



Broadband Forum makes significant strides in improving broadband Quality of Experience

Ongoing initiatives around network performance are nearing conclusion as the Forum releases two new white papers

Fremont, California, 19 May 2020: [Broadband Forum](#) is making key progress on delivering a vastly improved broadband user experience with two new specifications nearing completion. Covering Quality Attenuation and IP Capacity Metrics and Measurements, the specifications will enable operators to achieve enhanced network performance by moving away from the conventional metric of capacity or “speed,” in favor of real time monitoring of network performance and operation.

Ahead of the new technical specifications – “Quality Attenuation Architecture and Requirements” (WT-452.1) and “Maximum IP-Layer Capacity Metric, Related Metrics, and Measurements” (WT-471) – Broadband Forum’s Access and Transport Architecture (ATA) Work Area has released two new white papers from its Performance, Experience and Application Testing (PEAT) Project Stream.

The work builds on Broadband Forum’s [Quality Experience Delivered \(QED\) initiative](#) which looks beyond conventional measurements to improve the overall broadband experience and improve management of network latency, consistency, predictability and reliability. These new approaches for network measurement and monitoring drive input into service provider operations systems and will increasingly provide the data used for machine learning, analytics, and AI to provide nearly real time feedback into the network operations. This will support operators in gauging application performance, for example, a video call, and ensure networks adapt to changing application traffic loads to always deliver the best performance to the subscriber.

“While capacity or speed is necessary, what customers actually want is for all their applications to just work consistently well; such as video streams without glitches or buffering, video calls, remote working, or uninterrupted gaming,” said Gavin Young, Head of Fixed Access Centre of Excellence - Vodafone. “As emphasis is increasingly placed on the quality of broadband, operators can no longer differentiate on capacity alone, and instead must look to also measure and manage the reliability, network responsiveness, consistency and predictability of the services offered.”

The first white paper, “Motivation for Quality Verified Broadband Services (Broadband QED)” (MR-452.1), describes the motivation for Broadband Forum’s work on quality-based broadband delivery with a specific focus on a measurement and analysis framework known as Quality Attenuation. This will enable a high fidelity analysis to allow operators to gain greater understanding of network performance which, in turn, can help them focus their resources in the design and operation of their networks to improve overall customer experience.

The “Maximum IP-Layer Capacity Metric and Measurement” (MR-471.1) white paper looks at Transmission Control Protocol (TCP) in measuring connectivity capacity and the issues it introduces, in particular measuring connectivity at 1 gigabit/sec and above. Up until recently, TCP was the basis for capacity testing and is used in a number of commercially available

“speed tests”. The white paper describes the motivation behind using User Datagram Protocol (UDP)-based IP Capacity metrics and measurement methods. According to the white paper, the new Maximum IP-Layer Capacity Metric and Method(s) of Measurement based on UDP closes the gap between actual service rates and TCP’s underestimations, removing the issues noted.

“The new metrics and measurement method can measure the new Gigabit services and beyond without the artifacts of TCP performance, such as its throughput sensitivity to packet loss, round-trip time and its flow control details,” said Al Morton, Lead Member of Technical Staff at AT&T. “In addition, it measures other important performance metrics beyond speed.”

The work is continuing for both projects, including data models, open source development and additional market updates. For more information about Broadband Forum and the ATA Work Area:

<https://wiki.broadband-forum.org/display/BBF/Access+and+Transport+Architecture>.

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About the Broadband Forum

Broadband Forum is the communications industry’s leading open standards development organization focused on accelerating broadband innovation, standards, and ecosystem development. Our members’ passion – delivering on the promise of broadband by enabling smarter and faster broadband networks and a thriving broadband ecosystem.

Broadband Forum is an open, non-profit industry organization composed of the industry’s leading broadband operators, vendors, thought leaders who are shaping the future of broadband, and observers who closely track our progress. Its work to date has been the foundation for broadband’s global proliferation and innovation. For example, the Forum’s flagship TR-069 CPE WAN Management Protocol has nearly 1 billion installations worldwide.

Broadband Forum’s projects span across 5G, Connected Home, Cloud, and Access. Its working groups collaborate to define best practices for global networks, enable new revenue-generating service and content delivery, establish technology migration strategies, and engineer critical device, service & development management tools in the home and business IP networking infrastructure. We develop multi-service broadband packet networking specifications addressing architecture, device and service management, software data models, interoperability and certification in the broadband market.

Our free technical reports and white papers can be found at <https://www.broadband-forum.org/>.

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