



Protect Your Customers!

Implementing a *GREAT* Robocall Mitigation Plan

Mark R Lindsey, SMTS / VP Engineering, ECG



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Presenter: Mark Lindsey

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- BS, 1999 (Computer Science)
- Engineering at ECG since 2003
- Clients include
 - University of Virginia
 - Momentum Telecom
 - US Department of Justice





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Webinar Goals

**Help you
Protect Your
Customers --
and the rest of
the world!**





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Brief Intro: What's a "Robocall Mitigation Plan?"

A voice service provider's robocall mitigation plan must "include reasonable steps to avoid originating illegal robocall traffic" and "a commitment to respond fully and in a timely manner to all traceback requests." ([47 CFR § 64.6305\(a\)\(2\)](#))

A robocall mitigation program is sufficient if it includes detailed practices that can reasonably be expected to significantly reduce the origination of illegal robocalls. ([Second Caller ID Authentication Report and Order FCC 20-136](#) para 78)

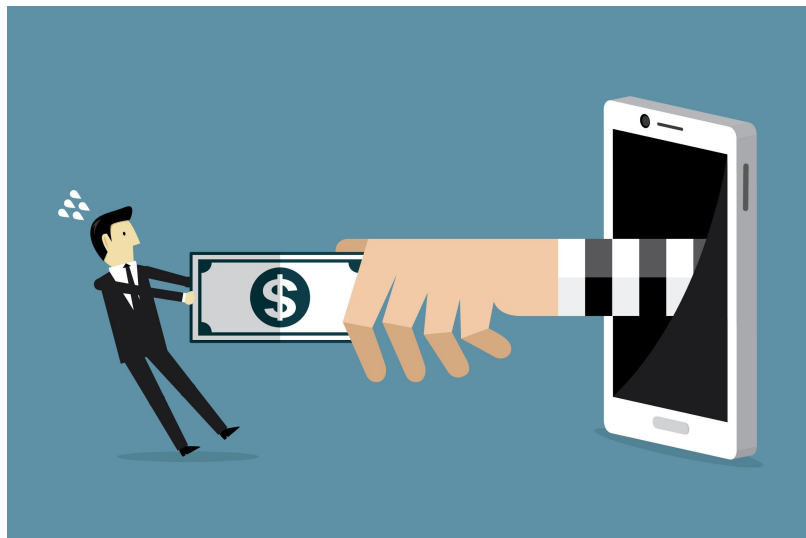


The FCC's Focus on eliminating originating illegal robocalls.



Your Voice Service Provider Network





But you want to help your customers stop getting called too!



Robocall Origination

Illegal robocalls from criminals through your network to the PSTN

Your Voice Service Provider Network



Robocall Termination

Nuisance robocalls to your users

Your Voice Service Provider Network



Key Tools for Robocall Mitigation

Prevent Origination

Know Your Customer (KYC)

Engineering - Call Policies, TNs

Industry Traceback

Reasonable Analytics

Contract / TOS Enforcement

Customer Type - Size, Location, Services offered

Prevent Termination

SHAKEN/STIR

Nuisance Calling Detection & Blocking





Preventing Origination of Illegal Robocalls





Goals for Protecting Customers

Deliverability

- Improves *network's* reputation in the Industry Traceback Group (ITG) and in the SHAKEN/STIR framework (FCC) improving call deliverability.
- Ensures your customers will not be unnecessarily blocked from making outbound calls by removal of your company from Robocall Mitigation Database.

Liability

- May relate to liability related to knowingly permitting illegal robocalls.

Reliability


- Ensure robocallers do not overload call processing capability





Know Your Customer



 DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
CINCINNATI OH 45999-0023

Date of this notice: 

Employer Identification Number:


Form: SS-4

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For assistance you may call us at:
1-800-829-4933

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WE ASSIGNED YOU AN EMPLOYER IDENTIFICATION NUMBER

Thank you for applying for an Employer Identification Number (EIN). We assigned you EIN . This EIN will identify you, your business accounts, tax returns, and documents, even if you have no employees. Please keep this notice in your permanent records.

When filing tax documents, payments, and related correspondence, it is very important that you use your EIN and complete name and address exactly as shown above. Any variation may cause a delay in processing, result in incorrect information in your account, or even cause you to be assigned more than one EIN. If the information is not correct as shown above, please make the correction using the attached tear off stub and return it to us.

