

**North American Numbering Council
Meeting Transcript
Thursday, December 7, 2017 (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 | NARUC, Montana |
| 2. Diane Holland | USTelecom |
| 3. Jacqueline Wohlgemuth | ATIS |
| 4. Jacquelyne Flemming | AT&T |
| 5. Greg Rogers | Bandwidth |
| 6. Betty Sanders | Charter Communications |
| 7. Beth Choroser | Comcast Corporation |
| 8. Courtney Neville | Competitive Carriers Association |
| 9. Matthew Gerst | CTIA |
| 10. David Greenhaus | 800 Response Information Services |
| 11. Craig Lennon | Google |
| 12. Carolee Hall (Hon. Paul Kjellander) | NARUC, Idaho |
| 13. Karen Charles Peterson | NARUC, Massachusetts |
| 14. Barry Hobbins | NASUCA |
| 15. Teresa Hopkins | Navajo Nation Telecommunications
Regulatory Commission |
| 16. Jerome Candelaria | NCTA |
| 17. Hon. Crystal Rhoades/Cullen Robbins | NARUC, Nebraska |
| 18. Brian Ford | NTCA |
| 19. Julie Oost | Peerless Network |
| 20. Richard Shockey | SIP Forum |
| 21. Susan Gately | SMG Consulting |
| 22. Rosemary Leist | Sprint |
| 23. Paul Nejedlo | TDS |
| 24. David Casem | Telnyx |
| 25. Bridget Alexander White | USConnect |
| 26. Dana Crandall | Verizon |
| 27. Robert McCausland | West Telecom Services |
| 28. Prof. Henning Schulzrinne | |

Special Members (Non-voting):

- | | |
|------------------|-----------|
| 1. Ann Berkowitz | Somos |
| 2. Chris Drake | iconectiv |

Commission Employees:

- Marilyn Jones, Designated Federal Officer (DFO)
- Kris Monteith, Wireline Competition Bureau
- Ann Stevens, Competition Policy Division, Wireline Competition Bureau
- William Andrlle, Competition Policy Division, Wireline Competition Bureau
- Jean Ann Collins, Competition Policy Division, Wireline Competition Bureau
- Heather Hendrickson, Competition Policy Division, Wireline Competition Bureau
- Michelle Sclater, Competition Policy Division, Wireline Competition Bureau
- Sherwin Siy, Competition Policy Division, Wireline Competition Bureau
- Carmell Weathers, Competition Policy Division, Wireline Competition Bureau

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

IV. Documents Introduced.

- (1) Agenda
- (2) NANC Overview Presentation
- (3) NANC Referrals Letters re: Call Authentication Trust Anchor: Selection of Governance Authority and Timely Deployment; Nationwide Number Portability: and Toll Free Assignment Modernization
- (4) Summary: Call Authentication / Trust Anchor NOI
- (5) Summary: Nationwide Number Portability NPRM / NOI
- (6) Summary: Toll Free Assignment Modernization NPRM
- (7) North American Portability Management (NAPM) LLC Report to NANC
- (8) LNPA Transition Oversight Manager (TOM) Report to NANC

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VI. Summary of the Meeting

Welcome

Travis Kavulla: I see you’ve all navigated the FCC security system. I’m Travis Kavulla, the chair of the newly rechartered NANC. It’s a pleasure to be here. I’m a novice on these issues and I guarantee you, basically every one of you sitting around this table knows more about numbering than me, so I look forward to working with you and learning from you.

We have, as you can see from the agenda in front of you, a lot of policy issues to bite into during the couple of years that we’re chartered for. We have a stacked agenda today, so I won’t belabor things other than to say what I don’t know about numbering I do know about the adjunct officialdom that comes

with being a state utility regulator and I've managed a number of similar processes before. So if you have ideas on process, if you feel that something is working well or more importantly not well about the way the group is deliberating, I just encourage you during the course of my tenure to bring it to me and to make suggestions on how we can better work together as a group to deliver the work product that the FCC requests of us.

With that brief word of introduction, I'll turn it over to the number of people who actually will know something about the substance beginning with Kris Monteith who is joining us to my right.

Opening Remarks

Kris Monteith: Good morning. Thank you very much, Commissioner. Welcome to the FCC and to the newly rechartered North American Numbering Council or NANC. I see some familiar faces around the table and some new faces. I look forward to working with you over the course of the next two years and getting to know you in your role on the NANC.

I want to start by thanking you for sharing your time, and your expertise, and your insights into how we can advance the chairman's agenda to modernize administration of the North American Numbering Plan to ensure the efficient impartial assignment and use of vital numbering resources in the changing modern world of communications.

As you know, Chairman Pai has named the Hon. Travis Kavulla, commissioner of Montana Public Service Commission, to serve as the chair of the NANC; and Diane Holland, vice president of Law and Policy for USTelecom, to serve as vice chair. Along with Chairman Pai, I thank them very much for agreeing to lead the NANC. I know you are in very good hands with them.

You're also in good hands with Marilyn Jones, the designated federal officer, and Michelle Sclater, the alternate DFO. They have done a great job in pulling together this NANC and have done so on many other occasions in the past in our core part of our numbering team within the Wireline Competition Bureau. They'll do a fantastic job of helping you navigate the ins and outs of the federal advisory committee structure and helping to guide your work. Momentarily, you will also meet other members of the Wireline Competition Bureau's numbering team. It's been my great fortune to work with them over the past couple of years.

