

Overview of IETF QoS

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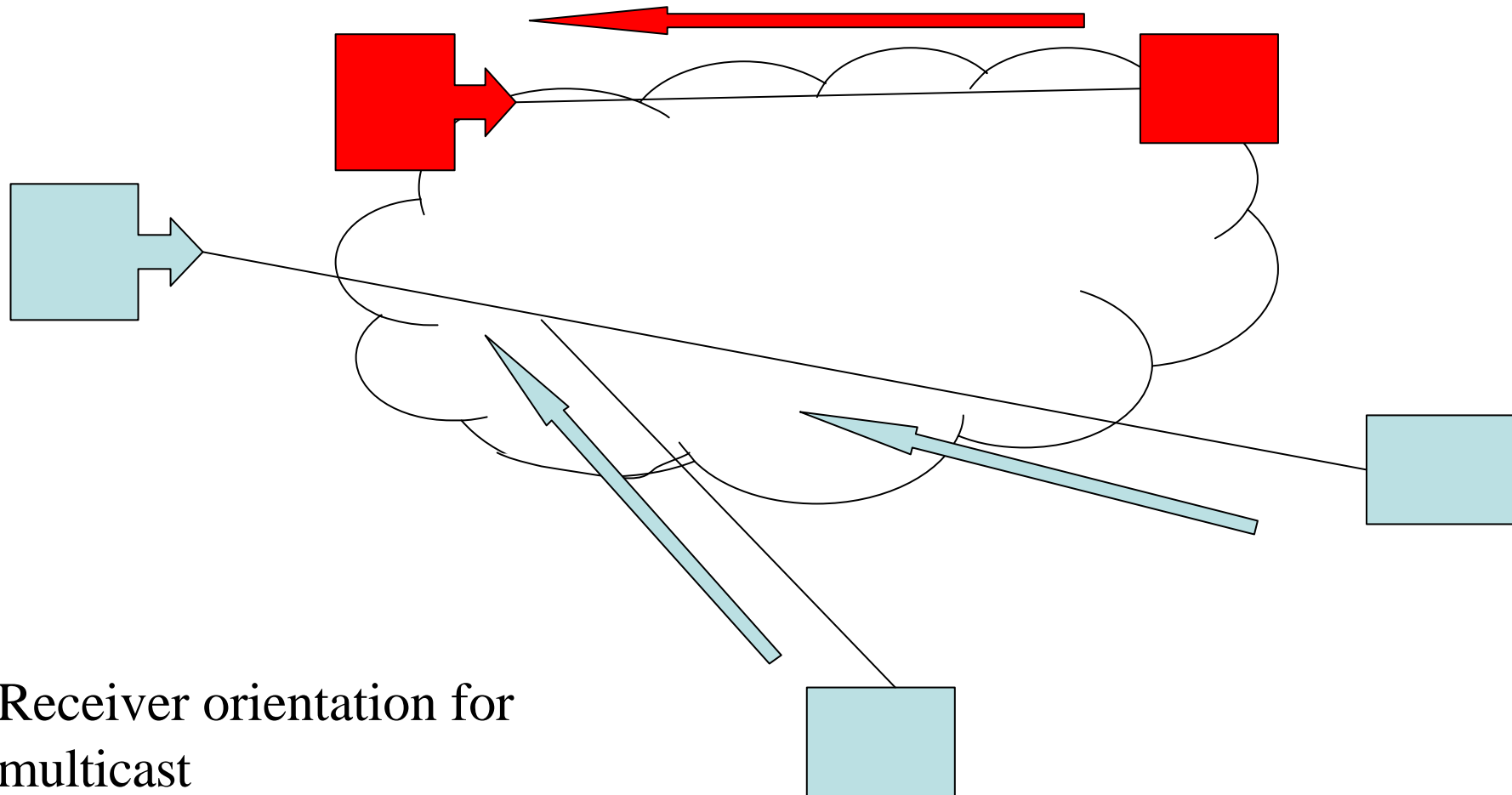
Scope

Adapting some thoughtful words from RFC 3086:

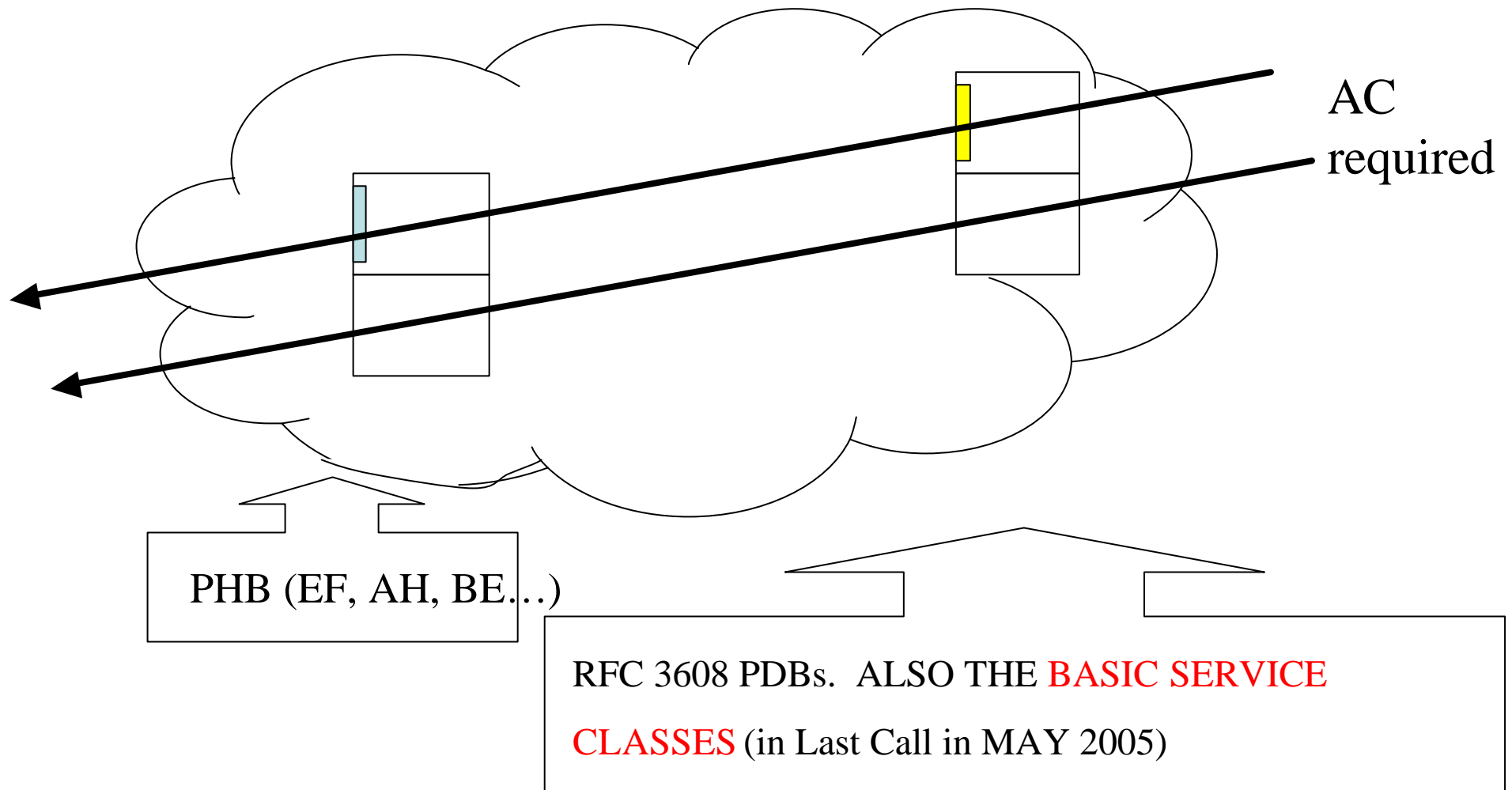
From the end user's point of view, QoS should be supported end to end between any pair of hosts...many untaken steps remain on the road to achieving this.

One essential step, the evolution of business models for interdomain QoS, will necessarily develop outside of the IETF. A goal...is to provide a firm technical foundation that allows these business models to develop.