A limited liability company (LLC) may file Form 8832, *Entity Classification Election*, and elect to be classified as an association taxable as a corporation. If the LLC is eligible to be treated as a corporation that meets certain tests and it will be electing S corporation status, it must timely file Form 2553, *Election by a Small Business Corporation*. The LLC will be treated as a corporation as of the effective date of the S corporation election and does not need to file Form 8832.

To obtain tax forms and publications, including those referenced in this notice, visit our Web site at www.irs.gov. If you do not have access to the Internet, call 1-800-829-3676 (TTY/TDD 1-800-829-4059) or visit your local IRS office.

IMPORTANT REMINDERS:

- Keep a copy of this notice in your permanent records. This notice is issued only one time and the IRS will not be able to generate a duplicate copy for you. You may give a copy of this document to anyone asking for proof of your EIN.
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- Refer to this EIN on your tax-related correspondence and documents.

If you have questions about your EIN, you can call us at the phone number or write to us at the address shown at the top of this notice. If you write, please tear off the stub at the bottom of this notice and send it along with your letter. If you do not need to write us, do not complete and return the stub.

Your name control associated with this EIN is CAME. You will need to provide this information, along with your EIN, if you file your returns electronically.

Thank you for your cooperation.



"Know Your Customer"

- The Problem:
 - Practically-anonymous parties can sign up for SIP termination and start routing calls
 - Service Providers who allow anonymous signup have no idea of the identity of the calling parties
 - Easy for scammers to find new service and start launching calls
- FCC: "We require that all originating voice service providers know their customers and exercise due diligence in ensuring that their services are not used to originate illegal traffic." ([FCC 20-187](#))



"Know Your Customer"

Many providers have offered SIP termination services with almost no verification of identity.

This allows illegal robocalling campaigns to sign up for services with a credit card, and immediately begin calling.



The screenshot shows a website interface with a navigation bar at the top containing links for 'Voice', 'Products', 'Network', 'Pricing', and 'Setup'. On the right side of the navigation bar are 'SIGN UP >' and 'LOGIN' buttons. The main content area features a map with several callout boxes: a red circle labeled 'DID Logic' with a building icon, a red circle labeled 'Local Carrier' with a building icon, and a green circle labeled 'Local Carrier' with a building icon. Below the map, the text reads: 'SIP termination' followed by 'Need a SIP trunk? We can immediately provision capacity and advise on best implementation practices. Basic accounts require a mere \$5 deposit for a fully functional SIP trunk.' At the bottom of the page, there are four circular icons with labels: 'Network' (server rack icon), 'Pricing' (number 1 icon), 'Setup' (link icon), and 'Quality' (headset icon).



"Know Your Customer"

"As part of the vetting process, each Voice Service Provider should collect information such as physical location, contact person(s), state or country of incorporation and, for commercial customers, federal tax ID and the nature of the customer's business." [\(ITG\)](#)



Industry Traceback Cooperation



INDUSTRY
TRACEBACK 
GROUP

Industry Traceback Group Participation

FCC requires Voice Service Providers to participate with traceback requests from the Industry Traceback Group.

Traceback requests come to each SP via ITG will come via email inviting access to the *Secure Traceback Portal*

[Read the ITG Policies and Procedures](#)



INDUSTRY
TRACEBACK
GROUP

POLICIES AND
PROCEDURES

JANUARY 2021



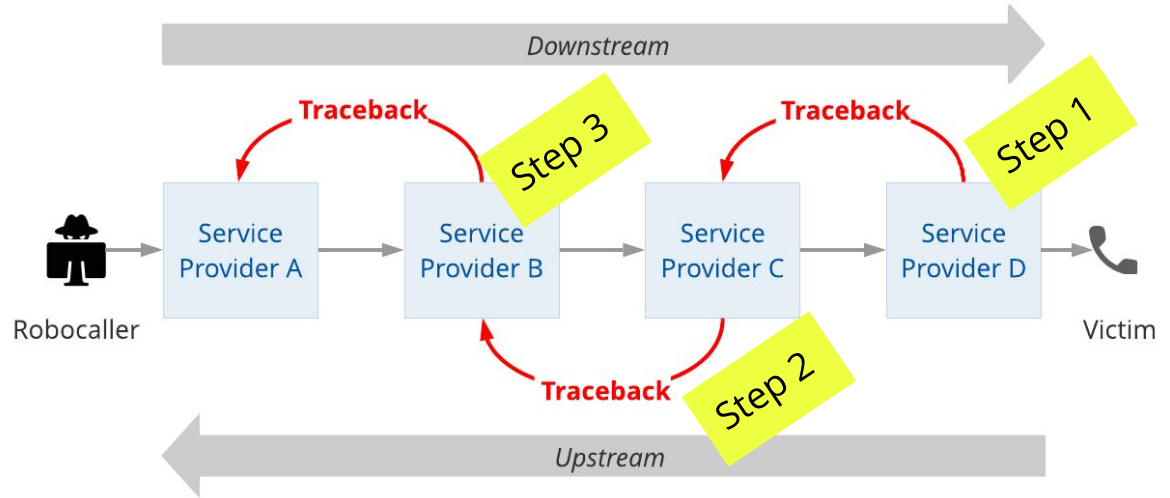
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TRACEBACK
GROUP

