

**North American Numbering Council
Meeting Transcript
Friday, March 16, 2018 (Final)**

I. Time and Place of Meeting. The North American Numbering Council Meeting (NANC) held a meeting commencing at 9:30 a.m., at the Federal Communications Commission, 445 12th Street, S.W., Room TW-C305, Washington, D.C. 20554.

II. List of Attendees.

Voting Council Members:

- | | |
|-------------------------------|---|
| 1. Honorable Travis Kavulla | NANC Chairman (NARUC - MT) |
| 2. Diane Holland | NANC Vice Chair (USTelecom) |
| 3. Susan Gately | Ad Hoc Telecommunications Users
Committee |
| 4. Jacqueline Wohlgemuth | ATIS |
| 5. Jacquelyne Flemming | AT&T |
| 6. Greg Rogers | Bandwidth |
| 7. Betty Sanders | Charter Communications |
| 8. Beth Choroser | Comcast Corporation |
| 9. Courtney Neville | Competitive Carriers Association |
| 10. Benjamin Aron | CTIA |
| 11. Craig Lennon | Google |
| 12. Honorable Paul Kjellander | NARUC - ID |
| 13. Barry Hobbins | NASUCA |
| 14. M. Teresa Hopkins | Navajo Nation Telecommunications
Regulatory Commission |
| 15. Jerome Candelaria | NCTA |
| 16. Brian Ford | NTCA |
| 17. Julie Oost | Peerless Network |
| 18. Richard Shockey | SIP Forum |
| 19. Rosemary Leist | Sprint |
| 20. Paul Nejedlo | TDS Telecommunications |
| 21. David Casem | Telnyx |
| 22. Bridget Alexander White | USConnect |
| 23. Dana Crandall | Verizon |
| 24. Darren Krebs | Vonage |
| 25. Robert McCausland | West Telecom Services |
| 26. Prof. Henning Schulzrinne | |

Special Members (Non-voting):

- | | |
|------------------|-----------|
| 1. Ann Berkowitz | Somos |
| 2. Chris Drake | iconectiv |
| 3. Tom McGarry | Neustar |

Commission Employees:

Marilyn Jones, Designated Federal Officer (DFO)
Michelle Sclater, Alternate DFO
Kris Monteith, Chief, Wireline Competition Bureau (WCB)
Ann Stevens, Deputy Chief, Competition Policy Division (CPD), WCB
Heather Hendrickson, Asst. Division Chief, CPD, WCB
William Andrlle, Attorney Advisor, CPD, WCB
Alex Espinoza, Attorney Advisor, CPD, WCB
Darlene Bidy, Management Analyst, CPD, WCB
Myrva Charles, Contracting Officer Representative, CPD, WCB

III. Estimate of Public Attendance. Approximately 20 members of the public attended the meeting as observers.

IV. Documents Introduced.

- (1) Agenda
- (2) NANC Meeting Transcript - December 7, 2017
- (3) Call Authentication Trust Anchor (CATA) Issues Working Group (WG) Progress Report
- (4) Toll Free Number Assignment Modernization issues WG Progress Report
- (5) Nationwide Number Portability Issues WG Progress Report
- (6) North American Portability Management NAPM LLC Report to NANC
- (7) LNPA Transition Oversight Manager (TOM) Report to NANC

V. Table of Contents.

1. Welcome	3
2. Remarks by FCC Chairman Ajit Pai.....	3
3. Announcements & Recent News/ Approval of Transcript	7
4. Overview of NANC Working Group (WC) Conflicts of Interest	13
5. Status of the Call Authentication Trust Anchor (CATA) Issues.....	26
WG Recommendations	
6. Status of the Toll Free Number Modernization (TFNM) Issues	46
WG Recommendations	
7. Status of the Nationwide Number Portability (NNP) Issues	61
Working Group Recommendations	
8. Status of Numbering Administration Oversight (NAO) WG	66

9. Discussion of the North American Portability Management LLC.....	73
(NAPM LLC) Report	
10. Discussion of the Local Number Portability Administration (LNPA)	82
Transition Oversight Manager (TOM) Report	
11. Public Comments and Participation.....	98
13. Other Business	103

VI. Summary of the Meeting

WELCOME

Travis Kavulla: Okay. We'll call this meeting to order with a little public service announcement, which is that, the access key to the Wi-Fi, which I got because I took a photo of it at the check-in desk, is FCC823302. So, all of you that want to space out instead of listening to our important discussions about the numbering work group updates might be able to do that. One more time, that is FCC823302.

And our first agenda item are some remarks from the chairman. Hello, Chairman Pai, I'll turn it over to you.

Remarks by FCC Chairman Ajit Pai

Ajit Pai: Thank you to Chairman Kavulla for the kind introduction. I'm sure the Wi-Fi password is superfluous. You guys are going to be focusing on nothing other than numbering today. Nonetheless, we offer it as one of the many free services here at the FCC.

Many of you traveled from a long way to be here this morning, and I want to thank you for that. I also thank you for

your willingness to share your time and expertise serving on this important committee. This is a critical committee because numbering issues seem to pop up all over the place at the FCC. Since the last NANC meeting, as you might know, we have established the four working groups. We've appointed members to all of them: the Numbering Administration Oversight Working Group, Call Authentication Trust Anchor Working Group, the National Number Portability Working Group, and last but certainly not least, Toll Free Modernization. Thank you in advance as we start digging into all of these issues. The Nationwide Number Portability auctioning toll free numbers, call authentication, and of course numbering administration.

I just want to spend a couple of minutes this morning making a few comments on two particular areas. The first is the Call Authentication Trust Anchor Working Group, and the second is the LNPA transition. I don't know if you heard but we are undergoing a transition these days.

The first one, the Call Authentication Trust Anchor Working Group or the CATA, as the cool kids call it, has a critical role in solving the problem of unwanted telemarketing calls or robocalls. Robocalls continue to be the largest source of consumer complaints to the commission including from members of my own family. It has been the case for over a decade or so that the robocalls has been just vexing consumers across the

country. But we are committed to solving that problem. And that is where you come in as well. The CATA working group's efforts are laying essential groundwork for the technological systems that can verify calls and prevent malicious spoofing, adding trust and reliability in identifying wanted calls, and giving law enforcement the means to track down the scofflaws, which is not an easy task. Specifically, we have asked the CATA to provide a recommendation on the evaluation process for selecting a government authority or GA. The GA will be an important piece as we move toward call authentication in our efforts to stamp out these unwanted robocalls.

Now, the NANC's work is, of course, a part of a bigger effort here at the FCC to combat illegal robocalls. We've taken a number of steps over the past year which you can find on our website, of course. But we're also partnering with other agencies. Our sister agency, the Federal Trade Commission, for instance, is hosting along with us a joint policy forum focusing on the actions that the two of our agencies and others can and should take to fight illegal robocalls. That particular forum will be held here at the FCC on March 23rd.

The day before that, on March 22nd, the commission will consider an item that proposes and seeks comment on ways to address the problem of reassigned numbers. When a phone number is reassigned from one consumer to another, that person may

receive unwanted calls intended for the previous consumer. So we're going to be exploring ways to ensure that the legitimate businesses that want to contact the consumers who have previously given consent are able to figure out who actually owns the number they are trying to call.

The second topic I'd like to talk about briefly is the LNPA transition. The first stage of the transition, as you probably know, iconectiv successfully transitioned what are called Ancillary Services - the Enhanced Law Enforcement Platform, Wireless Do Not Call, and IVR Services on March 6th. And I understand that Kathy Timko might be here. Oh, hey, I just wanted to recognize you. She's the head of LNPA services at iconectiv and the project lead for this transition. I want to recognize her team for the successful work on that part, the transition on March 6th. Much more work to come of course but this is an important step forward, we think, toward a smooth transition. Speaking of which, the upcoming April 8th transition for the southeast region is right around the corner. And so, we look forward to all parties working together to ensure the successful and on time transition of this critical piece of infrastructure.

With that, I expect that I've probably outworn my welcome. So I will turn it back to the experts, namely you, led by your able and distinguished chair. I thank you for your attention

and again for your service on this important committee especially on a Friday morning.

Announcements & Recent News / Approval of Transcript

Travis Kavulla: Thank you, Chairman Pai, for joining us for a few minutes. We'll leap right into our business for the day. And those are announcements and some recent news. As you all have seen through the public notice, the Numbering Administration Oversight Working Group is now populated fully. We'll have a little bit of an update on that for you a little bit later.

Disseminated a couple days ago was the draft transcript of the previous meeting. Are there any corrections to that transcript? Do we need a motion to approve it or we just mark it approved?

Marilyn Jones: Yes, We can mark it approved.

Travis Kavulla: We can mark it approved, Marilyn tells me. So we will do that seeing that there is nothing else.

Ajit Pai: It's good to be chairman.

Travis Kavulla: I know right. Exactly, you just deem things approved where silence prevails.

Ajit Pai: I wish I knew how that felt.

Travis Kavulla: Exactly. Sometimes having more than five members lubricates the approval process. Excellent. Well, thank you for joining us, Chairman Pai.

And we'll turn now -- we've had a couple of issues that some of you, especially on CATA, are familiar about the conflict of interest policy here at the FCC, particularly as regards to selection of criteria of the GA and PA and how that might ultimately influence the selection. We wanted to be careful that people who are prospective vendors are participating appropriately in those conversations. This has been a subject of conversation on the CATA Work Group extensively. So you'll pardon us if what you're about to hear from the Office of General Counsel is a bit of Groundhog Day. But it probably behooves all of us as members of the NANC who will ultimately have to deliberate on this topic to be informed of the policy as it relates to that issue. So I'll ask Carla Conover if she is here.

Marilyn Jones: I know she's not scheduled until 9:55. We're ahead of schedule.

Travis Kavulla: We are already ahead of schedule. Just keep in mind those preliminary remarks and understand them as read when Carla's appropriate time comes.

I do have one item that's not on the agenda that I was planning on recognizing Rosemary for after the Office of General Counsel spoke. But Rosemary, I know you have something to address by way of appreciations that you didn't get around to the last time we met. So I'll recognize you now.

Rosemary Leist: Thank you, Mr. Chairman. This is Rosemary Leist with Sprint. During the last NANC meeting when it was announced the Billing and Collection Oversight Group known as the B&C Working Group, and the Numbering Oversight Working Group known as the NOWG would dismantle, I promised to write a proper thank you and farewell to all of the co-chairs who have served in these roles over the last 18 years. I had to dust off the cobwebs and I had a little help from Karen Riepenkroger to recall all of the co-chairs of the NOWG since the inception. But I think we were able to finalize a comprehensive list. In case I missed someone, I'm sorry.

So while the B&C Working Group was not without work, it was repetitive in nature. Due to the diligent work by Welch and Company, once the group got into a groove, it sailed very smoothly over the years. I'd like to thank Heather Bambrough for tireless work every single month and that commit for that particular contract. And especially during the contribution factor decision months where she had to go back time and time again and provide new contribution factors for us.

Also, Faith and Margo and Garth Steele just did such a fantastic job or still does in that role over the years. Mary Retka served on the board of directors for the Billing and Collection prior to the NANC taking it over as an oversight role. I couldn't remember how long ago that was, so suffice it

to say it was a long time ago. I have been a co-chair of that group since the inception of the group. I'd like to thank this moment to thank the other co-chairs who served with me. Paul LaGattuta then with AT&T, Jim Castagna with Verizon, Tim Decker with Verizon, Mary Retka was with CenturyLink at the time, and Phil Linse with CenturyLink. So I want to thank all those folks and just bring all of that to your attention.

The Numbering Oversight Working Group known as the NOWG is an entirely different story. While that agenda in part may have been repetitive in nature, the amount and the sheer volume of work that that committee took on and the people hours that it took on is extremely notable. The group, not just the co-chairs, volunteered late nights, weekends. They spent countless daytime hours accomplishing everything that they did over the years which was just amazing and great to be part of that team and great to watch. We used to bring the performance evaluation documents here to the NANC meeting before we went green. We used to bring those here in suitcases. There were so many papers and so much work that was done. We had to wheel those in because they were so heavy.

When the NANPA and the PA contracts were first put into place and the NOWG began their oversight role, like any other new process, it wasn't without challenges. Neustar and the NOWG worked together as a cohesive team to overcome each and every

obstacle. Neustar always went well and beyond the average commitment to make things work. In particular, John Manning and Amy Putnam, they lead teams driven with integrity and a mantra to do things exceptionally well. I personally know each person on their respective teams. And each of one of them operates with a standard of excellence that is second to none. The NOWG coined a phrase long ago that the NANPA and the PA functions are well-oiled machines. We have said that in this environment for - I don't know - more than ten years.

It has been a great honor to watch the NANC process work for these two groups. The whole contract oversight process worked so well with these groups. I know it will continue to work extremely well under the capable hands of those that you guys have picked to chair these roles.

So from year 2000, Karen Mulberry with WorldCom and Pat Caldwell with BellSouth served as chairs. Then Jim Castagna with Verizon, Paula Hustead with Windstream, Gwen Zahn with Verizon. I served as a chair for several years. Natalie McNamer then with T-Mobile served for six years. Laura Dalton with Verizon, she served since 2009 for nine years. And Karen Riepenkroger with Sprint is amazing, let me just say. She has served as co-chair since 2004, so for 14 years. All the co-chairs and members of the NOWG have been a solid rock to this

working group for numbering issues in general for all of us.
And we are so grateful.