Some of you may have heard me say before but numbering is an issue that is near and dear to my heart. Not everyone feels that way, believe it or not, but I truly do. I started my career at the FCC in 1997 in what was then the Common Carrier Bureau and the Network Services Division, and numbering issues were among the first issues that I worked on. I was fortunate

to be the DFO myself to the first NANC that was chaired by Alan Hasselwander. And I might note that Diane Holland, who is your vice chair, also was a designated federal official. Although I moved within the commission, I did other things in other bureaus. I came back to the bureau in 2015 and have been very involved with numbering issues for the bureau since that time.

In my humble opinion, there is no better time to be working on numbering than right now. Chairman Pai and his very capable staff are committed to advancing numbering issues and the role of the NANC in that mission. As you know and as you'll talk about later during this meeting, the commission has taken several important steps since Chairman Pai became chairman in January. A notice of inquiry was issued seeking comment on implementing authentication standards for telephone calls and, in particular, on the ATIS-SIP Forum proposals thus far which we adopted in July.

We subsequently did a notice of proposed rulemaking on toll-free assignment modernization in September, and then in October we did a notice of inquiry and a notice of proposed rulemaking seeking to remove barriers to Nationwide Number Portability. So there's really no better time to be involved in numbering in my humble opinion, as I said. In the numbering team, we sort of chuckle amongst ourselves at times and say, we're in, we're finally in, numbering is cool.

In any event, the NANC has played a pivotal role in many other numbering matters, of course, including the local number portability transition, oversight of several important numbering contracts, and important roles in billing and collection. So you will have a full plate of issues on which to work and we are very, very grateful for, again, your dedicating your time and your expertise and your resources to this important endeavor.

Please think of the Wireline Competition Bureau, myself, and Marilyn and the others that you'll meet as your staff. We are your staff. We're here to support your work and to support the success of the NANC. With that, I will turn it back to Commissioner Kavulla.

Introductions

Travis Kavulla: Wonderful. Thank you, Kris. We'll go around the room and do some brief introductions. Diane is listed as leading this, so I don't know if she's thought up of a cool icebreaker game to play. But I've already introduced myself, and I'll turn it over to her.

Diane Holland: I have not. Good morning everyone and welcome. I appreciate everyone who is on this committee and ready to work. If you're anything like me and as busy as the commission has kept everyone lately, it's no small task to take this on in addition to what everyone's doing. I'm very happy to be here. I got a few welcome homes this morning which made me

feel really good. It is home to me. I spent almost two decades here at the FCC and, although my first job was not working on numbering, it was one of the first substantive areas that I worked on serving as the DFO and serving with Marilyn and Michelle later on in that process. I'm really happy to be here. I am excited about getting back into numbering which, when I say that, people think, eh. But trust me. I'm as excited as Kris is about getting back into the substance of numbering. Thank you.

Travis Kavulla: Let's go around the room.

Diane Holland: I should've said that I'm with USTelecom.

David Greenhaus: Good morning. My name is David Greenhaus. I'm with 800 Response Information Services. This is my third term on the NANC. My company primarily, as you can tell, deals with toll-free communications.

Susan Gately: Hi. I'm Susan Gately with SMG Consulting. I'm the economic support for the Ad Hoc Telecommunications Users Committee which is a group of enterprise customers that participate in federal regulatory matters and have a great interest in numbering matters.

Jacquelyne Flemming: Hi. My name is Jackie Flemming. I'm with AT&T. I recently picked up numbering issues in my company, but I have a background in numbering from when I did

interconnection negotiations in that work. I'm happy to be here and looking forward to it.

Greg Rogers: Greg Rogers with Bandwidth. I handle our regulatory and public policy matters which, for us, is significantly tilted toward numbering issues at Bandwidth.

Betty Sanders: Good morning. I'm Betty Sanders with Charter Communications. I'm a returnee to the NANC, but I have background in numbering and 911. I've been in the telecom communications industry for some time, which I won't date myself. With that, I'm very excited to be here and look forward to working with everyone. Thank you.

Beth Choroser: Hi. Beth Choroser. I'm with Comcast's Federal Regulatory Group. Like, Jackie, I have a lot of experience in a couple of decades in doing interconnection agreements and working on numbering issues, 911 issues. You kind of name it. And I'm on the NANC for the first time, but very happy to be here.

Courtney Neville: Good morning. Courtney Neville with Competitive Carriers Association. I'm our associate general counsel so I work on both regulatory and legislative issues. This will be our second term on the NANC and looking forward to jumping back in.

Matthew Gerst: Hi. My name is Matt Gerst. I'm with CTIA. I'm in the Regulatory Affairs Department and done a number of

iterations on the North American Numbering Council. I have greatly appreciated everything I learned from everybody around the table. I'm looking forward to continuing to work with you all.

Craig Lennon: I'm Craig Lennon. I'm from Google. I work on Google's Network Infrastructure Team managing voice and messaging interconnection. That is the infrastructure unit that supports numerous and various Google products and services.

Carolee Hall: Carolee Hall, Idaho PUC staff. I'm the alternate for Commissioner Kjellander who could not attend today because he has a hearing.

Karen Charles Peterson: Karen Charles Peterson, Massachusetts NARUC representative, a returning member to the NANC. Thank you.

