COMP90007 Internet Technologies

Week 6 Workshop

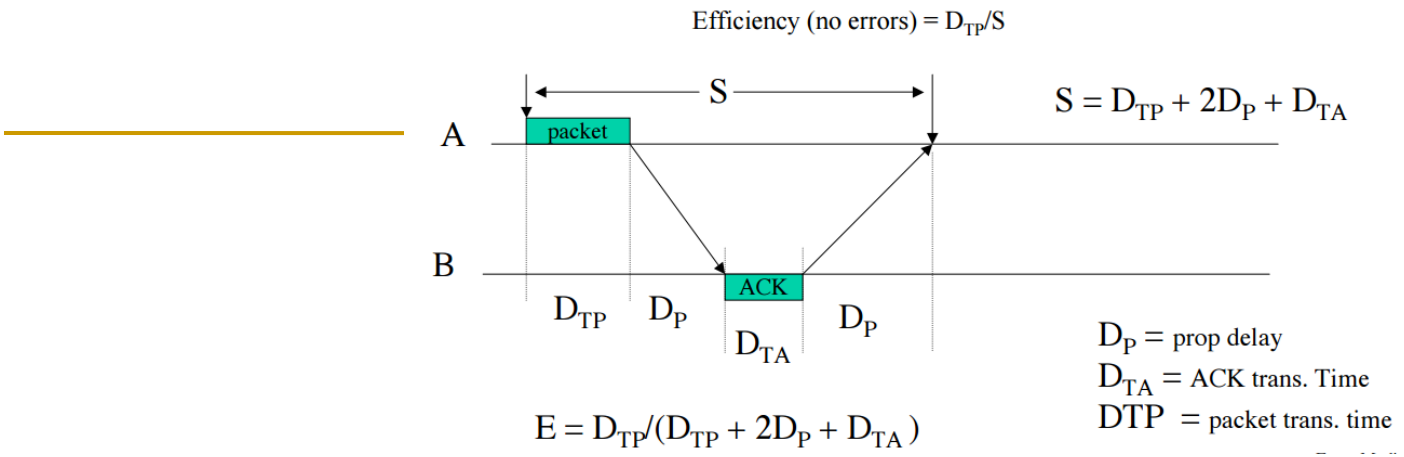
Semester 2, 2020

Question 1

Using the polynomial code method, compute the CRC for the frame: 1101011111 having a generator polynomial G(x) as $x^4 + x + 1$.

Question 2

A channel has a bit rate of 4 kbps and a propagation delay of 20 ms. For what range of frame sizes does stop-and-wait give an efficiency of at least 50 percent?

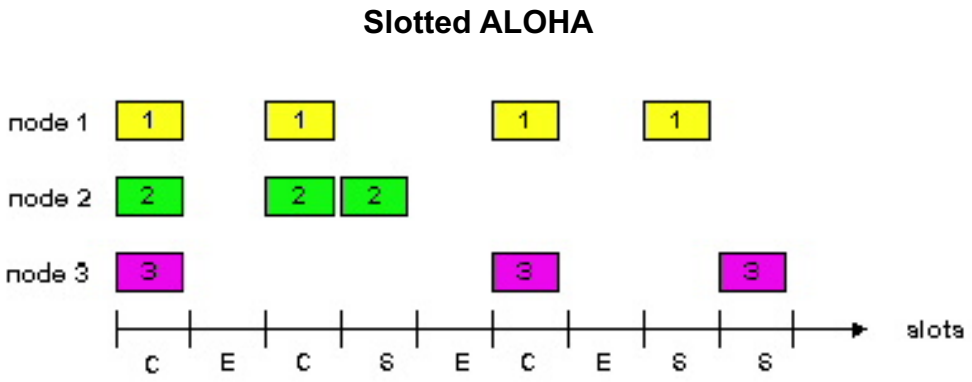


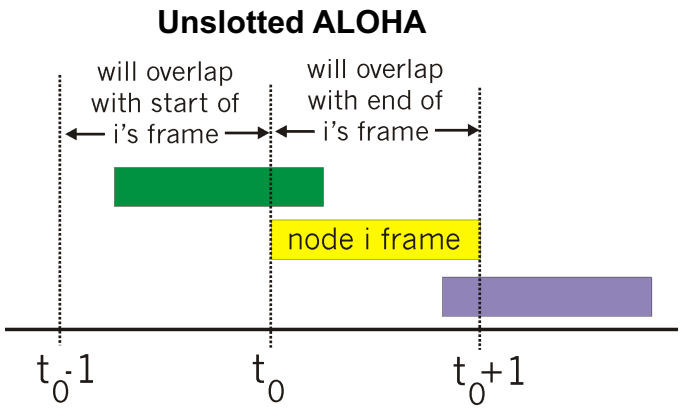
Question 3

Why would anyone like to use the Go-Back-N protocol if we already introduced a superior protocol that can repeat only the missing frames, i.e., the Selective Repeat protocol?

Question 4

Consider the delay of pure ALOHA versus slotted ALOHA at low load. Which one is less? Explain your answer.





Question 5

For medium access control one can use dynamic allocation of channels in comparison to static allocation. Dynamic allocation is far more adaptive. Thus, why would anyone use static allocation mechanisms?