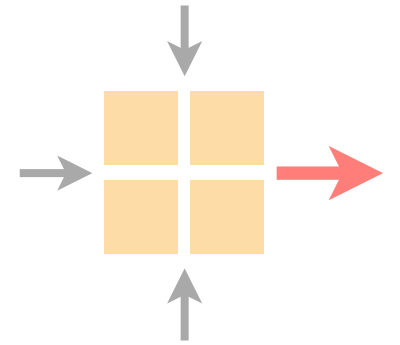


Advanced Topics in Communication Networks

Programming Network Data Planes



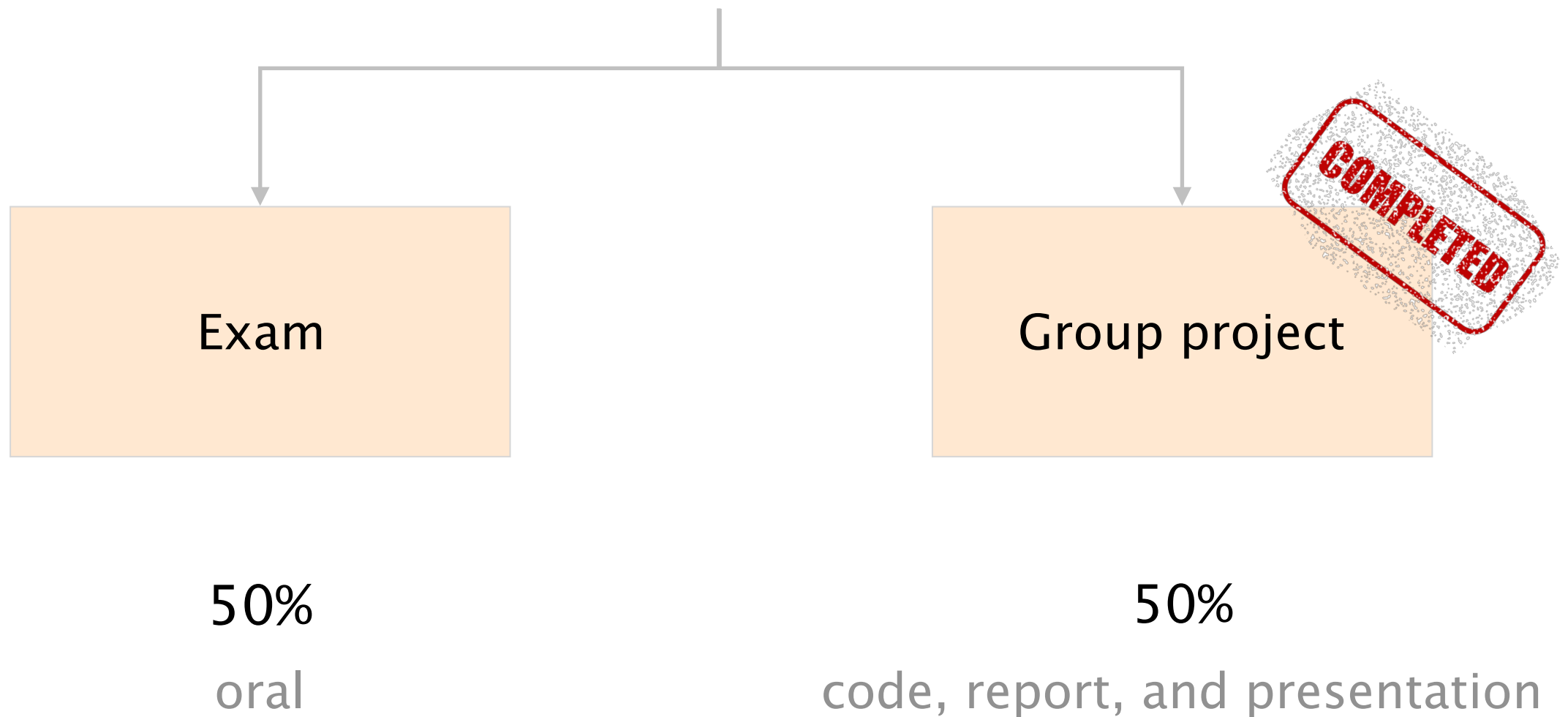
