Reliable Data Transfer from *Kurose & Ross*

CS 3171

Protocol	*New Features*	*Problems*
rdt **1**.0 ideal scenario	sends packets	errors
rdt **2**.0 weak stop & wait	checksums for error detection ACK & NAK for receiver feedback	ACK/NAK may have errors
rdt **2**.1 alternating bit	1-bit sequence numbers	ACK/NAK may be lost wrong packet number corrupt packets
rdt **2**.2 NAK-free	send only ACK & sequence #	ACKs may be lost
rdt **3**.0 robust stop & wait	timers	utilization can be low
rdt **3**+ pipeling/sliding windows goback N selective repeat	window of sequence numbers buffer space for N frames	

Bibliography

[1] James F. Kurose and Keith W. Ross. *Computer Networking: A Top-Down Approach Featuring the Internet.* Section 3.4: Principles of Reliable Data Transfer (pp. 182 – 207). Addison-Wesley Longman, Inc., 2001. ISBN 0-201-47711-4.

[2] William Stallings. *Data and Computer Communications.* Prentice Hall, sixth edition, 2000. ISBN 0-13-084370-9.