

Deutsches Forschungsnetz

DFN Performance Monitoring and Troubleshooting

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Overview

- Deutsches Forschungsnetz – DFN
- Network performance factors
- DFN network performance activities
- DFN contribution to European eduPERT initiative
- Future opportunities and challenges
- Summary

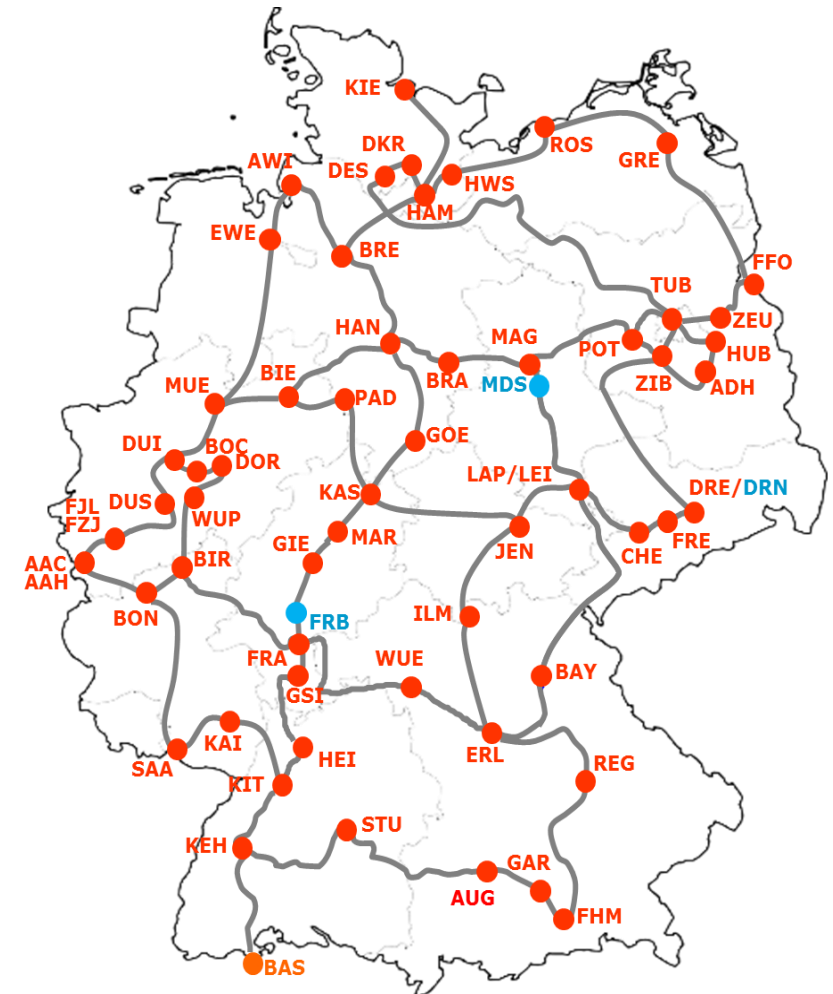
Deutsches Forschungsnetz – DFN

Network:

