Public Knowledge

December 6, 2013

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: GN Docket No. 12-353, Comment Sought on the Technological Transition of the Nation's Communications Infrastructure; GN Docket No. 13-5, Technology Transitions Policy Task Force

Dear Ms. Dortch:

On December 4, 2013, I spoke with Bob Cannon of the Office of Strategic Plans and Policies with regard to the above captioned proceeding.

I stated that management and integrity of the phone number system during the IP Transition is underappreciated as a challenge and requires significant testing. I illustrated the problem with a personal experience. When FIOS first deployed in my neighborhood, I switched from Cavalier Telephone to FIOS. Two problems occurred. First, my calls routed to the wrong exchange. After that problem was resolved, a second issue emerged. I could receive incoming calls from outside the neighborhood, but not from anyone serviced by the same central office. After several days, Verizon finally diagnosed the problem: calls coming into the central office were routed to the VOIP switch, calls from lines serviced by the same central office were routed to the TDM switch – and therefore did not reach me.

Needless to say, Verizon has now fixed the problem and I am sure they and AT&T have significant experience dealing with this and other odd situations that emerge. My point is that even if such problems occur rarely, they will occur. But whereas I was actively trying to move to FIOS and had a salesperson devoted to making my transfer a success, we are talking about the forced conversion of up to 100 million Americans and small businesses that would not otherwise be converting to IP. Even if such problems come up only rarely, they must be anticipated and addressed.

Phone Number And National Security

More importantly, we need to recognize that the IP system and the TDM system have different types of security vulnerabilities. The transition period represents a time of dramatically increased vulnerability because the systems combine vulnerabilities and create new vulnerabilities from unforeseen interactions.

This is particularly true for the management of phone numbers. Traditional POTS service uses what I call "access security" for the distribution of phone numbers. That is to say, phone numbers were only allocated to trusted entities licensed by their state government and the FCC. A valid phone number therefore is a "master password" to access the phone system. The

traditional phone network has no mechanism for determining whether a valid number actually belongs to the person making the call.

The IP universe eliminates the assumption that all apparently valid phone numbers can be traced back to a trusted entity. Not only has the chain of number ownership become attenuated through poorly tracked reallocation to non-LECs, but IP facilitates the forging of what appears to be a valid phone number.

I recommended that the Commission should explicitly seek comment on phone number security and stability, and that potential test programs should examine how conversion to an all IP environment impacts security of the number system.

Finally, I noted that our inability to adequately secure the phone number system if the transition is handled poorly may impact our international obligations under the ITRs and the NANP. In particular, the modification of the ITRs agreed to at WCIT-12 require member states "endeavour to ensure that international telecommunication numbering resources specified in ITU-T Recommendations are used only by the assignees and only for the purposes for which they were assigned; and that unassigned resources are not used." (Sec. 3.5) Although the United States is not a signatory to the new ITRs, and therefore will not be bound by its provisions, other members of the NANP, such as Mexico, are signatories. It would be useful for the FCC to seek comment on this issue.

In accordance with Section 1.1206(b) of the Commission's rules, this letter is being filed with your office. If you have any further questions, please contact me at (202) 861-0020.

Respectfully submitted,

/s/ Harold Feld
Senior Vice President
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cc: Bob Cannon