Cullen Robbins: Cullen Robbins from the Nebraska Public Service Commission. I'm actually the alternate for Commissioner Rhoades here. We've had representation on the NANC for quite a long time, I believe.

Crystal Rhoades: I'm Commissioner Crystal Rhoades from Nebraska.

Barry Hobbins: Good morning. I'm Barry Hobbins. I'm the Public Advocate for the state of Maine. I represent the National Association of State Utility Consumer Advocates known as NASUCA. I'm honored to be serving with all of you.

Teresa Hopkins: *Yá'át'ééh abiní*, good morning. I'm Teresa Hopkins with the Navajo Nation. I'm currently the director of the Telecommunications Regulatory Commission. Anything to do with telecom or telecommunication, that's me. Thank you.

Jerome Candelaria: Good morning. Jerome Candelaria, at NCTA - the Internet and television association. I'm an attorney for CCTA, the California Telecommunications and Cable Association. I've been engaged in numbering for some time with the understanding of the real-world implications for not only competitors but for consumers, so I'm looking forward to my continued participation.

Brian Ford: Brian Ford with NTCA, the Rural Broadband Association. This is my second term on the NANC, but the association's been on for several years. We represent about 850 small rate of return carriers, those companies you see in the little flyover country. Those tiny little towns, that's where what our members serve. I've been working on numbering off and on for several years. Actually several years ago when I was about six weeks out of law school was my first experience with numbering issues. I wondered back then what I was getting myself into, and now I'm actually starting to enjoy the numbering issues. So I'm glad to be back on the council.

Tom McGarry: Tom McGarry with Neustar. I've been working on numbering since the '80s.

Julie Oost: Well, how do I top that? Good morning. I'm Julie Oost. I handle the regulatory and contract work for Peerless Network. This is the first time that Peerless is on the NANC, and we appreciate being here.

Richard Shockey: I'm Rich Shockey. I'm the chairman of the Board of the SIP Forum. All of this business will start shaking and the trust anchor; it's all my fault.

Rosemary Leist: Hi. This is Rosemary Leist with Sprint. I've been around for a long time.

Paul Nejedlo: Hi. Paul Nejedlo with TDS. I handle all the number administration for ILECs and CLECs-ing cable companies. This is our first time in the NANC. We look forward to the opportunity.

David Casem: Hi. I'm David Casem with Telnyx. We're one of the first VoIP companies that took advantage of the 15-70 order. It's an honor to represent Telnyx and the greater VoIP industry on this committee, so I'm looking forward working with all of you. I also wanted to mention that I'm joined here by my colleague, Sarah Halko. She manages all of our numbering regulatory initiatives at Telnyx.

Bridget Alexander White: Good morning. My name is Bridget Alexander White. I'm representing USConnect. This is our first time on the NANC. I work with numbering, interconnection agreements and LNP implementations. I've probably worked with a

lot of you around this table or some of your colleagues, and I'm very pleased to be able to represent our rural companies at the NANC. Thank you very much.

Dana Crandall: Hi. I'm Dana Crandall with Verizon. This is my first time to sit on the NANC, but Verizon has been a NANC member for a number of years. I've been doing numbering for quite a while, I'll leave it at that.

Robert McCausland: Good morning. I'm Bob McCausland with West Telecom Services. I've been in the industry since the '70s and dealing with numbering issues in various capacities on and off since the '80s.

Henning Schulzrinne: Hi. Good morning. Henning Schulzrinne. I work at Columbia University, but I'm not presenting them because they don't do numbers. But 20 or so years ago I tried to get rid of telephone numbers. I wasn't too successful, so this is my penance here. So I look forward to working with everyone.

Chris Drake: Good morning. Many of you will have already guessed that I'm not Suresh. I'm Chris Drake. I'm the CTO at iconectiv which is a marketing brand name for Telcordia Technologies, which many of you may know better. I've been in numbering for a number of decades. I'm not saying how many, but my very first thing I had to do was the software engineering of translations and routing in the Nortel digital switches. So I

go way back and I don't think I've ever escaped numbering in all the years since.

Ann Berkowitz: Why would you want to? Hi. I'm Ann Berkowitz. I'm the chief administrative officer for Somos. Somos is the toll-free number administrator. I've been with numbering for a while as well.

Jacqueline Wohlgenuth: Good morning. I'm Jackie Wohlgenuth with ATIS. This is my first term on the NANC and we're pleased to be here.

Marilyn Jones: Good morning. I'm Marilyn Jones. I'm the DFO for the NANC. I've been in that capacity since 2006 when the NANC fell under the Telecommunications Access Policy Division. When it moved to the Competition Policy Division, I moved with it and I've been doing it since then except for a six-month break when I went to Afghanistan with the U.S. Army Reserve. During that time, Sanford Williams stood in for me. Like Kris and Diane, I'm very excited to be here and happy to see all the old faces and looking forward to meeting the new faces. Thank you all for your time.

So I'm usually the face of the NANC, but there's a whole team behind me of folks at the FCC that helps out with the NANC and other numbering issues. So at this time I'd like to also introduce those folks.

Ann Stevens: We're standing over here in the corner. I'm Ann Stevens. I'm one of the managers who oversees numbering for the Competition Policy Division. I probably am involved in pretty much every numbering issue that comes our way with the support from all of these good folks. We have another of our managers who hopefully is on the bridge, if the bridge is up this morning. Heather, are you there?