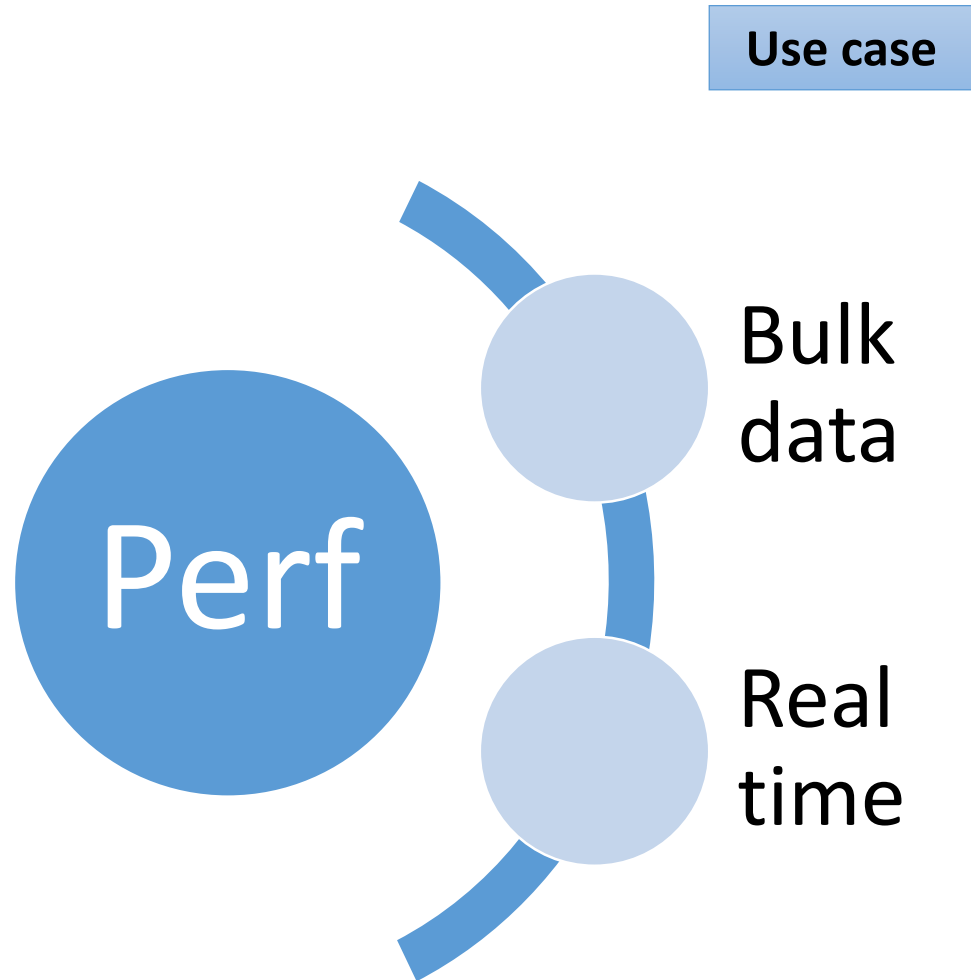
- **>10.000km** dark fibre
- x100G SuperCore
- x10G core network
- Commercial last-mile
- **700+** sites served

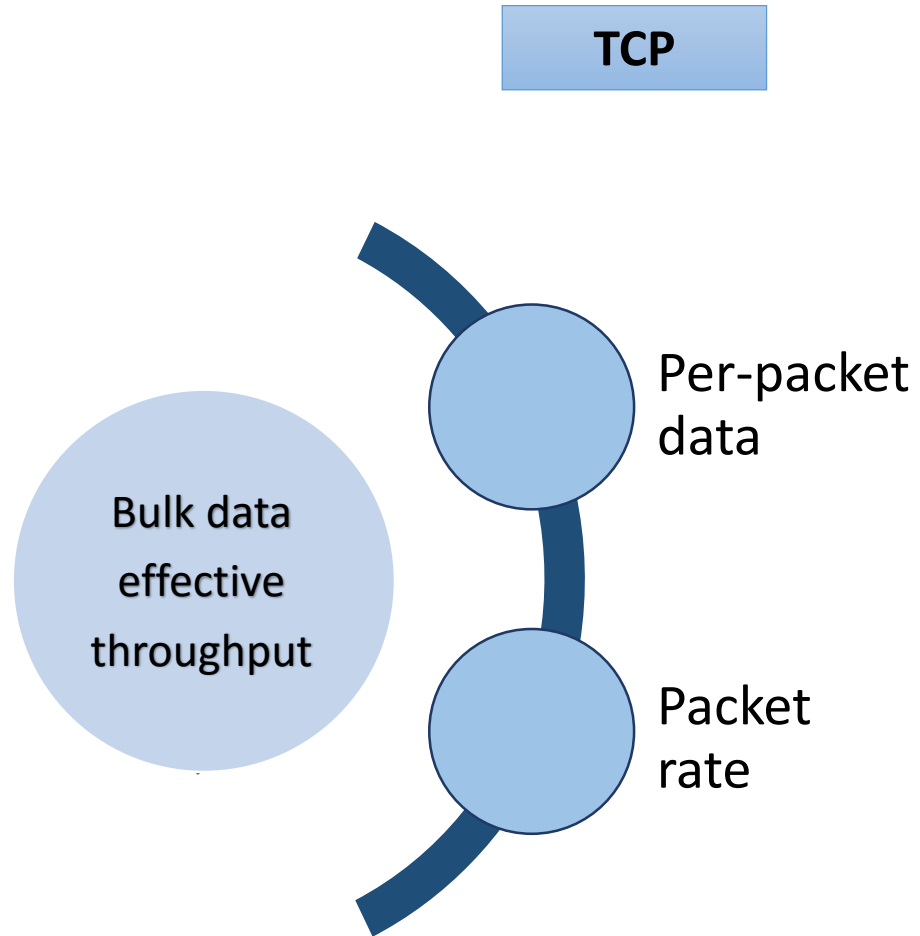
- Longest route:

