

Amendment 12 to IEEE 802.1Q Forwarding and Queuing for Time-Sensitive Streams

Draft PAR, v7

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Title (2.1)

- Standard for Local and Metropolitan Area Networks – Virtual Bridged Local Area Networks – Amendment 12: Forwarding and Queuing Enhancements for Time-Sensitive Streams

Misc

- Number of people expected to work on standard (5.1)
 - 30
- Stakeholders (5.6)
 - Developers and Users of bridged LAN and end-point systems supporting audio video and other latency sensitive applications.

PAR Scope (5.2)

- This standard allows bridges to provide guarantees for time-sensitive (i.e. bounded latency and delivery variation), loss-sensitive real-time audio video data transmission. It specifies per priority ingress metering, priority regeneration, and timing-aware queue draining algorithms. This standard uses the timing derived from 802.1AS. VLAN tag encoded priority values are allocated in aggregate to segregate frames among controlled and non-controlled queues, allowing simultaneous support of both AV Bridging and other bridged traffic.
- Is the completion of this document contingent upon the completion of another document? (5.3)
 - Yes, this standard uses Timing and Synchronization in Bridged LANs (802.1AS)
 - Yes, this standard refers to SRP (P802.1Qat)
 - Yes, this standard uses LLDP (P802.1AB) revision

5.4 Purpose of Proposed Standard

- Bridges are increasingly used to interconnect devices that support audio and video streaming application. This standard will specify enhancements to bridge relay function to provide performance guarantees to allow for time-sensitive traffic in a local area network.

5.5 Need for the Project

- Most if not all entertainment media going forward is in digital form. Audio and video streaming and interactive applications over bridged LANs need to be enhanced to have comparable real-time performance of legacy out-of-band analog media distribution. There is significant vendor and end-user interest and market opportunity to consolidate layer 2 solution for both computer networking (e.g. internet access) and audio video services (e.g. home consumer electronics, professional A/V applications, etc). The use of such consolidated network will realize operational and equipment cost benefits.
- This standard defines a set of enhancements to the Virtual Bridged LAN (802.1Q). This will enable end-to-end quality of service guarantee agreement for audio and video streaming negotiated over SRP protocol to be realized in a bridged LAN, while interoperating with existing 802.1D and Q bridges. There is currently no interoperability among bridges that support Audio and Video streaming, nor generally accepted means of achieving such service guarantees in a bridged LAN.