Heather Hendrickson: Hi. Yes, I'm here. Hi. I'm Heather Hendrickson. I'm an assistant division chief in the Competition Policy Division. I too have been working on a lot of numbering matters, in particular the most recent rulemakings. I'm happy to join.

Sherwin Siy: Hi. I'm Sherwin Siy, special counsel at Wireline in the Competition Policy Division. I'm going to be the liaison in the working groups on Nationwide Number Portability and Call Authentication Trust Anchor.

Michelle Sclater: Hi. I'm Michelle Sclater. I'm the alternate DFO. I've been working on numbering issues since I came to the commission in 2007 - local number portability, the transition and toll-free mainly. But I'll be the liaison in the numbering administration oversight working group.

William Andrle: Good morning. I'm Bill Andrle. I'm new to the commission and the numbering team. I joined in December 2016 from the world of carriers and government communications.

Today I'll be briefing you on the toll-free modernization proceeding, but I work on numbering generally.

Jean Ann Collins: Good morning. I'm Jean Ann Collins. I also work in the Competition Policy Division. I'm relatively new to numbering. I lead the interconnected VoIP authorization application process. I've been helping out with the toll-free modernization and wherever else they need me with numbering.

Carmell Weathers: [Off-mic] Good morning. I'm Carmell Weathers. I've been with the FCC for a long time. [Inaudible] I'm looking forward to meeting all of you, the old faces and the new ones. I assist the DFO and any assistance, whatever, feel free to contact me. [Inaudible]

Kris Monteith: We are being very, very efficient this morning. We have already gained an hour approximately. So Marilyn, perhaps you can jump in.

Marilyn Jones: Sure.

Kris Monteith: Chairman Pai will be here later in the morning.

Overview of the Federal Advisory Committee Act
and NANC Working Groups

Marilyn Jones: So one of the things that I want to achieve during this meeting is I want to have everyone, all of the members of the NANC, involved with the NANC - which means that I

need each one of you to be participating in a working group. To achieve that, I'm going to go over some of the leadership that we already have in place for some of the working groups and then do some more in-depth presentations. At the conclusion of that, there's going to be an ask for you to reach out to me and let me know which working group you would be most suited for or you feel you would be most suited for. Because we need to get these members to the working group so we could start our charges from the chairman.

I must start off with the overview of the NANC and the working groups, and then later in the afternoon we're going to get more in-depth presentations. So for those of you who are new to the NANC, you could kind of figure out where do I fit in, what am I most interested in, and then we can go from there. Once we get the NANC members on the groups, we also want to do some outreach to non-NANC members. So I ask each of you if you know non-NANC members that you feel will be suited for some of these, some of our issues, let me know.

Travis Kavulla: I think that was them being silenced.

Marilyn Jones: Oh, okay.

Travis Kavulla: So you can proceed uninterrupted, Marilyn.

Marilyn Jones: Thank you. With that in mind, let's start with the overview of the NANC. We can proceed. I do expect the

Chairman in this morning, so at some point we may have to interrupt what we're doing to welcome the chairman of the FCC.

The slides are projected throughout the room. Also these will be available online. John Manning of Neustar maintains a website for us called the nanc-chair.org. All the documents that we normally present at the NANC meetings are on that website. You can directly -- I forgot the web address. I think it's nanc-chair.org. Also you can access it from our FCC NANC website. If you click on that document's link, that would take you to the website also.

So let's start off with what is the NANC. For those of you who are new to the NANC, the NANC is a federal advisory committee. As such, it is subject to rules and regulations. In order to adhere to those rules and regulation, we work closely with our Office of General Counsel. When we're creating a federal advisory committee, one of the things we have to do is be conscious of the membership balance. So with this charter, as in previous charters, we have selected members who we felt were balanced in the expertise and viewpoints that are necessary to address the issues that we would be considering. And we will speak to those issues later in the presentation, later doing some other presentations.

This particular charter is normally a two-year charter. It can be renewed every two years if needed. But this charter was

renewed on September 18, 2017 and so it would expire September 18 2019.

The mission. The stated mission of the NANC is to recommend to the commission ways to modernize administration of the NANP in order to ensure the efficient and partial assignment and use of vital numbering resources in the changing modern world of communications. As authorized by the Federal Advisory Committee Act, the council is authorized to facilitate its work through informal subcommittees and we will have a number of those. They have been announced publicly. For this charter, we're going to have one standing committee working group and we're going to have three issue-specific committees. These committees will report their activities to the reformed NANC and note for the NANC recommendations that will come to the commission.

A big part of the work we do at the NANC is done through our working groups, and so that's why we encourage all the members to participate in at least one working group. Some members do participate in multiple working groups if time permits for them. In each working group, the schedule depends on really what their charge is and how long they have in order to reach that charge. Some of the working groups we have, they met monthly. Then other working groups met less frequently, maybe once a quarter. But we also have working groups that meet

via teleconference if they have to meet frequently. But usually, if it's a monthly meeting, some other working group meetings were in person.

As NANC members, we would like each of you to be assigned to at least one working group. If you don't have a sense or feel for which working group you belong to, Michelle and I can help you figure out that issue so don't feel like you have to know right away. If you don't know, just reach out to us and we will help you work through it.