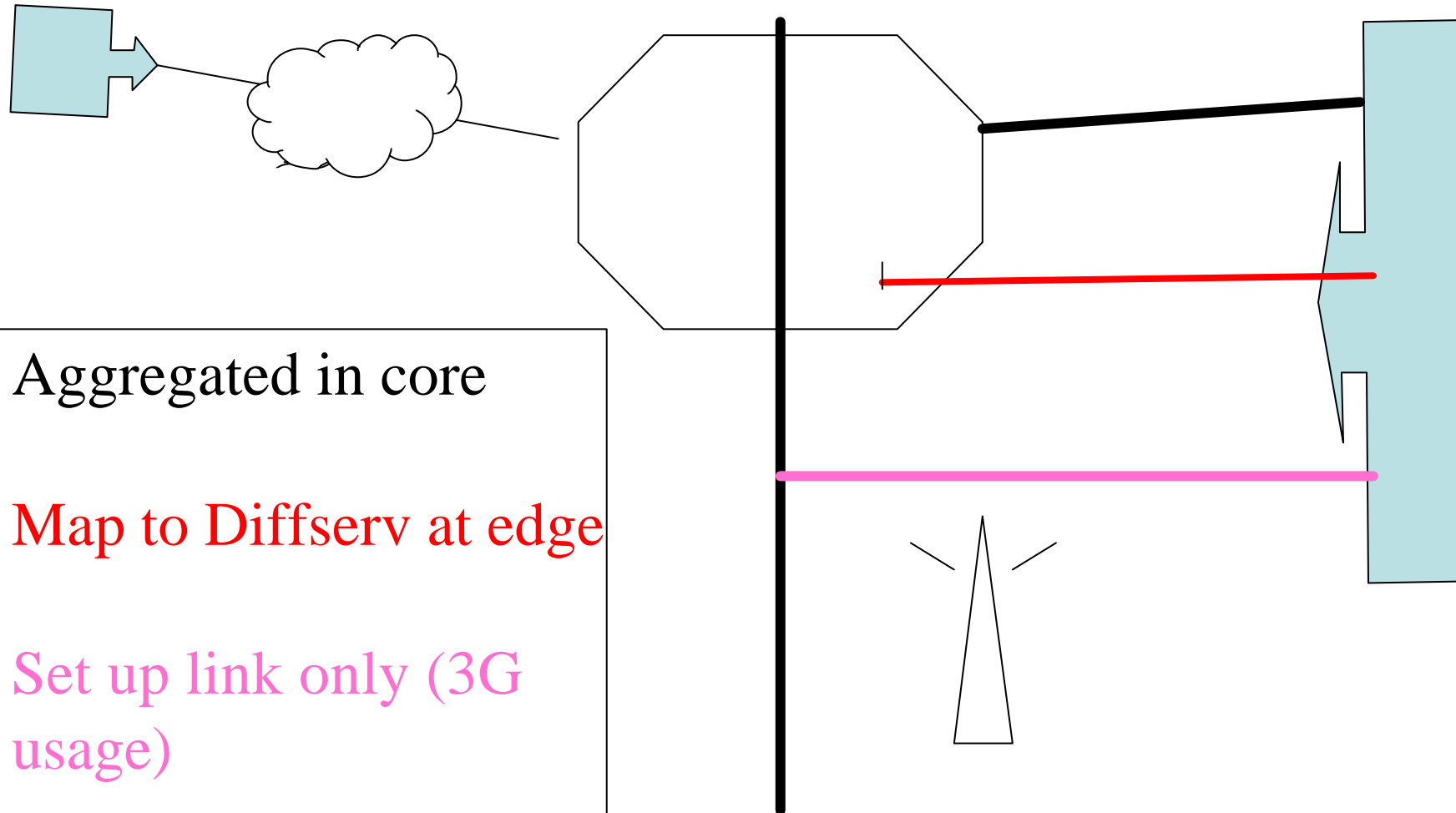
RSVP - Flow Reservations



Diffserv

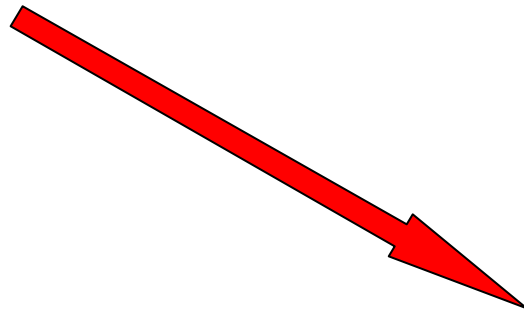


Internet QoS Structure (RSVP - Intserv)



