ATIS IPNNI

May 18, 2020

Contribution

Title: Proposed changes/additions to OOB SHAKEN Baseline

Source\*: Charter Communications

Issue Number:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Abstract

This contribution proposes changes and additions to the SHAKEN OOB Baseline

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Below are proposed Changes to Section 6 of the SHAKEN OOB Baseline (changes shown with revision marks) and 4 proposed new sections.

# CPS Discovery

OOB SHAKEN defines a model with one Call Placement Service (CPS) per terminating service provider. While the objective is that the OSP’s STI-AS to discover the CPS of the TSP, it can only determine the CPS of the TNSP. The method of finding the TNSP depends on the type of number. For special numbers (e.g. Toll Free, 500, 700, 900, 710 (GETS), Operator and Directory Services) the TNSP is the provider of the service (e.g. Toll Free Service Provider). The method of determining the TNSP depends on the special number category (e.g. Toll Free Query for Toll free number, table look up for 900 numbers, customers Long Distance Carrier for 700 numbers). For other national numbers the result of LNP Query could be used to determine the OCN of the TNSP. Methods for handling international numbers are for further study. The STI-AS of the OSP must be able to discover the publicly accessible URL of the TNSP’s CPS. CPS discovery for each service type may be different e.g. for Toll Free numbers a CIC or RespOrg may be used and for normal national numbers a mapping of the called party digits to a portability-corrected Operating Company Number (OCN) which is then used to identify the URL of the terminating service provider’s CPS. The mappings for determining the TNSP CPS URL must be handled in a trusted and authoritative fashion. Multiple implementation models are possible to achieve this trusted CPS discovery service. The STI-PA, for example, is a logical party to fulfill this role with level of effort and feasibility to be determined.

Note in some cases there maybe multiple TNSPs. E.g. for area code 710 (GETS) there are multiple carriers that provide GETS handling and for additional reliability an OSP may alternate route calls to area code 710 among these multiple carriers. The STI-AS could send only to the CPS of the TNSP the call is routed to and if alternate routing occurs the STI-AS could (if involved in alternate routing) send to the CPS of the next carrier. Alternatively, it could send to CPS of all the possible carriers for the call (would be needed if carrier selection is determined by a transit).

# X1 STI-AS and Multiple Identity and/or RPH headers

If an INVITE already has multiple Identity and/or RPH headers the STI-AS needs to receive these and not just a signing request for any new headers. Since all of these headers would need to be sent OOB to the TNSP’s CPS. E.g. if an inbound call with an Identity header is to be forwarded the STI-AS must have the existing Identity header for the inbound call along with the request for signing a div PASSporT.

# X2 STI-VS and OOB Validation

If validation of an OOB PASSporT fails because the date is stale, the STI-VS should treat this as if there were no OOB PASSporT and not as a failure. This is necessary since there may be multiple call attempts between the same 2 parties and the OOB PASSporT delivery is not guaranteed even if the call arrived.

If an OOB PASSporT is validated for a call then the STI-VS should

* If the interface is SIP add a corresponding Identity header(s) to the INVITE or
* Pass the Identity header(s) information back in its response

# X3 Congestion

The STI-AS should be able to deliver the OOB PASSporT for priority calls (e.g. as indicated by an RPH) even when the TNSP’s CPS has indication congestion.

# X4 Transit bypass of the TNSP

When a transit carrier is routing a call it may in some cases not send the call to the TNSP. For example, a transit carrier based on local routing policy may know that the called telephone number

* belongs to an enterprise that is directly connected to the transit carrier and deliver the call directly to the enterprise.
* was acquired by a directly connected TSP from a reseller and deliver the call directly to this TSP

In such cases the OOB PASSporT would not be delivered to the CPS of the TSP.