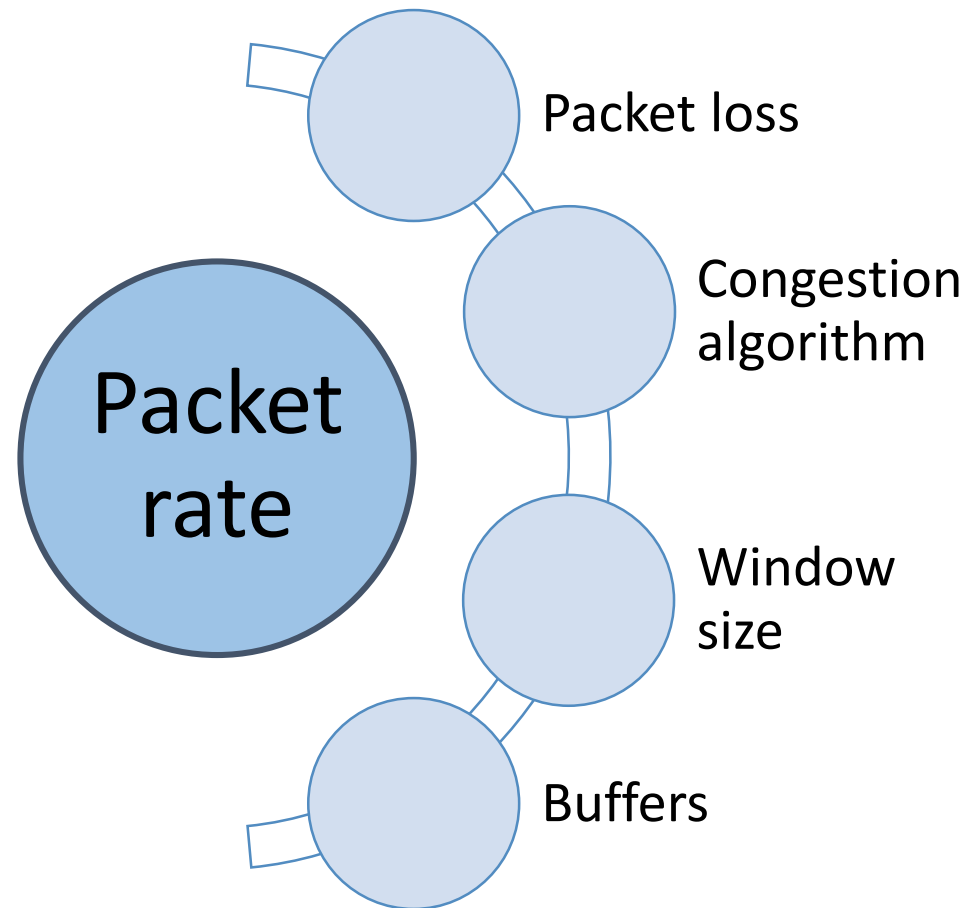
- Dist: ~900km
- RTT: ~25ms



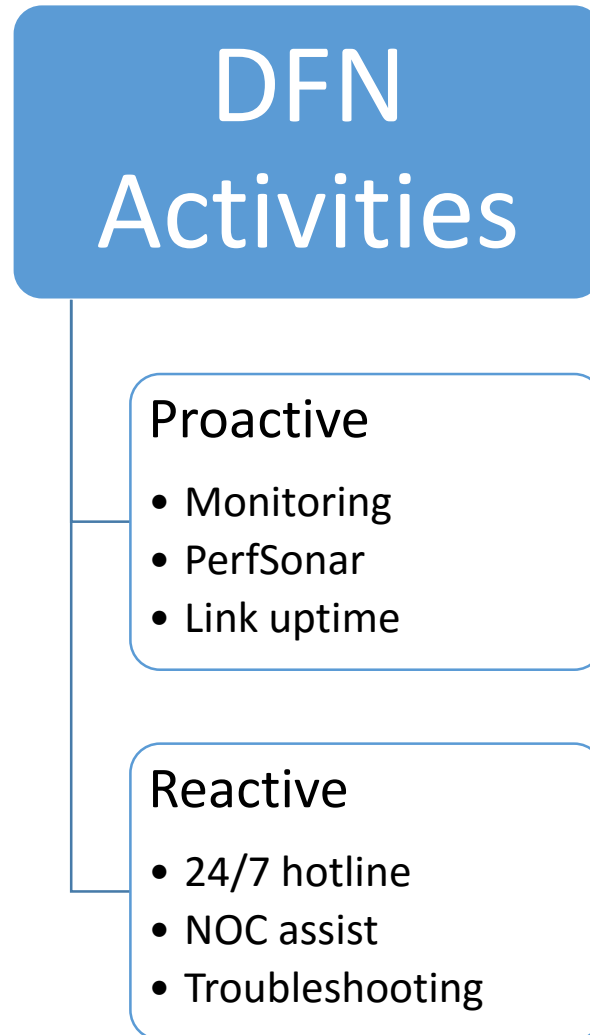
Network performance factors







DFN activities



User assistance - drilling down

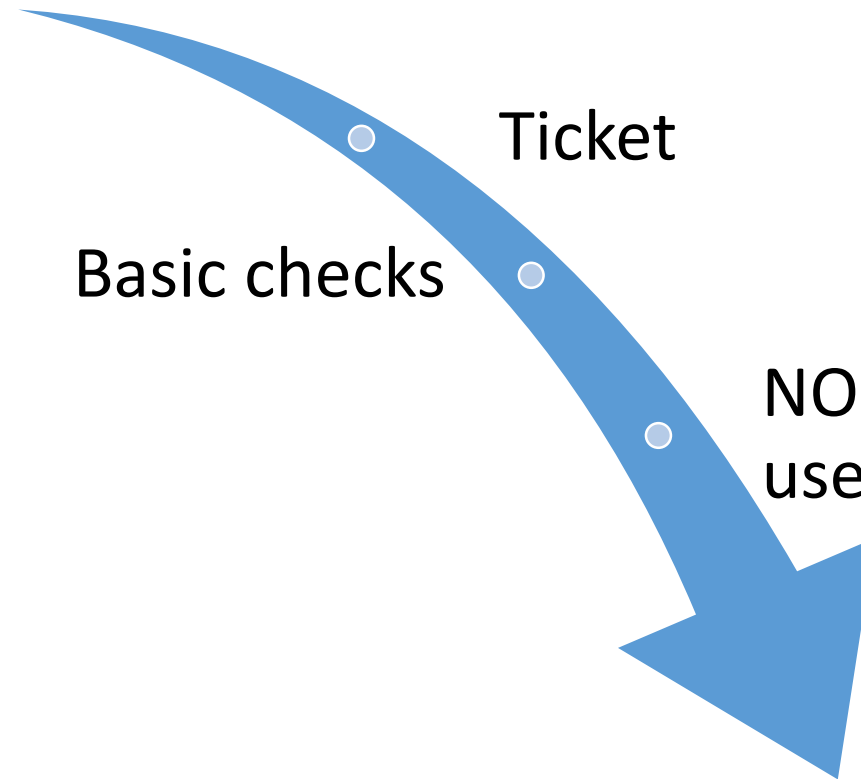
Call for help

Ticket

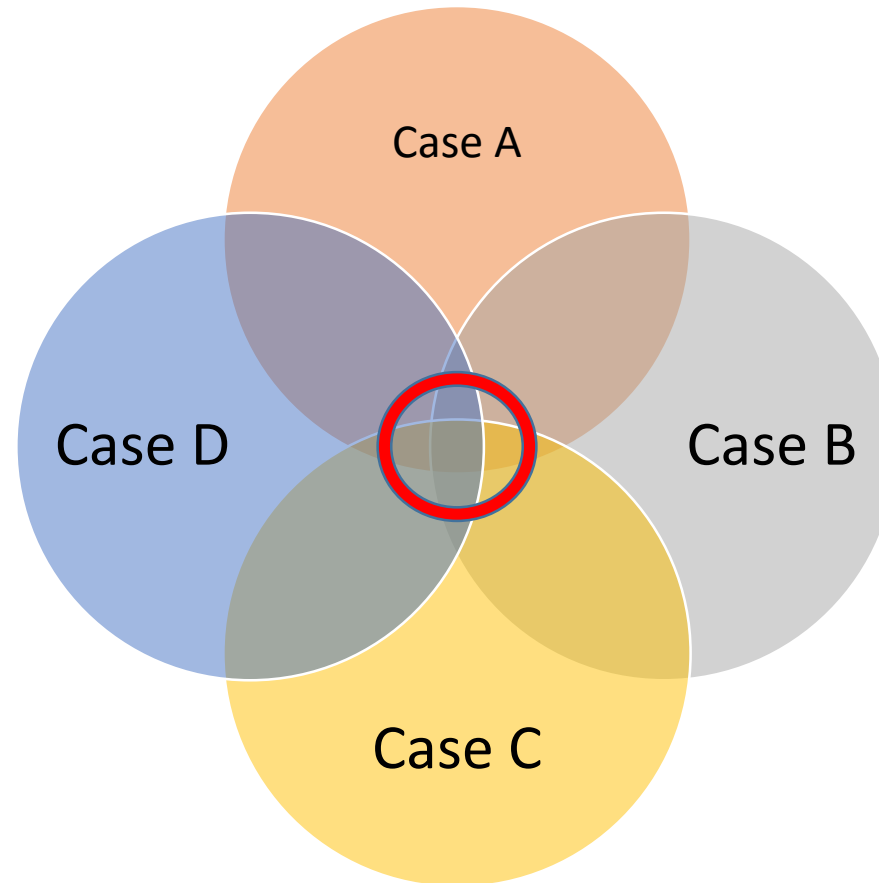
Basic checks

NOC talks to
user

