

# New WBA Report Showcases Techniques for Ensuring End-to-End Quality of Service in Wi-Fi for Public, Home & Enterprise

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*White Paper Sets Out Options for Enabling E2E QoS for Applications Such as Streaming Video, Multiplayer Gaming and Videoconferencing*

LONDON, UNITED KINGDOM, October 12, 2023 /EINPresswire.com/ -- The Wireless Broadband Alliance (WBA) today announced the public release of E2E QoS Improvement: Optimizing QoS Over [Wi-Fi](#) , a white paper that explores how network operators can meet the unique QoS requirements for a wide variety of use cases and deployments, including gaming, residential broadband, live 4K video, enterprise, airports, stadiums and more. Initially published in May exclusively for WBA members, the paper is now available as a free download from <https://wballiance.com/e2e-qos-improvement-optimizing-qos-over-wi-fi/>.

Operators and Enterprises can use QoS as a powerful market differentiator to attract and retain customers, such as business travelers who need reliable, high-performance Wi-Fi in airports. Enterprises need Wi-Fi networks that can provide the right QoS for each application, such as prioritizing HD video collaboration sessions over email and file transfers. And home Wi-Fi networks need to balance a variety of bandwidth-intensive, latency-sensitive applications, including multiplayer gaming, 4K streaming and remote work videoconferencing — often all simultaneously.

As its name implies, end-to-end (E2E) QoS includes the application, such as cloud gaming or streaming video, Wi-Fi network elements such as access points (APs) and Wi-Fi client devices (like mobile phones and laptops). The E2E concept is about providing both visibility into and control over the user experience by leveraging QoS mechanisms at each step of a packet's journey across the Wi-Fi ecosystem.

The new paper was produced by the WBA E2E Wi-Fi QoS project group, led by Airties and Intel. It presents a phased approach for enabling E2E QoS for residential, enterprise and public use cases, including the unique key performance indices (KPI) for each one, such as latency, packet loss, jitter and frame rates. The paper explores how application-specific QoS mechanisms can co-exist on the same network with applications that aren't QoS sensitive, such as streaming video alongside email.

For example, the paper describes potential KPIs for gaming such as Freeze Count, which is two

consecutive rendered frames that are not received by the client within a defined amount of time, such as 180 milliseconds in the case of Facebook Wild Hunt. Another example is Motion to Photon Latency, which is the time interval between when a player takes an action and the moment at which the player can see the corresponding frame on screen. If these KPI's aren't met, it lays out mitigation strategies for the different scenarios.

The paper discusses the use of ITU-T SG12 recommendations and corresponding tools to access objective mean opinion scores (MOS) the QoS streams during the trials.

The paper also discusses two key outcomes from the trials. The first is quantifying how they improve QoS application performance and reliability, and user experiences. The second is potentially identifying performance bottlenecks that may require enhancements to existing QoS mechanisms or totally new QoS mechanisms. With these discoveries WBA intends to work with standards organizations (IETF, IEEE802.1, IEEE802.11, WFA) to develop enhancements to existing or new, QoS mechanisms.

#### Paper Identifies Future WBA QoS Initiatives

Creating enhancements and defining new mechanisms will be the focus of a subsequent WBA QoS initiative. The paper outlines the usage scenarios for Wi-Fi networks prioritizing QoS traffic based on Wi-Fi Alliance QoS Management Technical Specification.

Additional future WBA work includes expanding network topology to incorporate Wi-Fi mesh (Wi-Fi Alliance EasyMesh), extending QoS management to non-Wi-Fi links for E2E QoS and integrating new QoS management mechanisms from ongoing work in the IEEE802.11 Working Group and/or Wi-Fi Alliance QoS Management TG, and/or IETF.

To download E2E QoS Improvement: Optimizing QoS Over Wi-Fi Links now, visit <https://wballiance.com/e2e-qos-improvement-optimizing-qos-over-wi-fi/>

Tiago Rodrigues, CEO of the Wireless Broadband Alliance, said: “[Quality of service](#) is key for virtually every time-sensitive application that uses a Wi-Fi network, from video conferencing to gaming to streaming. But each application has its own unique QoS requirements, and this diversity creates challenges for Wi-Fi network operators. This new WBA white paper outlines how enhanced and new QoS mechanisms can ensure that each application gets exactly the right bandwidth, prioritization and other resources it needs to provide end users with consistently great experiences.”

Metin Taskin, CEO at Airties, said: “Airties is focused on empowering broadband operators around the globe to enable exceptional Wi-Fi experiences, so the WBA E2E Wi-Fi QoS project group is a natural fit for us. This white paper is a roadmap for how operators will be able to upgrade their networks to effectively implement QoS to serve their subscribers.”

Eric A. McLaughlin, VP/GM of the Wireless Solutions Group at Intel, said: “We are delighted that Intel was able to help in the execution of this paper which highlights the benefits of end-to-end quality of service capabilities across the Wi-Fi ecosystem. This aligns well with our products and strategy where we lead in delivering great connected experiences for Intel PC platforms through our Intel® Killer™ and Intel® Connectivity Performance Suite software applications, enabling client Wi-Fi connection optimization and traffic prioritization.”

## About the Wireless Broadband Alliance

Wireless Broadband Alliance (WBA) is the global organization that connects people with the latest Wi-Fi initiatives. Founded in 2003, the vision of the WBA is to drive seamless, interoperable service experiences via Wi-Fi within the global wireless ecosystem. WBA's mission is to enable collaboration between service providers, technology companies, cities, regulators and organizations to achieve that vision.

WBA undertakes programs and activities to address business and technical challenges, while exploring opportunities for its member companies. These initiatives encompass standards development, industry guidelines, trials, certification, and advocacy. Its key programs include NextGen Wi-Fi, OpenRoaming, 5G, IoT, Smart Cities, Testing & Interoperability and Policy & Regulatory Affairs, with Member-led Work Groups dedicated to resolving standards and technical issues to promote end-to-end services and accelerate business opportunities.

Membership in the WBA includes major operators, service providers, enterprises, hardware and software vendors, and other prominent companies that support the ecosystems from around the world. The WBA Board comprises influential organizations such as Airties, AT&T, Boingo Wireless, Boldyn Networks, Broadcom, BT, Cisco Systems, Comcast, Intel, Reliance Jio, Turk Telekom, and Viasat.

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