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**UNIVERSITÄT
BERN**

HS2020: 11072 Advanced Networking and Future Internet

Theoretical Exercises 8

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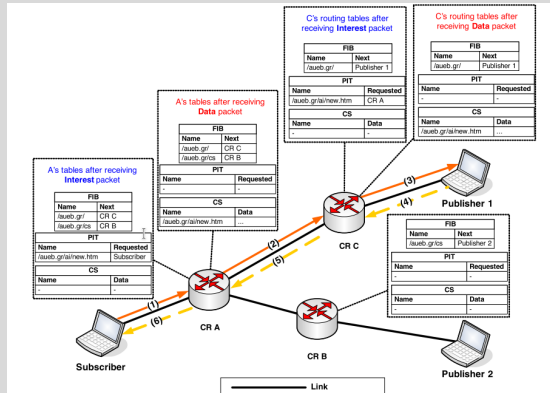
Instructions

Submit your exercises in PDF format in the corresponding task on ILIAS by
sunday, 15.11.2020 at 23:55.

Question 1 (2 points)

1. Discuss the motivations for the adoption of an information-centric network architecture instead of the current host-centric architecture.
2. ICN can support natively events that are challenging in host-centric architecture, such as multicast and *flash crowd*, explain in detail the mechanisms that enable that.

Question 2 (2 points)



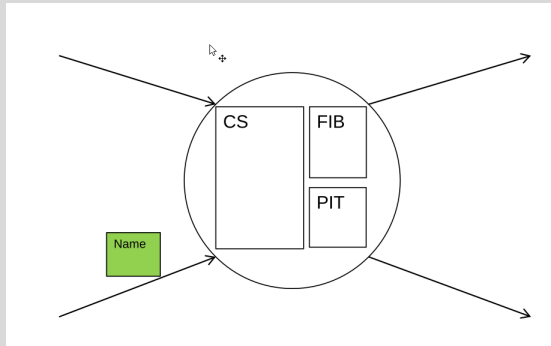
Question 2 (2 points)

Consider the network shown in the previous frame, describe how the routing might happen if the requested content can be found:

- In the Content Store of router CR B.
- If the content can no longer be found in the Publisher 1 node.

Question 3 (2 points)

Describe the CS, FIB, and PIT components of a router in a ICN architecture, what kinds of information can be found in each, and what happens in the case of a match from the subscriber request in each field.



Question 4 (2 points)

How does the PSI architecture differ from traditional the TCP/IP stack, and what are the advantages and disadvantages of using PSI and its implementations (PSIRP and PURSIUT).

Question 5 (2 points)

Caching and subscriber mobility are important features of ICN, describe how they are achieved in a traditional ICN paradigm. Explain why publisher mobility is a more difficult task (use the architecture from question 2 as an example).

Meta-Questions?

contact me at lucas.pacheco@inf.unibe.ch.