Chair of Network Architectures and Services
School of Computation, Information, and Technology
Technical University of Munich

TUM

Advanced Computer Networking (ACN)

IN2097

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Routing table

- Look up next hop of incoming packet
- Perform longest prefix matching (LPM)
- Optimization goals:
    - Memory accesses are slow/expensive → As few memory accesses as possible
    - Cache accesses are faster/cheaper → As small memory footprint as possible

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DIR-24-8

- IPv4 only!
- Look up data structure optimized for hardware:
    - Implementing complex control logic in hardware is expensive
    - Memory is cheap
    - → DIR-24-8 rather optimized for fewer memory accesses than for memory size
- Presentation of the underlying algorithm in lecture on December, 14

Your task for Problem 3

- Implement the routing table
- Implement the `routing_table.h` as given
- Test your routing table (basic example included in framework)
- **Hint:** You **may** extend the tests yourself

Optional exercise

- Problem 2 of the exam from 2016