Mobile Communication Congestion Exposure Scenario

http://datatracker.ietf.org/doc/draft-kutscher-conex-mobile/

Version 01

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CONEX WG:Congestion exposure in a variety of use cases

- Turns out that most of these would be really useful in mobile communications
  - Scarce ressources – elaborate policy and charging infrastructure
  - In need of scalable resource sharing for „best-effort traffic“

- Also: if CONEX is done right, mobile communication networks would be a particuarly good environment for congestion exposure

  - CONEX WG to focus on use case where end hosts and network containing destination host are CONEX-enabled – other networks need not be

  - Mobile communication networks
    - Well-defined roles for hosts, nodes, gateways
    - Well-defined network boundaries
    - Limited resources (wireless), fine-granular policing and accounting

Congestion in Mobile Communications

- Moving from telephony to data networks
  - Historically: congestion considered a non-issue
  - Strict resource management and adequate resource provisioning
  - Also: best-effort traffic considered expendable
- This is changing now
  - Most traffic is „best-effort“ now
  - M2M, mobile cloud access etc.
- => *User Plane Congestion Management*

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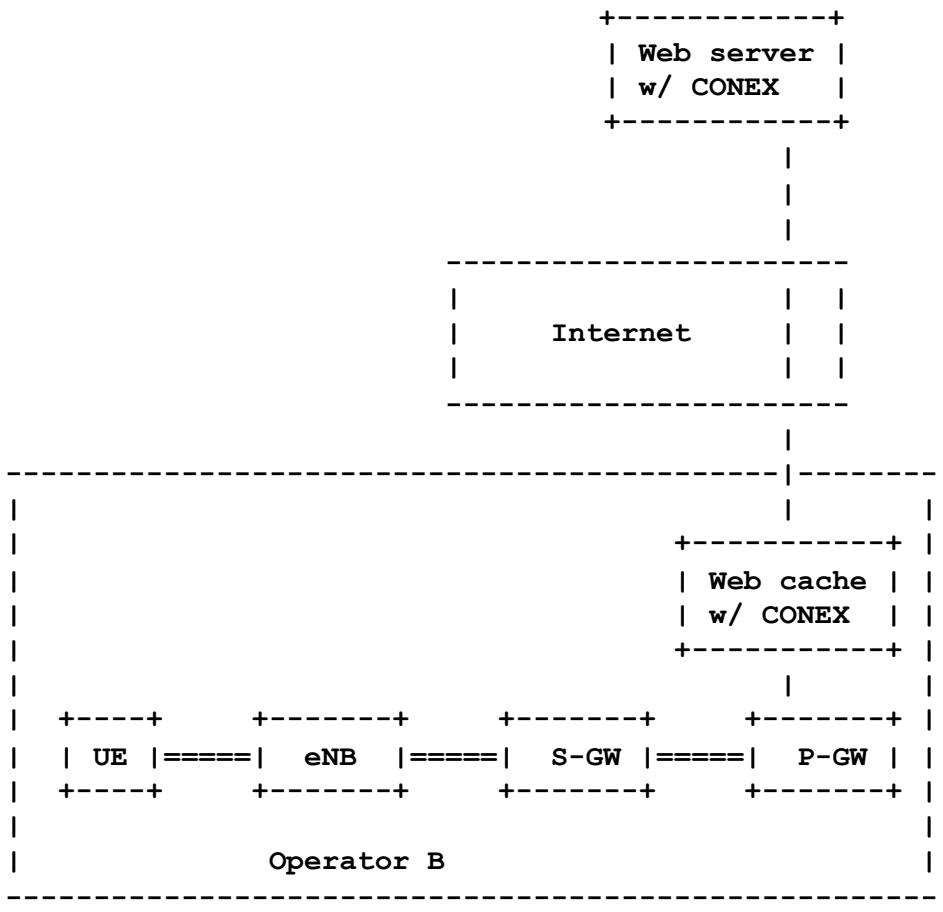
- Describing 3GPP's EPS
- Analyzing CONEX use cases in mobile communication networks
  - Traffic management
  - Incentivize scavenger transport
  - Accounting for congestion volume
  - Differential QoS
  - Partial vs. Full Deployment
- CONEX in the EPS
  - Across operator domains
  - Within one operator network
  - Implementing CONEX mechanisms and policing functions
- Implications for CONEX
  - What we should consider for the mechanism spec

Summary of Recent Changes

- Emphasize description of *how* mobile communication can really benefit from CONEX
- More on how CONEX can be deployed incrementally
  - For instance: enhancing DPI and eventually making it obsolete
  - Highlighting *CONEX as a mechanism* – enabling different operator policies
- Added a deployment scenario: CONEX sender support on operators servers, caches, proxies
- Integration into 3GPP's PCC architecture
  - Without requiring invasive changes

CONEX Support on Servers and Caches



CONEX and 3GPP PCC

- CONEX as a supplement (and not as a replacement) to existing QoS mechanisms

- For example, CONEX to provide input to existing 3GPP PCC mechanisms
  - Real-time congestion information => better resource management
  - Accumulated congestion volume for accounting

- Enable network to make better policy control decisions than possible today
  - Without requiring new reference points

Next Steps

- Would like to add more specific guidance about possible uses
  - Specific deployment scenario
  - Considering our CONEX mechanisms
  - Operator feedback would be useful

- Future of this draft
  - Publish as Informational to document possible CONEX uses
  - Should this be a WG item?