Two important pillars of today’s Internet

Internet-wide routing
Covered in the first project

Reliable transport
Main focus of the second project
Implement your own **Reliable** Transport Protocol

recover from packet loss
and reordering
Implement your own **Reliable** Transport Protocol

recover from packet loss
and reordering

**Part 1**

Complete a simple Go-Back-N implementation
Retransmit all packets after a timeout

**Part 2**

Add support for Selective Repeat
Fast retransmission after duplicated ACKs

**Part 3**

Add support for Selective Acknowledgements (SACK)
SACK contains blocks of correctly received segments

**Bonus**

Implement your own congestion control algorithm
Proposed timetable

Part 1  Complete a simple Go-Back-N implementation
21.05.2021  Retransmit all packets after a timeout

Part 2  Add support for Selective Repeat
28.05.2021  Fast retransmission after duplicated ACKs

Part 3  Add support for Selective Acknowledgements (SACK)
04.06.2021  SACK contains blocks of correctly received segments

Bonus  Implement your own congestion control algorithm
We use a custom header for the GBN protocol

<table>
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<th></th>
<th>Type</th>
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<th>Segment Length</th>
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<tr>
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<tr>
<td>Padding</td>
<td></td>
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</table>

Payload
The assignment text on our website contains detailed instructions.

This project counts as 10% to your final grade.

Every group member receives the same grade.

You will once again write a report.

Max 10 pages but should be much shorter.

Most of the tasks also include a theoretical question.

Answer them in the report.
A new VM and **GitLab repository** wait for you

let us know if you have no access

All the scrips/skeleton files are already on your VM

Use git (preferred) or scp to transfer files

You keep your group number from the first project

**Important:** VM port number is 3000 + group number

Use the password from your GitLab repository
Let’s see how the final sender and receiver should look like.

KEEP CALM
IT'S DEMO TIME
There are multiple options to test your implementation

Run your sender against your receiver
This should be your main focus

Test with the implementation of another group
Good way to find out if you follow all the specifications

Optionally, use our test framework
Passing all the tests does not guarantee a 6
(Optional) new test framework under development

We are working on a new framework
More tests, better feedback, new features, ...

We will enable the new framework during the project
Will be buggy and could report wrong results

We welcome any feedback from you
More information via Slack
If you have questions

Ask on Slack or send us an email
Please use the #transport_project channel

We will announce additional online Q&A sessions
During the sessions we also offer voice/video chats

Follow the exercise session on Thursday
More demos to Git and Python
Final comments

Deadline: June 04 2021, at midnight
Submit code, report and decl. of originality via GitLab

Read the assignment text carefully
Make sure you follow all the specifications

Do not copy code from other groups
We will check your code with automated tools