Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	WC Docket No. 17-97
Call Authentication Trust Anchor	)	
	)	

WRITTEN EX PARTE of ZipDX LLC
RE PETITION FOR PARTIAL RECONSIDERATION BY CTIA/VON (DA 21-12)

David Frankel
dfrankel@zipdx.com
17554 Via Sereno
Monte Sereno, CA 95030
Tel: 800-372-6535

/s/ David Frankel

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We submit the attached document in the hope that it will be constructive in moving forward on implementation of the Second Order.

We show that legitimate foreign traffic need not be impeded by the Order. US providers can originate these calls on behalf of a foreign source not in the Database as long as the US provider takes reasonable steps (per its Robocall Mitigation Program) to ensure that illegal calls are largely excluded.

Our focus is on auto-dialed calls (what the industry calls dialer traffic). The legitimate situations where auto-dialed calls would come from foreign sources using USA telephone numbers are so limited that they must be segregated and treated explicitly. This is the most effective and efficient way to stop the overwhelming barrage of ILLEGAL calls that today follow parallel routes.

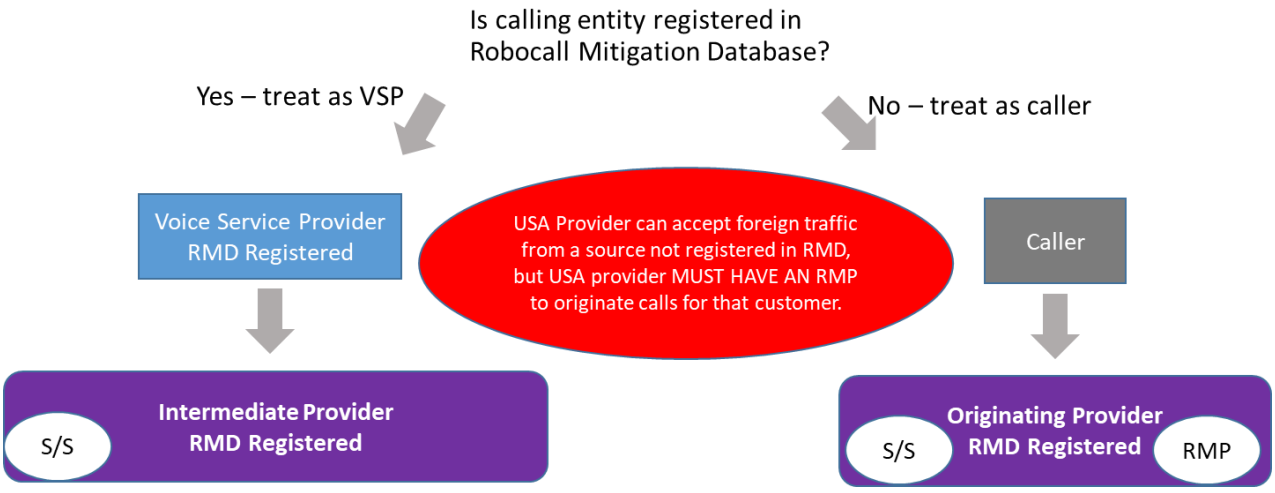
This is consistent with the record that resulted in the Order as written.

Robocall Mitigation for Foreign Callers
2nd Report & Order Compliance
ZipDX Draft Recommendation 11-March 2021

SUMMARY

The Order requires foreign providers sending calls to USA with USA numbers to register in the new Robocall Mitigation Database. USA intermediate (gateway) providers will not be permitted to accept calls from unregistered upstream providers.

The approach outlined below positions the USA provider as an Originating (as opposed to Transit) Gateway, treating the foreign upstream as an end-user caller. RMD registration is mandated by §64.6305(c) of the Order when the upstream is a Voice Service Provider. If the USA provider is instead originating the calls, then the other sections of §64.6305 apply. In particular, per paragraph (a)(2), the USA provider must implement a robocall mitigation program that *shall include reasonable steps to avoid originating illegal robocall traffic.*

