There is much anticipation and confusion surrounding the RSVP protocol. RSVP is a signalling protocol that enables an IP endstation to request network resources such that QoS-sensitive applications such as voice and video will perform adequately. A future release of IP Navigator will support RSVP and will map these requests to Frame Relay or ATM metrics to deliver an end-to-end circuit with the required QoS attributes. The following pros and cons of RSVP have been compiled to help elucidate the benefits of RSVP, how it will work with other standards and what it is intended to accomplish.

RSVP Pros and Cons:

Pros:

* RSVP is the current IETF "standard" method for signaling an application's QoS requirements to the network. Standard is in quotes because the RFCs are not yet published.

* It is designed to work with both unicast and multicast traffic, and designed to scale as IP multicasting scales (requests can be merged as they travel up the multicast tree).

* It does not require any particular underlying link layer technology.

* A good deal of research is progressing regarding how to map RSVP reservations into particular router algorithms and the specifics for various link layer technologies, including ATM, switched 802 LANs, and slow point-to-point links.

Cons:

* RSVP operates on a flow-by-flow basis, which makes it difficult to use for a large number of flows.

* It's designed for use with IP multicasting, which itself is criticized for scalability problems, since current multicast routing protocols require a separate multicast routing tree for every multicast group (flow or

transmission). Some even require separate trees for every sender on every group!

* It requires accounting and billing models before it can be used effectively, otherwise all applications will use it to make QoS requests. It is not usable with the Internet's current flat rate billing.

* The ability to deliver and maintain the QoS guarantees is dependent on the underlying link layer technology and not RSVP.

* The lack of standard QoS routing may lead to denial of or a sub-optimal reservation even though it would not happen if an alternate (QoS-driven) routing path was taken. RSVP only can reserve on the best effort path -- if a little longer path exists having sufficient resources it can never be found with the current RSVP design.

* It has an overly complicated service model, supporting heterogeneous receivers.

* It is still considered very "researchy", since it is largely out of the academic community. The link-layer mappings are still extremely drafty and need a lot of work and real-world testing before they'll be considered done.

* Some ISPs have publicly stated that they do not intend to deploy RSVP (at least in its current form).

For more information, please refer to the following resources:

http://www.ietf.org/html.charters/rsvp-charter.html
http://www.isi.edu/div7/rsvp/rsvp.html