



9th Assignment: Network Protocols and Architectures, WS 13/14

Question 1: (15 + 15 + 0 + 0 = 30 points) *Faster-Than-Light (FTL) Communication*

Read RFC 6921¹ and answer the following questions.

- Briefly outline the key ideas presented in the RFC.
- How would the TCP Teardown look like in the FTL environment?
- Discuss briefly if the Teardown has to be done before or after the Handshake in the FTL environment. How about congestion control algorithms which handle negative RTTs? Is it possible to stop network congestion before it even starts?
- Invent the technical requirements needed to build such an FTL environment and present your *prototype* in the first NPA tutorials on the first of November 2013.

TCP A		TCP B
1. CLOSED		LISTEN
2.	<SEQ=100><CTL=SYN>	--> SYN-RECEIVED
3. SYN-SENT	--> <SEQ=100><CTL=SYN>	
4. ESTABLISHED	<-- <SEQ=300><ACK=101><CTL=SYN,ACK>	SYN-RECEIVED
5. ESTABLISHED	<SEQ=300><ACK=101><CTL=SYN,ACK>	<-- SYN-RECEIVED
6. ESTABLISHED	<SEQ=101><ACK=301><CTL=ACK>	--> ESTABLISHED
7. ESTABLISHED	--> <SEQ=101><ACK=301><CTL=ACK>	ESTABLISHED

The FTL TCP Handshake

Due Date: Wednesday, January, 08th 2014 only until 09:55 h s. t.

- **As PDF files (no MS Office or OpenOffice files):** Uploaded via ISIS (<https://www.isis.tu-berlin.de/2.0/course/view.php?id=349>)
- Put your name, StudentID number (Matrikelnummer) **and** the name of your tutor on your solution.

¹<https://tools.ietf.org/html/rfc6921>