I would also like to take a moment to thank Beth O'Donnell with Comcast. She wrote the NANC training manual with me. It was super useful back in the day. It's pretty outdated by now. But back in the day, we used that and we updated it for many, many years. She's been my go-to person when complicated decisions needed to be made. Beth has been an instrumental contributor to these teams and was never afraid to voice an unpopular or popular comment in order to keep the group grounded while making decisions. This always helped us make the right decision. Her contributions held all of us to a higher bar.

Our DFOs, Sanford Williams, Regina Brown, and Marilyn Jones have been delightful to work with and have been a solid support team for the chairs. So thank you for hanging in there as I reminisced. And thank you again to all who have served on these teams.

I have one more quick update to share for those of you that don't know. I was part of the downsizing effort in Sprint Legal and will be leaving Sprint in a week or so. The outpouring of support I have received this week has touched my heart greatly. And I am so grateful to have worked on this NANC team for so long. Many of the friendships I have made here will be for my lifetime. My new email address is easy to remember, my name,

rosemary.leist@gmail.com. And I'm delighted, super delighted to announce that I have accepted an amazing opportunity with another company. I look forward to revealing those details in the weeks to come. Thank you, Mr. Chairman.

Travis Kavulla: Thank you, Rosemary. Appreciation from me and everyone here for your service on the NANC over the years. And thank you for taking the time to compile those details.

Dana Crandall: Dana Crandall of Verizon. The bridge is still on hold.

Travis Kavulla: I had heard of a couple of sounds that seem to indicate that it might be live. Is that information you've received like the last minute?

Dana Crandall: It's okay now.

Travis Kavulla: Okay. Excellent. Someone is alive out there. There's intelligent life on the NANC bridge. All right, I'll have to make - oh, thank god, Carla has arrived so you don't have to hear more jokes. Carla, thank you for joining us today, I've already given a brief overview of why you're here so I'm going to turn it immediately to you to address the presentation. Thank you.

Overview of NANC Working Group (WG) Conflicts of Interest

Carla Conover: Thank you very much. Thank you for having me. I'm here to talk about especially the issues and the processes we're using with the Call Authentication Trust Anchor

Working Group. Because they have presented sort of an unusual situation for Federal Advisory Committee Working Groups that we're trying to work through with them. I wanted to give you a little bit of a background on the ethics process that we used just in general because what we're really trying to do is use the same principles as far as possible in dealing with the working group's slightly unusual situation.

I know that all of you know that Federal Advisory Committee members and working group members are vetted before they can be appointed because you've all been vetted. So you've either gotten a phone call or an email from someone in my office. Especially at the commission, most people serving on a Federal Advisory Committee or a working group are going to be serving as representatives of organizations or companies. There are a few people that will be special government employees. Those people like the DFO and other Wireline staff and me are subject to the Federal Criminal Conflict of Interest statutes.

Representative members are not which should make all of you very happy. But it is still possible that members of advisory committees and their working groups can have outside conflicts that could present a conflict situation. While that doesn't create a criminal matter, it could affect the perception of the integrity of the process or the recommendations of the working group or the advisory committee make. And even the integrity of

the processes the commission might take in implementing their recommendations if it chose to do so. So we do look at this.

As you know, we look at positional conflicts, which is whether or not say you're on the board of directors or you have an official position with an advocacy group or another company other than the one you would represent. Or we look at financial conflicts which is financial holdings, employment relationships, something like that in a company or other entity that could have interest in matters that would come before you in work on the advisory committee.

What some of you may not know because you just don't have reportable conflicts, you never have to deal with this, people do sometimes have conflicts when they come through the ethics vetting process. Once in a while that is disqualifying just because of the nature of the work of the committee or the nature of the conflict and how they intersect. It might be disqualifying. That's pretty rare. It happens once in a great while.

But usually what happens is people have a potential conflict. They have either a financial holding or an outside interest, an outside position. And it might come up in their work. In that case, what we usually do for representative members is they're usually -- and I say usually because once in a while there's specific facts and circumstances that makes us

direct them to take a certain way to resolve the conflict. But usually a representative member can choose either to disclose the conflict which means when the committee starts deliberating on the issue that your outside entity has an interest in. The committee member would say I just want the committee to know I'm on the board of directors of this advocacy group. It's taken a formal public position on this matter. That way the committee and everyone else can evaluate that member's participation in light of that knowledge.

The other way the member can resolve a conflict, if they don't want to disclose is they just don't participate. They don't participate in deliberations. They don't vote on the matter. Depending on the situation, sometimes we would also advise that, in fact, it would be good for them to leave the room or drop off a call, what have you. Those are the basic ways of handling it.

I also wanted to mention, because sometimes I think issues don't usually come up especially if everyone handles them properly, but it has been known to happen. There was a situation and it was at the Department of Defense, not the commission, so it's very good. I can talk about it. It was a while ago. But there was a Federal Advisory Committee that was advising the department on what defense contractor to pick for a very large defense contract. Also, the committee would, I

understand, look at some of the issues, what parts of things would go into the contract, and obviously, what would make more money for the contractor who would eventually be chosen. It turned out that a committee member had not only significant financial interests in the defense contractor who was chosen, but that member also had a consulting agreement, I believe, with that company. That member had been very persuasive and very strongly advocated for that defense contractor. You can imagine this was not a good situation. There were congressional hearings, front page articles on the *Washington Post* and *The New York Times*. There was a lot of concern.

I just want to say that, thankfully it has never happened here and I don't think it ever will. But these things can happen. So we do look at them. We do care about them. And we want to take time and effort to make sure the processes don't even have the opportunity for that so that we can protect the integrity of these processes and of the recommendations, the flow up from the working group through the NANC and on to the commission.

Now, the CATA working group is in an unusual situation. It's unusual both for working groups but also just in the real world because they're not dealing with a clear contract. I mean, if this was a matter of select a contractor and tell the NANC, the NANC will tell the commission - you all could answer

this question probably. I certainly could answer it if you came to me. The problem is at CATA, they're in a much more amorphous speculative situation. They're looking at the possibility of developing criteria and selection processes for some entities that might serve in certain roles.

I think you all know there are proposals out there for setting up a couple of entities, a governance authority, the policy administrator or administrators that would serve to work on a call authentication process. But this is very speculative. It's not even selecting these entities. We have no procurement in place. So it's not your average situation but it could lead into something like that. It could lead into a situation where people would care about it, where companies might be interested.

So the working group has worked with Wireline and with us in OGC to try and come up with something that protects the process as much as possible. And what we have is, I think, kind of two sets of potential conflict areas in the working group. As I said, there is a proposal out there. There have been, I believe, just a couple of entities that have sort of publicly stated that they would be interested in serving in these roles if the proposals wound up going forward.

For those people, again, trying to apply the same kind of ethics principles that we've looked at before in the normal Federal Advisory Committee situation, we've advised those people

they should recuse. If you're representative of that company that's disclosed an interest, they can present their ideas and suggestions and what have you to the working group. But when the working group is deliberating on the criteria, on the selection process for a role that they have suggested they'd be interested in, to be very clean we have suggested that the best way, and these representatives have agreed, they would recuse. They don't participate in the deliberation or the voting. Hopefully, it will be set up so they can always drop off a call or leave a room if necessary.

Now, there's also -- and again, it's even more amorphous and more murky and more speculative. Obviously, because we're talking about a process that if it results in something, it's down the road. You've got a working group that's got to make a recommendation which it may not even ever make. But if it did, it would go to the NANC. If the NANC would consider it, it would go to the commission. The commission would consider it. It may or may not decide to implement it. Maybe you'd even have to go through the whole process of NPRM onto an order. So we're talking about a long time period.

So there might be members on the working group whose companies might be interested in this. But they might not know. They might not have made decisions. They might not want to make it public. And I think as we all know, too, my general counsel

can come and go, and then policy decisions change. Management teams come and go. They change. They have different views. They have an interest that they didn't have or they no longer have an interest. Boards of directors change. Business plans change. Business facts change.

So those people are perhaps in the most delicate situation. So again, what we've tried to do is looking at that, we think recusal is again the best, the safest, the most prudent course for them. You don't have to explain that you're recusing or why you're recusing. But again, it's not participating in the deliberation, not voting, hopefully, when possible, dropping off a call or leaving a room.

I would also caution that doesn't necessarily mean anything. People can recuse because they have individual financial interest that caused them to need to recuse. Also, you can drop off calls because you've got a time conflict, not an ethics conflict. You know, an emergency comes up or whatever. That will happen. Sometimes, it may happen because people have an interest.

But what we're hoping to do is, again, this will provide a clean -- at least what we think is the cleanest process that we can see where information gets out to the working group. These members as well, they can present to the working group. They can provide information. But they don't participate in the

deliberations or the vote. So that later, we don't have people -- this is so speculative, it would be hard to say there is a real conflict.

But people raise appearance issues, they raise concerns. As we all know that can cause delay in an already perhaps long process. It raises issues that have to be dealt with even if they don't substantively have merits. We're trying to protect against that as far as possible. This is what we've worked out. I think that's sort of the basic factual situation.

I do want to say, as I said, this is an unusual situation. This working group is dealing with something that's a little more ethically sensitive than many working groups do. They've had to take a lot of time and effort to deal with this. I have to say, especially as an ethics officer, I really appreciate this. And I admire them for doing this. I know it's not the substantive work that they expect to be doing right away at the working group but it's very important. Of course, part of the problem is if they do it right, if we've made the right decisions and this is done well, nothing actually happens. Nobody sees it because the process just goes and it's smooth and things work out.

So probably they will never be thanked for this. But I do want to thank them because I know, as I said, it took time away from what they really came as a working group to do. But it was

very important from an ethics perspective for protecting the integrity of the processes of the working group, of the committee and of the commission. So thank you.

Travis Kavulla: Carla, thank you. We'll see if people have any questions. Hopefully, that guidance is sufficiently clear albeit somewhat caveated. But I think you're --

Carla: I am a lawyer.

Travis Kavulla: All right. Thankfully, I am unencumbered with a legal degree in that regard. So I think the sort of abundance of caution approach that you've spelled out will hopefully put us in a mode to prevent any suggestion down the road that something might have been improper.

But I think you point out an interesting dynamic. That we're asking them to advise on criteria that may or may not ultimately be adopted by the actual decision makers. And are asking them to recuse or not to recuse based on a largely speculative view of whether or not their organization may participate eventually as one of those organizations selected under those possible criteria.

Carla: Right. It would be hard to say it's a real conflict but it has the potential to raise appearance issues. As I said, the working groups want it to be as clean a process as possible.

Travis Kavulla: Are there any questions? Is anyone unclear about this advice? Okay. And I assume the same advice that you've given to the CATA workgroup would apply to NANC membership as a whole when it comes time for us to deliberate around the CATA workgroup's work product?

Carla: Yes. I would say also and as we've told the working group, if people have questions, they're not sure either from their company standpoint or their own, just come to the DFO and we'll work through it with them to figure out if they need to do something or not need to do something.

Travis Kavulla: I think you've said this, Carla, but just to be clear, you're not expecting people to make a declaration that they're recusing themselves. You expect their recusal to just be effected through their nonparticipation in the deliberation?

Carla: Right. I mean, people certainly can formally say they recuse if they want to. But the important thing is if you are in a situation where you and we feel it's appropriate to recuse, the important thing is don't participate in the deliberations and don't vote. Again, I also point out, there are many reasons for people not doing this. You know, they can have other conflicts. They also can decide. They just don't understand something and they don't want to vote on it. Those

are all possible reasons, not participating is not a declaration.

Travis Kavulla: All right. Final chance for questions. Yes?

Jackie Wohlgemuth: Jackie Wohlgemuth with ATIS. My understanding was that this did not apply to the NANC meetings only to the working group meetings. Can you clarify, if there is deliberation in here whether those interested parties need to recuse themselves from this meeting?

Carla: They would not have to recuse from a full meeting. But they would need to recuse from deliberation on the specific issue that they would be involved in with the potential appearance issue.

So for instance if the member was representing a company that it said, oh, we know we want to be a policy administrator. Or at least we think we want to be a policy administrator, that when the NANC is deliberating, say, on the report from the CATA working group, that member could participate on everything else and whatever else is going on at the NANC. But in discussing the CATA recommendations when it gets to the deliberation on the policy administrator, that member would recuse by not participating and not voting on that specific issue.

Now, I would say, what we think because both the working group reports and recommendations would cover a wide variety of

points, not just the one on which the member might recuse. The members with the potential appearance issues that are recusing, they aren't required to recuse from the full report. Or you know, voting the full report. Just not participate in deliberations on that specific issue for which they have a potential conflict or appearance issue.

Travis Kavulla: When it comes time to structure the agenda for the deliberative meeting for the NANC on this item, perhaps we can consciously bifurcate the agenda in such a way where a discussion of the PA and the vote on that is separate from a vote on the balance of the report. Would that make sense based on what you just said?

Carla: You can certainly do it that way. Or as I said, we think it's clean enough if there is a vote on the full report. You know like, with everything. But just if there is any vote on specific sections or a deliberation on specific sections, that's where the recusal should occur.

Travis Kavulla: All right. Jackie, does that answer your question?

