

CONEX BoF part b

Anaheim, IETF-77

25 March 2010

Welcome to CONEX (again!)

- Chairs:
 - Leslie Daigle
 - Philip Eardley
- Scribe: John Leslie and Mat Ford
- Note well
- More info: <http://trac.tools.ietf.org/area/tsv/trac/wiki/re-ECN>
- Continuation of yesterday's meeting
 - <http://www.ietf.org/jabber/logs/conex/2010-03-24.txt>

Note Well

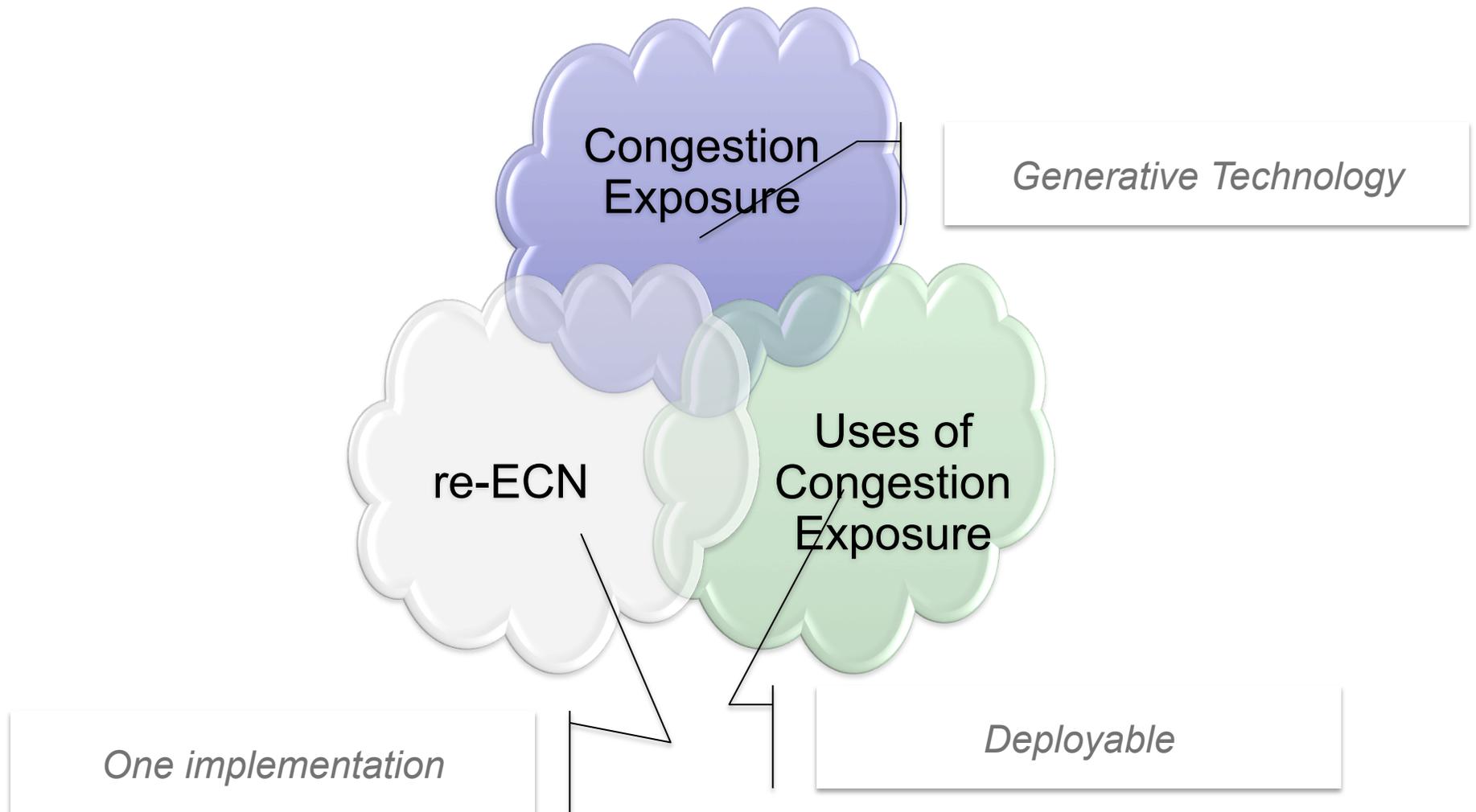
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Summary of various feedback

- Hard to parse the words (future historic tense)
 - Lack of clarity about what “it” is
 - It should all be Experimental
 - Danger of too many cycles; “It’s IRTF”
 - How does it play with MPLS?
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- We have tried, in our role of BoF Chairs, to distil the community feedback and adjust the Charter to take account of it

Lack of clarity about what “it” is

- “It” is the ‘generative technology’ and the main proposed work [yesterday’s meeting]



CONEX: the generative technology

“The purpose of the CONEX working group is to develop a mechanism to allow senders to inform the network of the level of congestion they expect their packets to encounter. <... Insert new text here ...> ”

The major work items of Charter focus on delivering this:

- *Experimental* Specification of IP (v4 and v6) packet structure to encapsulate CONEX information (header bits, interpretation)
- Experimental Specification for modification to TCP, for the timely transport of congestion information from the destination to the sender

Is “it” IRTF?

