

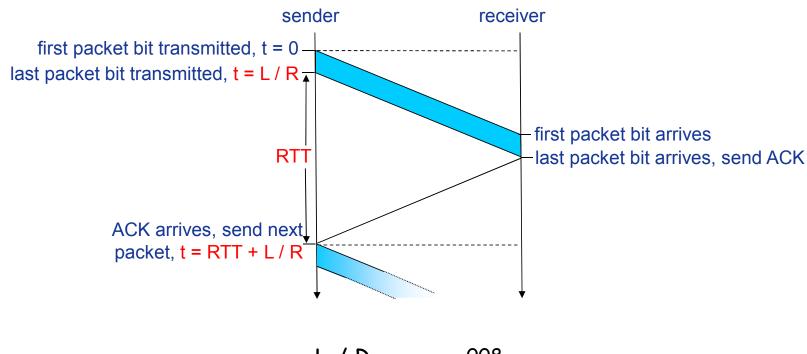
主讲人: 聂兰顺

本讲主题

流水线机制与滑动窗口协议



Rdt 3.0: 停等操作

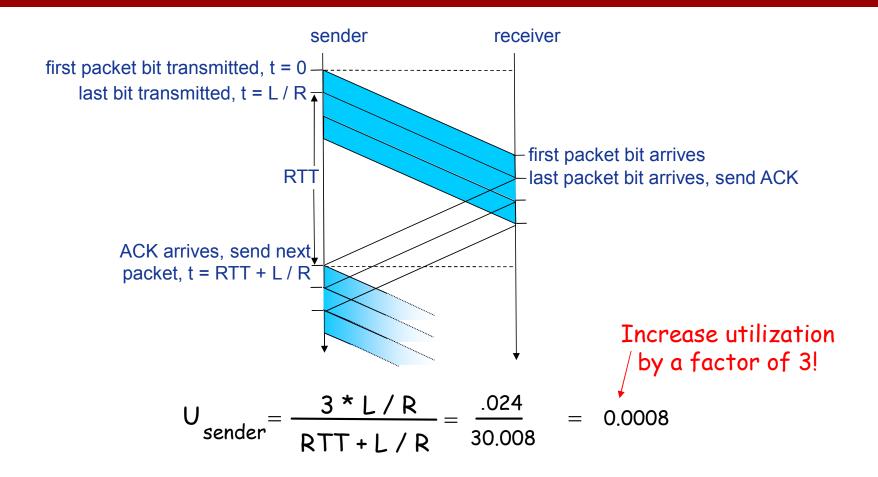


$$U_{\text{sender}} = \frac{L/R}{RTT + L/R} = \frac{.008}{30.008} = 0.00027$$





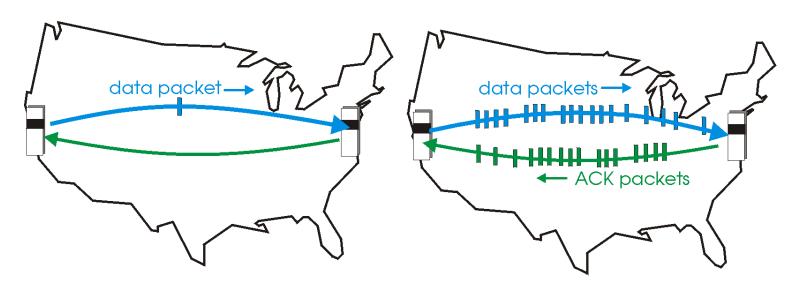
流水线机制:提高资源利用率





流水线协议

- *允许发送方在收到ACK之前连续发送多个分组
 - 更大的序列号范围
 - 发送方和/或接收方需要更大的存储空间以缓存分组

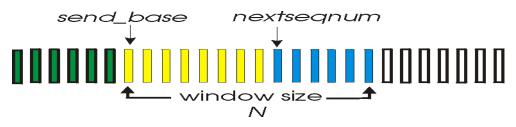


(a) a stop-and-wait protocol in operation

(b) a pipelined protocol in operation



滑动窗口协议



- ❖滑动窗口协议: Sliding-window protocol
- ❖窗口
 - 允许使用的序列号范围
 - 窗口尺寸为N: 最多有N个等待确认的消息
- *滑动窗口
 - 随着协议的运行,窗口在序列号空间内向前滑动
- ❖滑动窗口协议: GBN, SR