Laurent Vanbever

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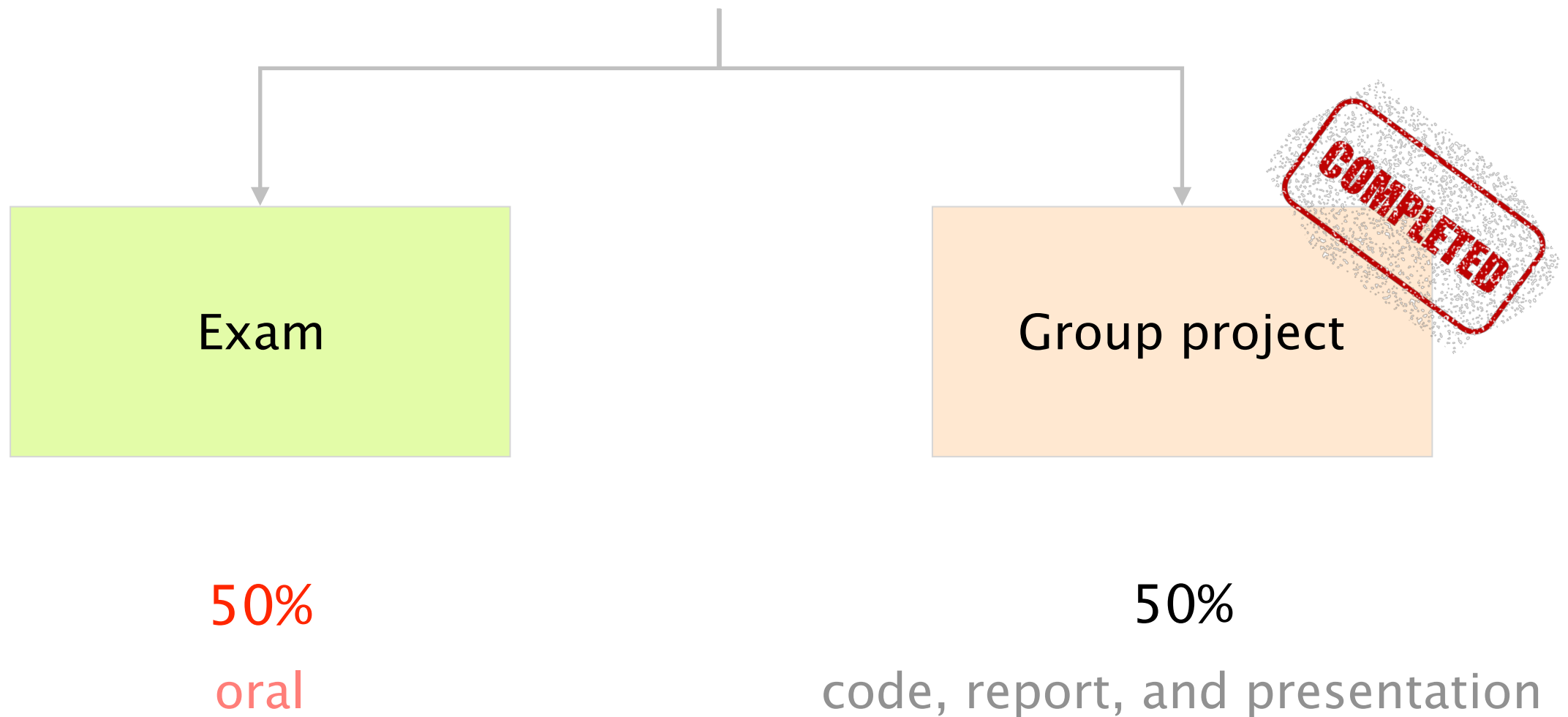
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Dec 20 2018

