# For discussion on Unwanted and Rejected use for call blocking

Chris Wendt
IPNNI subgroup 1/10/22
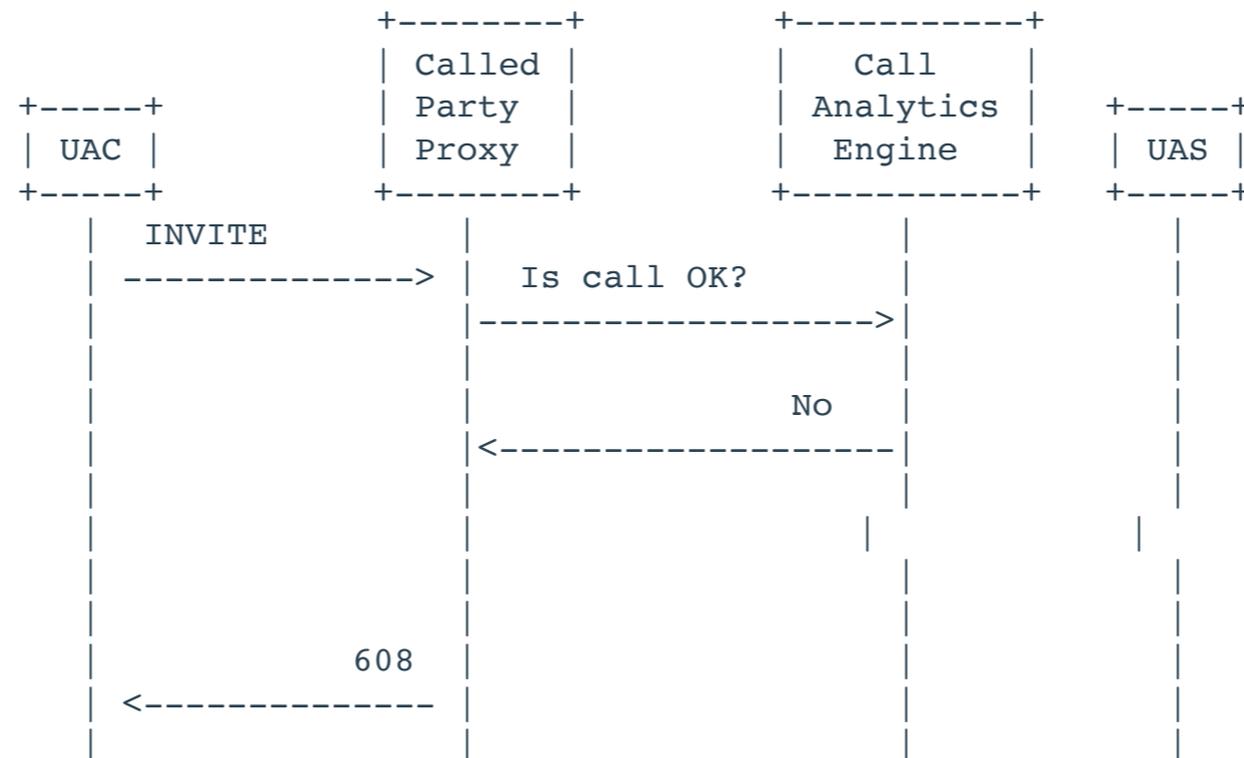
SOMOS®

# Overview

- We need to come to some consensus on what we think "unwanted" and "rejected" calls actually means in US based on policy and who we are trying to protect

- We need to make sure the implementation makes practical sense

- We need to do security analysis to make sure we don't implement something that helps bad actors (or even good actors) to use these tools to as enhancements to mine information about TNs, or other security vulnerabilities

- We need to be clear about what we are trying to solve and what we are not trying to solve

- Disclaimer: this document is a collection of various some personal thoughts for discussion to achieve a better collective understanding of why we are having this industry debate

SOMOS®

# RFC8197 - unwanted - 607 error

Following the default handling for 6xx responses in [RFC5057],
the 607 response destroys the transaction.  The service
provider delivering calls or messages to the user issuing the
response MAY take a range of actions, for example, add the
calling party to a personal blacklist specific to the called
party, use the information as input when computing the
likelihood that the calling party is placing unwanted calls
("crowd sourcing"), initiate a traceback request, or report the
calling party's identity to consumer complaint databases