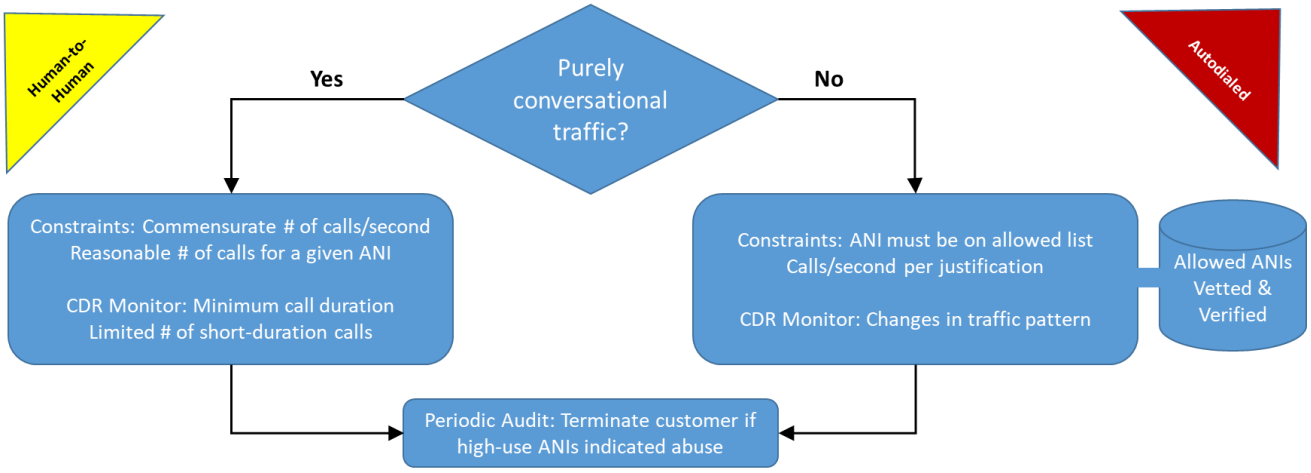


We believe that such a program can be practically implemented, and the objectives of the Order achieved, as long as the USA provider and its customer(s) appropriately distinguish between conversational traffic and auto-dialed traffic. Through a combination of real-time constraints, routine call-detail monitoring, and contractual terms, the USA provider would ensure on a customer-by-customer basis, with respect to calls originated with NANP USA numbers:

- For a customer sending only conversational traffic, that the calling rate (calls-per-second) and call duration profile (number of short calls) is in line with that expected of human-dialed calls.
- For a customer sending only auto-dialed traffic, that the nature of the calling program is vetted and confirmed compliant with USA regulations; that the caller-ID values used are predetermined and validated as belonging to or used with permission by the caller; and that the calling numbers are periodically monitored for compliant answer behavior.
- For a customer sending both types of traffic, that the traffic is segregated and each flow treated per the above.

In addition, as with any robocall mitigation program, all customers would be subject to appropriate know-your-customer requirements.

Per §64.6305(b)(2)(ii), a USA provider adopting this approach will, as part of its RMD certification, articulate *the specific reasonable steps the voice service provider has taken to avoid originating illegal robocall traffic as part of its robocall mitigation program*, which we suggest would be along the lines we detail in our sample below.



The Order says, at § 64.6305(c), that "providers shall only accept calls directly from a voice service provider" that has registered in the RMD. We suggest clarifying that to "only ~~accept~~ *transit* calls."

BACKGROUND

The telephone was conceived to facilitate one individual initiating a connection to another. The human element required to physically dial the telephone (or, originally, connect via an operator), wait for an answer, and then engage in a conversation naturally paced the rate at which calls could be made. Mass dialing (robocalling) came about when computer-based dialing was introduced. Computers can dial at a virtually unlimited rate, wait for a caller to answer, potentially distinguish between an answering system versus a live target, optionally play an automated message and interact with the called party, and then perhaps connect to a live agent at the calling end. This greatly reduces the human time (and thus number of humans) required to make large numbers of calls.

The distinction between conversational calling and auto-dialing is well-established in the telecommunications industry. We give a more detailed history in a section below. Suffice it to say here that voice service providers routinely restrict auto-dialing, largely because it has distinct technical and economic characteristics. If they accept it at all, providers usually require that it be carried over specific routes and charge higher per-minute rates. They impose penalties for sending auto-dialed calls over conversational routes.