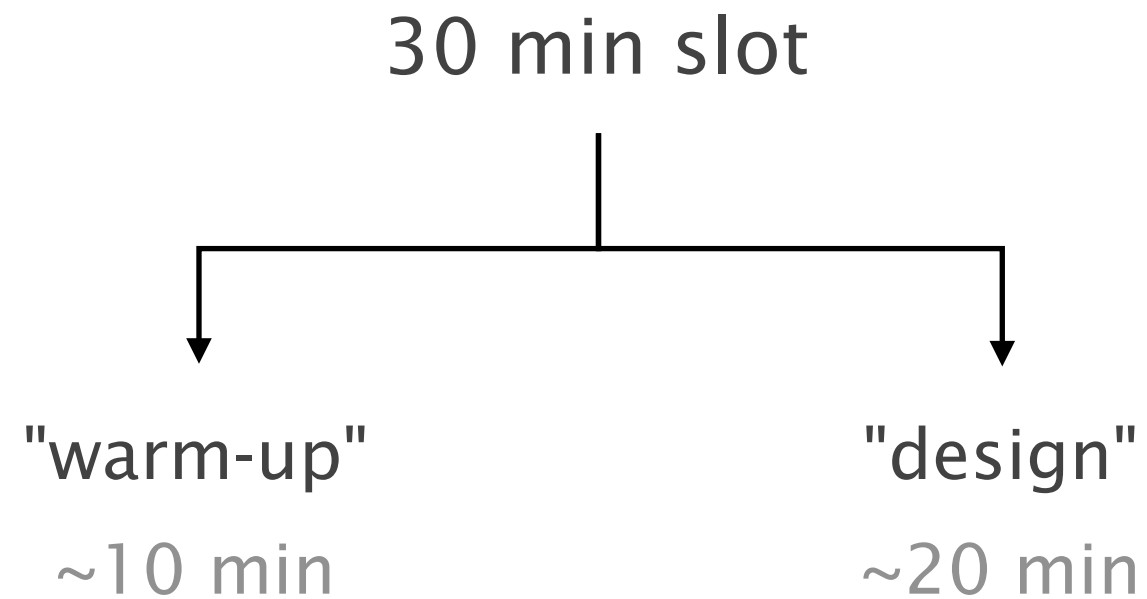
Your final grade



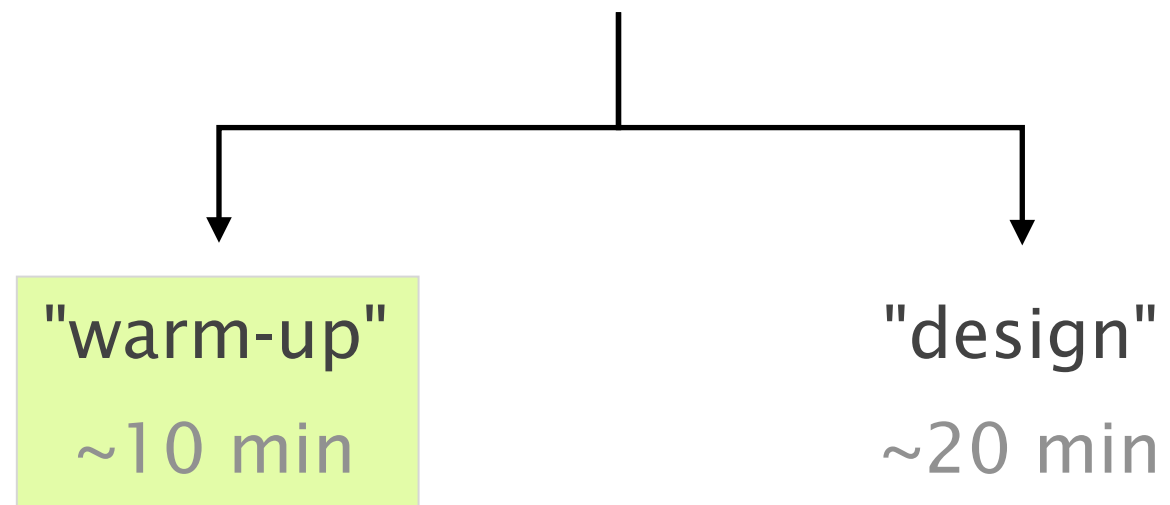
Your final grade



The oral exam will take place on
February 11 and **February 12**



30 min slot



We'll start by asking you concrete questions concerning the **course material**

slides + exercices

(no question on papers content)

We'll start by asking you concrete questions concerning the course material

Examples

What is P4? What does it enable?

What are the main differences between OpenFlow and P4?

What roles tables, actions and control flow play in P4?

