

Stream Reservation Protocol (SRP)

Draft 5 Criteria
May 17, 2006

Broad Market Potential

- **Broad set(s) of applicability**
- **Multiple vendors and numerous users**
- **Balanced cost (LAN vs. attached stations)**
 - Carrying time-sensitive streaming applications with guaranteed QoS represent a new and very broad application space for IEEE 802 technologies. This requires a protocol to signal the resource reservation along the end-to-end paths of streams.
 - Many vendors and users have expressed their support for a standard means of end-to-end stream resource reservation to facilitate the use of bridged LANs for time-sensitive applications.
 - As a control protocol, SRP makes no new demands on a bridge or station's data forwarding capabilities. It does not upset the cost model for bridges.

Compatibility with IEEE Std. 802.1

Conformance with 802 Overview and Architecture

Conformance with 802.1D, 802.1Q

Conformance with 802 Functional Requirements

As an extension to IEEE Std. 802.1Q-2005, the proposed standard will conform to the aforementioned documents.

The standard defines a control protocol, and does not modify the existing forwarding characteristics and control protocols of bridges.

Distinct Identity

Substantially different from other IEEE 802 standards

Unique solution for problem (not two alternatives / problem)

Easy for document reader to select relevant spec.

- There is no existing 802 standard or approved project that provides end-to-end stream registration.
 - The admission control in some existing 802 standards (e.g., 802.11e, 802.15.3) has no end-to-end meaning.
- Previous efforts (e.g., SBM) were too complex to be taken up by the 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.

Technical Feasibility

Demonstrated system feasibility; reports – working models

Proven technology, reasonable testing

Confidence in reliability

- SRP will be based on MRP which is a refinement of the well established GARP architecture. It will be defined as a new MRP application.
- We are confident that a MRP based application is a suitable solution.

Economic Feasibility

Known cost factors, reliable data

Reasonable cost for performance expected

Consideration of installation costs

- Other registration protocols (GMRP/GVRP) are standardized. P802.1ak MRP builds on that knowledgebase.
- Running another MRP application will have a negligible impact on the current cost of bridges.
- We expect that applications will be developed and run in stations that automatically request services from SRP without intervention by the user. Therefore, there are no incremental installation costs for the provision of SRP.