The working groups, as I mentioned before, they include NANC members but they also are going to include non-NANC members. So if you know anyone who you think will be interested in a certain issue and has certain expertise that will help us resolve a certain issue, by all means let me and Michelle know and we can start the nomination process for them because people who are not already NANC members have to go through what we call a vetting process, the ethics review. All of you have been through that process. It's similar to that process. For the working groups, we do ask -- with the full NANC, we look at the membership balance, there are FACA [phonetic] rules related to our working group. So we do have to be conscious of whether we violate the quorum and things of that nature.

I have a question in the room. CTIA.

Matthew Gerst: Hi. Matt Gerst with CTIA. Just a follow-up question on having non-NANC members nominated to be part of the working groups. Do they have to be nominated through a NANC member or can they independently reach out to you?

Marilyn Jones: They can independently reach out to me.
Yes.

Matthew Gerst: Okay. Thanks.

Marilyn Jones: That's a good question, thank you. Okay. So let's look at some of the working groups that the NANC has. As I mentioned, we have four working groups. We have a standing working group which will exist throughout the charter of the NANC. That working group is entitled the Numbering Administration Oversight Working Group. Then we also have three issue-specific working groups. These working groups will be active until the resolution of the issues that they're charged with resolving.

The issue-specific working groups are the Call Authentication Trust Anchor Issues Working Group, the Toll-Free Number Modernization Issues Working Group, and the Nationwide Number Portability Issues Working Group. For each working group we're going to have FCC liaisons assigned to the working groups, and later in the meeting the FCC liaisons are going to present more in-depth information about each of the working group charges.

So let's go over some of the leadership that we've assigned for the working groups so far. For the Numbering Administration Oversight Working Group, that's the standing working group that would exist throughout the charter of the NANC. Commissioner Kjellander from NARUC Idaho has agreed to chair that working group for us. The FCC liaisons are going to be myself; Michelle Sclater, the alternate DFO; and Myrva Charles. Myrva is a colleague who works with our contract office, so she's a contract officer representative.

The task for this Numbering Administration Oversight Working Group is going to be similar to the oversight functions that the NANC has performed in the past, basically to oversee the performance and activities of the numbering administrators and the Billing and Collection Agent. In order to achieve this mission, we've assigned three subcommittees to the working group. The first subcommittee is the Local Number Portability Oversight Subcommittee, and Beth Carnes of Cox has agreed to chair that committee. We also are going to have a Local Number Portability Administrator Transition Oversight Subcommittee, and Deb Tucker of Verizon has agreed to chair that committee. And we're going to have an FCC Contract Oversight Subcommittee. Betty Sanders of Charter and Philip Linse of CenturyLink have agreed to co-chair that committee.

As the name implies, for the Local Number Portability Oversight Subcommittee, that subcommittee is going to be responsible for the activities of the LNPA - the Local Number Portability Administrator. Because there's a transition going on, we also have the Local Number Portability Administrator Transition Oversight Subcommittee. Even though this is a standing working group committee, that particular subcommittee is going to be an issue-specific committee. At the end of the transition, that subcommittee will be deactivated.

The FCC Contract Oversight Subcommittee, as the name implies, that subcommittee will oversee the FCC contracts. The FCC has contracts for the North American Numbering Plan Administration, the Pooling Administration, and the Billing and Collection Agent. That committee, as in the past, would be responsible for the technical requirements document for those contracts and also for the annual performance evaluations of those contracts.

For the issue-specific committees, there are three of those committees, the first one is the Call Authentication Trust Anchor Issues. In that committee, we've selected tri-chairs - Jacqueline Wohlgemuth of ATIS, Beth Choroser of Comcast, Rosemary Leist of Sprint. They've all agreed to tri-chair that committee. Our FCC liaison will be Sherwin Siy.

For the Toll-Free Number Modernization Issues Committee Working Group, we have co-chairs Craig Lennon from Google and Susan Gately from Ad Hoc. Thank you. The FCC liaisons would be Alex Espinoza. Alex is not here today. He had other commitments. But Bill Andrle will be here later to present you in-depth issues about that committee. For the Nationwide Number Portability Issues Committee, we have co-chairs. Courtney Neville from CCA has agreed to co-chair, as well as Richard Shockey from SIP Forum. The FCC liaisons for that committee are going to be Sherwin and Bill Andrle.

It's going to be a little different this year because of the issue-specific nature of some of our working groups, so I want to get started rather quickly with getting the memberships for these working groups because we might have a vetting aspect issue to some of these. So once we're done with the presentations and you figured out how you want to engage with the NANC, then if you could shoot me an email and cc Michelle Sclater - she's the alternate DFO; the NANC chairman; the vice chair; the co-chairs or the chair of the actual committee that you're interested in; and the FCC liaison.

Travis Kavulla: Got all that?

Marilyn Jones: Or you could just email me and I'll make sure all those folks -- whichever you prefer, your preference. So since I want to move fairly quickly with this, if you could

do it by next Thursday, that would be great because I want to be able to sit down and make sure everybody has an assignment or has requested an assignment. I need to get together these things fairly quickly and get them approved through the FCC leadership also, so that would be great. Any questions?

Rosemary, then Robert.