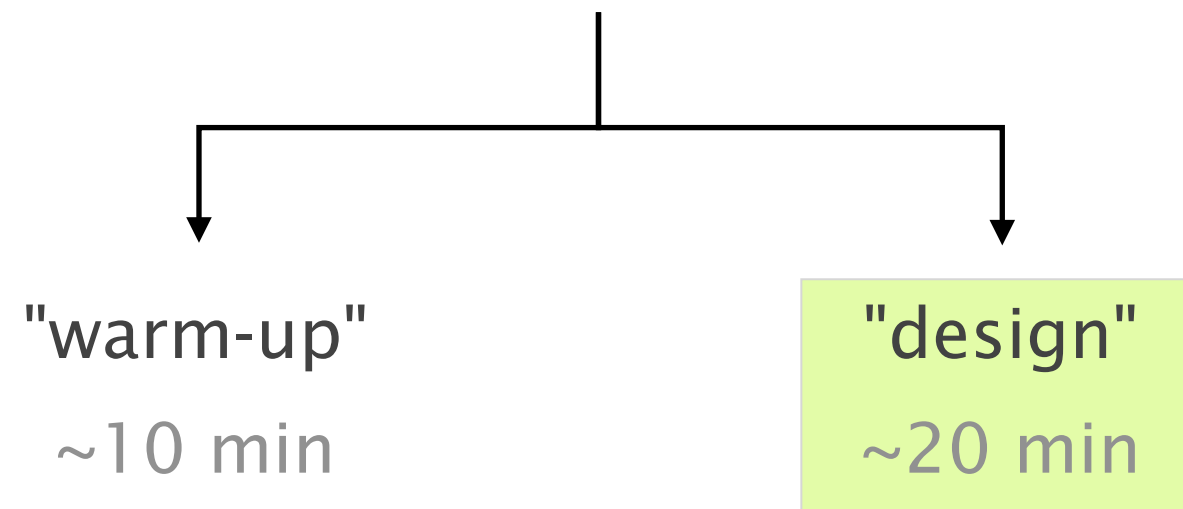
What different memory structures exist in P4 switches? How do they differ?

What types of constructs do we need to maintain state across packets?

What is a bloom filter? How do you dimension one?

What is that (small) piece of P4 code doing? Is it correct?

30 min slot



We'll then present you with a concrete network problem and ask you to solve it using DP programmability

We'll then present you with a **concrete network problem** and ask you to solve it using DP programmability

"pick 1 amongst k "
the one you prefer the most

We'll then present you with a concrete network problem and ask you to solve it using DP programmability

Examples

What would your data plane pipeline look like?

e.g., parser, control-flow, table designs, state, ...

What would your control plane look like?

e.g., which events do you track, how do you react, ...

How would improve X (e.g., scalability, performance)

e.g., using different data structures, CP/DP split, ...

We won't ask you to actually code in P4,
rather think of it as a design discussion

The entire course (+ assignments) were new
thank you for acting as guinea pigs!



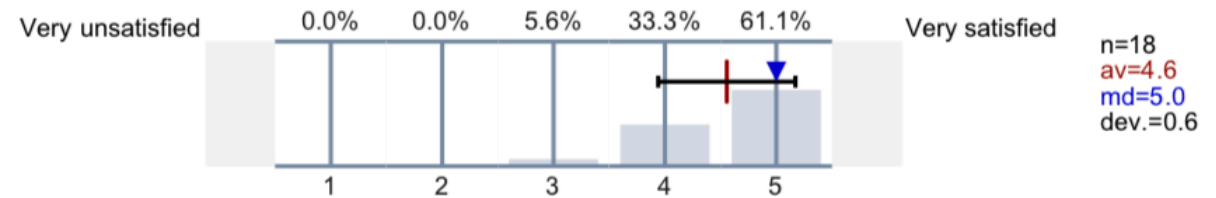
We really value your feedback on how to improve for next time!
please contact us

That said...

it seems that you liked the lecture already 😊

9. General satisfaction and Comments

9.1) How satisfied were you in general with the course unit?



Huge thanks to the teaching assistants!



