

draft-geib-tsvwg-diffserv-intercon

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Aims:

Standardise a limited set of interconnection QoS PHBs and classes. Accept deployment of different provider internal class- and codepoint schemes. Simplify interconnection by a set of classes to which and from which provider internal QoS schemes are mapped at interconnection.

In addition to performance parameter based PHB definitions, scheduler properties are introduced to define suitable interconnection class mappings.

This enables end-to-end QoS using classes of similar properties along all domains.

The draft respects IP over MPLS & Ethernet aspects.

Note: The focus of the draft is on point to point interconnections (but this doesn't exclude application for other interconnection types).

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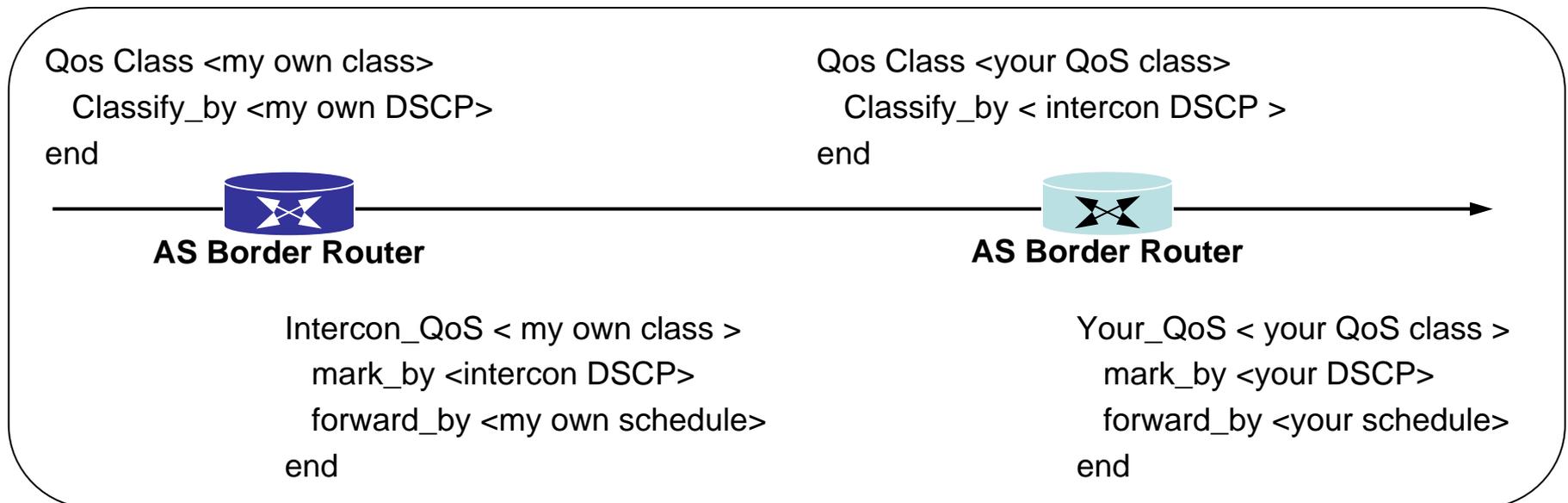
Application of the DiffServ Interconnection scheme

DiffServ Intercon can be applied if four (or less) classes are interconnected interfaces defined by the draft:

4 Classes, PHBs based on Class Selector Codepoints (carrying 6 DSCP based PHBs):
Priority (EF), Bulk inelastic (AF41), Assured (AF31, AF32 and AF33), Default (Best Effort).

They are roughly defined and room is left for provider specific implementation.

Conditioning depends on bilateral agreements.



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NMS traffic and PHB CS6 at interconnection

A Network Management PHB may be internal in some networks. Typically, this traffic is marked by CS6, often by system default. To protect the own AS, a network provider might not share this PHB with customer routing traffic. This may require re-marking of CS6 marked traffic at interconnection. The following scenarios may occur:

- eBGP traffic may be exchanged between adjacent AS border routers. The traffic is terminated at the receiving AS border router and any DSCPs can be ignored.
- an AS border router receiving CS6 marked traffic at an internal interface, which is destined for a remote domain, should map this traffic to an appropriate Interconnection class. Assured Class / AF31 is proposed.
- an AS border router may have a remote BGP connection with e.g. a routing arbiter. If in that case a sending AS border router can't mark the traffic any different than CS6, the connected AS border router should remark the traffic.
- DiffServ Intercon does not replace bilateral negotiations. Providers may agree bilateral mappings in addition to DiffServ Intercon (and e.g. transport CS6 marked traffic as is).

If an own Intercon class DSCP is desired for NMS traffic, Assured AF31 is proposed.

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Future progress

- Clarify the relation of DiffServ-Intercon to RFC5127 (or a revised version of the latter)
 - Revise RFC5127, align contents, advance both separately (preferred by the author).
 - Progress DiffServ-Interconn and leave RFC5127. Possibly not really desirable.
 - Replace RFC5127 by an enhanced version of DiffServ-Intercon (enlarged by RFC5127 content). Will slow down progress of DiffServ-Intercon.
 - Relation to RFC5127 requires WG decision.
- Decide on making this document a WG draft and desired status. Should this be put on standards track?