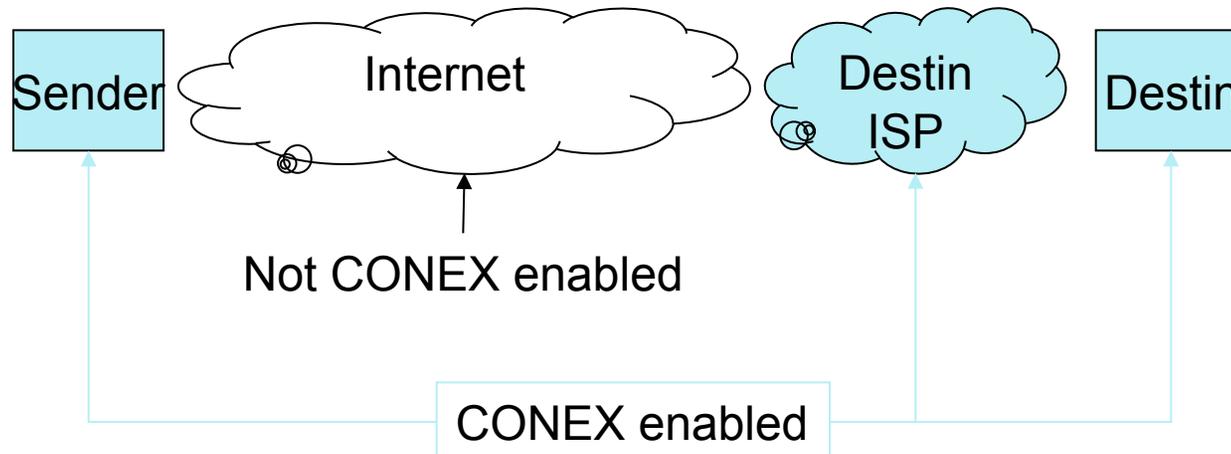
- A lot of research has been done, proof of concept
 - see the web page <http://www.bobbriscoe.net/projects/refb/>,
 - including work outside Bob Briscoe's team.
 - also 2 Linux implementations and 2 simulator implementations.
- Remaining questions:
 - “Right choice” for the Internet?
 - Correct engineering choices to align with other aspects of TCP et cetera
- WG environment is the right one in order to get broader input from engineers on many different angles
 - E.g., as re-scoped, does not interact with MPLS; potential for further discussion as a WG

Narrowing Scope of proposed WG

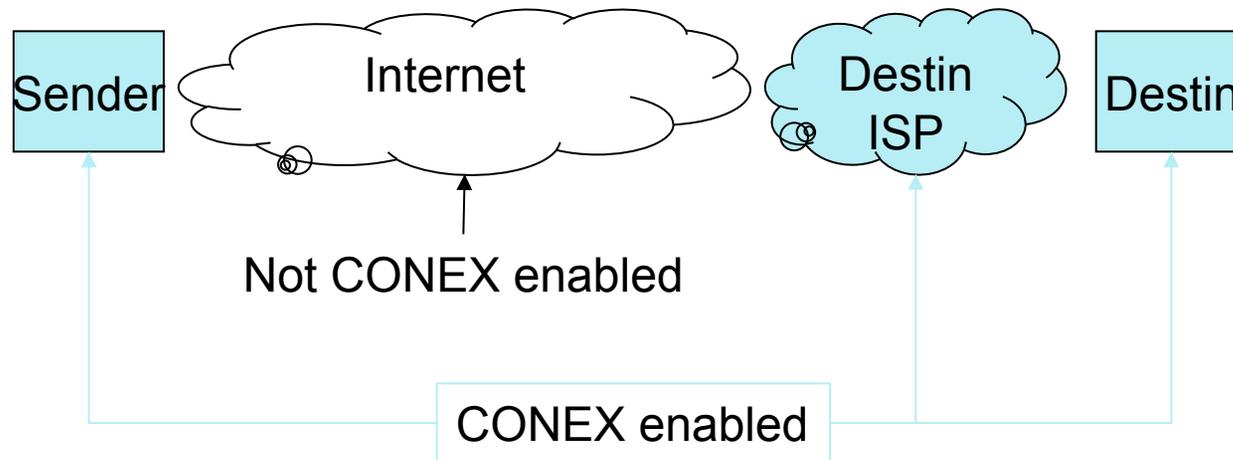
- There is less clarity and less completed research on ‘use cases’ (solutions that use the ‘generative technology’ in some way)
- In any case, the ‘use cases’ work item is for illustration purposes (and not the major work)
 - and the purpose is to encourage experiments on use cases and document them, but not to standardise the solution
- Proposal therefore to narrow ‘use cases’ work item
 - Other ‘use cases’ might be discussed later, and we encourage collaborative work on them (outside IETF)

CONEX: some potential uses of the generative technology

“Once any node can see the impact it causes (and suffers) by sending or forwarding packets, it will be possible to hold senders and whole networks accountable for the congestion they cause downstream. Tools that exploit the CONEX output could be used for mitigating distributed denial of service (DDoS); simplifying differentiation of quality of service (QoS); policing compliance to congestion control; and so on.



CONEX: some potential uses of the generative technology



- CONEX information as input to congestion management by ISP of the end host
- may incent the implementation and deployment of LEDBAT-like congestion control applications
- wired or wireless end host
- Out of scope: Using CONEX information to manage congestion between networks

Work on use case

- Informational document covering:
 - Assumptions made by the use case
 - CONEX functionality in the end hosts and their ISP, but not in all networks on path
 - Deployment considerations for the use case
 - Security Threats
 - Advice on mitigating threats
 - Detailed work on a mechanism out of initial scope
 - Description of results from experiments on the use case

- Are people OK with this narrowed Charter?

Responses on the list

at the time of the Hiroshima BoF

- 2 have implemented
 - 10 promised implementation effort
 - 16 co-authorship
 - 12 contribute effort
 - 14 reviewing
 - 6 protocol design
 - 6 deployment cases
 - 6 trials/testbeds
 - 13 build uses of ConEx
 - 10 analysis/evaluation
 - 23 just support
-
- 60% commercial
 - 40% gov/org/edu