Jackie Wohlgemuth: Yes. I think so for now. Thank you.

Travis Kavulla: Anyone else? All right, thank you for joining us, Carla.

Carla: Thank you very much.

Status of Call Authentication Trust Anchor (CATA)

Issues WG Recommendations

Travis Kavulla: I was about to default to a round of applause. But somehow the golf clap doesn't seem like an appropriate follow up to a kind of legal scolding. So we'll move on after that to the first update from our working groups today. And that is the status of the CATA, the Call Authentication Trust Anchor Issues Working Group. And we'll turn to Comcast's Beth Choroser.

Marilyn Jones: Well, we can put up the -- Jack [phonetic], I don't know where is Sherwin.

Travis Kavulla: I believe we were intending to project the slide deck.

Beth Choroser: Okay.

Marilyn Jones: The person that normally assists me with that is not available today. So we will not be able to do the projections today. I apologize.

Beth Choroser: Okay. I don't think it's a big problem.

Marilyn Jones: Okay. Does anyone need a copy of the presentation? I sent out the electronic copies but I can get hard copies for anyone that needs them.

Beth Choroser: It's actually out on our working group portal. We can send it to folks if they'd like a copy afterwards.

Marilyn Jones: Okay. And it's also on the NANC chair page.

Beth Choroser: Yeah.

Travis Kavulla: I think it was all emailed to you. So if you need that Wi-Fi password one more time, just raise your hand.

Beth Choroser: I think I can wing it without. So I just want to note that we've had very good participation on our working group and really thank everybody for all the great input that we've gotten so far. Just a few statistics, so we've had 30 to 40 people on each one of our working group calls. It was noted on our first working group call that we had combined 440 years of telecom industry experience. Everyone assigned to our group has attended at least one call, most two. And we have 18 people that have attended every call. Also, just to remind folks that we've opted with our working group to have open and transparent participation. So we welcome anybody who would like to participate. We're happy to add them to the portal access and our email chain.

So the original direction from the FCC for our CATA Working Group was basically two different sets of objectives, each one with four bullet points. The first set of objectives really dealt with the structure of governance for the trust anchor. Originally, we were to define the criteria by which the

governance authority should be selected, and then apply them to evaluating specific options. Recommend a role for the commission if they were not to serve as the governance authority and recommend a process by which the policy administrator should be selected.

The second set of objectives dealt more with adoption of the trust anchor itself and how that could be incentivized. That included setting out a reasonable timeline or set of milestones for adoption and deployment of SHAKEN and STIR; incentives or mandates the commission could put in place; additional steps the commission might take to facilitate deployment of the call authentication system; and, steps the commission or industry could take to make sure that all participants in the North American Numbering Plan would benefit from the trust anchor.

A little bit into our process, we were given an update to our direction. The direction to actually recommend a possible governance authority was supplanted by the request to describe the evaluation process of applying the criteria that we were coming up with for selection of the governance authority. So just, again, to make it clear, our group is no longer going to be recommending a particular party to participate as the governance authority.

Before I move on, any questions? Okay. So I was going to talk about the conflict of interest statement from the FCC. But I think that Carla has really provided an in-depth overview of where we have to be careful. The one thing I'll say is I think the group has really been working very carefully to try and avoid any conflicts. We've developed a system where we've not really had to implement it to a great degree yet. But what we've decided is when we start to get into deliberations on either the policy administrator or the governance authority knowing that we do have people that have come out and said they are potentially interested in the role, that we move those deliberations to the end part of our agenda. And that people have an opportunity to hop off and recuse themselves from that part of the discussion. So we're ensuring really that they're not getting into a situation where they might have a conflict.

And then just in terms of the logistics for the group, we've been meeting weekly for two hours each Thursday morning from 9:00 to 11:00. We have a pretty aggressive due date still for May 7th. Even though that was moved out, I think it's still pretty aggressive. We're thankful for the extra months certainly, but still have a lot of work to do.

We've met five times. I know Jack said four but we met again yesterday. So we've met five times for the two-hour meetings. I think we're making decent progress. We've

developed a pretty detailed work plan to help and manage our progress. It has dates. And then during each meeting, what we've been doing is we've been having folks present their contributions. So people have been uploading short documents to our CATA portal. Each document is generally dealing with one or more of the topics that are laid out in the bullet points from our referral letter. And then we allow people to present that on the call. And then we take question and answers and have some discussions on those contributions. By the end of call, we're essentially assigning the action items to be accomplished before the next working group.

In terms of our progress, I think we've had multiple contributions on each one of the eight bullet points that are in our referral letter. What we've done is we've developed matrices for one or more of each of the contribution topics to try and summarize the contributions and ensure that we've represented everybody's contributions appropriately.

A technical editor who happens to be Chris Wendt from Comcast has volunteered to write the baseline document. He is using those matrices and contributions to ensure that he is incorporating everybody's opinions and contributions into the document. Zack Rogala from the Montana Commission has volunteered to be sort of our finish editor to make sure our

grammar and flow is appropriate. The development of the report is actually underway based on those contributions.

So we've had the first area of contributions was on the criteria for selecting a governance authority. We've had quite a robust set of contributions on that topic. I think we've had 29 or so different contributions. I'm not going to read through them all. I don't want to bore you. But some of the things, I think where there are areas of agreement is that the governance authority will need to be flexible and adapt because as we all know, there are evolving threats in robocalling. Once you figure out a way to try and thwart the bad actors, they come up with another way to work around that.

And then I think there is a pretty good agreement that we'd like this to be a multi-stakeholder process with participation from a wide array of constituencies within the industry. We'd like to try and be mindful of cost to the industry. We'd also like to ensure that the governance authority has access to the great technical expertise that resides within some of the industry working groups.

We also have had feedback on the evaluation process for applying criteria. Some of the ideas might be a request for proposal that would include the criteria or having the FCC appoint a governance authority or go through some process to name the governance authority.

In terms of the role of the FCC, if not selected as the governance authority, some of the things that we think it's important for the FCC to do is to incentivize participation in the trust anchor ecosystem to provide regulatory endorsements and authorizing structure and providing oversight. And then potentially, depending upon how the governance authority is set up if there needs to be some type of appeal process for disputes, say having to do with certification authority or access to certificates, that the FCC might serve in some type of appeal role for dealing with any disputes.

We had also quite a bit of feedback on how a policy administrator might be selected. Again, here, whether there might be a formal request for a proposal or leading a process with FCC reports. I think folks feel strongly that the process should leverage ongoing work in the industry by industry bodies as well.

We kind of lumped together all the contributions on milestones and metrics and incentives. I think we have, again, a lot of areas of agreement. The group, I think, feels strongly that maybe it's premature to set up specific dates of formal milestones or timelines, that the process needs to be a little more flexible, but that there is a desire to strongly encourage participation. And then what we might do is something like provide progress reports to the NANC at every NANC meeting.

So these are the types of ideas we're coming up with. In terms of incentives, we've talked about safe harbors for any inadvertent blocking that might happen as a result of trust anchor incentivizing IP-to-IP interconnection which is required for really the trust anchor to work to its fullest extent.

In terms of ensuring the system works for all NANP participants, again, this goes back to ensuring there's broad participation in the governance structure by all constituencies within the industry.

In terms of our next steps, we again have all of our basic contributions are in but we're still taking contributions in the form of edits to the baseline document. We've started, I think, deliberation on some of the less thorny topics like the metrics and milestones and may get into some more, I think, I would expect on our next call more of the heavier deliberations on the governance authority and the policy administrator.

We also had a number of items that -- I would not call them items, that we've not yet -- or that we feel we will be unable to reach a consensus because I don't think we have any items like that at this point. We did have a number of items that our thought is that they may be out of scope for at least this CATA Working Group and might be things that we would like to have industry groups such as the IP-NNI task force. We would like to send them these items and things dealing with potentially

whether there might be multiple policy administrators or whether STIR is included within the scope versus SHAKEN. One thing I've learned from my participation in the group - and others can correct me if I'm wrong, that know more about this - is that STIR is really getting down to the telephone number level; whereas, SHAKEN we're really talking about the service provider level.

Henning Schulzrinne: [Inaudible]

Beth Choroser: Or would you like to clarify? Please do.

Henning Schulzrinne: You can think of STIR as a general protocol framework that describes, for example, how information is coded in signaling requests. It supports both the more aggregate designation by carrier as well as individualized telephone numbers. So SHAKEN is a framework that takes that base level and essentially describes how to use it in a way that you described, namely for the carrier level.

So you can't really do SHAKEN without STIR because that is a dependent relationship. As usual, ATIS doesn't really do protocol standards. They do kind of frameworks and how to's and implementation guidelines. And so they rely in this case on the IETF STIR protocol standards.

Beth Choroser: Okay. Thank you. That's helpful. So just in terms of our membership, I'm not going to run through who are members on the working group. But just note, again, that we

really do encourage participation from all in the ecosystem. We're happy to have, you know, anybody even at this point to join our calls and to be added to our email list and portal access.

I just would like to thank Sherwin for all of his support along the way. I know this has been a little interesting given some of the potential conflict issues. But I think everybody in the group has really worked with it pretty elegantly. We'd like to just thank my also co-chairs, Rosemary and Jackie, and again, everybody for your participation and input and ongoing participation and input. So I guess now we'll take any questions from the group.

Travis Kavulla: Thank you. Yes?

Robert McClausland: Bob McClausland from West. I don't have any questions but I have some commentary. I think that the dialogue has been sufficiently dynamic as the commission had wanted. On behalf of West, we're very satisfied with the ability to influence and also with the outputs so far.

Beth Choroser: Thank you. I appreciate that.

Travis Kavulla: Questions or comments around the table. I'll ask a question. So you know, I know as a state regulator, we hear often that IP-to-IP interconnection is sort of happening anyways. We're quickly marching to that world. So I'm wondering why necessarily one would have to incentivize that to

occur within this framework in order to get to a technological basis where a trust anchor would actually work?

Beth Choroser: I don't know if you want me to put up my card. This is just my role as a presenter. I mean, I can only really speak for Comcast in this. Certainly, we've been sort of all-IP in our network for a long time and are all for this transition moving. But there are areas, and let's put aside smaller carriers where I think there's maybe an understanding that they're may be a little bit slower in the transition. There are still areas where certain types of traffic, there is some -- I guess, it would be nice to have some greater incentives to move a little faster for certain traffic types where still there's a little bit of resistance. So it's moving. But you know, I think in certain areas, it would be nice if it moved even faster. That's, again, personal.

Travis Kavulla: Sure. Henning.

Henning Schulzrinne: I just want to make one comment. Henning Schulzrinne. I keep forgetting that. Is that it was mentioned that there was a unanimous consensus on incentives. I would just for the record note that that was not universal, at least speaking for myself. I believe that milestones or other backstop mechanisms may be needed to yield universal adoption in any reasonable timeframe that consumers have come to expect.

Travis Kavulla: Rich.

Richard Shockey: I want to echo Henning's comments here one way or the other. The way the rules at the commission are, it actually favors traditional TDM traffic over SIP-based IP traffic in the way that interconnection is designed. That is something that has been on the table for a long, long time. In fact, there are disincentives built into the system for all-IP traffic that should be removed. There are a number of potential possibilities where you could incentivize. One of the ideas that we were kicking around in the IP-NNI taskforce which is essentially reversed intercarrier compensation that penalizes the TDM provider on origination essentially, for basically maintaining technology that is no longer applicable. I mean it's also a problem by the way as we're looking at this in the National Number Portability as well because all of these issues involving intercarrier compensation are making it very, very difficult for all of us to come to a resolution.

Travis Kavulla: Yes.

Brian Ford: Brian with NTCA. Richard, can we talk about what those penalties would be? How would you penalize?

Richard Shockey: You could look at terminating access rates. Okay, that basically say, if I'm moving traffic from network A which is TDM-based to an IP network, then there has to be a reversal of the intercarrier compensation routine that says traffic that originates and is delivered as TDM is penalized

versus traffic between two IP providers who are doing that through a variety of commercial means. It's a theory but if we're trying to incentivize service providers to make the transition which has been going on now for a long time, how do we get to the last 25 percent of voice traffic which is TDM and will continue to be TDM without some incentivization?

Brian Ford: Okay. And I think one way to think about this is network edge concepts for small rural carriers where we're concerned that network edges move. In today's world, traffic is brought to my members' edge and they're paid for it under intercarrier compensation. We could be potentially moving to a world of six or seven points of interconnection that AT&T has talked about, and my members having to get all their traffic there. So, Mr. Chairman, I can imagine the small carriers in Montana would be very distressed by having those costs of transport foisted on small rural carriers with 6,000 customers to get traffic all over the place. So I think that discussing network edges and also understanding that inter-carrier conversation, still there's a role for it. It is winding down, but there are proceedings at the FCC. They are discussing that and I don't think that it's the role of this group to [cross-talking].

Travis Kavulla: Oh, I don't suggest that. But the problem is, as we see it trying to get a solution to the problems which

we have been charged with either the National Number Portability or the CATA trust anchor issues one way or the other. There are rule disincentives within the process that are going to make that difficult if not necessarily impossible. Courtney and I we'll address that a little bit later to a certain extent. But it is simply a fact of life.

Yes. For the record, your name, ma'am.

