RSVP-TE extension for extension for signaling Objective Function and Metric Bound

draft-ali-ccamp-rc-objective-function-metric-bound-03.txt

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Requirements

- Network performance criteria are becoming critical to path selection

- For example,

  - ➢ A financial customer wants a path that meets a certain delay;

  - ➢ The service provider is interested in the minimum cost path that meets that requirement.

- Extensions to the PCEP have already been made to express

  - ➢ objective functions [RFC5541]

  - ➢ metric bound [draft-ietf-pce-pcep-service-aware].

Overall Problem Space
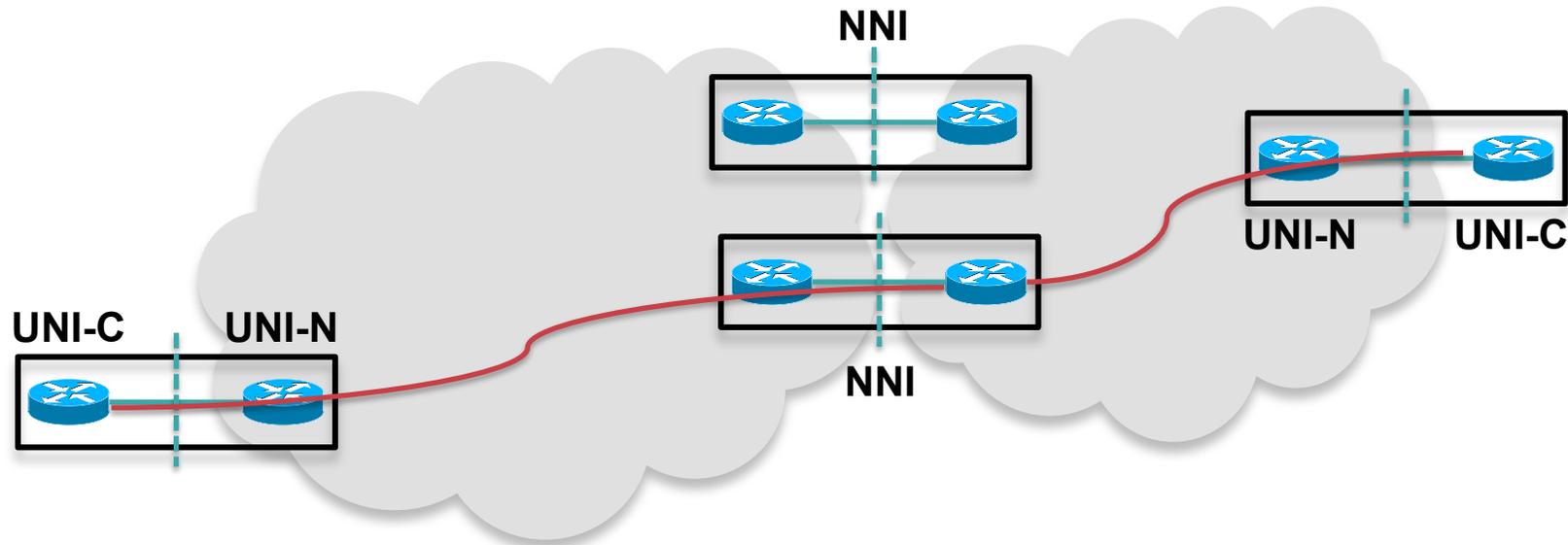
- A TE headend may have no visibility across UNI or NNI boundaries.

- TE headend may not have access to a PCE fully capable of performing the calculations.

- The UNI-N or (and) NNI node(s) is (are) fully capable of performing the calculations and thus no PCE has been deployed.

Expressing the Metric Bound

A new ERO subobject type, Metric Bound (MB) is defined

- Carries the bound on some path metric that needs to be respected for the strict or the loose segment

  ➢ Metric Bound in strict hop is used to aid selection of an appropriate component link within a bundled TE link

- A "best-effort" bit is supported

- Multiple MB subobjects may be present and all are processed

  ➢Note that doing so may lead to an overly constrained problem

- A loose hop expansion may results in the insertion of a new loose hop(s)

  ➢ Determining the metric bound for the inserted loose hops is local to the node adding the loose hops

Changes from -02

- Added Daniele Ceccarelli as a new co-author.

- Addressed/discussed comments received on the draft

  ➢ Added best-effort bit in Metric Bound subobject

    ▪ If expanding node is doing CSPF, first pass will prune paths that exceed MB

    ▪ If no path found, then rerun CSPF but don't prune on that metric

    ▪ Simply a short cut to avoid some resignaling

  ➢ Removed optional TLVs from the Objective Function subobject

  ➢ One open discussion on a Path MB

- Some text improvements.

Next Steps

- Authors consider draft mature enough to call for WG adoption