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ISDS 4120

Dr. Schwarz

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Hands-On Assignment 2

CHAPTER 2

1. Although we tend to use the terms “the Internet” and “World Wide Web” interchangeably, they are actually different. The Internet is best described as the physical component. It’s the hardware that makes everything work. The World Wide Web, on the other hand, is the most commonly used application on the Internet. The internet existed without WWW at its inception but now they are almost completely intertwined. Your computer is involved in a 3-way handshake to create a connection between your computer and another server. When the handshake is successful, you see the website or application that you are trying to access on your computer.

2. The first thing that I would suggest is getting in touch with an ISP (Internet Service Provider). An ISP would be able to provide the company with many options and discussions about what services would best suit them. From there, an Intranet might be very useful in increasing efficiency. The Intranet would be connected to all of their corporate offices and allow employees to run the same applications anywhere. Examples of such applications would be standardized login/time sheets, email, job functionality, package logging/tracking, etc.

The second recommendation that I would make is to create and invest in a quality website. Having a good website is crucial to businesses these days and NDAS should get right on it. Having a well-developed website will help them reach the entire world.

3.

To: President Coone

From: Timothy Rine, *Systems Analyst*

Date: January 2nd, 2018

Subject: Video-Conferencing

Video-conferencing can provide the company with numerous benefits. Because you can video-conference from anywhere in the world, this will decrease travel costs. No more buying plane tickets or paying for hotels. It will increase efficiency because there will be no wasted travel time. No one must wait to fly to another city. It’s also good for comfort because you can video conference from your home or your office – places that you are comfortable in. These are a couple of the best benefits. Saving money and increased efficiency are worth pursuing via videoconferencing.

CHAPTER 3

1.

To: Management

From: Timothy Rine, *Systems Analyst*

Digital data is transmitted in binary, the language the computers can understand, which consists of 0’s and 1’s. There are tables that list what binary combinations translate into the set of characters that we can read (ASCII). Modems typically convert digital signals into analog signals and vice versa. There are different types of modems just like there are different types of computers. You can have a slow modem (like the one NDAS is using) or a fast modem. It is worth it to get a faster modem because it’s a one-time cost. Once you upgrade to get a faster modem, all of your data transmission will be faster which will save money and time over the course of business operations.

2. In today’s market, I would have to choose fiber-optics. Even though it is more expensive, the speed and distance upgrade are worth the price.

3. a.

Atlanta: 63,150,000 bits/day

Chicago: 37,800,000 bits/day

Dallas: 73,500,000 bits/day

Denver: 17,250,000 bits/day

Houston: 30,150,000 bits/day

Jackson: 22,200,000 bits/day

Jacksonville: 21,150,000 bits/day

Los Angeles: 11,550,000 bits/day

Memphis: 28,050,000 bits/day

Miami: 42,150,000 bits/day

Montgomery: 6,750,000 bits/day

New Orleans: 31,800,000 bits/day

Orlando: 41,250,000 bits/day

St. Louis: 41,850,000 bits/day

Tampa: 47,850,000 bits/day

Washington: 7,350,000 bits/day

3. b.

Atlanta: 36.55 min

Chicago: 21.88 min

Dallas: 42.53 min

Denver: 9.98 min

Houston:17.45 min

Jackson: 12.67 min

Jacksonville: 12.24 min

Los Angeles: 6.68 min

Memphis: 16.23 min

Miami: 24.39 min

Montgomery: 3.91 min

New Orleans: 18.40 min

Orlando: 23.87 min

St. Louis: 8.59 min

Tampa: 27.69 min

Washington:4.25 min

3. c.

Transfer time = 18.27 minutes

This transfer time is roughly half of the value calculated in part (b) because this is a one-way transmission. Part (b) has a two-way transmission so it is double this value.

3. d.

If the NDAS offices use the modem mentioned in part (c) then it is too slow, and they would need to upgrade. They should probably upgrade that modem anyway. It would takes them hours to transmit all of the information which would not fit within the given 1 hour time-constraint.

4. In my opinion, Tampa should not be involved in this transmission process. Adding another step simply increases the likelihood of a malfunction along the way. Reducing the equation to two steps simplifies the transmission process.

5. VoIP and video/tele-conferencing are some of the potential advantages. Using VoIP allows users to make telephone calls over the internet which is cheaper than paying for phone lines. This also provides NDAS with a single phone number which aids in brand recognition for customers. Video-conferencing obviously makes meetings easier because there is no need to buy plane tickets, hotels, or deal with travel time. Having this network will also aid in troubleshooting and communication within the company. All-in-all this standardization will improve employee effectiveness and efficiency.