Susan Gately: Sorry. Susan Gately, I'm representing the Ad Hoc Telecommunications Users Committee. I just would like to remind folks that if you try to put incentives in through rate structures, they end up coming through to the enterprise customers and consumers that buy those services as well, and that shouldn't be lost sight of.

Travis Kavulla: Beth.

Beth Choroser: Beth Choroser from Comcast. I just like to make it clear that we've not, within our working group, advocated for any type of rate structure or modifications as to incentivize IP-to-IP interconnection. It's just, as a technical matter, noting that the trust anchor in SHAKEN works to its full extent when there is IP-to-IP interconnection. So it is an important discussion, but that's not the depth we've gone into.

Travis Kavulla: Any other questions or comments? Yes?

Craig Lennon: This is Craig Lennon from Google. Two questions. One real quick one, Beth, it sounded like you are

asking for participation for anyone who is interested through being added to the emails, whatever. So it sounds like you have a fairly open door policy on the distribution of this information. Is that right? So if I wanted to get added to that, we could do so? Because it just seems like it's somewhat different from the guidance we had gotten around our working group on only working with vetting members in that.

Beth Choroser: We have decided, among the three tri-chairs, that we would prefer that our group have open participation. So if you'd like to email us, we'll get you added to the distribution and give you access to the portal.

Craig Lennon: Okay, great. That was the easy one. The second one might be more to the chair itself. So this might be where I am just a novice at this, but to what degree does the recommendation in this - particularly in the CATA area - become binding? Or how does it interact with the ongoing proceeding? The reason I ask that question is because we talked a lot about conflict of interest and not participating in the actual selection of a GA or PA. But, in my view, it's kind of a historical Boss Tweed notion that I don't need to do the voting as long as I get to pick the nominees. To what degree does determining the criteria actually pre-select the GA or PA and how if the working group pushes forward a recommendation. Is

that in fact binding? Then, again, I don't know if that's -- how would the commission or the group look at those? Thanks.

Travis Kavulla: Well, the simple answer is it's not binding at all. The FCC, if it wanted to, could treat our prettily written and well graphically designed report as an object to be put on the shelf. But I think the aspiration is that it's the product, it's an authoritative product of the consensus of this group ultimately and its recommendations will have persuasive effect on the people who have asked us for our advice. But that's one of the things that makes this conflict of interest question I think so tricky, is that none of us are the decision makers here. We might be persuasive advice givers, but, I'm under no illusion that if Chairman Pai and his colleagues wanted to, they could adopt it wholesale or adopt it not at all. So I don't know if that -- but I think you're concerned about the selection of criteria hewing to then a certain group of entities who would be eligible if those criteria were adopted. That's the concern that has inspired the sensitivity about conflict of interest.

Craig Lennon: Thank you.

Marilyn Jones: Craig, this is Marilyn, DFO. Part of our process at the commission, we often put our NANC recommendations out for further comment to the public.

Craig Lennon: Thank you.

Travis Kavulla: So one other question for me, if you'll indulge me for a moment. You might not actually have a sort of recommended timeline for implementation. But if you instead do an approach of sort of milestones, is the work group so far anticipating that those milestones will sort of specifically describe things that would need to happen and maybe reasonable periods of time for those things to happen in order to actually implement a trust anchor based on STIR/SHAKEN.

Beth Choroser: Others can jump in, particularly my co-chairs here. I think what we've talked about is we don't necessarily have specific dates in mind, but we do have types of milestones that we might report on. For instance, let's say the governance authority has been selected at some point and an RFP is issued for the policy administrator or policy administrators, that would be something we would report on. So there would be, I think, specific types of milestones both qualitative and quantitative.

So we might, for instance, report to the NANC on how many service providers are participating in the testbed if it's still the testbed. Or once we go into production, that might be a milestone that has gone from testbed into production and then update on the number of service providers that are actually participating in the trust anchor, those kinds of things. I would defer more to the technical people that had been part of

the technical workings to say when things might actually get moving in terms of production right at that point. I'm not sure that we're there yet.

Henning Schulzrinne: [Off-mic/inaudible] just elaborate a little bit. You've implicitly, I think, talked about two kinds of milestones - namely ones which directly affect the setup of a GA and PA selection process, more of an administrative process. I'm guessing that that's at least a describable thing. I mean one could presumably reasonably say that it would take a year to draft an RFP because this is within the control of whoever implements that particular process, and I suspect there is a reasonable set of precedents one can draw on.

Then there is a second one which I think you started to then elaborate on which probably would be done by the PA, possibly mediated through the GA where the PAs or PA would gather information about the usage of its services just like probably numbering-related entities. We used to hear that at great length, discussed what they did during the previous reporting period. That would give an indication of the implementation of the actual operational assignment of certification authorities for example.

Then there is a third level, which it is not clear that either the GA or PA has authority or resources to do that unless this is written into the potential contract; namely, the actual

implementation of signing and validation of calls because that would need to be reported by the carriers generally speaking. Unless, the commission was to decide to do that, there is no mandatory reporting anticipated. At this point, it would be a more voluntary participation where carriers would say I received a certificate. I'm now validating 95 percent of my calls or signing 95 percent of my calls. That type of reporting could be mediated through the PA, but it wouldn't necessarily have to in that. So I think there are really three levels of milestones or two kinds of milestones that would be usefully kept separate. They are all important in different ways, but probably have different actors that need to be involved in that. Does it sound a fair representation of the discussion?

Beth Choroser: Yeah. Thank you.

Travis Kavulla: It's helpful. Kind of setting the table versus cooking the food versus eating the food, maybe we can have timelines for setting the table, but not for the other two things. Rich.

Richard Shockey: There is one other factor that we do not have any good data on, and that's really from the vendors, the people who make the soft switches - Ericsson, Nokia, BroadSoft, Oracle - for the session border control versus one way or the other. There is a pretty established process among carriers for actually doing requirements like this. That stuff takes years

especially for a technology like this which represents not a radical departure from the way SIP and IMS are deployed within the network. But it's pretty significant and we don't really know or most of the folks that I've talked to do not have guidelines from the vendor community on when they are prepared to support STIR/SHAKEN.

Travis Kavulla: Anyone else? Okay. Well, I think you've heard from Chairman Pai, and by implication, the quicker deadline that you guys have, as compared to the other work groups, that it's a priority. And a refresh on the referral letter, comparing it to the other referral letters, sort of suggests more of a go bigger/go home approach on the part of your work groups. So to the degree there are recommendations you have which actually proactively get to solutions of this problem, that would be great. I mean, I know from my own part, this is actually a retail issue that I often hear about from consumers. When you raise the prospect to them of a device that can actually signal trust on their screen, they say things like that would be great. Because now I don't even answer my phone calls unless I know the number, which is crazy; crazy that we've reached that point.

So anything else on that work group? Well, thank you very much for your report. I've been on a couple of the calls. They are very robust. It is sometimes hard to be on a CATA call at

7:00 AM Mountain Time. But after one cup of coffee, I finally begin arriving [sounds like] on some of the terminology, I think, even if I'm still in my pajamas.

So we'll move on. We're still well ahead of schedule, I'm happy to say. We'll move on to the second update that we have. This is from Toll Free Number Modernization Issues working group. Susan Gately, one of the co-chairs, will present.

Status of the Toll Free Number Modernization (TFNM) Issues

WG Recommendations

Susan Gately: Hi. For those of you that don't have the presentation in front of you, I'm just going to give you a little outline of what we're going to run through. I'm going to let you meet the working group, give you some information on the logistics of what we've been doing, review the questions that have been given to us, our status working on those, and what our challenges and next steps are.

The Toll Free Assignment Modernization, or TFAM, group has 16 primary members, three alternates, two substitutes, some nonworking members from the industry, and FCC liaisons. We have had very good attendance on our calls. Most everybody that's on the group has been calling in and participating. We have representatives from a number of RespOrg that have interest in toll free numbers from regulators, a wide, wide swath of folks that would be participating.

Our assignment is related to FCC Docket 17-192 which is the open docket that people are referring to as the toll free auction docket. It does have other issues in it, but our questions all relate to that open docket. We had our first meeting in February. We've had five meetings so far. But like the CATA group, that's more than we show on our slides.

Our meetings have been conducted by phone. They'd been an hour long. The first meeting was basically an introduction of all committee members that didn't know each other and logistics of what we were going to try to do. Our next two meetings included substantive discussions of the issues, and our fourth meeting was a tutorial from Somos on Toll-Free 101 which we decided we needed by the end of the third meeting because not everybody in the group had a firm understanding of how the toll free environment worked. So our fourth meeting was a very useful tutorial from Somos as to how toll free works.

Our mission statement came directly from items related to Docket 17-192. We were assigned three specific questions to be answered. The first question dealt with rule changes. We needed to facilitate a market-based approach to giving out toll free numbers. For those of you that aren't familiar with the toll free market, toll free numbers are given out on a first come, first served basis now when new NPAs are open. The proposal in the FCC's order is to move away from that and do

something more market based. So we've been asked to contemplate rule changes that would be needed to facilitate that. We've been asked about creating a secondary market for the sale of toll free numbers that have already been assigned to customers. Then our third area is whether or not we should reserve new toll free numbers for public interest groups, charities, and for the government.

I'm going to read to you each of the questions, which is not something I would normally do, but what we as a group found was that we needed to go back to the actual language of the referral in order to be able to move forward at all. Because we generally were trying to answer questions that were not being asked of us, so we keep circling back to the actual language. So I'm going to read to you for each of our issue areas what the question asked was.

In our first issue area about rule changes for our market-based approach, the question was: Notwithstanding the commission's proposed revision to the first come, first served rule, should the commission revise any of its other current rules - such as the general definitions, lag times or caps on toll free number reservations - to promote a market approach to assigning toll free numbers? What are the implications of such revisions?

We found when we first started discussing this issue - you move on if you are the slides to the work done today - that there were a number of questions among the group members as to what this was actually asking. There was not a consistent agreement or consensus on what was being asked of us here, so our first task was to try to clarify what was being asked in the question. What, in fact, does market-based mean in this question. Is the question first asking about support or opposition to moving away from first come, first served, which is what a lot of the group members seem to think, that what we were being asked was to say yay or nay to an auction-based approach. Or is the question asking for assistance with rule changes if in the event of the adoption of a market-based approach? We did have to go back to the bureau and asked for clarification. This was not something that we could agree upon on our own.

The clarification that we got back was that we are looking at rule changes and implications in the event of moving away from first come, first served. So the group's task is not to evaluate whether or not movement to an auction-based assignment for new numbers would be appropriate. It is what rule changes would be needed to be implemented if that happens. We had a number of discussions as to whether it would be appropriate to

answer questions that were not asked of us. That is still an open issue for discussion.

So our work that remains to be done here, now that we've at least clarified what it is we're trying to do, is to assign research on potential rule changes within the working group. There are a handful of rules that would need to be changed if there is an auction. We're assigning that work out. Once we get that work back to deliberate the pros and cons of the rule changes, to draft a statement for a consensus vote, and to draft a report. So what you can see from that work remaining to be done list, is that we are just starting in on the real work. We spent the first five meetings getting ourselves to this point. But it was all very useful, very useful work that needed to be done.

Our next question: Should the commission revise its rules, including the hoarding and brokering rules, to promote development of a secondary market for toll free numbers and what are the implications of those rule revisions? Again, when you first look at it, it seems like a fairly straightforward request. But we immediately came into some contention - I'm moving on to the next slide now - because there is fairly strong feeling within the working group that, in fact, there already exists a secondary market for toll free numbers. It's just not a legal secondary market for toll free numbers. It's a black

market. So the question should we establish a market sort of ignores that fact.

So we need to clarify whether or not the question to us is should we somehow or other legalize the existing black market. Should we increase enforcement mechanisms or should we create an entirely new legal market? Those are the kinds of discussions that we've been struggling with up to this point. We needed to deliberate, and we still are, whether recommendations regarding increasing existing enforcement are within the scope of this question. But we are moving forward on this. I think at this point we have decided to narrow the scope of the major deliberations to the creation of a new legal secondary market.

There may, in fact, be some opinions expressed as part of the description of that. But we are interpreting the question as relating to establishing whether or not there should be a new legal secondary market created. If so, what rules would need to be changed and adjusted in order for that to happen. Again our remaining work tasks are all of the work that would need to be done - deliberate the pros and cons, evaluate the rules that need to be changed, draft a statement for a consensus vote, and then draft the report.

The third question is probably the most straightforward of the three that were given to us, the question related to set aside a reservation of desirable toll free numbers for

government use in new NPAs as they're opened. The inquiry to us, I don't think I do need to read this one all the way through. It is whether or not the commission should set aside desirable toll free numbers for government entities; nonprofit; health, safety, education or other public interest organizations; and, then the corresponding questions of how you would structure that; what the rules would be for the commission and other folks, et cetera.

Our discussions in this area to date have revolved around whether there is, in fact, a need for this kind of reservation. We've been being given information by Somos and other people on other working group members on instances in the past when there has been a need for toll free number by a particular entity - the Veterans Administration, suicide hotlines, 1-800 Red Cross being examples. I mean whether there was going to be continued need for that going forward. We've discussed how the criteria for this kind of a set aside would need to be structured and limited, what kinds of abuse of the process might occur if there were such as a set aside, and whether or not creating a set aside would in fact create demand for numbers of this type that doesn't exist now, and whether that was positive or negative. Then discussions about historical treatment of number assignments for nonprofits and government entities where there

has been a conflict in the past, and how the commissions resolve that.

