Don’t hesitate to ask questions
also over Slack (email) after the session

Main contact persons:

Tobias  Eng. & Ger.
Alexander  Eng. & Ger.
Rüdiger  Eng. & Ger.
Hendrik  Eng. & Ger.
Eric  Eng. & Ger.
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Main contact persons:

- Tobias  Eng. & Ger.
- Alexander  Eng. & Ger.
- Rüdiger  Eng. & Ger.
- Hendrik  Eng. & Ger.
- Eric  Eng. & Ger.

But today….

- Thomas  Eng. & French
- Edgar  Eng. & Spanish
Overview current assignment

Questions?

Time for you to solve the tasks

Solutions will be published next week
Communication Networks
Exercise 3

Reliable Transport Concepts (Part 2)

Ethernet & Switching
Communication Networks

Exercise 3

Reliable Transport Concepts (Part 2)

Ethernet & Switching
Task 1: Negative Acknowledgement

Instead of a confirmation for received packets, indicate what you did not receive with NACKs.

Example:

Received packets: 1, 2, 4, 5, 7
Send a NACK: for 3 and 6
Task 2: Fairness - Min-max fair allocation

step 1  Start with all flows at rate 0
step 2  Increase the flows until there is a new bottleneck in the network
step 3  Hold the fixed rate of the flows that are bottlenecked
step 4  Go to step 2 for the remaining flows

Done!
Communication Networks
Exercise 3

Reliable Transport Concepts (Part 2)

Ethernet & Switching
### Task 3: Impostor

<table>
<thead>
<tr>
<th>Who am I?</th>
<th>How do I acquire an IP address?</th>
</tr>
</thead>
<tbody>
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<td>Dynamic Host Configuration Protocol</td>
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| Who are you?                  | Given an IP address reachable on a link,          |
|-------------------------------| How do I find out what MAC to use?                |
| IP-to-MAC binding             | Address Resolution Protocol                       |

More details in slides 35-52
Task 4: Duplicate MAC address

switch learns how to map MACs to ports
Task 4: Duplicate MAC address

switch learns how to map A to port 1
Task 4: Duplicate MAC address

when dst unknown it **broadcasts**
Task 4: Duplicate MAC address

switch learns how to map D to 4
Task 4: Duplicate MAC address

switch learns how to map D to 4
Task 4: Duplicate MAC address

More details in slides 71-79
Communication Networks
Exercise 3

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