

CRTC INTERCONNECTION STEERING COMMITTEE WORKING GROUP: Network Working Group (NTWG)

CONTRIBUTION: NTCO0669

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TIF#: NTTF037

TITLE: STIR/SHAKEN Statistics Framework

SOURCE: Ken Politz, Neustar

DISTRIBUTION: CISC NTWG NGGF037 participants

SUBJECT: Improving the manner with which STIR/SHAKEN deployments are reported.

STIR/SHAKEN Statistics Framework

Contribution to TIF #37 for Group Discussion

Ken Politz

9 January 2019

(with 21 January updates to Slides 5 and 6)

Requested CRTC Statistics

Statistics identifying (per CRTC 2018-32):

- the percentage of authentication/verification enabled trunks used for IP voice traffic out of the total number of Internet Protocol (IP) voice trunks;

Observation: This statistic seems independent of actual STIR/SHAKEN call activity

- the percentage by month of the number of authenticated/verified voice calls out of the total number of IP voice calls; and
- tracking by the level of authentication (i.e. Full, Partial, and Gateway Attestation) for calls delivered to customers.

Statistics on authentication-enabled IP voice traffic (as reported in 1st CISC Report):

	% utilization of authentication-enabled trunks	% by month of signed IP voice calls					Level of Attestation		
		Jan	Feb	Mar	Apr	May	Jun	Full	Partial

Assumptions

1. Consider most typical VoIP call flows for STIR/SHAKEN statistics (i.e., no diversion, telephone number delegation, etc.)
2. Aim to stay consistent with statistics as requested by CRTC and reported in first CISC Report

Identified VoIP Call Flows (see Figures)

- [1] **Intra-TSP calls:** VoIP calls originated by a direct retail or wholesale/resale customer that terminate to one of your direct VoIP retail or wholesale/resale customers (generally SHAKEN Attestation = [A,B]):
 - a. Consumer
 - b. Enterprise
 - c. Reseller (including CLEC)
- [2] **Inter-TSP calls:** same as above but these calls do not terminate to one of your direct VoIP retail or wholesale/resale customers (generally Attestation = [A,B])
- [3] **Inter-TSP terminating call** – VoIP calls received directly from another originating TSP (or indirectly through a transit TSP) that terminate to one of your direct VoIP retail or wholesale/resale customers (could be any Attestation)
- [4] **Inter-TSP terminating (unsigned) call** – VoIP calls received from another originating TSP (or indirectly through a transit TSP) that terminate to one of your direct VoIP retail or wholesale/resale customers (can optionally sign and verify these for traceback purposes, generally Attestation = [C])
- [5] **Inter-TSP transit (unsigned) call** – VoIP calls received from another TSP that do not terminate to one of your direct VoIP retail or wholesale/resale customers (can optionally sign these, generally Attestation = [C])
- [6] **Inter-TSP transit (signed) call** – VoIP calls received from another TSP that do not terminate to one of your direct VoIP retail or wholesale/resale customers (required to transparently pass signature, could be any Attestation)

Note that roaming scenarios are being assessed and will be added as necessary.

Identified VoIP Call Flows (Continued)

Reporting TSP



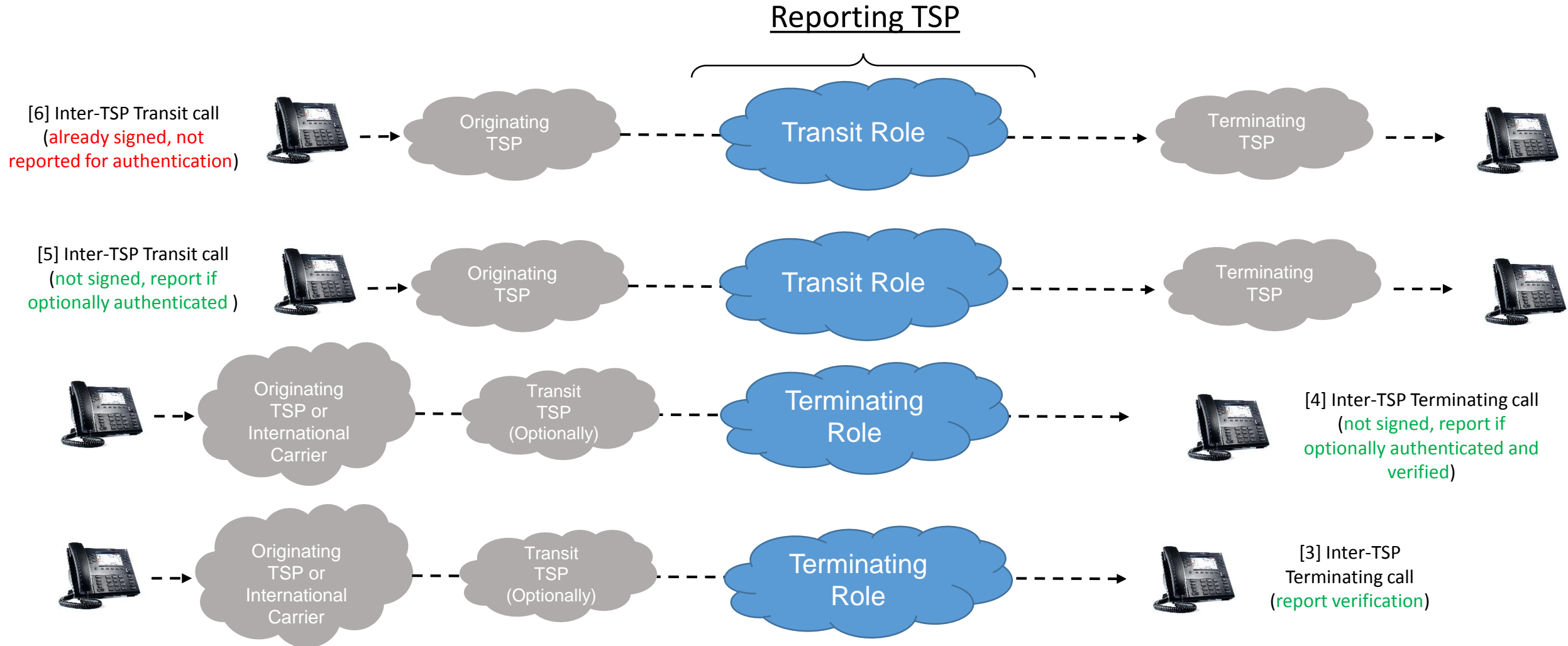
[2] Inter-TSP Originating
Consumer,
Enterprise or Wholesale/Retail
customer call
(report authentication)



[1] Intra-TSP
Originating Consumer,
Enterprise or Wholesale/Retail
customer call
(report for authentication
and verification)



Identified VoIP Call Flows (Continued)



For Discussion and Consideration

1. How will TSPs report the “% utilization of authentication-enabled trunks” statistic?
 - As noted earlier, this requested statistic seems independent of actual STIR/SHAKEN call activity
 - Should this perhaps just be entitled, “% of authentication/verification-enabled trunks” in the Report table?
2. How will TSPs report the “% by month of signed IP voice calls” statistic?
 - Since “signing” is stated, should this include Call Flows [1], [2], [4] and [5] with authentication in Figures 1 and 2?
3. How will TSPs report the “Level of Attestation” statistic?
 - Since “for calls delivered to customers” is stated, should this include Call Flows [1], [3] and [4] with verification in Figures 1 and 2?
 - Are these statistics reported as totals across the six months or should they also be reported by month?
 - Should this statistic perhaps be represented as percentages of, for example, all signed calls that pass verification since “Level of Attestation” is requested?