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VIA ECFS

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Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-A325
Washington, D.C. 20554

Re: GN Docket No. 13-5

Dear Ms. Dortch:

InCharge Systems (“ICS”) hereby submits these comments in response to the above referenced proceedings and to certain comments made to them.

1. Spoofing Caller ID

The Commission’s Technology Transitions Policy Task Force (TTPTF) has sought and received comments on a broad array of issues in this proceeding as we continue the ongoing transition from TDM to IP, and it proposes to move forward with real world trials to obtain data that will be helpful to the Commission.

Chief amongst them, and a recurring theme across the three proposed trials and potential additional trials, is the desire to “gather data to determine whether there are technical issues that need to be addressed.”¹ Further, “several commenters have urged the Commission to initiate a trial for VoIP interconnection to ensure that technical and process issues are understood and resolved.”²

ICS would like to make one overarching point. Of all the potential technical issues and unknowns that may bubble to the surface in these proposed trials, one issue is known before they even start – spoofing of Caller IDs. Not only is this issue widely known, it is fairly well scoped out as there have been many years of failed attempts in multiple venues to resolve the problem. Despite the effort put forth to develop and employ a viable solution, the ability to spoof caller ID is causing more problems, is every bit as prevalent now as it has ever been, and for a number of reasons, will likely be getting worse.

As ICS noted in our earlier 13-5 comments,³ the result of the lack of a mechanism to validate phone numbers is the basis for numerous threats to include not only robocalling, swatting, and

¹ http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0510/DA-13-1016A1.pdf, p. 2.

² http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0510/DA-13-1016A1.pdf, p. 3.

³ Filing by InCharge Systems, Inc. in 13-5 on 07/03/2013, <http://apps.fcc.gov/ecfs/document/view?id=7520927869>.

vishing, but arguably is a contributing factor to intercarrier compensation fraud and attendant arbitrage games. As the CTO of the FCC just said last week at IETF 87 in Berlin, the aforementioned lack of validation is the main cause of phone-related criminality and nuisance: “Number spoofing is [the] root of (almost) all phone evil.”⁴

2. Databases

The TTPTF has sought comment on potential additional trials on numbering issues and related databases. They said, despite the recently authorized 6-month trial providing interconnected VoIP providers direct access to numbers, that trial would not specifically examine changes in the structure of current numbering databases.⁵ ICS agrees and believes this proceeding does indeed offer an opportunity to “take a fresh look at the features, capabilities, and security of numbering-related databases.”⁶

To the point, the Commission asks this: “Should there be a trial database that provides access to number-related information such as caller-ID information?”⁷ ICS said yes with our original comments and we say yes again. Surprisingly, ICS appears to be the only commenter to emphasize the need for an authoritative database containing validation references for phone numbers or to suggest starting a signing and validation trial now.

There were many comments on trial databases in general to include AT&T, Neustar, iconectiv, ATIS and others. Most comments suggested attempting to leverage existing infrastructure in some fashion or, as iconectiv stated, “modify existing processes and interfaces.”⁸

ICS generally agrees with these comments given the SS7 will be with us for some time to come. Neustar offered to lend its database resources and expertise to any trials.⁹ Telcordia / iconectiv did the same with the LERG and BIRDS databases and also mentioned ENUM.¹⁰ AT&T introduced JIT, a new database designed primarily as a means to test new technical proposals for assigning telephone numbers individually and supporting number portability amongst carriers.¹¹

3. Routing versus Origination

Indeed, as footnoted in 13-5, “in order to move to IP interconnection, there must be a database that associates IP routing information with telephone numbers.”¹² To that end, there is much effort being put forth around “finding one another’s customers efficiently,” as AT&T points out in their comments.¹³ In fact, AT&T states that an expanding number of providers, including

⁴ STIR Problem Statement, <http://www.ietf.org/proceedings/87/slides/slides-87-stir-3.pptx>, slide 23.

⁵ http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0510/DA-13-1016A1.pdf, p. 10.

⁶ Ibid.

⁷ http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0510/DA-13-1016A1.pdf, p. 10-11.

⁸ <http://apps.fcc.gov/ecfs/document/view.action?id=7520928893>, p. 7.

⁹ <http://apps.fcc.gov/ecfs/document/view?id=7520931989>, p. 22.

¹⁰ <http://apps.fcc.gov/ecfs/document/view?id=7520931930>, p. 7.

¹¹ <http://apps.fcc.gov/ecfs/document/view?id=7520931909>, p. 26.

¹² http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0510/DA-13-1016A1.pdf, p. 10, note 40.

¹³ <http://apps.fcc.gov/ecfs/document/view.action?id=7520928958>, p. 25.

ILECs, CLECs, cable companies, and wireless providers will be initiating a trial later this year on this very topic.¹⁴

Said simply, ICS notes that the majority of database comments dealt with issues related to accurate call routing, local-number-portability (LNP) and billing. ICS believes a complimentary amount of energy needs to be put forth in not just “finding customers”, but validating their origin as well. ICS, in conjunction with our business partners, may be the only commenter focused solely on trusted and verifiable origination and was the only commenter to suggest a signing and validation trial.

