Video Quality Measurements with the MOS

How video quality models can help you compare and improve your service

What is the Mean Opinion Score for video?

The **Mean Opinion Score (MOS)** is a single number that summarizes the quality of a video playback — all automatically, using modern algorithms.

The MOS includes all aspects of a video session like:

- Initial loading delay (startup time)
- Stalling events happening during the playback
- The fluctuation of audio and video quality over time

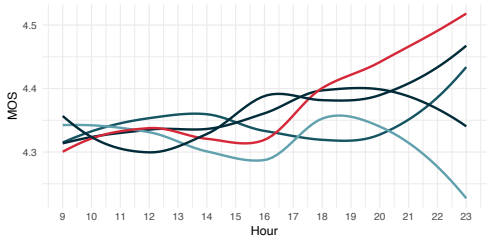
The MOS serves as an **easy-to-understand indicator** for the overall service quality, as experienced by the user. It fully considers the user's perception.

Together with the MOS, you get **all underlying diagnostic data** and the usual QoS measures to help you perform root cause analyses for service problems, such as loading times and network statistics.

Know where you stand against competitors

Do you want to know how well your network or your service performs?

MOS-based measurements can help you understand how your service offerings compare against others — all using a single number. The data can be based on automated measurements or real users via crowdsourcing campaigns.



An example: Looking at the MOS over time for particular hours of the day, we can see that different Internet providers offer different quality. While others struggle to deliver the same video quality during peak hours, one ISP clearly delivers a better MOS throughout the evening.

Source: Data from 4.000 crowd users collected in Germany, 2019

Want to know more?

Get in touch:

hello@aveq.info
https://aveq.info

@aveq-research
/company/aveq-research

Which MOS model to use?

Different solutions exist to calculate video quality scores. For an accurate estimation of the user-perceived quality, it is important that the MOS algorithm (model) is trained and validated on a large set of sequences using real human ratings as the ground truth.

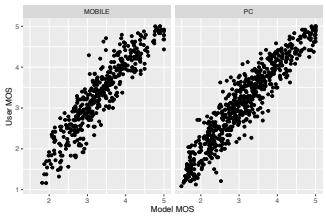
ITU-T has published a set of recommendations (P.1203, P.1204) which include accurate and reliable video quality models. ITU-standardized models are among the best and most useful since they are:

- Specifically created for the HTTP adaptive video streaming use case
- Based on contributions from multiple companies and institutions
- Rigorously tested and independently validated in terms of performance
- Trained on thousands of test sequences using ratings from actual users
- Described openly — no secrets in terms of how the calculation works

The P.1203 model offers excellent performance when compared against subjective data.

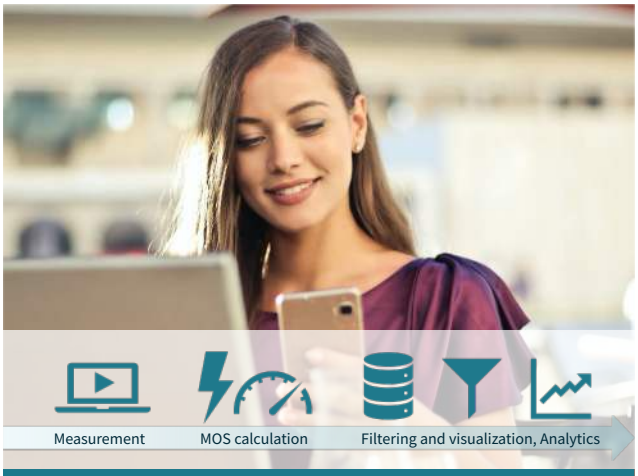
With a correlation of up to 0.9, real users' ratings can be predicted with great accuracy.

Source: Robitza et al., MMSys 2018



Bring your users into focus

Measurements using the MOS score can be easily aggregated, filtered, and visualized. MOS-based service monitoring quickly helps you identify bottlenecks and customer satisfaction issues — focusing on the user and not just on technical details.



How MOS measurements can help you:

- **Easily compare your offerings:** A single number makes it possible to know where you stand against competitors.
- **Identify problematic areas:** With the MOS, it is easy to detect regions or times of bad service quality, without having to rely on complex technical indicators.
- **Dig deeper:** Use the underlying diagnostic KPIs to perform a root cause analysis and improve your service.

In collaboration with

TECHNISCHE UNIVERSITÄT ILMENAU