This historical treatment of auto-dialed calls is advantageous when it comes to robocall mitigation, as the vast majority of robocalls are auto-dialed (almost by definition). When a call source (be it an end-user caller or a service provider) is sending auto-dialed traffic, it raises a flag saying extra scrutiny is required. Specifically, given the risks associated with this kind of calling, two areas need attention:

- Who are you and what are you doing? If a caller wants the ability to mass-dial, they need to be fully vetted before getting that kind of access to the network. It must not be granted to an anonymous or aloof entity. There must be full disclosure of who the caller is, and the precise nature of their calling.
- What telephone numbers are you using? Unlike conversational calling, where A calls B, then C calls D, and so forth, a compliant auto-dialer will always be calling from a finite set of numbers. There is no justification for such dialing to come from random caller-ID's. Legal auto-dialing (especially from overseas using USA phone numbers) is such a special case that it warrants whatever effort is required to ensure that the calls are legitimate.

By strictly segregating conversational and auto-dialed traffic, the robocalling scourge is much more readily addressed and burdens fall where they must. Auto-dialed traffic must be treated like the special case that it is (and the degree to which the capability has been, and continues to be, abused). Conversational traffic can be less-heavily restricted but must be policed to ensure it is not polluted with auto-dialed calls.

To date, while almost all providers acknowledge the distinction between the two traffic types, some have not been rigorous in enforcing their contract terms or otherwise segregating the traffic. Those that wish to continue to carry auto-dialed calls will need to meet a new, higher bar.

The approach here inherently discourages auto-dialed traffic from taking many hops to reach the destination, because each provider in the call path has the burden outlined above. But this is a desirable outcome for virtually all parties. Legitimate calls are less likely to get blocked; downstream providers have better visibility to call sources; intermediaries that do not add any real value are eliminated; and network efficiency improves.

SAMPLE MITIGATION PROGRAM DETAILS

As explained earlier, key to a successful robocall mitigation program is the separation of conversational and auto-dialed traffic. The FCC's Order does not specify exactly how an RMP must behave. We do not intend for the FCC to incorporate prescriptive rules into their regulation. Rather, we offer this to show that there ARE means by which illegal calls can be mitigated, and to provide a starting point for others that want to engage in constructive dialogue about such methodologies.

Below is a sample program which can be adapted as appropriate for a given provider's (and their customer's) specific situation. This example is tailored specifically to a FOREIGN customer.

Having established with a given customer which traffic type applies, a provider's RMP will operate as shown in the chart below.

A provider preparing to implement an RMP can start the monitoring phase immediately, particularly to find auto-dialed traffic traveling via conversational routes. The provider can then work with the source to eliminate or segregate the auto-dialed traffic. If started now, the provider and its customers will have 6 months to resolve before the regulations become effective.

Parameter	Conversational	Auto-Dialed
Know Your Customer		
Identification	Business name & address, business registration, names and locations of officers/owners; no anonymous sign-ups or test accounts	
Contact Information	Email addresses (not gmail, proton, outlook, etc.); verified contact phone numbers	
Traffic Description	Credible (e.g., roamer support, remote office of US company; ex pat individual service)	Nature (e.g., debt collection, technical support); name & contact for US sponsor(s). If consent required, cannot be purely web-based.
Web Site	Complete and consistent with the above	
Payment Method	Consistent with the above	
Caller-ID Values		Explicitly listed and verified as assigned to the customer or used with the permission of assignee
Traceback History	Obtain customer consent and verify traceback history with ITG	
Constraints (enforced as each call is placed)		
Calls Per Minute	Set per historical usage and expectations based on traffic source	Set according to parameters specified for calling campaign
Caller-ID	Must be valid. If not USA, must be E.164 compliant and properly formatted.	Must be on Allow list with numbers verified in KYC above
Over-Used Caller-ID	Alarm on excessive calling (e.g., SIM box used to place auto-dialed calls)	
Monitoring (all US Caller-IDs analyzed nightly on a per-customer basis)		
Average Call Duration	> 120 seconds	Consistent with customer's documented auto-dialing program
% Calls < 30 Seconds	< 15%	
% Calls < 60 Seconds	< 50%	
Most-Used Caller-IDs	Not listed in analytics or FTC complaint databases	
Traceback	Alarm if traceback indicates illegal traffic from customer	
Contract		
Info Release	Customer agrees that Provider can share customer details with industry stakeholders upon discovery of illegal calling	
Traceback	Customer agrees to fully respond to traceback requests.	
No US Source	Traffic cannot originate in USA and be hair-pinned via foreign operator.	
Investigation & Termination		
1st Alarm	Immediately investigate with customer; terminate customer & notify industry if not satisfactorily resolved in 72 hours	
2nd Alarm	If within 60 days of prior alarm, terminate customer and notify industry. (Preclude on-going "sorry, we fixed it" excuses.)	

