What is TCMTF About

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The Goal

- **Optimize services using small packets**
  - Interactive:
    - VoIP
    - Online games
    - Remote desktop
    - …
  - Non delay-sensitive:
    - M2M
    - Sensor networks
    - Instant messaging
    - …

One IPv4/TCP packet 1500 bytes

One IPv4/UDP/RTP packet of VoIP with two samples of 10 bytes

One IPv6/TCP packet 1500 bytes

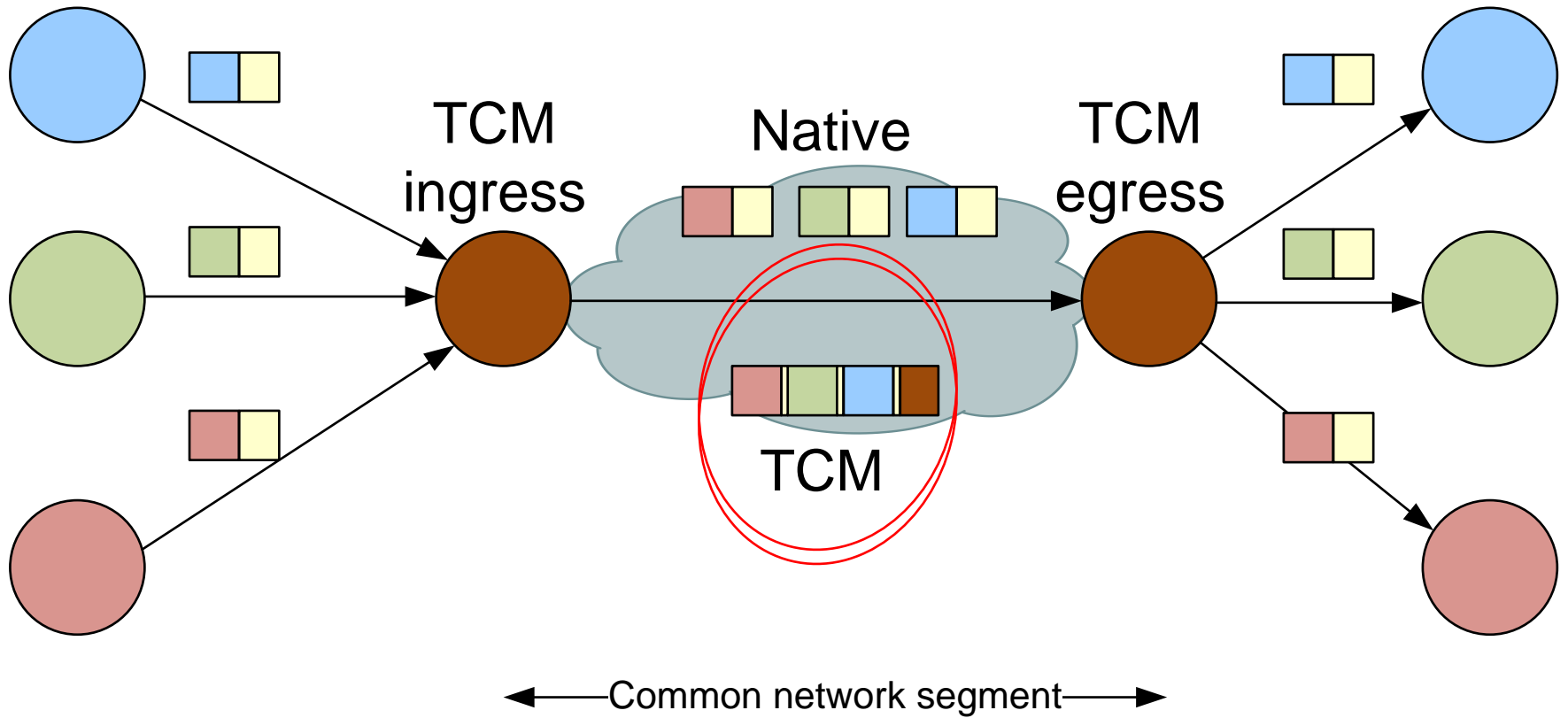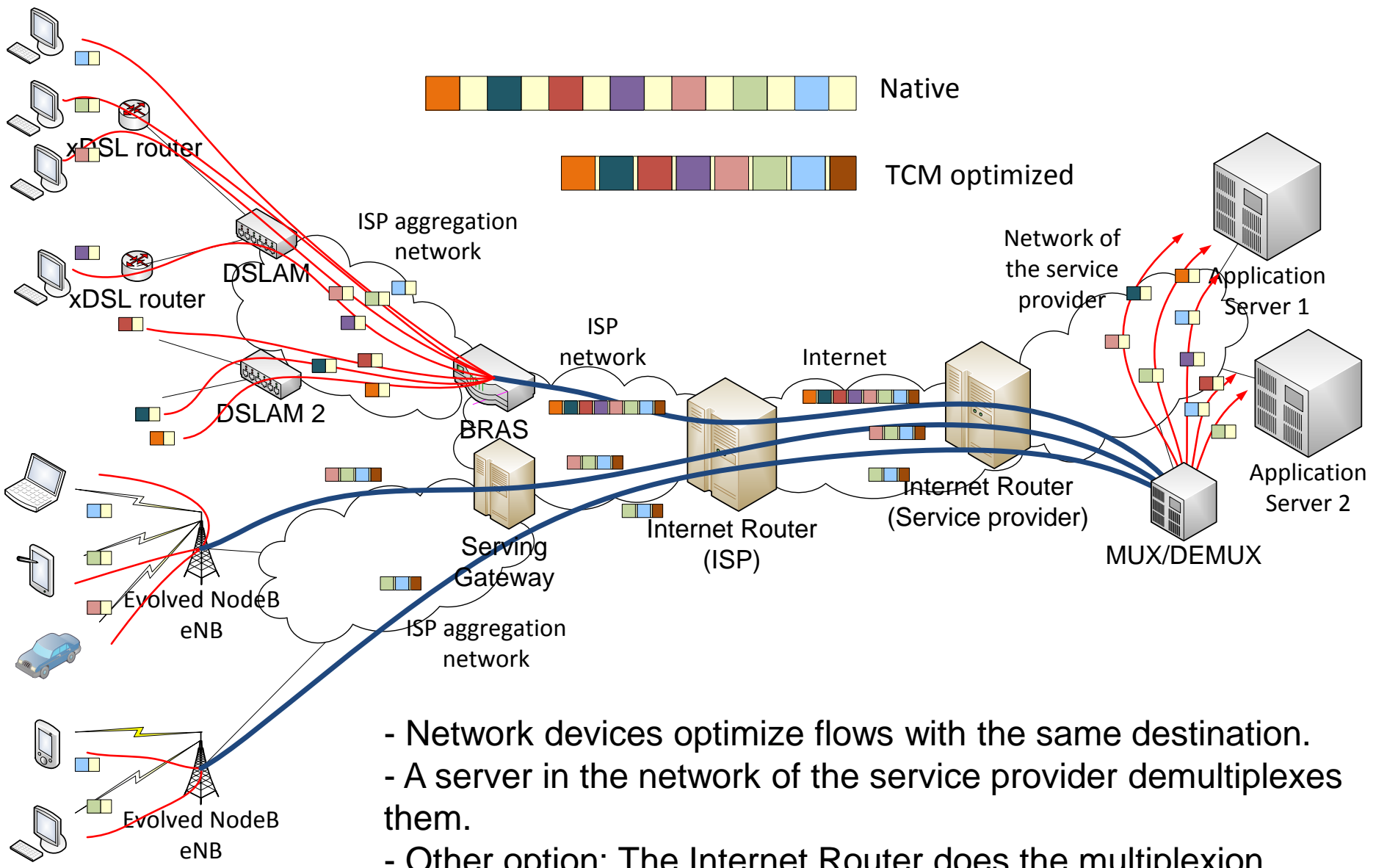**One** IPv6/UDP/RTP packet of VoIP with two samples of 10 bytes