Rosemary Leist: Rosemary Leist with Sprint. I just want to clarify. If there are five or six Sprint people who would like to be included as a member in these groups, the NANC member would send an email for the whole company or does everybody stands alone send the email to you to let them know what they want to do? Or is it just us at the table?

Marilyn Jones: Right. I can be flexible in that regard actually, Rosemary. So if you want to do it, like you're Sprint, if you want to say, Marilyn, here are the Sprint nominees for the various committees, that works for me.

Rosemary Leist: Okay.

Marilyn Jones: I'll make sure the people who need to know know about the nominations. Yes, Robert.

Robert McCausland: Forgive me if this was already covered. Do we have any representation for Canada or for the Caribbean areas or other areas of the North American Numbering Plan?

Marilyn Jones: We have honorary membership for Canada, the Canadian regulatory, our counterpart in Canada. They're honorary members. Yes.

Robert McCausland: Do we have candidates who can participate on some of those subcommittees? Obviously some of these issues implicate their areas too.

Marilyn Jones: Not currently. No, we do not.

Kris Monteith: But I think that's something - that's a very good point. I think that's something we could do. We could reach out to them --

Marilyn Jones: Right.

Kris Monteith: -- if we could enlist their support and their participation.

Robert McCausland: Okay. Let me know how I can help.

Diane Holland: I just have a clarifying question. I wanted to know would it be helpful or are you expecting that when folks nominate people, that they give more information than just the name? Maybe their background? Or would that be helpful in trying to figure out who should be selected?

Marilyn Jones: Yes, that will be very helpful. Thanks, Diane. Because we're trying to achieve balance on the working groups also, so you may not get your first choice. We may come back to you with a different recommendation. So it would be very helpful. But as far as the NANC members, I think I have

most of your information. But if you know someone who's not a NANC member yet, that information would absolutely be helpful and we might end up reaching out for further information because of the vetting process involved with non-NANC members.

Travis Kavulla: Jerome.

Jerome Candelaria: Jerome Candelaria, NCTA. Do you envision any kind of limit of membership in the subcommittees or do we hope to have the more the merrier?

Marilyn Jones: Well, yes, there is a requirement under the FACA - the Federal Advisory Committee Act - that you don't go over, I think, it's a quorum of the actual full committee. Because then you could be seen as having the actual full committee meeting if you have more people in the working group than you have in the committee. So we have to stay below a quorum, I think.

Jerome Candelaria: Even a quorum of non-NANC members if the sub --

Marilyn Jones: No, non-NANC members don't count toward the quorum.

Jerome Candelaria: Right. So you don't envision any kind cap on non-NANC members participating in the subcommittees?

Marilyn Jones: Right.

Travis Kavulla: The question, Marilyn, is approximately how large will these working groups be do you anticipate?

Marilyn Jones: In the past we haven't had a problem with being too large.

Kris Monteith: I don't think we have an absolute cap on the number of folks that can be on a working group, but we will want to look at it and make sure that it's not unduly large so as to not be effective and efficient in achieving its work. But we have not set an absolute cap. We'll see who's interested in this. Marilyn is saying we look to balance the membership. We look to the mix of NANC members versus non-NANC members. One important aspect of the working groups is to have an established membership rather than folks who are coming in and then leaving, participating sometimes and not otherwise.

Travis Kavulla: If and when Marilyn's store is being beat down by eager subscribers of the work groups, I assume she can tackle that issue. I will say just recently, and by recently I mean 40 minutes ago, I received several letters from Kris directing NANC's work on these three subjects. Just browsing them briefly, each of them requires a report on the respective NPRM and NOI topics of Call Authentication Trust Anchor, Nationwide Number Portability, and toll-free assignment modernization within four months of the date of the letter which is today.

We're talking about getting reports out from the NANC, the full NANC by early April. So as Marilyn has underscored, it's

important to get these working groups stood up early within the next couple of weeks so that they can begin their work and so that the full NANC has time to deliberate on their work product. Even though, as I said, I'm unfamiliar with the nuance of the topic, I have read through a couple of the past transcripts of NANC meetings - scintillating reading. This will be a lot different.

I mean people who've participated on the NANC before are probably familiar with the kind of seriatim reports of the various numbering functions where people just kind of sit around and listen to people reporting. I mean the topical nature of this structure of the NANC is going to make it really different from those past experiences. Although I expect the working groups will do great work and produce phenomenal draft reports, that doesn't mean the door is closed to revisions or edits from the NANC itself. I expect everyone to participate in a robust debate around this table and come in with an open but skeptical mind about the reports that surface from the working groups so we can create a product that represents a consensus for the Wireline Competition Bureau and the commissioners' deliberation.

We're still ahead of schedule. It's amazing. Marilyn, did you have anything else to --

Marilyn Jones: That was it.

Travis Kavulla: Oh, I'm sorry. Yes?

Beth Choroser: Beth. So if the full NANC is permitted to sort of look at the reports - I assume draft reports at that point - and do edits, is that supposed to occur before the April 7th or approximate due date of the reports?

Travis Kavulla: Yes, I assume.

Kate Monteith: Yes.