AUTO-DIALER HISTORY

As noted above, auto-dialers were originally invented to allow human call center agents to be more productive by getting a computer to do the more repetitive chores associated with outbound calling. Auto-dialing is performed by variously-named systems, including predictive dialers, dialer platforms, automated telephone dialing systems (ATDS), message delivery platforms and similar. Current regulations have a specific, disputed definition of ATDS. Regardless of the nomenclature, the distinction we make here is between machine-dialed calls versus those that follows the historical one-to-one,

human initiated version. Illegal robocalls are almost always auto-dialed, and there are also legitimate use cases for auto-dialed calls.

Examining just a single call, it is difficult if not impossible to know if it was human- or auto-dialed. But a collection of auto-dialed calls, whether legitimate or illegal, will have a distinguishing set of characteristics.

The "duration" of a call is the time between when it is answered and when it is disconnected. Typical "conversational" telephone traffic (two humans talking back and forth to each other) has an average conversation time (also called average call duration or ACD) of a few minutes. Traffic dominated by short call durations is indicative of automated calling.

In most cases, providers measure call duration in increments of six seconds, with times rounded up to the next 6 second mark.

When a CDR shows a call with ZERO duration, it means the call was never answered. This can result from a variety of different conditions:

- The called number is invalid
- The call was rejected by a downstream provider before reaching the destination; this can happen if a provider does not have a contractually available and profitable path to follow, perhaps due to congestion or changing pricing
- The call was blocked by a robocall analytics application
- The calling party disconnected (abandoned) the call before it was answered (either before or after it started ringing) – this is common for "ringless voicemail" delivery systems which place two simultaneous calls to the same number, with the first active only long enough to cause the second to route to voicemail
- The called party was busy (less likely because most people have call waiting and/or voicemail features that reduce the frequency of busy signals)

It may be possible to distinguish among at least some of the above conditions if the CDR contains a REASON or CAUSE CODE indicating why the call did not complete.

A call duration of 6 seconds (meaning that the call was answered but lasted 6 seconds or less) often results from:

- The auto-dialer automatically detecting that it has reached voicemail and choosing to disconnect rather than leaving a message
- The auto-dialer intended to transfer the call to a live operator once the call was answered (termed "predictive dialing") but no live operator was available
- The called party recognizing an unwanted recorded message (or live pitch) and hanging up

Calls 12 seconds or longer, but typically shorter than a minute, result from:

- The called party recognizing an unwanted recorded message (or live pitch) and hanging up

- The called party staying on the line long enough to give a “do not call me again” response
- The auto-dialer depositing a message into voicemail

The CDRs MAY indicate which end (called or calling party) terminated the call, giving a clue regarding which of the above condition(s) might apply.

With this understanding of call durations, a service provider can analyze a given customer’s traffic to discern the likely degree to which it contains auto-dialed calls.

For decades, the economics for telephone service providers have been driven by minutes-of-use (MOU) – the cumulative amount of time calls are connected. Today, when telephone providers engage with business or wholesale customers, the fees are driven almost entirely by MOU. Only at the retail level are there “unlimited” plans, and even those are constrained by acceptable-use and/or reasonable-use policies.

Segregating the traffic types is not a new concept in the industry; it goes back perhaps twenty years. Providers have developed different rates and metrics for the two – conversational traffic generally has lower rates but carries restrictions to deter automated calling. Dialer decks (also called call-center, high-velocity, and high CPS) are more expensive on a per-minute basis because the calls are more problematic both technically and because they are often unwanted by recipients and thus generate complaints which are costly to investigate and resolve.

