b>	<a href="#">Order Now</a>
 6	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	3 Year	No	\$310.81	<b>\$455.81</b>	<a href="#">Order Now</a>
 7	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$444.07	\$0.00	1 Year	No	\$318.83	<b>\$463.83</b>	<a href="#">Order Now</a>
 8	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	2 Year	No	\$327.66	<b>\$472.66</b>	<a href="#">Order Now</a>
 9	<a href="#">Internet T1 (1.5 MB)</a>	1.5M x 1.5M	\$0.00	\$0.00	3 Year	Yes	\$310.81	<b>\$490.81</b>	<a href="#">Order Now</a>

### Reflection

1. What are the disadvantages to using a T1 leased line for personal home use? What would be a better solution?
2. When might the use of a dedicated WAN connection, of any type, be a good connectivity solution for a business?
3. Describe other WAN technologies that provide high-speed, low-cost options that could be an alternative solution to a T1 connection.