Travis Kavulla: As I said, I've received these letters today. What I would propose is that Marilyn will distribute them to all of you in electronic form at the conclusion of this meeting, along with a brief synopsis of how the working group appointment process will work. Perhaps even a kind of -- I don't want to at this point begin specifying draft timelines because that really needs to be a work product that comes up through the working group chairs, but I think it will be my goal, Diane's goal, to make sure that at each step of the process the people who have to sort of raise their hand on this to say yes or no, I agree, I don't agree or I have questions has enough time to do that. That's definitely apart from my perspective about the integrity of the process. But we are, at the end of the day, we're working. We exist to serve and we're working within a four-month constraint.

Diane Holland: I would just add that I would envision something like backing out from the due date some time for us to deliberate as a body on the interim report, that kind of thing,

if you're familiar with how the BDAC has been working recently. So yes, that needs to be part of the process.

Marilyn Jones: Thank you.

Travis Kavulla: Yes?

David Greenhaus: I have one other question about the working groups. When there is an outstanding NPRM or NOI or what have you, will the working groups be reviewing the comments and reply comments in their deliberations in the work that they do?

Marilyn Jones: I'm sorry, David. I don't think I'm following your question.

Travis Kavulla: Give that another run.

David Greenhaus: My question is that if there's an outstanding proceeding going on --

Marilyn Jones: Right. We share it for all of the issue-specific groups.

David Greenhaus: Right. So my question is, do you expect that the working groups would be reviewing and referencing the various comments that are being filed or that have been filed on those issues?

Marilyn Jones: Right. To me, honestly, personally, I expect you to bring your own expertise and your own opinions. I don't necessarily think you have to go through the FCC records

and be a part of the FCC records in order to participate in those working groups.

Travis Kavulla: You're not. You're not confined to the record.

Marilyn Jones: Right.

David Greenhaus: Right. Right. That was it.

Marilyn Jones: But the record will help you be informed of the issues and that's why in part we have the FCC liaison available, yeah.

David Greenhaus: So it's all available in --

Marilyn Jones: Right. If you need help getting any information about the record, your FCC liaison will be available for that purpose.

David Greenhaus: Great. Thank you.

Travis Kavulla: I think on all of the relevant NOI and NPRM dockets, except maybe I think there's still a reply comment around for one of them out. But I believe the record is essentially complete for our input. Right?

Marilyn Jones: Right.

Kris Monteith: Unless those who've worked, obviously, you've all have worked very closely with the commission. There's also robust at times ex parte presentations that are made to the commission on the various issues. So those also can be taken into consideration in looking at the issues and helping

to inform how you look at the issues. But as Travis and Marilyn are saying, we really are looking to you as the experts in the field to bring your expertise to bear on the issues.

Marilyn Jones: Okay. Rich Shockey, then Ann Berkowitz.

Richard Shockey: Marilyn, sort of a follow-up question to this. Are submissions to the working groups whether as an open docket considered ex parte?

Marilyn Jones: No. You mean the recommendations through the NANC?

Richard Shockey: Yeah.

Marilyn Jones: No. I think under our FACA rules, they're not.

Richard Shockey: No, they're not. They don't require easy a task?

Marilyn Jones: No.

Kris Monteith: No. Those working group deliberations, although the FCC has a representative that may be monitoring over all the work of the working groups, you are not deliberating in a context where you're making a presentation to the FCC in that context.

Richard Shockey: I just wanted to make sure of that for clarification.

Kris Monteith: Yes. Thank you, Richard.

Ann Berkowitz: Hi. Ann Berkowitz with Somos. I'm assuming we'll see this when we see the letters, but are the working groups asked to report on a specific thing or just not the broader overall NPRM, which I think may speak to your question about the record? I would imagine that there are specific things you're asking the working group to give an opinion on.

Marilyn Jones: Absolutely. Yes. The letter charges the NANC to look at specific issues. Let me see. Maybe we have time for one of those presentations now. Normally I'm followed by OGC to just hone in more on the working group appointment process, but we do have some time in between that. She's not available until later, so --

Travis Kavulla: Maybe Sherwin with the Call Authentication Trust Anchor?

Marilyn Jones: Yes. Sherwin.

Travis Kavulla: If we're going to get you out of here early, it's going to be great.

Sherwin Siy: Thanks everyone. I just need a second to get the slides up and running.

Travis Kavulla: Just for the AV people, if you could please check that the call bridge is up and running. I've received at least one message that suggests that callers have

been dumped from the bridge. It's fine if they're muted; just don't get rid of them altogether. Sherwin.

Overview of the Call Authentication Trust Anchor

Notice of Inquiry

Sherwin Siy: Thank you. So, as I said, I'm Sherwin Siy in the Wireline Bureau and I'm here to talk to you about the Call Authentication Trust Anchor NOI, both to just sort of give a quick summary of what's in the NOI and also more specifically the questions that I think that the commission is putting to you in the NANC and to the working group.

Just as a matter of background, what we have in the NOI itself, we sought comments on call authentication standards. These are the SHAKEN and STIR standards. We'll go into that in very brief, very abstract and not particularly technically adept from my perspective detail. I'm not an engineer. There are many people here who can correct me thoroughly on anything I get wrong.

We sought to comment on the standards and also the governance structures for implementing those standards, basically who does what in ensuring that this call authentication system works, what are the bodies and the structures that are in place, who has to talk to whom in order to get this to work, and finally, the commission's role in ensuring that there is a speeding adoption of this.