So we are in the process still of understanding what to do here. Our work on this issue, again, is we've just gotten to the point where we're understanding what it is we're trying to answer. We will be assigning out additional research and methods of resolving the problem if numbers aren't set aside, and then starting to think about how you would set up such set aside, developing our consensus recommendation, et cetera. So that's where we are on our three issues and we still have a lot of work to do.

If you move forward the slide deck, we did get a wonderful Toll-Free 101 from Joel Bernstein at Somos which was very helpful to us and I think stimulated a lot of questions. When we finally decided that we needed Joel to do this, I was wishing we had done it earlier. But in hindsight, I think if we had done it earlier, it might have not raised the same questions in our mind that it did after we had already started struggling with some of the issues.

So Joel gave us an overview; a breakdown of statistics of different categories, of numbers so we could have a sense of how often things were happening; what the new rules were for the most recent 883 code opening. He also highlighted for us and we are working with the specific rule sections that we've been

assigned to evaluate: Section 101 of the commission's rules on lag times; Section 105, warehousing; Section 107, hoarding; Section 109, the reservation caps. Section 111, toll free number assignment rules; the first come, first served rules that are in place today.

For those of us that have not been involved in the working group on toll free matters at the rules level, it was really very helpful to have somebody sort of narrow down our scope for us because that wasn't something that we had done. So to date we've clarified our scope, which was a big step, and we've established a baseline context of how the system works for all the working group members. That's really what we've accomplished in this first month.

Our biggest challenge going forward is that the questions that had been put forth to TFAM all presume changes that have not yet been enacted by the FCC. They are part of an open rulemaking. Not all of the working group participants are aligned in support of the proposals that we've put forth in the NPRM, so it makes enthusiastic deliberation on this issue difficult. It's difficult to get people to enthusiastically decide how to evaluate rule changes to accommodate a rule that they don't necessarily support.

Female Voice: They can't hear on the bridge very well, so going forward, if you could just speak up a little louder.

Susan Gately: Sorry. So our biggest challenge is that not everybody in the working group, in fact many members of the working group I would say, are not aligned with the position in the NPRM that the group has been asked to develop rules to facilitate. So although we've had very enthusiastic attendance in our meeting, we have not had very enthusiastic participation. We have in terms of sort of questions from folks that have helped us narrow the scope. But now that we've gotten down to the point where we actually need to come up with some suggestions and potential rule changes, we have an enthusiasm gap. I think we'll work through that, and that's part of what this process has been. But that has been our challenge up until now, and I think that will be our challenge going forward.

Travis Kavulla: Henning [sounds like].

Henning Schulzrine: Part of the difficulty, I suspect, is predicting potentially good or bad outcomes that would occur based on what policy change. Does the group see that as part of trying to, based on the experience collected when in that group to help document or at least enumerate maybe not all of us are consensus-based, but as to what good and bad things could happen if you were to go to a more commercial type of model or an auction model, whatever other concrete instantiation [sounds like] you would pick?

Susan Gately: Well, with the response to the first of the issues, our narrowing of focus precludes that somewhat. Our initial take on that was that it would be important to identify those kinds of problems. I think at this point, we really are going to try to identify the rules that would need to be changed. That being said, as part of the discussion, we will in fact need to look at sort of worst case scenarios if this rule is not adjusted properly, what floodgates will open, what will happen there.

Henning Schulzrinne: If I may, one follow-up. The issue of dealing with assigning identifiers that are valuable to recipients or the users of those identifiers is not a problem unique to toll-free numbers. That certainly appears in anything from domain names to take a communication-related one to, in some countries' telephone numbers that have, whatever, triple eights in them and to license plate numbers, you name it. Even stuff that seems pretty mundane sometimes requires value because of anything from superstition to memorability.

So, I wonder, do you see it within your scope to also look at what lessons could be learned from these other attempts, where many attempts have been made to do it in a more commercial as opposed to a regulatory type of first-come-first-serve type of model? This is partially based on the previous one. I think we've had some experience, both good and bad, in how to run

policy lessons, namely, what not to do to avoid behavior that's destructive in some way, hoarding, maybe access [sounds like] speculation, whatever else you might see as potential downsides in those [sounds like]. One possibility would be to look at those as opposed to treating toll-free numbers as something that's completely unique and special.

Susan Gately: No, I do think that's true. I think that as that work gets assigned out that will be part of what they will be looking at. It is true, I believe, that toll-free numbers, the quantity of toll-free numbers that probably have a commercial market value is smaller than in many other areas certainly than domain names. That also needs to be taken into consideration. The markets aren't necessarily the same. Yeah, we will certainly be looking at those kinds of things. I presume, folks, that that is going to get assigned, too. We'll be looking at that.

Greg Rogers: This is Greg Rogers of Bandwidth stating the obvious. Are we contemplating in this context the impact on North American number plan numbers in the marketplace there specifically?

Susan Gately: We have not had that discussion as part of our group. Greg, would you like to add anything?

Greg Rogers: I just think, I mean, we've talked about domain names but the obvious instance, right, is numbers. If

you go down the path of having an auction of toll-free numbers, having a marketplace for toll-free numbers, shouldn't we anticipate and expect that numbers are going to follow suit, whether there's an expressed adoption of that or not that will happen, right, in the marketplace?

Susan Gately: You are now stepping precisely into the conundrum that our working group has, which is that we have not been asked to opine on whether or not, if it's a prudent move to adopt a market-based approach. We've been asked what rules would need to be changed to facilitate that up. That is the problem that we have.

Craig Lennon: This is Craig Lennon with Google. I work with Susan also as co-chair here. I think you kind of just said it as I think the word in Question A as we've referred to it, notwithstanding is significant, right? I think it precludes the evaluation you were describing, Henning. It doesn't necessarily say it's uninterested in it. But it is not asking that of us. Rather saying, assume these changes, what would need to happen to facilitate them, what processes, rule changes, those kind of things. I think to the way Susan described it and just being in the room and on those calls, the temperature of acceptance of that notwithstanding is lukewarm.

Really, the best way I would describe it and maybe it's somewhat not accurate - really, this is my opinion - is it lacks

a champion that is saying for all the reasons you outlined, it is a net positive. So what do we need to do? Yeah, I think there's a lukewarm feeling around it which makes it not impossible to settle on those things but that is as we see it - part of our challenge.

Ann Berkowitz: Ann Berkowitz with Somos. I'd just like to point out that I appreciate the work you guys are doing. I know you've been tasked with a very narrow thing. There is an open proceeding where we can opine. People can give these opinions on the FCC record. I think the working group was pretty narrow. I appreciate the conundrum you're in. But there's a place that people can.

Susan Gately: That is very true. That's in fact why we've been trying to focus in on the questions, why I read the questions to you because where everybody wants to jump to is something that is perhaps more interesting to talk about than what we've been asked to do. But we've been asked to do [cross-talking].

Ann Berkowitz: There's a venue for that.

Susan Gately: Yes. Our report is due June 7th. We will be picking up work. For any working group members here, there will most likely be tasks assigned because our request for volunteers was not well met.

Travis Kavulla: Any other questions?

Henning Schulzrinne: Henning Schulzrinne. Quick question, again, in terms of scoping or what you've considered that is based on what you just said earlier, namely that the number of toll-free numbers that have commercial hot interest as in people are likely to care what number they get is possibly much smaller than in maybe other domains of identifiers. Do you see it within your scope to recommend possibly a hybrid mechanism, a mechanism that's closer to the existing one for the ones who drive no particular interest and separates out the ones that are, and how you would implement that?

Susan Gately: As of this moment with the 833 code, which is where this is initially being discussed for, in the 833 code everything but the numbers for which there is commercial demand are already free to be assigned. This is limited to numbers for which there is commercial demand based on an FCC -- when the code was opening, the FCC asked people to identify up to I think 2,000 numbers that they would want. Numbers for which there were multiple requests have been set aside. At this point, the proposal is what to do with those 17,000 numbers and then presumably in other codes going forward. But as somebody down the line suggested, there is always the potential that what's outlined for the first 17,000 numbers will become something larger going forward.

Status of the Nationwide Number Portability (NNP)

Issues WG Recommendations

Travis Kavulla: Any other questions or comments on this update? Okay, thank you very much for your report. I think rather than doing a break right now, maybe we can just go right into Nationwide Number Portability. Then we'll go to lunch following that, have a clean break between now, and the transition topics after lunch. Courtney Neville.

Courtney Neville: That's great, too, then you all can think about our presentation over lunch. I'm Courtney Neville, Competitive Carriers Association. Rich Shockey and I have the pleasure of co-chairing the Nationwide Number Portability Issues Working Group. I want to start by thanking the NANC and the FCC for all of their guidance so far, also to our creative and collaborative working group members. It has been a fun and productive month in my opinion. For logistics, first of all, I'm not sure how many combined years of experience we have. But I like that and might add it as an action item on our next call so everybody, start counting.

We meet once a week. Started with an hour call, it has since become a 90-minute call. I assume once we start getting more text down on paper, it will likely evolve into a two-hour discussion once a week at least. But for now, we're at 90 minutes and we're meeting our internal milestones. As directed

by the NANC, our report is beginning to look at the four proposed or recommended solutions that were outlined in the 2017 NPRM. Those include national LRNs, non-geographic LRNs, commercial agreements, and the GR-2982 CORE specification.

We have adopted a baseline text. Similar to what seems like the processes happening in other working groups, we receive almost weekly contributions from members, deliberate on those on the calls, and then vote or modify those contributions to be included in our baseline text.

As for substance, so far, we have determined that the GR-2982 CORE specification is one that will likely not be recommended for NNP for several reasons. The first is, it was proposed two decades ago now by my count for legacy networks. As such, it doesn't necessarily meet the prong for being adaptable to changing technologies. That being said, we are still looking at the record. The text of that portion of our report is still ongoing.

Another solution that we've been talking about a lot in the last few weeks is commercial agreements for a near-term solution. I know you all know, if you're familiar with the docket, that the wireless industry and ATIS have proposed this as a near-term solution. It seems to have pretty widespread support among the majority. So that is one that we are considering.

We're also still nailing down the national LRNs and non-geographic LRNs. I think for purposes of where the working group will go in the coming weeks, those two recommendations will be the topic of most of our discussion.

We're also exploring some subgroups. Like I said, commercial agreements is our first sort of test run on that. We'll see and report on the next NANC meeting whether that is successful or not.

We are so far on track to meet the June 7th final report deadline. It is coming up fast so thank you for the extension from the March reports. I think that will have a more fulsome discussion in the weeks to come. That's where we are. Rich, do you have anything to add? Okay, great. Well, if there are questions, I'm happy to field them.

Travis Kavulla: Okay, questions or comments on this topic. Yes.

Jacquelyne Flemming: Jackie Flemming, AT&T. Just a question, is your working group open to others participating?

Courtney Neville: Yes. If you want to send me an email, we're happy to add you to the LISTSERV. So you can join the calls and have access to our portal as well.

Travis Kavulla: Over here and then back.

Robert McClausland: Bob McClausland, West. While talking about commercial agreements, has there been dialogue about the

concern that there may be greater power on the part of some of the negotiators?

Courtney Neville: Yeah. That's been an initial conversation. Like I said, we're still trying to hammer out the cost benefits, and adaptability of commercial agreements. I'm sure that will be something that our report will address. But yes, that's noted and it has come up.

Jackie Wohlgemuth: Jackie Wohlgemuth, ATIS. I was just looking for clarification on the date of the report. The presentation indicated that it be sent to the NANC on June 7th. How much time then does that allow for us to vet before it goes to the FCC?

Travis Kavulla: To be clear, the report is due to the FCC on June 7th, I believe.

Courtney Neville: Yes. Okay. Sorry. My reading of the December 7th letter and the extension that I guess is a mistake on our part. But that is good to know. Thank you.

Travis Kavulla: I apologize that that was unclear.

Courtney Neville: No, no worries. That two-hour call will probably be starting next week.

Susan Gately: If that is the case, when will backing up, when would reports need to come from the working groups to NANC?

Travis Kavulla: Part of that depends on the meeting dates

of this group. Just to sort of presage a little bit about what we'll hopefully be talking about for the end of this meeting, we're going to have to have a telephonic meeting sometime probably in late April in order to approve the report that's going to come from the CATA workgroup. Then I would assume we would have an in-person meeting sometime before the June 7th deadline but TBD on dates in order to consider near final drafts of the reports from the remaining two, NNP and TFAM.

Hopefully, I didn't just drop a bombshell on you. But I'm trying to register the facial expressions. I think that I may have. This matches the process that had previously been anticipated when the reports were due on April 7th, which was the submission for deliberation on the part of full NANC of draft products sometime before they were actually due to the FCC just in case someone really wanted to register a dissenting view, or we by consensus agreed to make some modification to the report to allow it to be round-tripped and then filter up for final submission to the FCC. Does that make sense? Did you have something further?

Courtney Neville: No, thank you.

Travis Kavulla: Okay. We're still a little early to take a lunch break. I know Mary wants to be recognized. Before we do that, is there nothing else on NNP? Okay. That's the benefit of being the last workgroup to present. You got off

relatively easy apparently. Why don't we though at least do the status update on the Numbering Administration Oversight Workgroup? For those purposes, I'll turn to my neighbor, Commissioner Paul Kjellander of Idaho.

