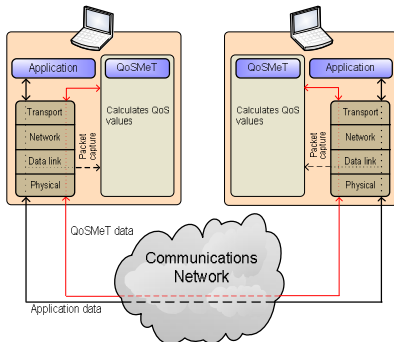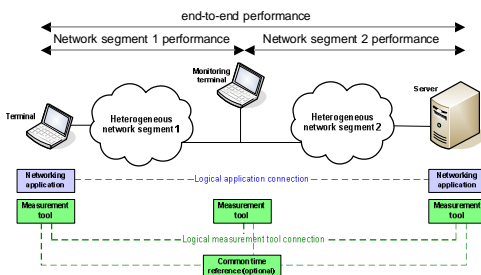# Multipoint QoS Measurements

Architectural view of the QoSMeT tool

End-to-end measurement:

- VTT has developed a real-time passive QoS measurement tool.

- Uplink and Downlink performances can be evaluated independently.

- Performance of practically any networking application can be monitored when end-to-end IP connection is provided.

- Enables measuring of one-way QoS statistics such as delay, jitter, packet loss, connection break length, traffic statistics, etc.

- The tool is capable in analyzing also VoIP subjective MOS based on the objective measured metrics

- Accurate delay is provided with GPS-based timestamping (accuracy is better than 50 μs).

An example of 3-point measurement architecture

Multipoint Measurement:

- The developed accurate passive multipoint measurement system monitors application's performance along the network path.

  o Often the problem is that although the overall network performance is good, individual applications may experience poor quality in some parts of the network.

- End-to-end performance is split to network segment performances, giving more detailed information.

- Enables bottleneck identification

- Especially useful in heterogeneous networking environment

- In the implementation of Easy Wireless, VTT's QoSMeT is used at the end points, while NetHawk's M5 analyzer is used to take traces from the intermediate points in the network.

Multipoint measurement demonstration scenario
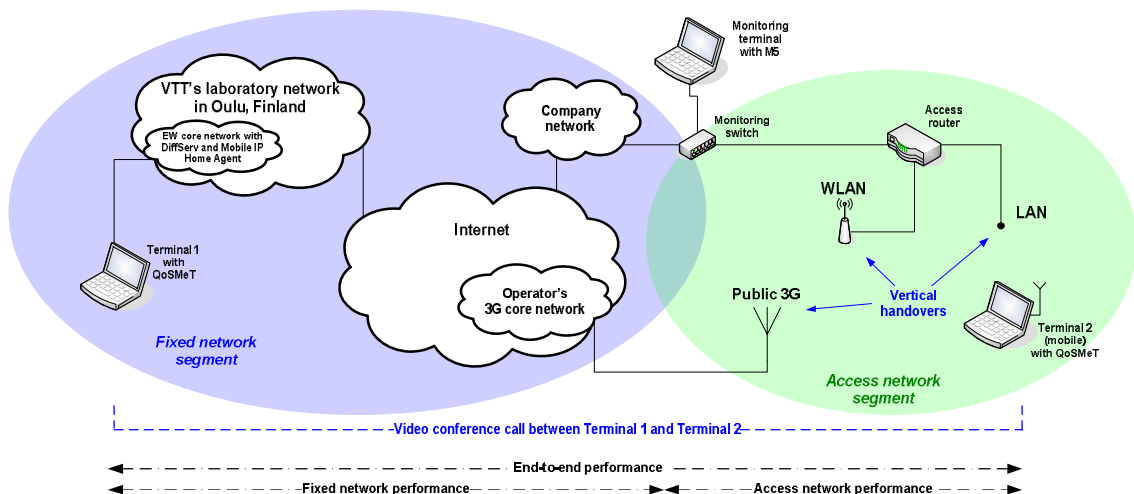
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