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Industry Traceback Group Participation

The terminating service provider (SP) (Service Provider D) initiates the complaint.

Each SP back toward the robocaller is emailed to check CDRs and add information to the case.



[Transnexus](#)





Industry Traceback Group Participation

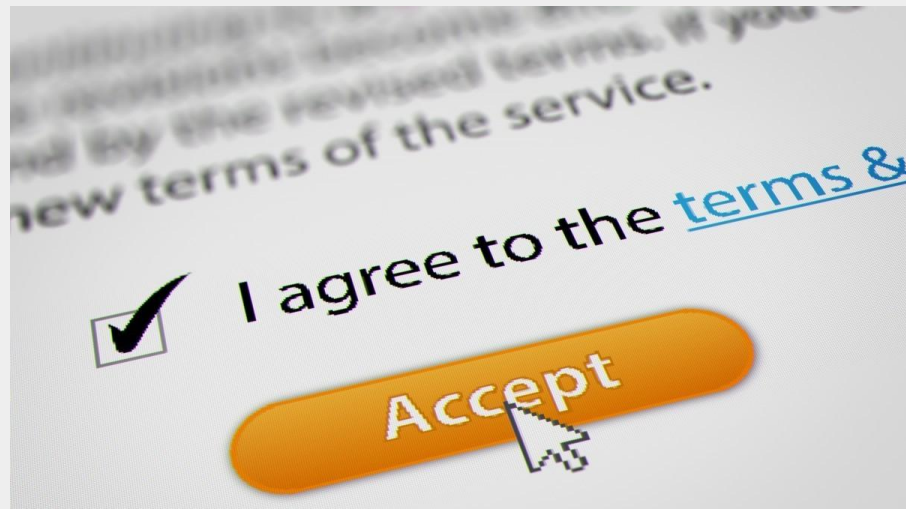
MINIMUM: Cooperate with ITG requests -- It's the law!

- Respond within 4 hours to the emails and provide the information
- Dedicate a Point of Contact: Name, Title, telephone number, & email
- Vet Identity of Customers
- Mitigate Traffic Source - stop accepting suspicious traffic
- Analyze high-volume voice network traffic
- Investigate robocalling-like calling patterns, *especially non-US originated traffic using US calling party numbers*
- Do not share information about traceback campaigns except via ITG or law enforcement.





Contract & Terms of Service Enforcement





Contract & Terms of Service Enforcement

- Contracts and Terms of Service Policies should forbid illegal robocalling and may limit other nuisance calling
- Enforcement requires actually *shutting down the traffic source*.

"To ensure that consumers, businesses, and Voice Service Providers are protected from illegal and potentially fraudulent actions, and consistent with contractual limitations and legal considerations, all Voice Service Providers should take appropriate steps to eliminate acceptance of Suspicious Traffic." [\(ITG\)](#)



Engineering To Fight Robocalling





Engineering To Fight Robocalling

Concurrent Calling Limits

- Each customer should know how many concurrent calls they need to place
- Customer Vetting: Talk to your customer about how many calls they should place concurrently!
- ***Limit customers' SIP trunks to the number of concurrent calls they can support***



Engineering To Fight Robocalling

Call Rate Limits

- SIP trunking customers should know how many calls they place
- Example: If customer has up to 100 concurrent calls, and average call duration is 60 seconds, then the customer needs
 $100/60=1.67$ calls per second capacity [CPS]
- Robocalling / Autodialers have much higher CPS requirements
- ***Limit every SIP trunk customer's CPS rate***