Paul Kjellander: Thank you, Travis. How much time did you want me to kill?

Travis Kavulla: Let's say five to ten minutes.

Status of Numbering Administration Oversight (NAO) WG

Paul Kjellander: Okay, I'll do it in 30 seconds then. I'm Paul Kjellander. I'm a NARUC member from Idaho on the NANC. I'm also the chair of the Numbering Administration Oversight Working Group. We got some good news on the organizational components of that this last week in that the public notice announcing membership for the Numbering Administration Oversight Working Group. It's one of those blizzards of acronyms that we really can't pronounce out loud. I don't know what you want to call it. Maybe that will be the thing we do first when we meet. But we actually have folks that can meet now. That makes us feel pretty darn important. That's been released. You can probably access it readily from the website. I know it's been posted and listed.

That's a pretty significant step, I think, not just for our oversight working group but also for the subcommittee, the FCC Contract Oversight Subcommittee, which has also had its

membership reported out. They have some fairly significant annual reviews that need to occur by, I believe, the June meeting. Those will deal with agents and vendors. The two co-chairs of that specific subcommittee, Betty Sanders and Philip Linse, had been meeting on monthly calls and are ready now with the full membership to continue going forward with those monthly calls. In talking with Philip last week, he thinks that given the fact now that the full membership has been put together, they should be able to meet their timelines. He's very optimistic that they'll be on track. Looking forward to seeing their product and hearing the results of their efforts as well.

The other subcommittee that's under the Numbering Administration Oversight Working Group is the Local Number Portability Oversight Subcommittee. Right now, it's in somewhat of a holding pattern until we see the resolution and completion of the transition. Once that happens, I've been informed that the LNP Oversight Subcommittee will be appropriately populated. They'll be ready to function, again once that transition is complete.

In lieu of just rambling on for another ten minutes, I think that's about it. I'd stand for any questions, but I'd rather you didn't ask any.

Travis Kavulla: Thank you. Betty with a comment and not a question then.

Betty Sanders: Just a comment. I'm very appreciative. Phil and I both are very appreciative of the announcement the other day in which we now have a full committee. We're excited about that. As you mentioned, we have had some meetings and calls and so forth. We do have some actions that are coming upon us very closely. We do need to work on that. I just wanted to express my appreciation for getting the committee established right now.

I do have one question. I just thought about that. Give me enough time, I'll think of something, but I do have a question. That is, when we talk about the LNP Oversight Subcommittee and I know that we're waiting on the LNP Transition Oversight because of the NPAC transition to complete. I know that there will be resources from the Oversight Transition Committee. Do you have any idea how that's going to work? I'm just curious.

Paul Kjellander: No. In more detail, though -- not really. From what I gather in some of the early conversations that we've had with Marilyn and others is that as those reports are ready to move forward, we'll get a chance through our oversight committee to take a peek at them, look at them, and then ask appropriate questions.

I was just looking at the membership of our committee. I actually know some of them. I can tell you that it won't just

be a cursory glance. It's going to be a pretty deep dive, I'm thinking, from a few of those members most notably. I also noticed there are some cross-membership, not a lot, some cross-membership between the FCC's Contract Oversight Subcommittee and our main committee. My assumption is there might be some possible crossover within your working group subcommittee once that gets formed. At least, there's somewhat of a transition between what you've done and what comes to us. It won't be a complete brand new thing for us. We'll have somebody that has a little bit of continuity from your committee to ours.

Betty Sanders: Okay, thank you.

Travis Kavulla: Any other questions or comments?

Female Voice: [Off-mic/indiscernible]

Travis Kavulla: Sure.

Philip Linse: I'm Phil Linse. I'm Betty's co-chair. Are we on?

Travis Kavulla: Yeah.

Philip Linse: I'm Betty's co-chair. I wanted to just thank the previous co-chairs – Karen Riepenkroger, Laura Dalton, and as well as Rosemary Leist – for helping us transition into this point so that we can hit the ground running now that we do have a membership. So I just wanted to put that forth. We wouldn't be able to hit the ground running without those folks helping us through that transition. So thank you.

Travis Kavulla: Thank you. I do know that Mary Retka of Somos would like to say something as well before we break.

Mary Retka: It had been real short here. Thank you, Chairman. As you all heard, Rosemary Leist from Sprint will be leaving Sprint after this next couple of weeks where she served as the industry regulatory organization for the last, I think, couple of decades, Rosemary. She's been my colleague for decades as well in the numbering work, both in the NANC subgroups as well as here at the NANC table when I was sitting at the table for CenturyLink.

As you guys all know, she's a hard worker. She's always willing to take on and do the work. There are not a lot of people you can count on for that, so I would like to just make sure we give her big kudos for that. She comes to the meetings prepared. She always dialogues at the meetings about the issues. It's really a tribute to her work ethic that she's been able to do this for so long and stick with it because people don't understand how detailed this work is. Rosemary's one who, not only does she come to the meetings prepared, but she sat down and wrote the entire manual for the NANC. Hopefully, some of you have had a chance to at least glance at that if you're a new member and take some time to learn that. She's just a consummate professional. She's a woman of faith. She's just a valuable friend. I'm going to miss you.

She's also the type of person who also always has her glass half full. I want to congratulate you on any new opportunity you should find. I know you'll find something very quickly. Best wishes to you. I hope that your glass remains half full and perhaps in the next few days of a celebratory beverage. Thank you, Rosemary, for everything you've done.

Travis Kavulla: Okay. Even though it's tempting to just work through the lunch hour and deprive you of sustenance as we talk about the transition, it probably is best in the name of a robust update on that to take a lunch break. We'll do 70 minutes. Why don't you be back here at 12:40 please? We'll reconvene then.

[Break 1:57:35 - 1:58:08]

Travis Kavulla: All right, let's reconvene this now. I hope you all had an enjoyable lunch. We're going to move into the discussion primarily about the transition. We'll also have a period later on for public comment. Last on the agenda today will be of next steps and future NANC meeting dates. I'll repeat them then. But we have managed to secure this room for two meetings in April and May. For April 27th, from 9:30 to 11:30 AM, we'll be holding a teleconference. But we'll have a physical presence here should any of you want to make another in-person visit to the FCC. That meeting will be largely devoted to deliberating around and voting out the final draft of

the CATA workgroup report. That was a teleconference on April 27th from 9:30 in the morning to 11:30 in the morning. Again, a physical presence here, if you wish to come and that will be primarily devoted to the CATA workgroup report, which is due, as you know, on May 7th.

Then on May 29th will be our next in-person meeting of the NANC from 9:30 in the morning to no later than 3:30 in the afternoon, so the same timeframe as we have today for our meeting. The primary items to be discussed there will be the other two workgroups' reports. I'll discuss with the workgroups when you're expected to get that final draft in, but probably similar to the progress reports that you turned in in advance to this meeting, we'll want that, the work product from you maybe a week or four or five business days in advance of the actual meeting of the NANC so that people can read it and come prepared with questions and to deliberate. So, I'll read those dates again before we adjourn just so people who are not in the room can get them down. Marilyn has told me that a public notice of those will be forthcoming.

So, with that, we'll turn to Tim and the discussion of the North American Portability Management, NAPM LLC's report.

Discussion of the North American Portability Management LLC
(NAPM LLC) Report

Tim Kagele: Thank you, Mr. Chairman. Good afternoon, ladies and gentleman. Hopefully, everybody is not asleep after that enjoyable lunch. My name is Tim Kagele and I am representing the NAPM LLC. I also work for Comcast. I share my co-chair responsibility with the NAPM, with my AT&T colleague, Teresa Patton, who is also here today.

Starting off with Statement of Work Activity and/or Contractual Amendments, I'll first go through the Neustar aspects of those activities. We have reviewed and approved Change Orders 1, 2, 3, and 4 amending Statement of Work 97. Those were negotiated with Neustar to implement support for the transition of additional parallel operations, additional Ancillary Services, transition of IVR services, and data migration.

The next aspect was Statement of Work 24, which is Revision 9. That was also approved and it continues the certification testing, making that optional for NPAC users, provided that CCT has been satisfactorily completed by their respective Service Order Administration or SOA and Local Service Management System or LSMS developers. So that is the Neustar piece.

In terms of iconectiv, it's been a very busy quarter. Statement of Work Number 8 implements the terms of the NANC

Change Order 494. For those that may be new to the NANC process, changes to the NPAC system specifications are generally brought before the industry technical working groups, debated in those working groups, and then translated into requirements for the NPAC. Those requirements are then sent to the vendor to be developed and ultimately implemented into the NPAC system. So, SOW 8 was approved and that updates the functional requirement specifications for the XML message delegation validation.

The next one is SOW 12. That implements the requirements for NANC 501 - CMISync invalid enumeration - for the local system gateway non-conformance issue that was surfaced during vendor testing. Some of you may remember that particular issue in the last report. That was also approved.

Statement of Work Number 6 implements certain revisions to Exhibit F, H, and I of the Master Services Agreements or MSAs with iconectiv and correct certain errata and typographical errors in the MSAs. That is currently under review.

Statement of Work 15 implements the requirements for NANC 505 consecutively through NANC 513. These address myriad differences or local system gateway non-conformance issues with the NPAC Functional Requirement Specs and/or IIS. Interoperability Interface Specification surfaced during the vendor testing. That is also currently under review.

And then, lastly for iconectiv, the NAPM is currently reviewing the NPAC software storage agreement with Iron Mountain. That is, for those of you who may be familiar with that, there's a requirement in the MSA that we have a storage agreement for NPAC software that is under review.

Next, in terms of general activities for the NAPM, I just want to mention a couple of things here. David Alread from AT&T was elected by the NAPM as our newest project executive. He replaces the position due to resignation by Paula Campagnoli from T-Mobile. Many of you know Paula. You've worked with Paula for years. Paula stepped down in that role as PE. So we certainly want to wish her well and thank her for all of the contributions that she's made to the NAPM as a project executive through these years. And we wish David success in his new role.

Next, Rosemary Leist, we've heard a lot about Rosemary today. She has resigned her position as the NAPM LLC secretary effective March 23rd. Personally, I'm very saddened by this. Rosemary has been a close colleague for many, many years and we will miss her contributions, her tireless work ethic to the NAPM. I can attest to those that have made these comments previously that when there were opportunities for people to volunteer and nobody stepped forward, Rosemary did. So, Rosemary, thank you so much. We're going to miss you.

The last piece under general activity is the NAPM remains open to new members. As an incentive to encourage new membership the NAPM LLC approved extending the waiver for new membership initiation fee of \$10,000 through March 31st of this year. So, the clock is ticking. Again, we encourage interested parties that would like to become a member of the NAPM to feel free to reach out to Teresa or myself and we'll be happy to talk you through the benefits of being a NAPM LLC member.

Let me pause there before I go into LNPA transition-related activities to see if there are any questions. Hearing none --

In terms of the LNPA transition, I think first and foremost, we take encouragement from Chairman Pai's remarks this morning that we've been all working very diligently - iconectiv, the NAPM, service providers, Neustar - to get this transition complete. So, we're very pleased that Chairman Pai made a remark in that regard that just to remind everybody that we're coming up to the first cutover weekend for the Southeast region.

So, in that context, the weekend of April the 7th is the first NPAC database region cutover. We're prepared and we're ready to go. That will be followed by an additional two groups of three database regions each. The second group of database regions to cutover will be the Mid-Atlantic Region, the Northeast region, and the Midwest region. Those are scheduled to cut over the weekend of May 6th. The last three database

regions to cut over will be the Southwest, the Western, and the West Coast database regions. Those will cut over the weekend of May 20th. So, it's just a general reminder at a high level about this schedule for transition.

In terms of iconectiv transition-related activities specifically, the Ancillary Services used by Law Enforcement or ELEP as it's known, the Wireless Do Not Call or WDNC users group, and the Interactive Voice Response or IVR users were all successfully transitioned the weekend of March the 3rd. No functional or performance issues have been reported or occurred. So I just want to say on behalf of the NAPM LLC and on behalf of the service provider community, well done, Kathy Timko. Well done to the iconectiv team, and congratulations. This was a huge milestone.

Next, another piece of iconectiv activity, as a follow-up to the December 7, 2017 NAPM LLC report to the NANC, the NAPM LLC reported that it had received a notice from iconectiv on August 2, 2017, communicating of the potential for a delay in the May 25, 2018 Final Acceptance Date or FAD in accordance with the MSAs between iconectiv and the NAPM LLC. On March 9, 2018, the NAPM LLC received communication from iconectiv that it withdraws their August 2nd letter, stating that they had overcome the issue cited in the letter and remain on track to meet the Final Acceptance Date.

Next, we'll turn to Neustar. With respect to winding down the Master Services Agreement with Neustar, outreach was initiated with Neustar on September 13, 2017 to commence discussion of several key aspects of winding down the current Master Services Agreement with Neustar. The parties have subsequently met on multiple occasions and are making progress toward resolving open issues.

In terms of rollback, on January 24th, the NAPM LLC filed an ex parte in the public docket of these proceedings responding to a January 16th ex parte filing by Neustar that addressed rollback to Neustar's platform and services. On January 29th, at the request of the Transition Oversight Manager or TOM, the NAPM LLC filed in the public docket of these proceedings a summary prepared by the TOM to provide stakeholders with accurate information regarding transition plans and status.