Thus, the industry treats the two traffic types differently with respect to marketing, pricing, routing and monitoring. To discourage callers from sending auto-dialed traffic over routes priced at conversational rates, providers usually impose surcharges on those routes based on ASR, ACD and short-duration calling ratios.

For reference, below are excerpts of wholesale contract language intended to discourage short-duration calling (some contracts containing these terms are over a decade old):

Provider A: *If more than 20% of completed calls are equal to or less than 6 seconds in length (a "Short Duration Call"), or if more than 35% of total call attempts do not complete during any given month per trunk group during any billing cycle (the "Incomplete Call Threshold"), then Provider may bill a $0.015 surcharge for (i) each Short Duration Call or (ii) incomplete call above the Incomplete Call Threshold.*

Provider B: *“Average Call Duration” (or “ACD”) means the average call duration, as calculated with respect to all Customer’s completed calls in an applicable billing cycle.*
“Short Duration Call” means any outbound call of a duration of less than or equal to six (6) seconds.
** If, during any billing cycle, 15% or more of Customer’s completed calls are Short Duration Calls, Provider reserves the right to charge, and Customer will pay, a surcharge per Short Duration Call as described above.*
*** If more than 30% of total call attempts are Abandoned Calls during any applicable calendar month, Provider reserves the right to charge, and Customer will pay, the Abandoned Call Surcharge with respect to those Abandoned Calls in excess of such threshold. The percentage of Abandoned Calls is determined by dividing the total number of Abandoned Calls by the total number of call attempts.*
**** If the Average Call Duration during any applicable billing cycle is less than ninety (90) seconds, Provider reserves the right to charge, and Customer will pay, an ACD Surcharge equal to (i) (x) the*

number of minutes Customer would have used if the Average Call Duration would have equaled ninety (90) seconds with respect to the number of calls actually completed, minus (y) the number of minutes Customer actually used with respect to the calls actually completed, multiplied by (ii) the ACD Surcharge. (For example, if Customer's Average Call Duration during a billing cycle is sixty (60) seconds, Customer completed 1,000,000 calls during the billing cycle and the ACD Surcharge per applicable minute is $0.01, the aggregate ACD Surcharge would be $5,000.00, calculated as follows: (90 seconds x 1,000,000) – (60 seconds x 1,000,000) = 500,000 minutes x $0.01 per minute.)

Provider C: *The Domestic Service rates in Exhibit XX are for full minutes and are billed in six-second increments. If ten percent or more of Customer's completed calls during any Billing Cycle constitute calls under six seconds in length ("Short Duration Calls"), Provider may charge each Short Duration Call during such Billing Cycle (including those Short Duration Calls under the ten percent threshold) an additional $.01 surcharge per call.*

In the monitoring metrics shown in the previous chart, we do not use the six-second definition of short-duration that you see in the examples immediately above. This is because automated calling has evolved, and it is easy to "cheat" by artificially extending a call to evade the six-second threshold.

We have also omitted monitoring of incomplete or abandoned calls. This can be technically challenging (some providers do not retain records of unanswered calls) and it is likely that abusive callers that have large numbers of unanswered calls will fail other metrics as well.

OTHER CONSIDERATIONS

No solution to a problem of this magnitude is perfect. RMP's will necessarily have to evolve with experience and as nefarious callers adapt.

The approach described here is focused on calls using NANP USA caller-IDs. Nefarious calls with foreign caller-IDs are clearly problematic and while easier to flag and deflect at the terminating end, ultimately should be stopped at the source.

Fraud is often perpetrated via non-auto-dialed calls (e.g., via social engineering) and our program does little to address that. These nefarious calls are already made via prepaid mobile plans purchased anonymously, which will need to be addressed via other means and is not strictly "robocalling."

Providers will complain that this and similar approaches will cause them to incur additional expenses and will result in loss of revenue. This is expected. Illegal robocallers today pay for access to the network, and this revenue will necessarily disappear. Expenditures to ensure that illegal robocalling is minimized are now a cost of doing business and are justified given the scope and impact of the problem.