

Requirements for IP/MPLS network transmission interruption duration

draft-fan-opsawg-transmission-interruption-00

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IETF 83

Purpose of This Document

- The industry has followed sub-50ms outage time for a long time.
- We want to discuss if this existing “requirement” is still mandatory for IP/MPLS networks.
 - 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.
- There is no consensus on this matter till now, and we hope to reach an agreement in the industry.

Scope and Current work

- Currently, there are 4 services in the draft
 - Softswitch (preliminary analysis completed), LTE backhaul, IPTV, VPN
- 3 criteria for softswitch
 - Connection failure
 - Call cut-off
 - Connection delay

Criteria Analysis-- Connection Failure and Call Cut-off

- Connection failure means that a phone call fails to establish after initiated by a subscriber due to network faults
- Call cut-off is referred to the abnormal release during a phone call due to reasons other than intentional release by any of the parties involved in the call.
- IP convergence period should be shorter than the detection timer of interface coupling in the softswitch
 - Normally the timer of coupling is no longer than 6s
- It is recommended the transmission interruption time should be less than 5s

Criteria Analysis-- Connection Delay

- The connection delay, time between a call initiated by the calling party and received by the called party, should be no longer than 4 seconds.
 - IP delay (delay/convergence) + connection setup delay + signal interaction delay
- the IP convergence time should be no longer than 3s to ensure that connection delay is shorter than 4s
 - Normally, connection setup delay+ signal interaction delay is less than 1s

It is recommended that the transmission interruption duration of IP/MPLS network be no longer than 3 sec.

Next Step

- Other services are to be analysed
 - LTE backhaul, VPN, IPTV
- We would like to thank Dan Romascanu, Adrian Farrel, Christopher Liljenstolpe and Wesley George, Cameron Byrne, Andrew Malis for their kind review of this document
- More Comments and collaboration are highly appreciated

Thanks!