Re-Purposed RSVP

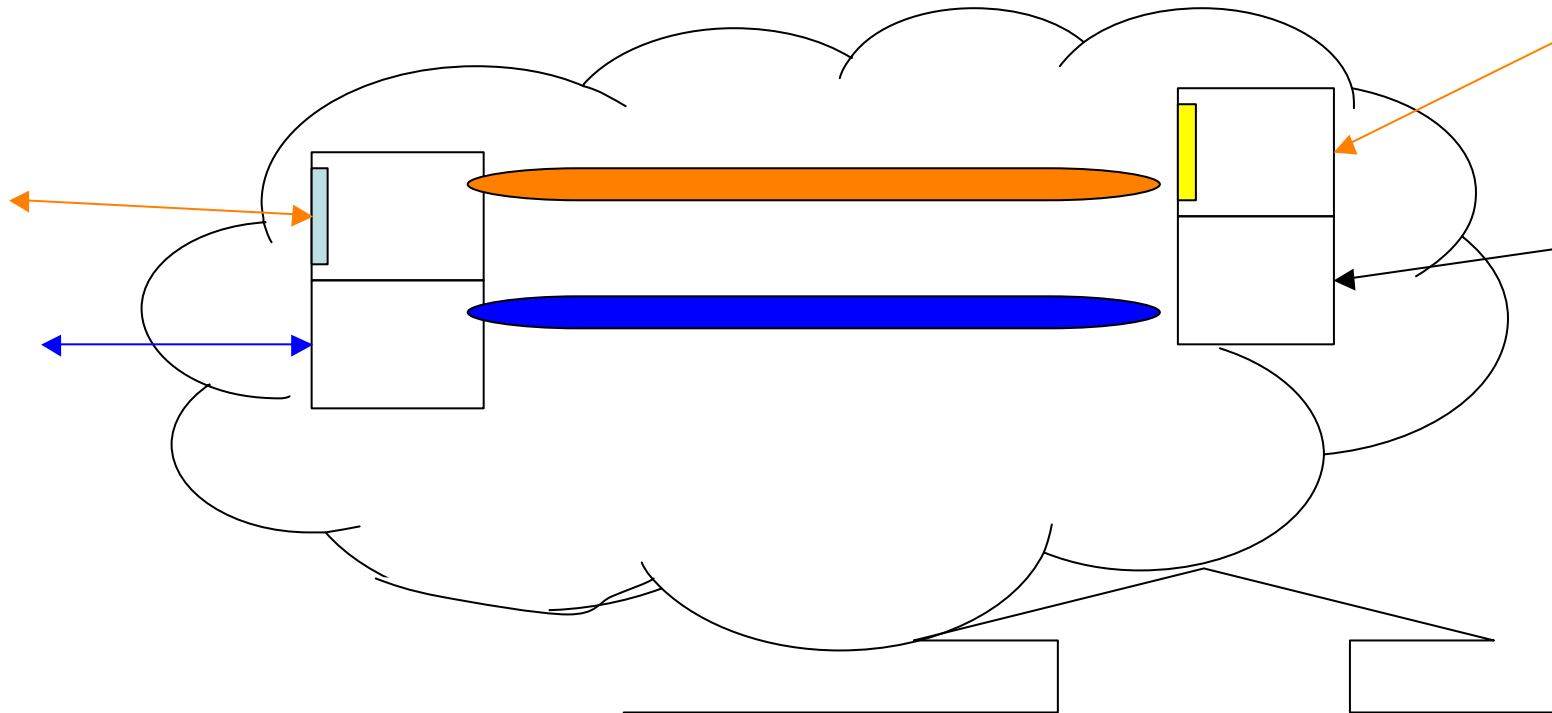
RSVP-TE



MPLS tunnel
establishment, routing
and traffic
engineering

TE is not QoS, but they are relatives, and...

Diffserv Mapping onto MPLS (RFC 3270)