Subsequently, the NAPM LLC co-chairs and legal counsel, participated in a meeting hosted by Chairman Pai's office on February 9th with FCC staff, iconectiv, PricewaterhouseCoopers, and Neustar, to discuss solution passed to reaching agreement on the industry-led contingency rollback process. After the TOM facilitated a series of focused meetings the week of February 12th, the NAPM LLC was unable to reach agreement with Neustar. And the NAPM LLC subsequently filed its report with the

chairman's office summarizing those discussions, proposals offered, and the current status of discussions.

Next, independent of the discussions between the parties, the NAPM has examined the steps that would be needed to execute the existing industry-led contingency rollback plan and has verified that those steps have been tested individually either as part of other industry testing that has already taken place with iconectiv or as part of each service provider's normal business operations.

Lastly, consistent with the ex parte letter filed by the NAPM LLC and iconectiv on March the 12th, the NAPM LLC and iconectiv reached out to Neustar with a draft proposal for additional testing of the industry-led contingency rollback plan and remain willing to engage in discussions with Neustar regarding industry-led contingency rollback. So that's it with respect to rollback.

Let me clarify one piece before we move on to TOM oversight. When we talk about rollback, it's important to distinguish the difference between fallback versus rollback. Fallback means on the night of cutover, if mechanized [sounds like] service providers are unable to bind with iconectiv's new NPAC, or iconectiv's new NPAC for some reason is not functional, we would do what is called a fallback. That means mechanized service providers would rebind to the Neustar platform because

no transactions had been processed. So, there is no disagreement on fallback. So I want to make that piece clear.

Rollback means if something catastrophically goes wrong in the first 24 hours after cutover that, if needed, a rollback could be initiated. That's highly unlikely based on what we know and all of the testing and preparedness for this transition that has taken place to date. But I just want to be clear on the distinction between those two definitions. They're very different. Any questions about rollback before I move into TOM oversight? Hearing none --

In terms of TOM oversight, in accordance with the terms set forth in PricewaterhouseCoopers, PwC's, letter of engagement to service the TOM, our third party oversight manager. The NAPM LLC approved the fourth quarterly extension through April 30th of 2018. In addition, the NAPM LLC Transition Management Advisory Committee or TMAC, in their role to provide performance oversight and management of transition oversight manager quality assurance, has completed negotiations with PwC for additional program management resources as we enter into the critical final phase of transition. The parties have implemented the negotiated changes.

And then, lastly, the letter of engagement with PricewaterhouseCoopers to service the TOM is subject to renewal

by March 31, 2018. That renewal is under consideration by the NAPM.

I'll close with reporting. The NAPM LLC continues to file monthly LNPA Transition Status Reports with the FCC on the last day of each month, and began filing these reports in the docket in July of 2015. The NAPM LLC continues to meet regularly with the FCC and the TOM to provide transition status as well as apprise the FCC of issues or concerns pertinent to the transition.

On the last page of the report for those that have a soft copy or some administrative pieces such as the co-chair contact information and what the NAPM's role is. That concludes my report on behalf of the NAPM LLC and I'm happy to take any questions that you might have.

Travis Kavulla: Thank you, Tim. Any questions? Diane.

Diane Holland: Thanks. Diane Holland, USTelecom. I just had a question about your bullet on the second page about the Neustar Master Service Agreement wind down. It states that the parties are making progress toward resolving open issues. I was wondering if you could maybe elaborate a bit on, if not the specific issues, the nature of the open issues and whether in your view you've reached an impasse on anything.

Tim Kagele: Sure. Thank you. That's a great question. I won't get into the specifics of the wind down, but generally,

the nature of the wind down discussions are mechanical around the contract, none of which at this point are deemed by the NAPM or by Neustar - I'll let Neustar speak to that if they care to - are deemed gating at this point. There are no impasses. The parties continue to make progress. Generally, one area that would be probably of interest is billing and how we close out the billing and the contracts, and relative to all of the seven database regions and how does that work relative to the FCCs revenue allocation assignments that each service provider pays. So, hopefully that helps, Diane.

Diana Holland: Yes, thank you.

Travis Kavulla: Anyone else? All right, thank you, Tim.

Tim Kagele: Okay. You're welcome.

Discussion of the Local Number Portability Administration

(LNPA) Transition Oversight Manager (TOM) Report

Travis Kavulla: Now, we'll here from the Transition Oversight Manager, the TOM discussion of the LNPA transition. Greg.

Greg Chiasson: So, good afternoon, Chairman Kavulla and distinguished members of the NANC. Thank you for the opportunity to address you today. My name is Greg Chiasson. I'm a partner with PricewaterhouseCoopers or PwC. I'm here today representing the LNPA Transition Oversight Manager or TOM. I'd like to give you an update on the status of the LNPA

transition, our accomplishments since my last update, and our planned next steps.

So, first, I'll briefly review the latest Transition Outreach in Education Plan events. Next, I'll provide a transition update, including a view into the key activities and accomplishments across the four primary transition work streams. Then, I'll cover the key regional migration dates and explain the range of communications that the TOM will be supporting during the regional migrations. Wrapping up, I'll cover the planned next steps as well as the upcoming outreach in education events.

Before I get into the details, I'd like to provide the big picture. When I briefed you in December, the key message was that the transition was on track. Today, the key message is that we're ready for a successful Region 1 migration in April. I'm going to take you through all the details including the challenge points. But overall, it's a good news story. Okay. So if you have the report, let's start with the outreach events.

Since our last NANC report in December, we've conducted four TOEP webcasts including the most recent one this past Wednesday with an average attendance of 223 participants. In particular, small carriers have continued to be the largest group attending the TOEPs. We also facilitated an interactive, industry working session focused on contingency rollback. And

the TOM supported two LNPA Transition Oversight Subcommittee meetings and took part in the NARUC LNPA transition panel in February. For those that missed the TOEP webcasts, materials are available on the LNPA transition tab of the NAPM LLC.org website.

Okay. So, let's move on to review key progress and accomplishments across the transition work streams. We'll start with the overall dashboard. Within the NPAC SMS platform build work stream, production data center construction and configuration is complete. Planned NPAC software development is also complete. An NPAC solution readiness was achieved by the February 28th target date. This work stream is essentially entirely complete.

Within the onboarding and outreach work stream, there has been great progress in onboarding service providers, service bureaus, and providers of telecom-related services. Approximately, 99 percent of the SPIDs associated with these users have started with the onboarding process. As of Friday, 1,481 users accounting for 93 percent of SPIDs have fully completed registration. Additionally, with the March 4th launch of Ancillary Services, new Wireless Do Not Call, and ELEP and IVR users continue to be on-boarded as needed.

In industry testing, all required vendor and service provider testing is complete. So even though mandatory testing

is complete, voluntary ad hoc, partner, group, and round-robin testing is continuing. To date, all of the tests defined by the LNPA Inter-carrier Testing Subcommittee have been successfully executed at least four times. That said, a number of potential issues have been identified in ad hoc testing. These are being investigated. Several issues were brought to the LNPA Transition Oversight Subcommittee last week as PIMs, so that requirements can be clarified and the desired operation of the NPAC determined.

The first PIM, which is essentially an issue in resolution pass summary, regards the number of leading zeros in the BDD file format. The other issues are related to the format of the MUMP spreadsheet and the operation of hold and replay functionality, which was defined for XML but not CMIP in the functional requirements specification.

The LNPA Transition Oversight Subcommittee has issued action items for the industry to assess impact [sounds like] and is set to discuss these PIMs early next week. Based on the information at hand, the TOM understands that there are acceptable, alternative means to achieve the current capabilities associated with these PIMs. Therefore, these issues are not expected to impact the cutover schedule. Additionally in this work stream, all 12 of the acceptance test

plans that were approved by the NAPM in close coordination with the FCC have been executed and validated.

Okay. So, I'll move on to the last work stream, in data migration and go-live. Tim stole my thunder a bit here. But I'm happy to also share that Wireless Do Not Call, ELEP law enforcement services, and non-service provider IVR services, collectively known as Ancillary Services, were successfully launched in March 4th. The launch went extremely well. Usage has been significant and performance has been good.

The TOM is monitoring several risks in this work stream. First, though there's been great progress in establishing connectivity and connectivity verification testing, a few mechanized service providers are lagging target schedules for establishing and verifying their connectivity to the iconectiv NPAC. Second, some users have identified tight timelines to deploy vendor system software patches that must be applied to ensure that local systems reflect the certification load. Now, note both of these are relatively minor risks and are expected to close next week. So, if we were having this meeting next Friday, it probably wouldn't be in the dashboard.

A third area though, as Tim mentioned, there is an agreement on fallback, but work continues on contingency rollback. With the support of the FCC, the TOM facilitated iconectiv, the NAPM, and Neustar in an intensive series of

working sessions with the goal of identifying testing and readiness verification activities that could enhance the industry-led contingency rollback process. These daily working sessions concluded on February 16th.

In terms of recent updates, earlier this week, the NAPM put forth a revised proposal for enhanced testing to support industry-led rollback. Additionally, final preparations are underway for the Southeast regional migration on April 8th. I'll have more details on the upcoming dry run and cutover communications later in the update.

Okay, so that's the top level summary. Now, I'd like to get into the work stream details.

So if you go on to section one in the report which covers the NPAC SMS Platform Build, the chart depicts the schedule for the data centers and the software development. Data center construction and configuration was considered considerably ahead of the planned October end date. The software was developed in two major releases to facilitate testing. A Release A, which contains core CMIP NPAC functionality was delivered this past summer. And Release B, which included the XML interface as well as support for Ancillary Services and back office functionality like billing was delivered in November and December.

At this point, the plan worked for this. NPAC SMS platform build work stream is complete. The hardware, software, and

operational processes were validated through the successful execution of the acceptance test plans and the NPAC platform was confirmed as solution-ready by the NAPM on February 28th.

I'll go on the section two. The chart in section two depicts the schedule for onboarding. As I mentioned, service providers, service bureau, and PTRS users accounting for 99 percent of the expected SPIDs has started onboarding and 93 percent are complete. This brings the total of registrants to 1,481. Ninety-five percent of this group are service providers. Additionally, all of the mechanized users have completed registration.

Registration for IVR non-service providers is underway in all 50 states. So far, 1,755 have completed registration. That's up by 272 in the last month. Additionally, as I mentioned with March 4th launch of Ancillary Services, new Wireless Do Not Call and ELEP users continue to be on-boarded as needed.

In section three, the chart depicts the overall industry testing plan. As I mentioned, there's been a great of deal of progress in this work stream over the past month. So XML vendor certification is complete. Required mechanized service provider testing is complete. CMIP vendor regression testing and certification is complete. All of the mandatory testing is

complete. This was a big milestone for the transition. I just want to take a minute to notice it.

Looking at the optional testing, LTI user testing is underway for users that have completed training and want to test. Twenty-nine users have actively engaged in testing. Additionally, ad hoc group and round robin testing is well underway with all of the tests defined by the LNPA Inter-carrier Testing Subcommittee having been successfully passed in all cases multiple times. Forty CMIP and 63 XML SPIDs spanning 17 organizations are engaged in the testing, and that's important because that allows a good cross mix of different service providers, say, wireline-to-wireless and so on engaged in the testing.

As I mentioned when covering the dashboard, ad hoc testing has identified some potential issues. These are being actively investigated and it appears that a good percentage are related to test bed configuration or other easily resolved factors. That said, there are maybe some where this is not the case.

In the LNPA transition, as in any large-scale development activity, there comes a point where the risk introduced by making a change is greater than the benefit of the change. For all but the most critical issues, we're approaching that point. iconectiv has a stable codebase that as we've just discussed has been extensively tested. So by March 28th, iconectiv will

inform registered users of known potential operational impacts and known differences between the current service and the new service along with recommended alternatives or workarounds via a bulletin distributed through the cross-regional mailing list. This bulletin is essentially a heads up on the items the entity should be aware of heading into the cutover.

There's a side comment here. No one should be really surprised if there are issues that are being identified or that we've entered the cutover with some minor open items. It's just the fact of large-scale software development. The rate at which defects or incidents are identified never goes to zero. Issues are found in ten-year old software that's been run a million times. In fact, we can take some comfort that issue identification is indicative of a robust testing process, especially in this case when we look at the types of issues that are being identified.

Okay, we'll go on to section four. The chart in section four depicts the data migration and go-live plan. As I mentioned in the TOEP webcast, multiple data transfer and validation tests have been successfully completed. The TOM also reported the turn up of iconectiv Ancillary Services LSMS in the launch of the customer portal in January.

These were all precursors to the successful launch of Wireless Do Not Call, ELEP, and non-service provider IVR service

on March 4th. As I said, the launch went really well. Usage has been robust and no significant issues have been reported. Additionally, connectivity and connectivity testing for mechanized users is nearly complete. Physical circuits for all users have been delivered and IP validation and key exchange is nearly finished.

So far, five waves of testing have been completed with only a few service providers scheduled for the final weekend which is this weekend. Cutover guides for service providers have been released and provide a playbook for activities required during the actual migration. To reiterate the points that TOM has made in the TOEP webcast, the group that has the most to do during migration is direct connection mechanized users. For users accessing the NPAC through a service bureau via the LTI interface or through the IVR, there's very little to be done other than pointing to a different address or dialing a different number after the cutover.

