Framework for Call Validation Display
Anti Spoofing / Caller Validation / Robocall Mitigation

ATIS SIP Forum Joint NNI Task Force

Richard Shockey
Chairman SIP Forum
richard@shockey.us
+1 703 593 2683

• Work in progress
• Strawman for discussion purposes only

There is no Silver Bullet
Status of STIR Calling Party Validation IETF-ATIS/SIP Forum-3GPP

• Core Documents are moving to Last Call in the IETF. Hopefully this can be wrapped up by IETF Berlin in July.
  – Hopefully they will shut down after that.

• At that point North American Carriers have to consider implementation strategies.
  – There is a strong commitment to deploy.
  – Suppliers are already asking questions on timelines and roadmaps.

• There will eventually need to be some policy wrappers surrounding all of this.

• The other unanswered question is how can we make the data useful to consumers. IMHO the Call Validation process will not be effective unless consumers have some sense of how the network judges the call session.
  – This is potentially a profit center.
Issues to be resolved in STIR.
This will take some time

• The solution needs to be tested.
  – That is a ATIS Numbering Test Bed issue.

• Consensus on Default Encryption [ECC256]?

• We need rings of defense.
  – Implementation to work slowly outwards
  – There is no flash cut here.
  – We cant wait for some “global solution” This is North America First.

• The Root CA issue needs to be resolved in a NA industry wide voluntary consensus driven process.
  – ATIS/SIP Forum taking lead maybe with NANC input?

• This process will be applicable on Day 1 to nearly 40% of all NANP calls. When VoLTE implemented over 80%

• It will not work with POTS.
  – That’s why we have a PSTN Transition Docket.
STIR Call Flows for User Validation Data Display

• It’s the last signaling hop we have concerns about. (5)
• Can this be combined with Enhanced CNAM?
• Can we use reuse the Call-INFO header to carry the data to the Consumer Enterprise User Agent aka the phone.

CSCF = Call Session Control Function | SBC = Session Border Control | TAX = Telephony Application Service
• **Enhanced Validation User Display Options from the network. [Good Call]**
  – Existing User Display is limited to 15 Character ASCII for CNAM and the Calling Party Number. This is what needs to go away.

• **Now we can do anything!**
  – **Scenario 1**
    – Calling party can display not just business name but address and potentially a picture as well based on Enhanced CNAM developed out of ATIS.
    – Calling party can display alternative number to protect Doctors privacy when responding to consumer inquiries.
    – Protect GETS users or Emergency Personnel from revealing their true Calling Party Number. Has FirstNet considered this?
• **Enhanced User Display Options**  
  [Good Call]

• **Scenario 2**
  – Call comes from trusted source based on Carrier to Carrier Bilateral agreement but represents a legacy network.

• **We need to think of visual hints to the consumer from the network.**
  – Maybe emojis. Its possible.
• Enhanced User Display Options
  [Bad Call]
  – Call may come from Wholesale Partner.

  – Scenario 3
  – Signaling may come from trusted partner but via wholesale interconnection where origination cannot be validated.
• Enhanced User Display Options
  [REALLY BAD Call]

• The Network can provide some visual hints to the authenticity of the caller.
  – Scenario 4
  – Network has no confidence in the signaling path whatsoever data analytics indicates possible malicious call.
  – Signaling to consumer indicates very high level of distrust in the call.
• Applicable to all SIP/IMS platforms

- Cable can already display Caller ID on TV platforms.
- A solution can work with any SIP based Enterprise PBX system either On Premise or Hosted.
- Incorporation into IMS Release 14 (3GPP)?
- Once again.. we cant fix POTS or TDM/SS7.
The Ask..

What data do we really want the consumer to see? Is there a preference?

Like the Broadband Labeling issue? OK probably bad example. 😊

Are there guidelines the regulators want to see implemented?

Is the regulatory framework sufficient?

Are there any PII or CPNI issues to work through?

Can Tom Wheeler or Edith Ramirez call Tim Cook or someone at Alphabet (Google) to find out who is the “go to geek” on the Telephony User Interface?

The more brain power we can apply to this the better.