



# Münchener Kreis Workshop Netzneutralität

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## Disclaimer

- The following slides list suggestions for definitions of terms that Google was asked to contribute to the Münchener Kreis Glossary and these definitions may help in the context of the open internet discussion.
- They are explicitly not public statements on Google's view or position.



## Terms we were asked to define

- Freedom of speech (Meinungsfreiheit)
- Basic communication rights (Kommunikative Grundversorgung)
- Universal service (Universaldienst)
- Minimum service standards (Minimum service level agreement)
- Services- and infrastructure innovation (Innovation Dienste & Infrastruktur)
- Price and revenue models (Preis- und Erlösmodelle)



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- Universal service ([Universaldienst](#))

Universal service refers to providing a baseline level of service to all residents without a given area or country.

*(Note: this isn't a net neutrality issue only, but rather a broader telecom issue)*



## Terms we were asked to define

- Minimum service standards ([minimum service level agreement](#))

Service standards for broadband Internet access may address the following:

- Average and minimum speeds
- Average and maximum Intra-network latency
- Availability of service

Potential network management practices include:

- Traffic prioritization
- Traffic blocking or throttling
- Processes to address traffic congestion (e.g. usage download or upload restrictions)
- Content/message examination processes (e.g., deep packet inspection)
- Traffic routing processes that are based on sender/receiver, or type of traffic.



## Terms we were asked to define

- Services- and infrastructure innovation ([Innovation Dienste & Infrastruktur](#))

Generally, "service layer innovation" refers to innovation at the application and content layers whereas "infrastructure innovation" refers to innovation at the management layer of the network infrastructure itself (e.g., developing of routing equipment and policies for broadband Internet access).



## Terms we may consider to add as well

- Internet Access Provider (IAP)
- Access Tiering
- Prioritization



## Terms we may consider to add as well

- Internet Access Provider (IAP)

A network operator that provides last-mile broadband access to an end-user consumer.



## Terms we may consider to add as well

- Access Tiering

IAPs offering third-party content and application providers prioritized delivery of their traffic to reach the ISPs' own end-user customers.



## Terms we may consider to add as well

- Prioritization\*\*

An IAP engaging in router-based differentiation of traffic, such that certain sources, owners, or destinations are guaranteed quality of service over others.

\*\* this definition does not include non-router based forms of improving content delivery, such as content distribution networks.



## Measurement & Transparency

Almost everyone agrees that bigger, faster, open broadband Internet access is absolutely crucial to our lives as consumers, speakers, citizens, and entrepreneurs.

- A recent study by economists at the Institute for Economic Research in Munich finds that a 10 percentage-point increase in broadband penetration raises a country's annual per-capita growth by 0.9-1.5 percentage points (Czernich et al. 2009).

But to get to that goal, we need to encourage more transparency and better measurement of broadband.



# Measurement & Transparency

## Transparency is crucial to a healthy Internet

- A shared, open protocol suite -- TCP/IP -- allowed anyone to create a new application and be sure that would work in some certain, predictable ways on networks all over the world.

**As the Internet has evolved -- moving from a relatively small set of networks used by researchers to a worldwide platform used by over a billion -- it's become harder to clearly understand how the network is performing.**

- Network management techniques, Quality of Service measures, Internet infrastructure topology, and other factors can significantly impact the reliability and performance of network applications as experienced by end-users.
- When an application doesn't work, or a connection seems flaky, it can be difficult or impossible for end-users, or even experts, to understand what's going on.



# Measurement & Transparency

Better, open data about broadband performance can be good for everyone.

- **Users:** Good data is necessary for users to make more informed choices in the market, and to take steps to improve performance, to the extent they can.
- **Innovators:** more able to develop new applications if they can understand how networks are performing
- **ISPs:** if users are confused, they might be wrongly blamed for performance problems.
- **Policy makers:** Good data is essential to sound policymaking



## Measurement Lab (M-Lab)

One way we've contributed to this goal is by supporting **Measurement Lab**, an open platform of servers for researchers to deploy broadband measurement tools.

M-Lab is a collaborative effort led by academic researchers, with the support of a broad range of organizations and companies, including New America Foundation's Open Technology Initiative, Amazon Web Services, Internet2, and the Hellenic Telecommunications and Post Commission.

All the data and tools are open - available for others to build on and re-use. Servers are in Europe, including in Hamburg.



## Measurement Lab (M-Lab)

What can you do with M-lab?

- **For users:** It's a set of tools that you can use to measure your own broadband connection -- test your speed and latency; determine whether certain applications may be throttled or blocked; and diagnose certain problems that inhibit broadband performance.

Just go to <http://measurementlab.net> to try it out.

- **For researchers:** It's a distributed, top-grade infrastructure that facilitates accurate measurement. It's also open data -- over 170 terabytes of it -- and using tools like Google's Big Query you can run an analysis query over the entire dataset in less than 1 min.
- **For policymakers:** it's objective data, collected by a global coalition of leading academic researchers. The FCC and Greece's telecom authority have both partnered with M-Lab.

