

Requirements for IP/MPLS network transmission interruption duration

draft-fan-opsawg-transmission-interruption-01

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Motivation

- We want to discuss if the existing sub-50ms interruption transmission duration is mandatory for IP/MPLS networks
- Traditional services (e.g. TDM) have long been following the requirement
- More and more services are delivered by IP now, does it still need to be sub-50ms?
 - Example of new IP services: online streaming,

Previous -00 Version

- We proposed two principles
 - The IP layer should satisfy quality requirements of upper level services and applications
 - Services and applications should also take into account the intrinsic IP capabilities during design and configuration
- Case of softswitch (Principle #1)
 - 3 sec of outage time is tolerable

Current -01 Version

- Added case of SS7 network (principle #2)
 - TDM based MTP -> adaptation layers over SCTP over IP (SIGTRAN)
- Parameter configuration needs adjustment
 - Upper-level protocols should be more tolerable and “insensitive” to instability of IP
 - Parameter (e.g. timer) needs to be weighed among different factors: not too small, not too large

Current -01 Version (cont'd)

- 2 examples of parameter configuration
 - SCTP: RTO (typ. 0.5~1.5 sec), Association.Max.Retrans (typ. 5), Path.Max.Retrans (typ. 10)
 - M2PA: T7 (typ. 7~10 sec)
- Influence: may be affected, but without cut-off or severe user perception degradation
 - Route lookup: possible latency, user may experience longer connection delay when dialing
 - SMS: possible latency, but SMS has no strict requirement for instantaneity
 - Location update: possible failure, but UE has the mechanism to initiate request again

Conclusion

- Traditional TDM based services
 - Keep and meet 50ms requirement
- Current IP services, such as IP-based voice service
 - Provide experiences of us or others for guidance
- Services in future
 - Propose requirement early and give consideration to IP

Next Step

- Comments from WGs
 - OPSA
 - PWE3: requirements of different services (private line, mobile backhaul, ...)
 - Other WGs
- Liaison with other SDOs: NGMA, GSMA, ...
 - Initiating some tests

Thanks!