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Cool! I'am really happy

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My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler

so many fake sites. this is the first one which worked! Many thanks

Chapter 1

1. In case of an accident, there is a high chance of getting lost. The transportation cost is very high each time. However, if the infrastructure is set once, it will be very easy to use it repeatedly. Time for wireless transmission is negligible as signals travel at the speed of light.
2. Advantages of bursty data communication
   (a) Pulses are made very narrow, so multipaths are resolvable
   (b) The transmission device needs to be switched on for less time.

   Disadvantages
   (a) Bandwidth required is very high
   (b) Peak transmit power can be very high.
3. $P_r = 10^{-12}$
   $\frac{N}{T_s} = 10^{-12}$
   $\gamma = \frac{P_r T_s}{N} = 5 \times 10^{11}$ (very high)
4. Geo: 35,786 Km above earth $\Rightarrow RTT = \frac{2 \times 35786 \times 10^3}{3 \times 10^8} = 0.2386s$
   Meo: 8,000- 20,000 Km above earth $\Rightarrow RTT = \frac{2 \times 20000 \times 10^3}{3 \times 10^8} = 0.0533s$
   Leo: 500- 2,000 Km above earth $\Rightarrow RTT = \frac{2 \times 2000 \times 10^3}{3 \times 10^8} = 0.0033s$
   Only Leo satellites as delay = 3.3ms < 30ms
5.
6. optimum no. of data user = d
   optimum no. of voice user = v
   Three different cases:
   Case 1: d=0, v=6
   $\Rightarrow$ revenue = $0.6 \times 0.2 = 0.96$

   Case 2: d=1, v=3
   revenue = [prob. of having one data user]×(revenue of having one data user)
   + [prob. of having two data user]×(revenue of having two data user)
   + [prob. of having one voice user]×(revenue of having one voice user)
   + [prob. of having two voice user]×(revenue of having two voice user)
   + [prob. of having three or more voice user]×(revenue in this case)

   $\Rightarrow \quad 0.5^2 \binom{7}{1} \times \$1 + 0.5^7 \times \$1 + \binom{6}{1} 0.8 \times 0.2^5 \times \$0.2 + \binom{6}{2} 0.8^2 \times 0.2^4 \times \$0.4 +$
   $\left[1 - \binom{6}{1} 0.8 \times 0.2^5 \times \$0.2 - \binom{6}{2} 0.8^2 \times 0.2^4 \times \$0.4\right] \times \$0.6$
   $\Rightarrow \$1.35$

   Case 3: d=2, v=0
   revenue $=2 \times 0.5 = \$1$
   So the best case is case 2, which is to allocate 60kHz to data and 60kHz to voice.

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