Packets' diffserv markings carried thru LSP. EXP bits used with TE

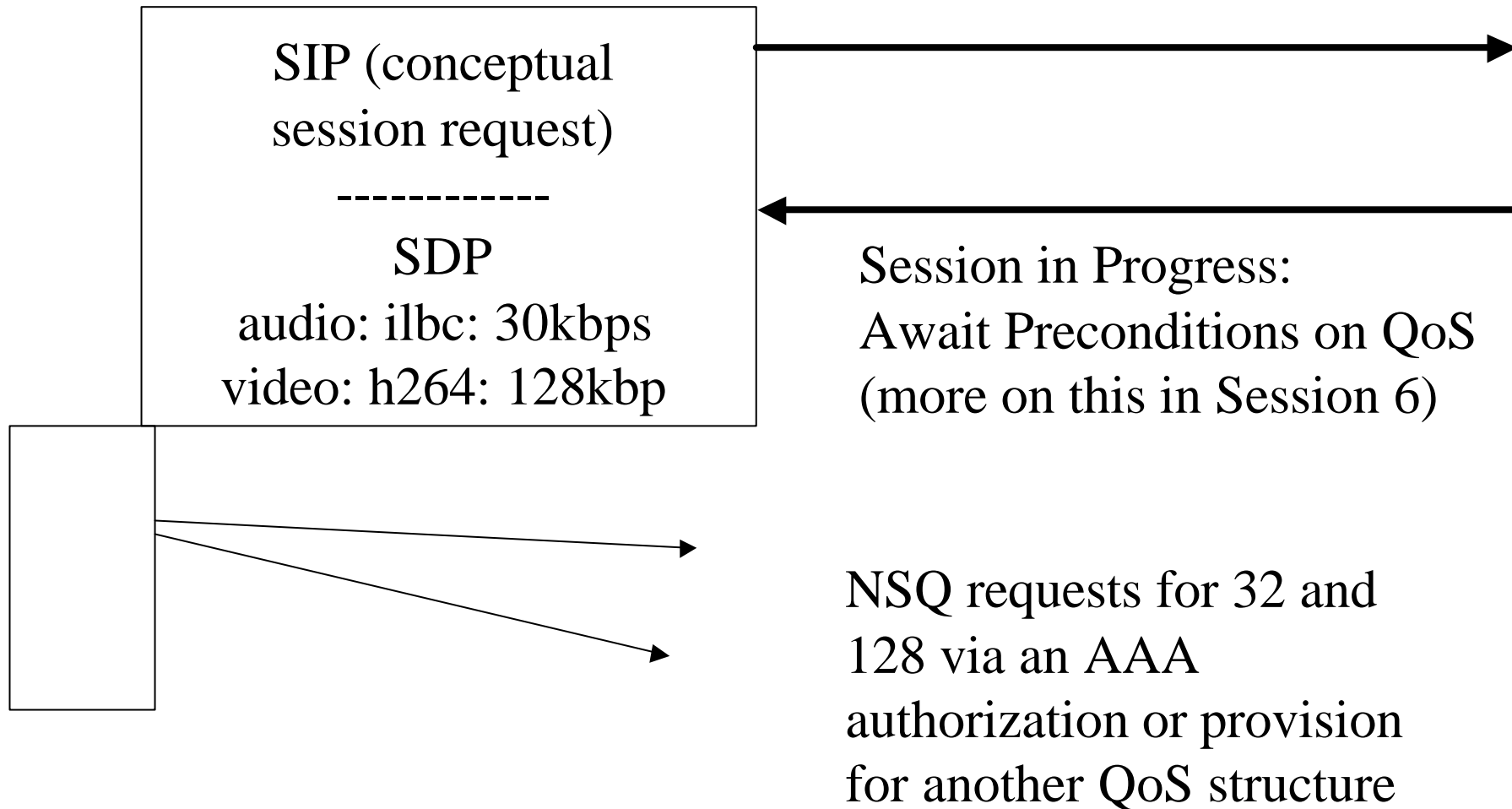
MPLS-DSTE

- DSTE stands for Diffserv-aware TE
- Misnomer, more like a QoS protocol within in MPLS
- Resembles Basic Service Classes
- Class Types (4 Voice, 4 Data), characterized
- Classification advice
- Management advice and protocol usage with RSVP-TE extensions (references at end)

Next Steps in (IP) Signaling

- Other IETF speaker in this session
 - A few points here
- IETF has turned RSVP extension largely (though not entirely) to RSVP-TE
- Some NSIS goals (besides QoS goals to be discussed shortly)
 - Mobility-ready (identifiers, compressibility, etc)
 - Link-localization ready
 - Slide five structures present. More structures required?
 - NSIS Quality of Service Application: NSQ

Calling for QoS (SIP)



Conclusion - IETF QoS Architecture

- Multiple structures supported by IP and MPLS protocol design.
- Designs with strong input from experience of large network operations and packet multimedia pioneers.
- Current IETF emphasis is *completion* of the protocol development.
- Deploy, operate, understand interactions and issues, report back, refine.

References (drafts easy to find at tracker.ietf.org)

- RFC 3608
- Basic Service Classes - [draft-ietf-tsvwg-diffserv-service-classes](#)
- Core - RFC 3175
- Intserv to Diffserv - RFC 2996
- Local RSVP - [draft-ietf-tsvwg-lrsvp](#)
- RSVP extensions - RFC 3936
- Diffserv to MPLS - RFC 3270
- MPLS QoS (DSTE) - [draft-ietf-tewg-diff-te-proto](#) (awaiting publication)
- NSIS documents (next talk)
- SIP preconditions - RFC 3312 and [draft-ietf-sip-rfc3312bis](#) (awaiting publication)