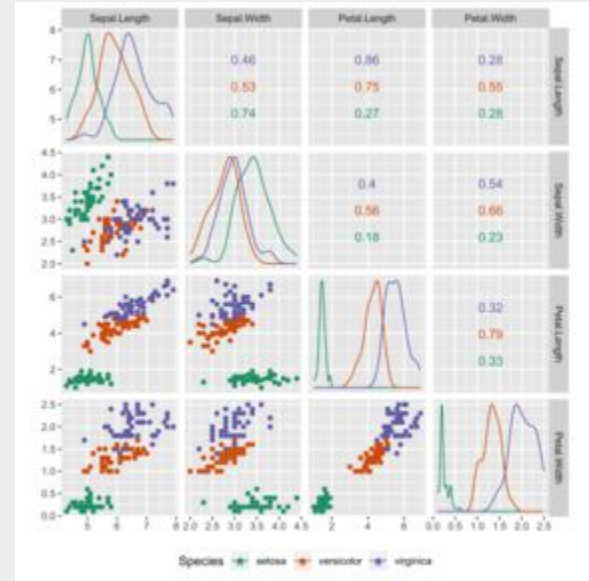
Engineering To Fight Robocalling

Calling Party Telephone Numbers - Screen/Unscreened TN's

- SIP trunking customers must PROVE they have the right to place calls from other numbers
- Collect evidence for each of the numbers they wish to use. *Each SP must adopt their own policies here!*
 - Legal Letter of Authorization
 - LNP Port-In
- **Through Call Processing Policies, Block the ability to place calls from unscreened numbers**
- Call Forwarding / Redirection / Diversion may need special handling

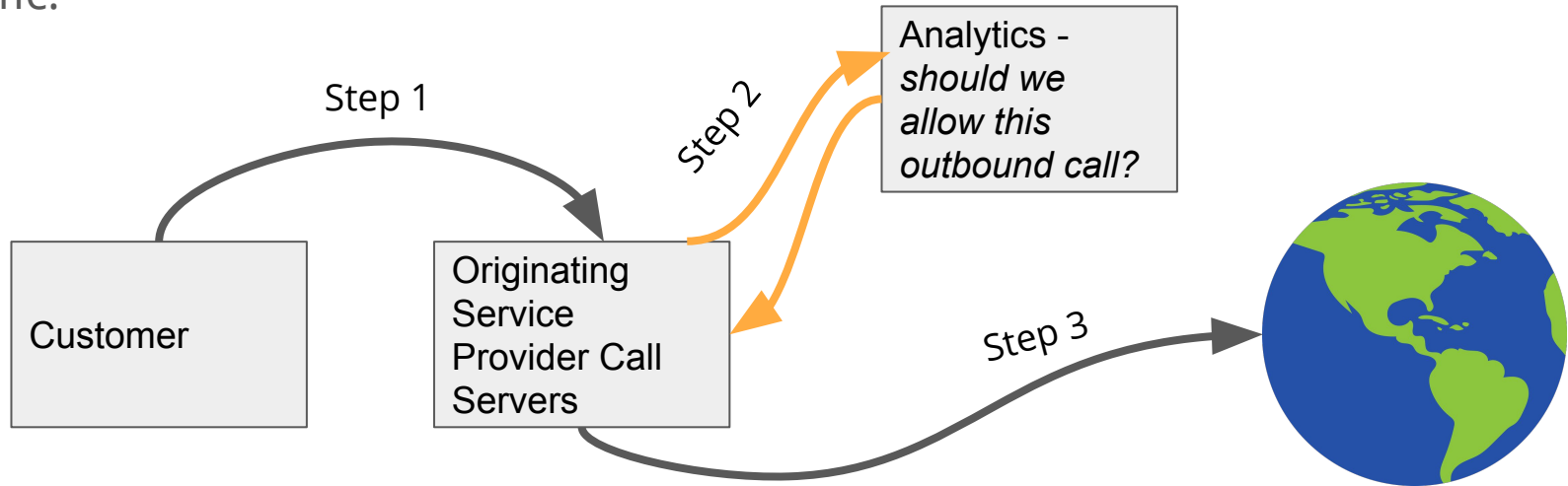


Reasonable Analytics



Reasonable Analytics

Voice Service Providers can analyze outbound calls and potentially block traffic.





Reasonable Analytics

FCC provides *Safe Harbor* allowing blocking non-emergency calls automatically based on "Reasonable Analytics" ([FCC](#))

Large burst of calls in a short timeframe

Invalid numbers placing a large volume of calls

Sequential Dialing patterns

Correlation of network data with data from regulators, consumers, or other carriers

Low average call duration

Common Caller ID Name (CNAM) values across voice service providers

Number Spoofing Patterns

Comparison of Dialed Numbers to the Do Not Call Registry

Low call completion rates

Large volume of complaints related to a suspect line

Patterns that indicate TCPA or other contract violations

and other possible methods...





