

Forwarding and Queuing for Time-Sensitive Streams

Draft PAR

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Title (2.1)

- IEEE standard for Local and Metropolitan networks –
Forwarding and Queuing for Time-Sensitive Streams

Misc

- Number of people expected to work on standard (5.1)
 - 30
- Stakeholders (5.6)
 - Developers of AV and telecom equipment

PAR Scope

- This standard specifies rules and procedures for packet queuing and forwarding that enable deterministic end-to-end performance guarantees for time-sensitive classes of traffic streams traversing a bridged local area network
- This standard defines specific rules for translating network resource reservation requests made via SRP into allocation of internal bridge resources, such as bandwidth and memory
- Standard defines specific rules and cooperation model between bridges, allowing to perform end-to-end admission control
- Is the completion of this document contingent upon the completion of another document? (5.3)
 - Yes, standard will refer to SRP (P802.1a?)

PAR purpose (5.4)

- This standard addresses QoS provision in the bridged network under the assumption that QoS management is done by the SRP protocol
- Defined queuing and forwarding rules are essential to guarantee end-to-end latency and jitter
- Defined methods for allocating internal resources are essential to enable possibility of high network resource utilization and prevent the possibility of oversubscription
- Defined method for admission control is required to enable matching of the end-to-end reservation request with end-to-end network guarantees.

PAR Why Needed (5.5)

- Many vendors and users desire a single network infrastructure to carry traffic for various multimedia applications such as digital video, high-fidelity digital audio, gaming traffic, as well as non-time-sensitive traffic (e.g., data traffic).
- The application of current IEEE 802 technologies for high quality time sensitive streaming allows users to interfere with each other's flows to the extent that the user experience is negatively impacted.
- To provide the robust guaranteed QoS capability for streaming applications, internal bridge resources should be allocated according to the appropriate reservation mapping rules and admission decision has to be made before the transmission takes place, and the appropriate rules for packet queuing and forwarding along the entire data path must be in place while transmission takes place.
- This requires defined rules for packet queuing and forwarding, admission control and internal bridge resource allocation.