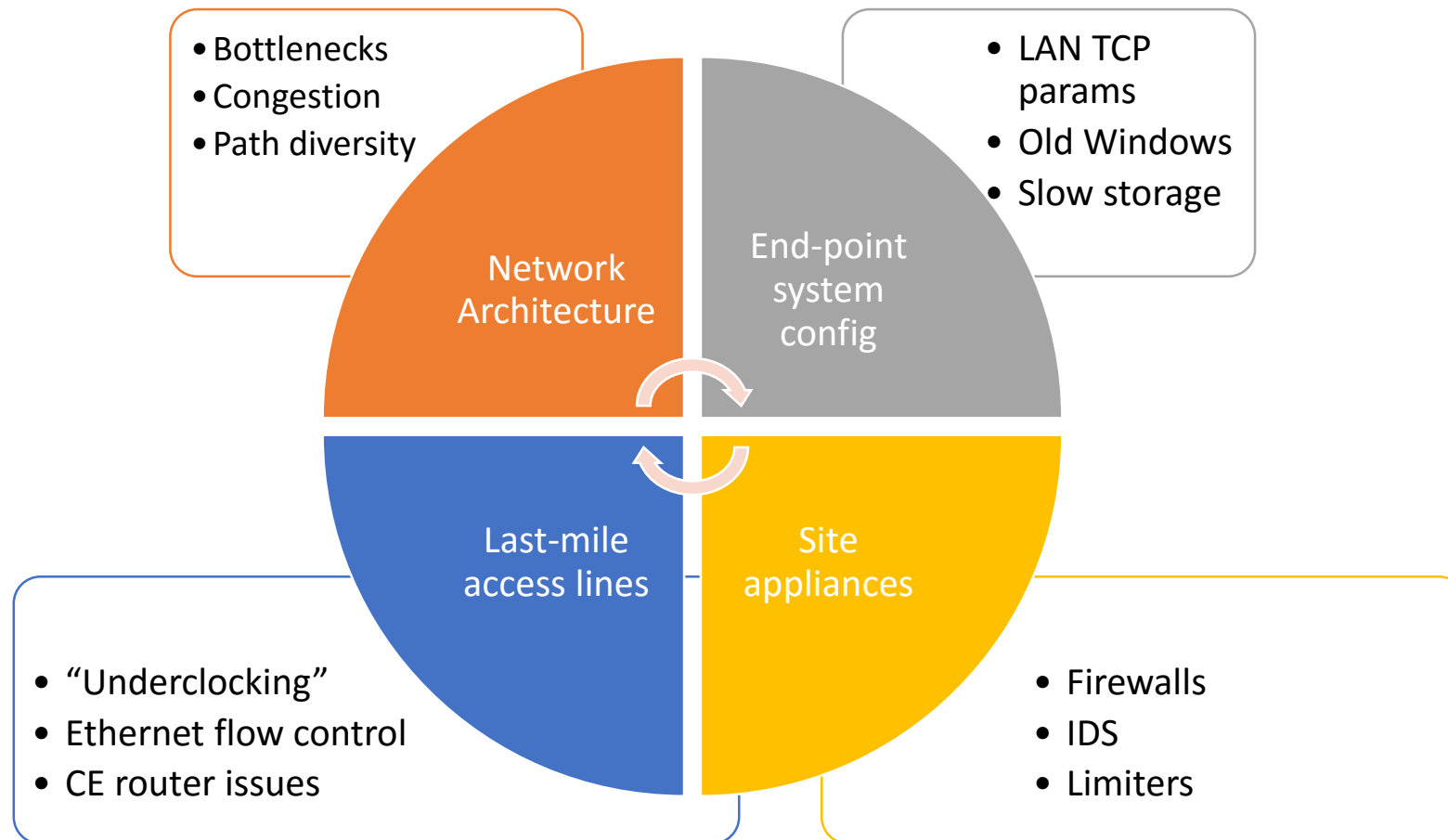
Forensic
troubleshooting

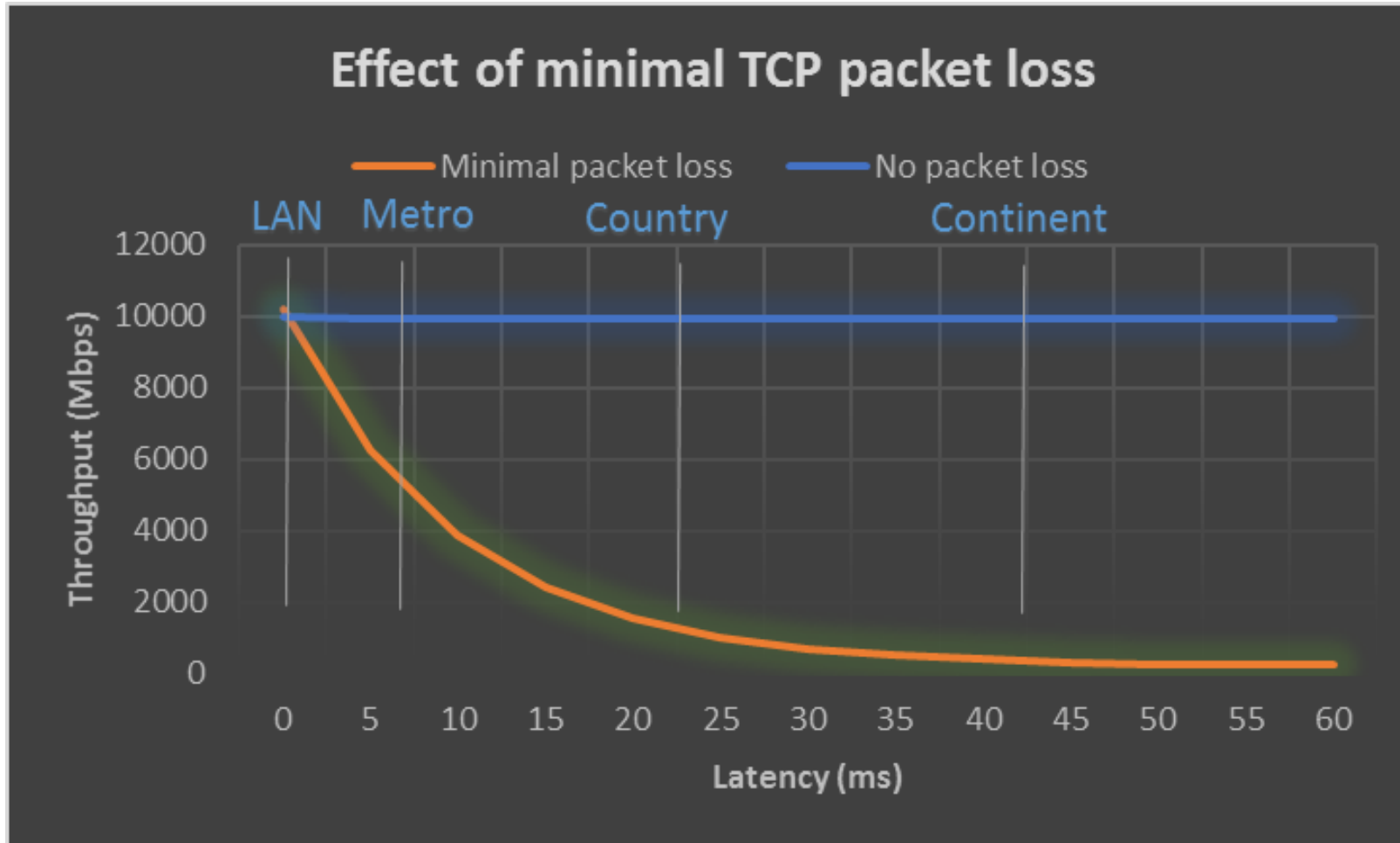


Common causes



Common causes





eduPERT

Coordinating PERTs across Europe

DFN contribution to European eduPERT

- PERTs (Performance Enhancement Response Teams)
- eduPERT
 - federated PERT that links
 - the GÉANT PERT
 - National
 - Local
 - Project PERTs

DFN contribution to European eduPERT

- DFN is a member in eduPERT
- DFN Contributes:
 - expertise to central Knowledge Base
 - Resources to central services
 - Manpower to assistance activities and train-the-trainer events
- National users and cross-border collaborations benefit

eduPERT News

- GÉANT4 project Phase 2 has begun
- New eduPERT-TF
- More manpower
- Further improved comms with US PERT community

eduPERT Leader

kurt.baumann@switch.ch

Future opportunities and challenges

- More international science data exchange
- Larger data flows over longer distances
- Plays to NRENs' strengths

- Need more:
 - Communication among NRENs and with users
 - Coordinated ops and service provisioning
 - End-to-end view on performance

Summary

- WAN performance different from LAN perf
- Need more holistic end-to-end perf optimization
- More cooperation and knowledge exchange with local IT
- Both LAN and WAN and their interface must be optimized

? Questions ?