Reasonable Analytics

Numerous vendors to consider in this space!



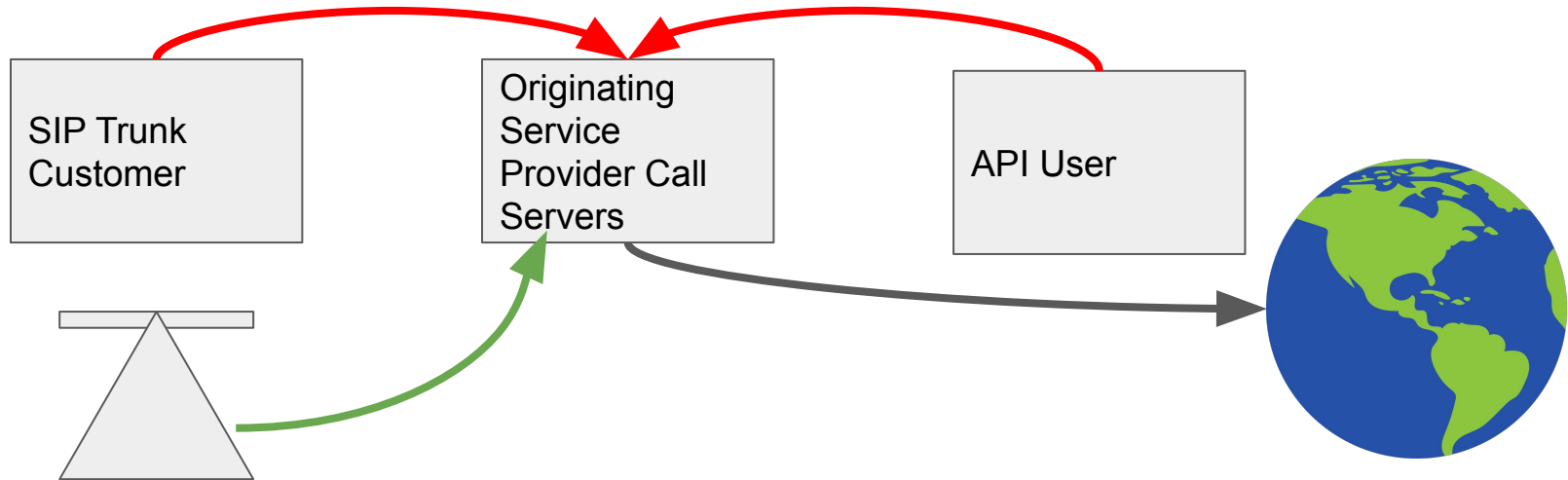


Customer Type



Customer Type

SIP Trunks and API subscribers are substantially more likely to generate robocalls.



SIP Registering Users



Customer Type

- SIP Trunking [HIGH RISK]

- Typical Point of Entry (POE) for Robocalls
- Customer sends SIP messages from a static IP address to establish new calls
- High rate of calls, and many concurrent calls allowed
- ***Often gives the ability to manipulate the outgoing caller ID***
- Originating Service Provider receives calls from the customer's SIP device

- API (CPaaS Users) [HIGH RISK]

- The Next Frontier
- Innovative option that robocallers can use to generate outbound calls
- Software uses APIs to establish new calls without use of SIP

- SIP Endpoint Users - UCaaS, ATA Users, Residential Users [LOW RISK]

- Only 1-2 calls per endpoint are allowed
- No ability to manipulate outbound caller ID





Preventing Termination of Illegal Robocalls





Goals for Protecting Customers

Block Scams and Nuisance Calls

- Prevent nuisance calls, scams, illegal robocalls, etc., from even reaching your customers in the first place

Trustworthy Caller ID

- Give your customers confidence in the Caller ID information they receive on their phones





SHAKEN/STIR

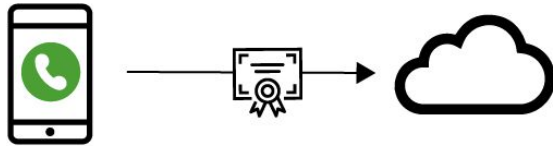


SHAKEN/STIR

All Voice Service Providers must implement SHAKEN/STIR by June, 2023

The Originating Service Provider adds a certificate attesting to the right of the caller to place the call

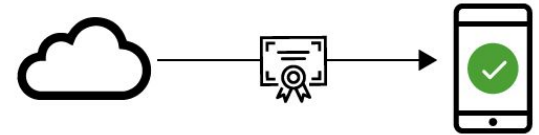
1. When a call is placed, a digital certificate is included with information about the caller's carrier and phone number.