- **The proposal: Compress and multiplex small-packet flows to**
  - Save bandwidth
  - Reduce packets per second

The TCMTF Basic Idea

TCM ingress

Native

TCM egress

TCM

Common network segment

Multi-domain Scenario

Native

TCM optimized

ISP aggregation network

xDSL router

DSLAM

xDSL router

DSLAM 2

ISP network

BRAS

Internet

Serving Gateway

Internet Router (ISP)

Internet Router (Service provider)

Network of the service provider

Application Server 1

Application Server 2
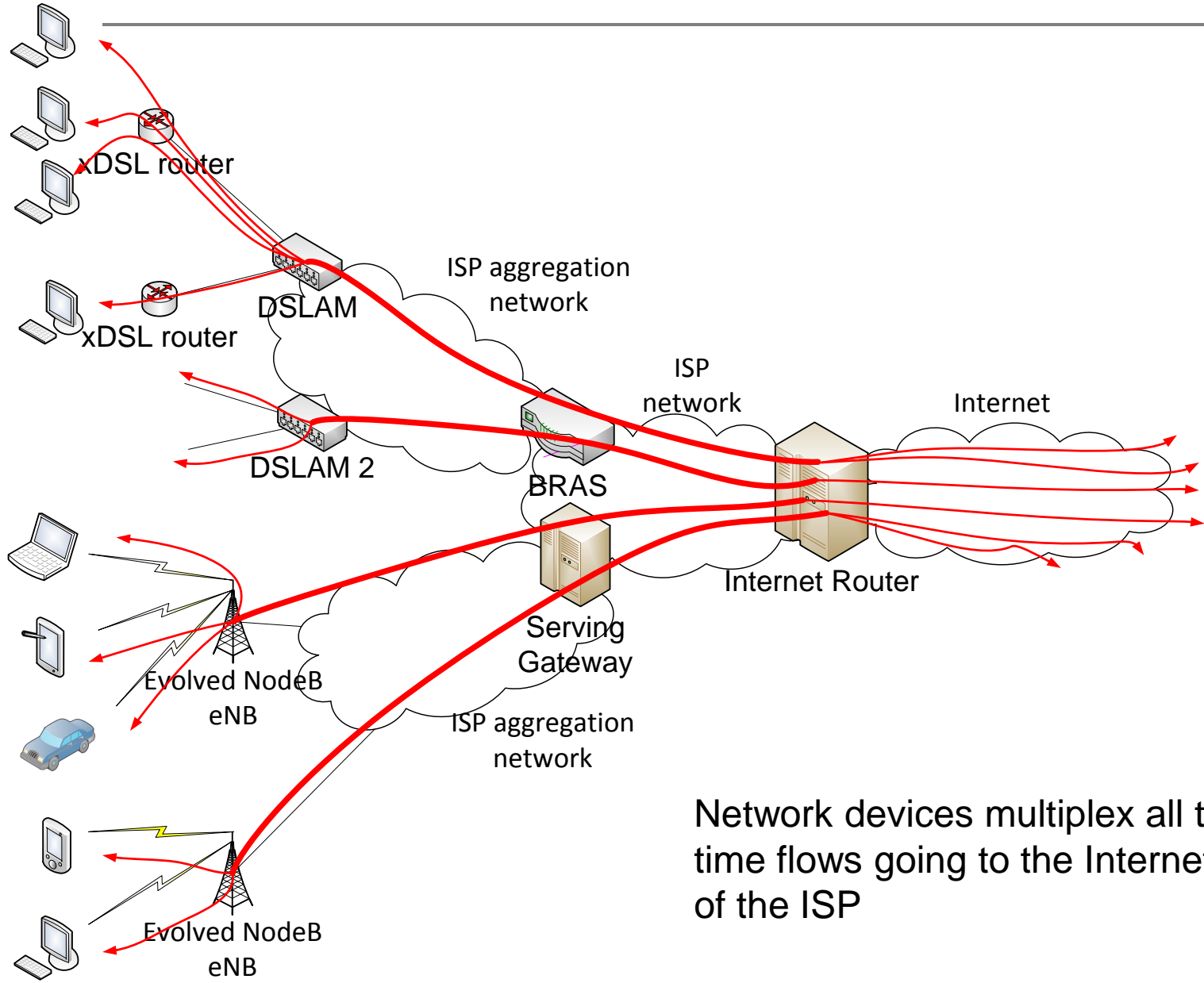
MUX/DEMUX

Evolved NodeB eNB
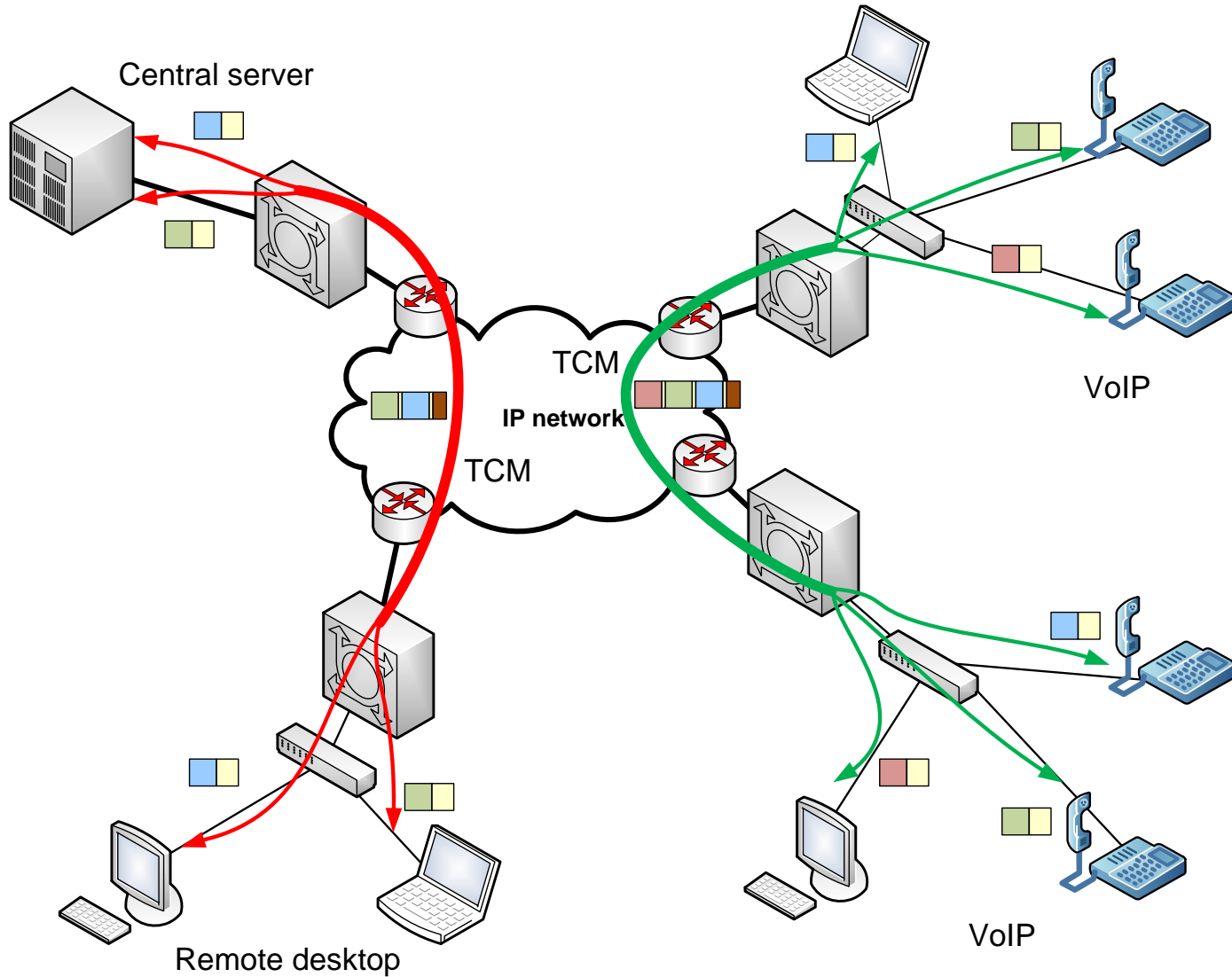
ISP aggregation network

Evolved NodeB eNB

- Network devices optimize flows with the same destination.
- A server in the network of the service provider demultiplexes them.
- Other option: The Internet Router does the multiplexion

Single-domain Scenario

xDSL router

xDSL router

DSLAM

DSLAM 2

ISP aggregation network

BRAS

Serving Gateway

Evolved NodeB eNB

ISP aggregation network

Evolved NodeB eNB

ISP network

Internet

Internet Router

Network devices multiplex all the real-time flows going to the Internet Router of the ISP

Private Solutions

Central server

TCM

IP network

TCM

VoIP

Remote desktop

VoIP

IoT Scenarios