SOMOS®

# RFC8688 - rejected - 608 error

This document defines the 608 (Rejected) Session Initiation Protocol (SIP)
response code.  This response code enables calling parties to learn that an
intermediary rejected their call attempt.  No one will deliver, and thus
answer, the call. As a 6xx code, the caller will be aware that future
attempts to contact the same User Agent Server will likely fail. The initial
use case driving the need for the 608 response code is when the intermediary
is an analytics engine.  In this case, the rejection is by a machine or
other process. This contrasts with the 607 (Unwanted) SIP response code in
which a human at the target User Agent Server indicates the user did not
want the call. In some jurisdictions, this distinction is important.  This
document also defines the use of the Call-Info header field in 608 responses
to enable rejected callers to contact entities that blocked their calls in
error. This provides a remediation mechanism for legal callers that find
their calls blocked.

```
                             +--------+        +-----------+
                             | Called |        |   Call    |
           +-----+           | Party  |        | Analytics |     +-----+
           | UAC |           | Proxy  |        |  Engine   |     | UAS |
           +-----+           +--------+        +-----------+     +-----+
              |    INVITE        |                   |              |
              | --------------> |    Is call OK?     |              |
              |                 |------------------->|              |
              |                 |                    |              |
              |                 |         No         |              |
              |                 |<-------------------|              |
              |                 |                    |              |
              |                 |               |         |         |
              |                 |                    |              |
              |                 |                    |              |
              |      608        |                    |              |
              | <-------------  |                    |              |
              |                 |                    |              |
```

4

SOMOS®

# Issues

- Two main topics:

  - use of 607 or 608 to signal that user does not want to receive call or analytics has determined for user that they don't want to receive call

  - redress mechanisms

- Enforcement of 6xx for a 607 or 608, let alone all other 6xx error codes (no route advance)

- Is SIP the right way to do this:

  - Do 6xx errors (among others) ever really reach initiating party?

SOMOS®

# Issues

- Caller wants to deliver a call to called party

- Does Called party have say in what calls they want to receive?

- Or does caller have right to redress?

- RFC8688 says:

```
Moreover, if a legitimate caller believes the user is
rejecting their calls in error, they can use other channels
to contact the user.  For example, if a pharmacy calls a
user to let them know their prescription is available for
pickup and the user mistakenly thinks the call is unwanted
and issues a 607 response code, the pharmacy, having an
existing relationship with the customer, can send the user
an email or push a note to the pharmacist to ask the
customer to consider not rejecting their calls in the
future.
```

SOMOS®

# Issues

- FCC has given SP the ability to block calls that are believed to be illegitimate

- Consumers have choice to block calls that they do not want to receive

- Does this apply to US:

```
As described below, we need a distinct indicator to differentiate
between a user rejection and an intermediary's rejection of a
call.  In some jurisdictions, service providers may not be
permitted to block calls, even if unwanted by the user, unless
there is an explicit user request.
```

- We have heard from FCC and FTC they want to give consumers tools to block calls.  If a consumer chooses an analytics tool that may do a good or a bad job of determining legit vs illegitimate calls, or call types that the consumer wants or doesn't want, who is responsible?

SOMOS®

# Issues

- Is this a use-case? Do users make a determination of unwanted vs illegal?  Do analytics make that determination?

```
For example, a legitimate caller may call a user who finds the
call to be unwanted.  However, instead of marking the call as
unwanted, the user may mark the call as illegal.  With that
information, an analytics engine may determine to block all calls
from that source. However, in some jurisdictions, blocking calls
from that source for other users may not be legal.  Likewise, one
can envision jurisdictions that allow an operator to block such
calls, but only if there is a remediation mechanism in place to
address false positives.
```

- RFC8197 (607) only can say "unwanted" and has no mechanism for user to provide judgement on why the call is unwanted or whether it's legal or illegal

SOMOS®

# Issues

- This seems to say that 608 is only for when intermediary blocks call (i assume not user directed, but via CVT function)

```
The 608 response code addresses this need of remediating falsely
blocked calls. Specifically, this code informs the SIP User Agent
Client (UAC) that an intermediary blocked the call and provides a
redress mechanism that allows callers to contact the operator of the
intermediary.
```

# Issues

- 911 callbacks and medical assistance calls and law enforcement/ municipal services etc those that we want to make sure never get blocked, special category?

- Is this relevant to this issue, what happens if user sends 607 for these calls? What happens if CVT sends 608?

SOMOS®

# Issues

- Consider world before STIR/SHAKEN "ubiquitous" vs after

- People and analytics are blocking "spoofed" legitimate numbers based on spam from illegitimate calls

  - Likely a big source of false positives that require redress

- Blocking really should be based on calling party vs calling party TN.

- I do want calls from Company A because i like them, I don't want calls from Company B because i don't like them

SOMOS®

# Issues

- To me this boils down to "user preference"

  - What CVT services a user decides to enable (good/bad) is their choice (e.g. some may like services that over-block)

  - What does redress represent? Should reputation be determined by calling parties or called parties. Reputation can go down, but analytics should allow reputation to go up over time as well if called parties are engaged with the caller.

  - Are we really trying to fix bad analytics practices or algorithms?

  - Do we really just need to formalize the redress mechanisms that already exist for most analytics providers? or improve them?

  - Versus an in-call mechanism that uses SIP error codes which are implemented with wide variance and often changed mid-call, or just plain ignored. Cleaning up this will be the largest battle.

SOMOS®