2. The recipient's carrier inspects the call to make sure the certificate is present and valid.



3. If the certificate passes the inspection, the call is marked 'verified' on the recipient's phone.





SHAKEN/STIR

- Initial data from SHAKEN/STIR has very low value because of such partial deployments, interoperability problems
 - Example: Many of the largest Voice Service Providers aren't exchanging SHAKEN/STIR attestation data
 - Disagreement on encoding of telephone numbers (+12293160013 vs. 12293160013 vs. 2293160013)
- Ultimately this is expected to be a good input to Analytics



Nuisance Calling Detection & Blocking



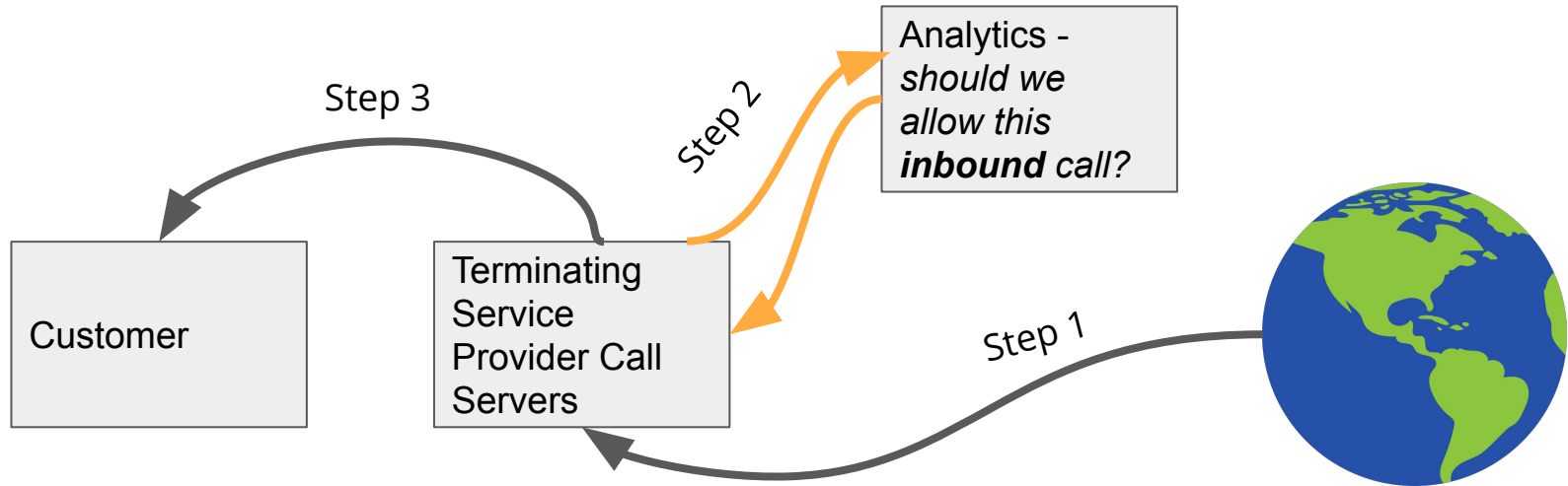
Nuisance Calling Detection & Blocking

- **Your customers *really* feel this service when it's applied!**
 - Allows them to know when a call is likely to be unwanted or suspicious
 - Or, blocks the nuisance/suspicious calls automatically
- Service Providers can add customers to call blocking for nuisance calls
- "Reasonable analytics" can be used to determine which calls to block or label ([FCC](#))



Nuisance Calling Detection & Blocking

You can block the termination of this call based on analytics.



Nuisance Calling Detection & Blocking

Blocking inbound nuisance calls has the largest immediate effect on protecting your customers day-to-day.

Some service providers are combining multiple technologies, e.g.,

- **Youmail** for blocking based on history of call recordings
- **TNS** for blocking scams based on calls placed, even if unanswered



Sorry, you can't charge for it as a line item on the bill ([FCC](#))



Summary of Protections to Voice Users

1. Deliverability - Ensure all their outbound calls are delivered
2. Ensure the network is not overloaded
3. Block incoming nuisance and scam calls
4. Provide trustworthy caller ID





Thank You!

Get these slides later at <https://ecg.co/webinars/>

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