Albert



Thomas



Roland



Alexander



Edgar

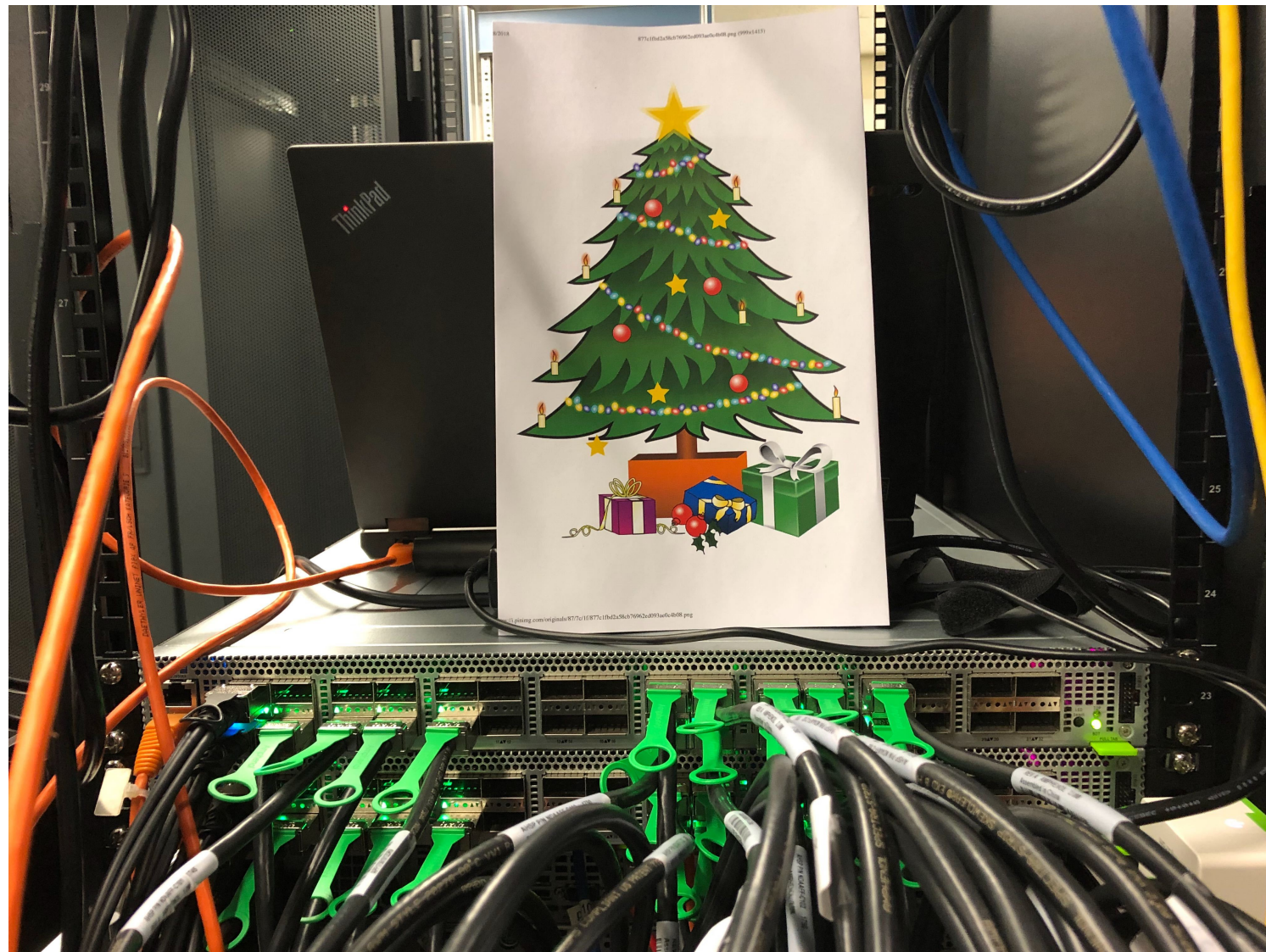
Our group offers both
Master and Semester theses (in ITET & INFK)

(some) available on our website

nsg.ee.ethz.ch

best is to shoot us an email

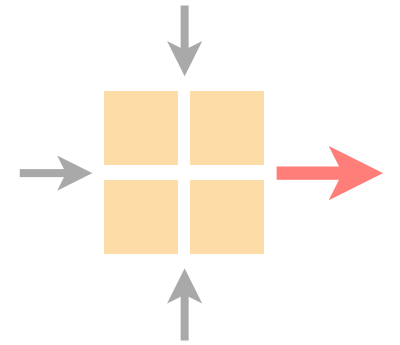
Among others, good opportunity to play with state-of-the-art network hardware



Merry Christmas!!

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