And I'll also mention that a final full-scale dry run of the Region 1 data migration is underway. The initial files have been exchanged and a series of delta files are following culminating in the final delta file transfer in the wee hours of this coming Sunday, March 18th. The dry run will include the data file validation and loading as well as all of the internal

and data validation bridges that will be used in the actual Region 1 cutover.

Section 5 lists additional accomplishments and transition support items. In particular, I'd call your attention to the last two items. Previously, the TOM had inspected iconectiv's primary and secondary datacenters. In early February, the TOM conducted an onsite operational review of iconectiv's NOC, SOC and helpdesk. Additionally, the TOM has reviewed the test artifacts and final reports for ten of the ATPs. The NAPM Security Advisory Council reviewed the ELEP and security ATPs.

So let's go on to section six. I'd like to take a further look at the transition timeline. The first chart summarizes the key dates during the LNPA migration. So at the top, we've now passed the migration of Ancillary Services. This cutover was successfully completed for all of these users on a nationwide basis on March 4th.

The next cutover event as Tim mentioned is the Southeast region which also includes the IVR service. This will migrate during the maintenance window that's scheduled for April 8th. A SPID migration blackout period will encompass the regional migration including the Sundays immediately before, during, and immediately after the regional migration.

The next regional migration will be of three regions: the Midwest, Northeast and Mid-Atlantic regions. This will occur

during the maintenance window scheduled for May 6th. This migration will also be accompanied by a SPID migration blackout in the migrating regions on the Sundays before, during, and after the migration.

The last three regions will migrate during the maintenance window on May 20th with the SPID migration blackout for these regions also occurring on the Sundays before, during, and after the migration. Following this transition, all users will be accessing the new NPAC in all regions and for all services.

So now, I'd like to go in to the cutover communications plan. So the second chart in Section 6 depicts the overall communication structure associated with the regional migrations. So we'll take it from the top down. The TOM is going to provide updates to and collect feedback from industry and other stakeholders via an open conference bridge in a WebEx. The bridge enables real-time back and forth communications and the WebEx will support a dashboard that allows for quick and easy checks of the current status.

iconectiv will host a number of mechanized user data migration at internal bridges. The TOM will monitor these bridges as well as interface with iconectiv's program management team in order to gather the information required for the updates we'll provide.

Mechanized users have separate bridges due to the coordination required to establish their NPAC connectivity. I'll also note that iconectiv helpdesk will be operating, but it's to be used to report issues and not to request status. If anyone is interested in the progress report, I'd encourage them to join the TOM bridge or the WebEx.

If we look at the next chart, aside from the mechanized users while we're establishing connectivity, there really isn't a lot for most NPAC users to do during the majority of the cutover window. As to the TOM's expectation that many users may want to get a quick update on their own schedule versus joining a conference bridge, so we'll try to make this easy. TOM is going to use a WebEx link to display a cutover dashboard. This dashboard can be accessed any time during the cutover and will provide an added glance view of current progress.

The dashboard has three main sections. In the upper right is the status dashboard, which will tick off the key steps and the cutovers as they occur. To the left is the newsfeed, which will have a running list of updates. This is the place to check if you want to know the most recent activity. In the lower right, information on the migration bridge and the next update time is provided. Similarly to the capability used to collect questions during the TOEP webcast, a chat feature will be

available if anyone has questions or comments for the TOM. This is an addition the two-way bridge.

If we go on, the next chart summarizes all of the major checkpoints and communications that the TOM will undertake. Leading up to the cutover, there will be several checkpoints to assess migration readiness. If all is a go, the TOM will email a notice at 9:30 in Saturday evening that the migration will begin with the maintenance window at midnight. We'll use the same email list that's being used for the TOEP communications. So if you're currently receiving our emails, you're on the list. If you need to be added, there's a link you can use to request this on the napmllc.org website.

At midnight, the WebEx and the bridge will be opened. The WebEx will be accessible throughout the cutover and the TOM will provide updates on the bridge at the top of every hour until 9:00 AM. Thereafter, once we're out of the maintenance window, bridge updates will be provided every third hour meaning noon, 3:00 PM and 6:00 PM.

The TOM will also distribute an email at the conclusion of the maintenance window. If something doesn't go as planned, for example if the maintenance window needs to be extended, the TOM will announce this on all three channels: the WebEx, the bridge and via email. We'll also announce any changes to the communication schedule required. For example, we might keep the

bridge on continuously or extend the hourly updates cadence past 9:00 AM.

We reviewed this approach on the TOEP this week and received good feedback on it and I would appreciate your help in publicizing this in terms of your stakeholders and constituencies so everyone is aware of where they can go to get information as we move through the transition.

So to wrap up, going forward, we'll continue to monitor testing, cutover and other measures of transition progress and communicate the status to all transition stakeholders as appropriate.

And in closing, I'd like to take a look at some of the upcoming TOEP events. So skipping over the March 14th webcast, which occurred earlier this week, the TOM will host the next three webcasts on April 18th, May 9th and June 13th. The TOM will also support the upcoming LNPA Transition Oversight Subcommittee meetings. And as I mentioned, there also will be plenty of outreach during the upcoming Region 1 migration weekend. With that, that sort of concludes the prepared remarks associated with the report. I'm happy to take any questions.

Travis Kavulla: All right. Greg, thank you very much. Oh, okay. One late-breaking, okay.

Greg Chiasson: I wasn't quick enough to get up.

Travis Kavulla: Let that pregnant pause hang there, but go ahead.

Bridget Alexander: This is Bridget Alexander-White, USConnect. I just have a question under the data migration and go-live dashboard. It is more a curiosity question at this point. You have a note that says the NAPM has made a proposal for enhanced testing to support industry-led rollback. Is that proposal public? And if not, when will it be available for us to review? Can you briefly talk about the enhancements or the enhanced testing that's a part of that?

Greg Chiasson: Yeah, and guys, correct me if I misstate this, but I believe that that proposal was filed in the docket so it is public.

Bridget Alexander: Is that new or an existing?

Greg Chiasson: I think it would have -- no?

Bridget Alexander: No. But the plan is in there because of the case.

Greg Chiasson: Okay. I'm sorry as I misspoke on that then. The plan is not in the docket.

Bridget Alexander: Okay. Will it be published for review or I'm assuming the enhancements that have been proposed cannot be discussed at this time or if they'll be shared at a later date?

Todd Daubert: So we made an enhanced proposal through --

Travis Kavulla: Come to a microphone.

Todd Daubert: I'm sorry about that.

Travis Kavulla: And introduce yourself.

Todd Daubert: Okay. My name is Todd Daubert, an outside counsel for the NAPM. So we had made an enhanced proposal to Neustar and we'd ask for a response by midday today. We haven't received a response so I'm not sure if that proposal at this point is moot.

Bridget Alexander: Thank you.

Todd Daubert: Thank you.

Travis Kavulla: Anyone else? All right. Thank you, Greg.

Greg Chiasson: Okay.

Public Comments and Participation

Travis Kavulla: All right. The time has arrived for public comment, and anyone who wants to comment on any numbering issue may do so. And we'll allow you five minutes per speaker for up to I believe we'll say 30 minutes. I know. I'm hoping it will not take that long. Go ahead, sir and introduce yourself.

Bill Reidway: Yeah. Thank you. I'm right on top of my friends from iconectiv here so I'm just going to move this a bit. My name is Bill Reidway. I'm from Neustar. To paraphrase the chairman's remarks this morning, you may have heard of us. I wanted to take a couple of minutes, with your permission Mr.

Chairman, to offer a few more remarks with respect to contingency rollback.

Echoing my friends Tim and Greg, we have not reached agreement with respect to a viable plan or technology solution with respect to Neustar restarting its services. The basis for this is Neustar's belief based on its own experience and based on its communications with the operations and IT folks that work on LNP on a day-to-day basis that the proposal that's been put forward lacks the operational feasibility to be executed without significant cost, time, and consumer disruption. We've described these concerns to the NAPM LLC, to the Transition Oversight Manager and most recently, to the chairman's office at the FCC.

And with respect to your question in terms of the test plan, we do think that this stuff should be out there in the open. And to answer your question, Todd, we're still looking at the document that you all sent over. But if I might, nobody should really have to take Neustar's word for this. Nobody should have to take iconectiv's or the NAPM's or anybody else's. The viability of the rollback plan that's on the table could be validated.

The distinction, the substance of the disagreement between Neustar and the other parties is the nature of what that test would look like. From Neustar's perspective, the only type of

demonstration that would actually tell us what this would look like in real life is a test that simulated what real life conditions would be. What that means is broad participation. It means volume. It means real world conditions. The testing proposals that have been put forward so far are to be very, very blunt overly sterilized. As my friend, Tim mentioned, individual service providers have verified that single transactions that might be necessary under a rollback could be resubmitted.

And with respect, that's never really been the substance of the dispute. The substance of the dispute is whether or not at the level of the Southeast region itself, after a period of material volume having come through the iconectiv NPAC, whether or not in a decentralized uncoordinated manner, hundreds of service providers could effectively get that information back in to the Neustar NPAC on a manual basis without causing undue consumer disruption. And that sort of a test, that sort of a simulation has not been offered up by the parties and that remains the substance of our disagreement.

Neustar also respectfully disagrees with the assertion that any catastrophic issue that could occur with the iconectiv system would be discoverable within 24 hours. Again, based on Neustar's experience, the types of performance and data management issues which can come up in a complex ecosystem of

this sort could arise several days after the cutover at a bare minimum. That's especially true because of the fact that there's a number of constituents as indicated, a number of folks have made a decision to use the system lightly in that first 24 hours so it's going to be very difficult at that time to know whether or not we are actually in the clear. So Neustar again respectfully disagrees with the notion of a limitation of the 24-hour window.

So once again, I think as we're running up to the April 8th timeline and I also want to echo what my friend, Tim, said with respect to all parties having worked very, very hard to get to this point to ensure that this is a successful and smooth cutover. That being said, there are still issues for us to resolve and at the moment, there is no technical solution or agreement for a rollback, which means that if we get to April 8th in the current state that we're in right now, there will not be a way to get back to Neustar's platform.

So that's all, Mr. Chairman. This is not my particular area of expertise, but it's also been asked of me to point out that FCC rules actually have a role for the NANC to resolve disputes involving the NAPM. Those rules in this case have not been followed. We've been dealing individually with service providers and with the chairman's office at the commission. I'm happy to take any questions as well.

Travis Kavulla: Okay. Well, Bill, let's get through public comment and then if people have questions that are addressed appropriately to any or several of the commentators we'll do --

Bill Reidway: Thank you.

Travis Kavulla: Any other public comment? Any other public comment? Okay. Are there any questions for Bill? All right. That was easy. Thank you for that, Bill. I'm not familiar with the rules you're referencing, but I'll be sure to look in to it personally.

John Nakahata: I can address that.

Travis Kavulla: Oh, boy.

John Nahakata: John Nahakata, outside counsel for iconectiv.

Travis Kavulla: Okay.

John Nahakata: So the FCC selection order provided multiple ways to address disputes. One of them was to work for the TOM. Another way to do it was for people to file -- and these are all alternatives. They're not mutually exclusive to one another. Another was to file a petition with the FCC itself. A third would be to invoke where the NANC dispute resolution process is. It's an option. It's not a mandate.

So there is a NANC dispute resolution process. I think I might be the only person who's actually ever invoked it at some

point past in this process, but it is critically not a requirement.

Other Business

Travis Kavulla: Thank you. All right. Anything else? Okay. So for those people who are out of the room, I just want to announce the next set of NANC meeting dates again just so you have them. On April 27th, we'll convene for a teleconference, although you can be here physically if you choose. This room will be available and that meeting is anticipated to run from 9:30 to 11:30 AM. The topic will be primarily at least the Call Authentication Trust Anchor and your final draft of their report which is due May 7th. And then the next meeting of the NANC in person will be May 29th from 9:30 AM to 3:30 PM. That in the main will address the other two workgroups near final drafts of their report - the Nationwide Number Portability issues working group report and the Toll-free Number Modernization issues working group report.

So I would anticipate as I said before asking that those near final drafts be submitted to me and then distributed to the full NANC about one week before each of those meetings, respectively. That should give co-chairs here a better view of their workload in the run-up to that. It will also allow a fair opportunity for the full NANC to deliberate around those work products in case any questions or modifications are going to be

proposed in the full meeting, in which case they would need to somehow round-trip or be registered with a modification before the report was finally submitted about one or two weeks after those meetings occur. But those meetings will be held with the intention of registering official votes on those documents so to the degree that people do discover issues that they have with those reports, that hopefully they can communicate with the relevant co-chairs in the run-up to try to address those concerns.

We have no other business that I'm aware of to take up and the public notice on those meetings will be forthcoming. Apologies for not having the agenda for this meeting out earlier than yesterday. Getting agendas approved is a multilayered process I'm discovering, so we'll endeavor to make those available and published with at least two working days' notice before we next convene. Is there any other comment? Marilyn, do you have anything?

Marilyn Jones: No, I do not.

Travis Kavulla: Okay. Diane?

Diane Griffin: No, sir.

Travis Kavulla: All right. Then we are adjourned. Thank you all.

