

Network Overlay Impacts on Video Streaming

draft-deen-mops-network-overlay-impacts

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Problem Statement

Network Overlays that make changes to network policies such as routing, DNS resolvers, IP Address assignment intended to enhance privacy are causing operational problems for Streaming Video platforms.

Operational impacts include increasing latency, selecting non-optimal alternate CDN caches, geolocation, authentication, and other problem for streaming video operations.

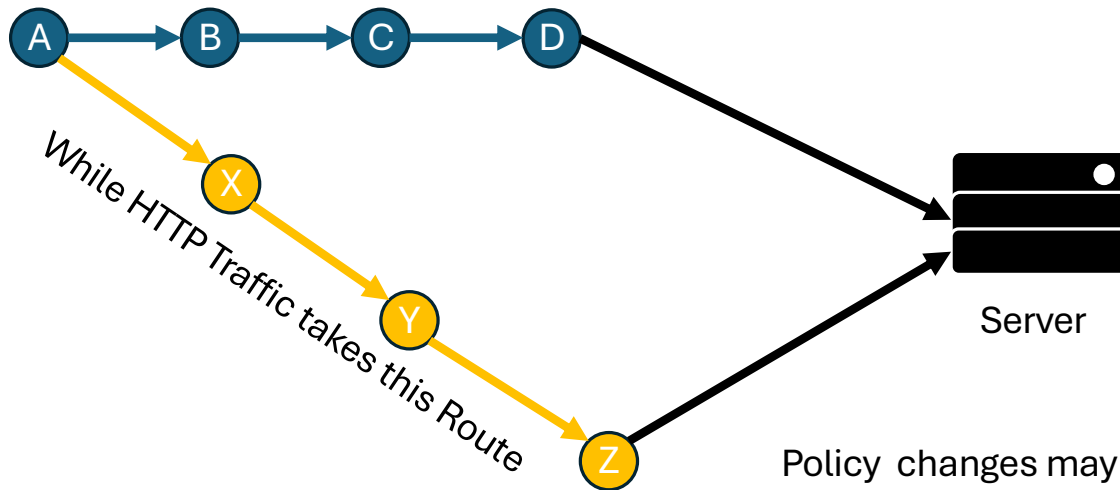
Network Overlays change Network Policies

- Example Alternate Network Policies to the Underlying "native" Network
 - Routing changes
 - Alternate Ingress/Egress paths
 - Protocol /Application Specific Routing changes
 - DNS changes
 - DNS Resolver choice: 1.1.1.1 -> 8.8.8.8
 - DNS Protocol Choice: DNS/53 -> DoH
 - Change DNS policies: Protocols supports, Results Returned, Private Zones
 - Address Changes
 - Provide Alternate Addressing for Nodes
- Overlay & Policy Changes MAY NOT be visible to Applications

Application Protocol Overlay Impacts

Network Policies maybe different for different protocols

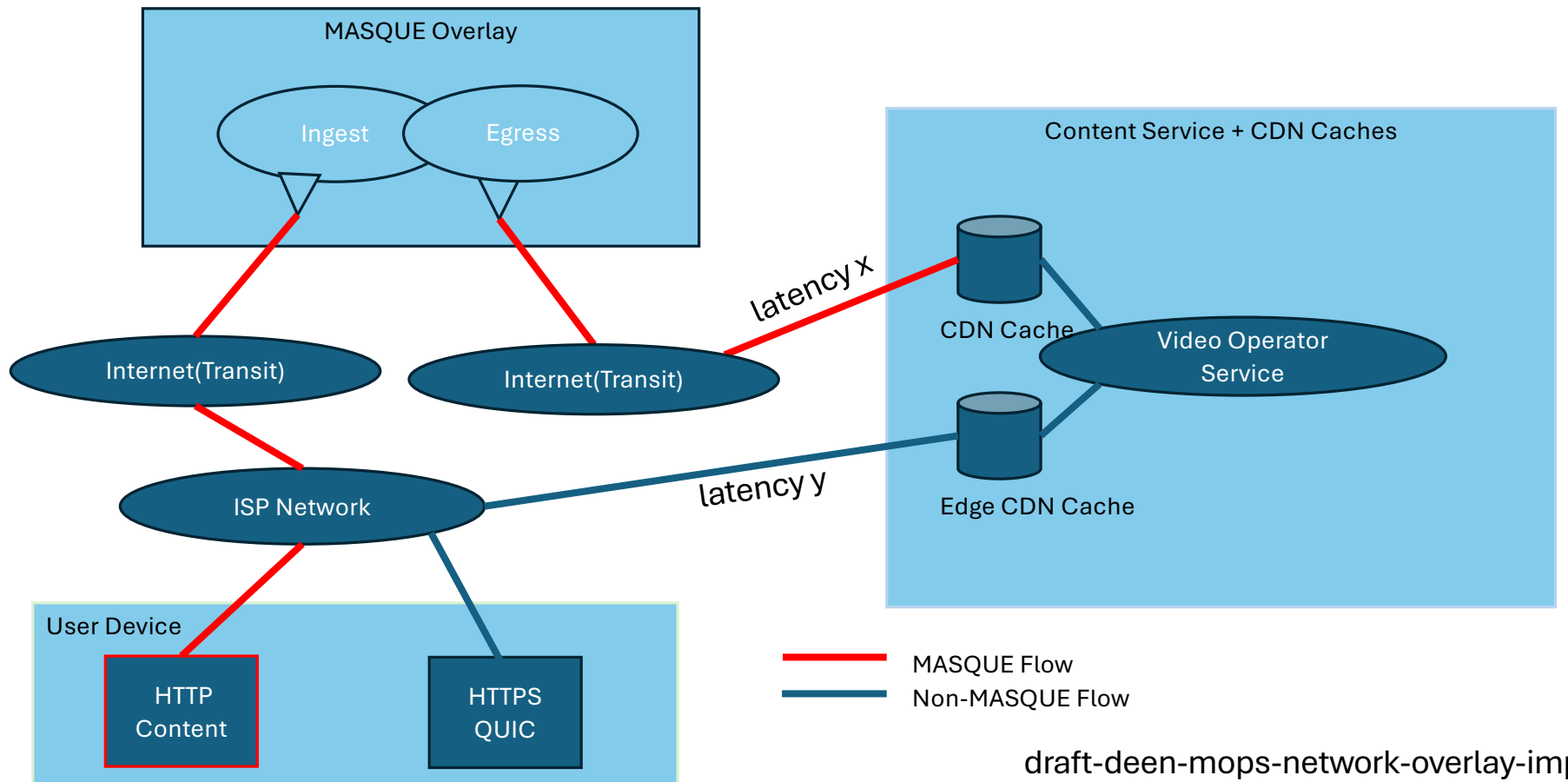
icmp, traceroute, HTTPS, DNS might take this Route



Policy changes may not to visible to Applications

Different Protocols see different perspectives of the network

Example Impact: Different CDN Cache Selection, Different Latencies



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What can be done?

- Draft makes a few suggestions
 - Explore & Discuss the problems to better understand them
 - Possibly develop best practices guide for Network Overlays and how they interact with applications
 - Possible study to assess broader impacts and provide feedback to working groups
 - Other ideas?

Thanks

We very much welcome comments & more

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