

GARP-based Stream Reservation Protocol (GSRP)

Draft PAR
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Title (4)

Draft: IEEE Standard for Local and Metropolitan Area Networks –
GARP-based Stream Reservation Protocol (GSRP)

PAR Scope (13)

The proposed standard will specify protocols, procedures and management elements that allow available bridge forwarding resources to be reserved for specific traffic streams traversing a bridged local area network. The standard will provide a mechanism for dynamic maintenance of forwarding resources in a bridge local area network by propagating the resource requirements of specific traffic streams and enabling the admission control of those streams.

Is the completion of this document contingent upon the completion of another document?

- This standard may make reference to Multiple Registration Protocol (IEEE P802.1ak).

PAR Purpose (14)

This standard will provide services to facilitate the registration, de-registration and related management operations of resource reservation information in relevant bridges.

- This information allows GSRP-aware devices to dynamically establish and update their knowledge of the set of traversing streams, the ingress and egress ports of these streams, and their corresponding resource reservation status.
- Propagation of this information enables end-to-end management of resource reservation for QoS guaranteed streams.

This standard also provides admission control service to respond to queries about the availability of local bridge forwarding resources for a certain stream, based on the stream's traffic descriptor and the resource reservation entries that have already been registered

- The resource reservation registration service and admission control service interact with each other. Both services can evolve independently.

PAR Reason (15)

- Many vendors and users desire a single network infrastructure in the residence to carry various multimedia applications such as digital video, high-fidelity digital audio, and gaming traffic, as well as traditional non-time-sensitive traffic (e.g., data traffic).
- The application of current IEEE 802 technologies for high quality time sensitive streaming allows users to load their networks unknowingly to the extent that the user experience is negatively impacted.
- To provide the robust guaranteed QoS capability for streaming applications, the availability of network resources along the entire data path should be assured before transmission takes place.
 - This requires a protocol to manage the resource reservation along the end-to-end paths of streams.
 - While previous efforts (such as SBM) were too complex to be taken up by the consumer electronics market; this standard will minimize complexity by confining itself to applications with homogenous one-to-many reservation, and well defined streams with simple traffic profiles.