In a related proceeding, WC Docket No. 13-97, the Commission sought comment on “how numbering schemes and databases integral to the operations of PSTN call routing will need to evolve to operate well in IP-based networks.”¹⁵ Possibly of note, Comcast suggested an interim transitional period approach whereby parties would agree on the information contained in the SIP header for calls that are exchanged in IP, but ultimately terminated in TDM.¹⁶ While ICS understands this approach is of very limited duration, many years have been spent trying to achieve some level of standardization in the SIP ecosystem and to easily transmit enforceable tokens for verifiable phone numbers end to end. In fact, the IETF is revisiting this issue and is chartering a new working group, Secure Telephone Identity Revisited (STIR), in another effort to solve the problem.¹⁷

To return to 13-5, the NTCA said this: “For example, there may be technical needs to achieve scale through improved industry-wide databases and enhanced systems that are not yet being implemented today, as instead carriers and service providers in bilateral arrangements use cobbled-together, non-scalable means to achieve IP interconnection.”¹⁸

Hypercube simply says this, “there are still interoperability issues with the SIP RFC itself, and it first was published in March of 1999 and revised again in June of 2002,”¹⁹ suggesting that ongoing standardization issues could lead to even bigger problems.

Whatever the case may be, to include just aging switchgear, ICS believes an authoritative database of validatable phone numbers may be a necessary component of a total solution.

4. Timing

Once again, ICS argues that if a big technical issue is currently known, namely spoofing Caller ID, why not start trialing innovative solutions now? It was recently stated at IETF 87 that 95% of all calls make use of the PSTN.²⁰ ICS believes it will be many years before a majority of domestic calls are end to end IP and do not touch the PSTN at least once.

¹⁴ Ibid.

¹⁵ <http://apps.fcc.gov/ecfs/document/view.action?id=7022304844>, p. 49.

¹⁶ <http://apps.fcc.gov/ecfs/document/view.action?id=7520931967>, p. 11.

¹⁷ <http://datatracker.ietf.org/wg/stir/charter/>.

¹⁸ <http://apps.fcc.gov/ecfs/document/view.action?id=7520928889>, p. 10.

¹⁹ <http://apps.fcc.gov/ecfs/document/view.action?id=7022113628>, p. 14.

²⁰ <http://www.ietf.org/proceedings/87/minutes/minutes-87-stir>.

Of note in its final read out and summary of deliverables report on December 10, 2012, the Database and Identifiers working group within the FCC's Technical Advisory Committee suggested the FCC should initiate a proceeding allowing the assignment of NPAC resources to VoIP providers.²¹ The FCC acted on this input and as mentioned earlier, is proceeding with a trial.²²

However, on slide 58,²³ a longer-term objective was also mentioned regarding identifying issues and proposed solutions for security and anti-spoofing. ICS suggests this should not be a long term objective but rather is deserving of near term work.

In 13-5, the TTPTF said "We seek comment on the timing and duration of each trial." ICS suggests the timing of a potential additional trial on numbering issues and related databases is now, and that to proceed with a signing and validation trial addressing security and caller ID spoofing would certainly be in line with an ongoing stated, overarching goal of the Commission, namely promoting investment, innovation and competition while protecting consumers.

We are heartened by this comment from the ATIS Industry Numbering Committee when they say "...we welcome proposals to augment existing numbering databases or to create new numbering databases."²⁴

It is ICS's belief that an authoritative numbering dataset needs to be created, one that supports the ability to check the validity of originating phone numbers at any point in the call path. And while this dataset does not currently exist and needs to be created, it can be added to existing numbering and related databases.

Finally, in its 2011 report to Congress on Caller Identification Information in Successor or Replacement Technologies, the FCC mentioned for the terminating provider to be able to identify calls that had not been spoofed with a very high degree of certainty could be particularly valuable for law enforcement and public safety purposes.²⁵ Any signing and validation trial would need to confirm that these needs were being met. For that reason, ICS agrees with the DoD when they say that any authorized trial would need to be closely managed by and coordinated with DoD.²⁶

5. Conclusion

InCharge Systems believes the current proceeding offers the Commission a timely opportunity to begin to address issues related to spoofing Caller ID. Specifically, the TTPTF's public notice asks if there should be a trial database that provides access to number-related validation

²¹ <http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf>, slide 55.

²² <http://apps.fcc.gov/ecfs/document/view.action?id=7022304844>.

²³ <http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf>, slide 58.

²⁴ <https://prodnet.www.neca.org/publicationsdocs/wwwpdf/7813atis.pdf>, p. 12.

²⁵ FCC's Report to Congress, Caller Identification Information in Successor or Replacement Technologies, June 22, 2011, Par. 43, Par. 44, and Note 88, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-11-1089A1.pdf.

²⁶ <http://apps.fcc.gov/ecfs/document/view.action?id=7520928837>, p. 5.

information such as caller-ID information. ICS says yes and proposes that signing and validation related to phone numbers should be part of these trials.

ICS further believes such trials should identify and clarify potential regulatory and policy issues resulting from the use of signing and validation that directly impact calling end users, called end users, and network elements that perform the signing and validation functions.

As ICS proposed in our earlier comments, at a minimum, a single neutral entity should initially operate a database for proposed trials of signing and validation, the database should store the E.164 phone numbers to be used in the trials along with references to public certificates associated with those numbers, and that the database be Internet / web-accessible.

Thank you for considering our comments.

Respectfully submitted,

/s/ Michael D. Hamilton

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