That's what the NOI is asking. What we're asking from the NANC is more specifically how do we develop that timeline for speeding adoption, what are the milestones and the timelines for that to happen, how do we know that this is progressing well and that these timelines are being met, and also what are the coordinating bodies for the system, how they should be selected, et cetera.

A quick bit of background on the need for call authentication - why we're doing this. As you know, robocalls are the primary the largest source of complaints to the FCC and the FTC as well. Spoofed calls are a huge part of why this is a problem. It interferes with ability to enforce on robocalls. It causes all sorts of problems with enforcement and consumer confusion. Authentication is a way of ensuring that when a call is originated, the recipient - whether that's a terminating carrier, whether that's the end user, if that information is passed on - the recipient knows that the declared number that they see is actually the number that it came from. That's what these standards were set up in order to do.

You'll see referenced quite often in this, to STIR and SHAKEN, these are the basis for the standards that are used for authentication. STIR is a set of standards developed by the IETF. SHAKEN is a set of standards developed by ATIS and the SIP Forum implementing STIR in a more concrete fashion. I've

also laid out that basically their work has been broken up into three phases. Two of them have been completed and one of them is in progress.

Phase 1 detailing sort of more of the technical details of how the various keys and certificates are to be, well, how the process is actually going to work from system to system.

Phase 2 - talking about how certificates, and we'll get to that in a second, basically how carriers are going to identify themselves and verify themselves on that network. How those certificates are managed and also the governance structures. I've highlighted this because this is the phase in which we want the NANC's input at this stage most critically.

Phase 3, which ATIS is working on right now, involves how that information is conveyed and used and presented to consumers.

I would call this a gross oversimplification of the SHAKEN standards, only that's a disservice to gross oversimplification. I think basically what I want to do is just sort of indicate some of the relevant points involved in the standard that informed the work that we have to do now. The basic idea behind call authentication is that an originating carrier will sign a call initiation with a digital certificate and encrypt a private key. That when it goes out to the network, a terminating

carrier wanting to verify that checks that signature against the public key that's held by a separate service. That can be held.

Somebody will have basically a directory of authorized carriers and their public keys. The receiving carrier can check that directory and say this call that says it came from Carrier A, the key matches that of Carrier A; therefore, this is an authentic call and we will tell the user we will treat this as a genuine call, as something that's been authenticated.

The reason I bring that up is a lot of the questions that need to be resolved have to do with who handles those certificates, where they come from, who gets to be designated as authorities to hand out those certificates to carriers, and which of those carriers and which of the service providers meet the criteria to be granted a certificate. In order for this system to work, there needs to be a chain of trust. If anybody can just apply and get a certificate, anybody can sign the call. That defeats the purpose of having an authentication service.

So this leads us to the questions of the governance structures. Who is going to be issuing these certificates to carriers and service providers? Well, certification authorities. Who will grant people the ability to be certification authorities? Who will run through the checks to make sure that they are qualified to do so? And who will run through the checks to make sure that service providers who want

to participate in this system are qualified to do so and trusted to do so? That would be somebody known as the policy administrator.

Who sets the rules for this policy administrator as to how certificates are going to be issued, how they might be revoked if necessary? Who qualifies to participate in these? That would be the governance authority. Who are these bodies? That is something that we actually want to know.

The selection of the GA and the PA themselves, the governance authority and the policy administrator themselves, are outside of the bounds of the standards that had been put forward. This is something that I think we've sought comment on in the NOI. We've received a good amount of input, but we also are looking for much more specific decisions to come from the NANC and the working group in terms of what are the qualifications and who should do this.

Just to finish up on the NOI. It was released in July of this year. These were the questions that were open on that, including other questions about policy and technical implementation. We received 19 comments by August 14th and eight reply comments. These are all on the record and you're more than welcome and, actually, please do take a look at those. You can see what many of you have contributed and many of your

colleagues have as well in terms of moving that conversation forward.

We are hoping to move that conversation forward even more in a couple of ways. First, we do want to make sure that there is broad participation in the call authentication system. For this to work on maybe not every call but a majority of calls at least or a majority of subscribers, therefore, a large number of carriers need to participate in the system to ensure that there are a substantial number of signed calls going out into the system. So the commission wants the NANC's recommendations on a reasonable timeline or a set of milestones for adopting the system and metrics by which we can measure that progress.

I think one of the questions that was raised in the NOI was whether or not there should be a mandate. I think responses vary across the board as to whether that's appropriate or not. A lot of that is premised upon how quickly and how effectively this can proceed. So one of those questions is, what constitutes a reasonable timeline for setting this up? And in the absence of meeting that timeline, what incentives are necessary? What barriers exist to speeding that process along? What might the commission do in order to ensure that that happens?

The second set of questions have to do with the governance structures, selecting a governance authority and a policy

administrator. There was a wide variety of comments on this. I think a large number of comments are expressing certain values that should be embodied in the selection, and the construction, and the makeup, and the organization of these structures.

So we are asking the NANC to provide recommendations on more specifically what some of those principles should look like, how they should be judged. What are the criteria by which a good and a well-developed governance authority should be selected? What principles should be built into its charter or structure or underlying rules? In what ways do we ensure that its administration and its operations are neutral, just, reasonable, and nondiscriminatory? Also built into this question there is I think a good likelihood that the governance authority is going to be the body that selects the policy administrator, where the body that sort of does the operational aspects of this. If so, what is the process by which that PA is chosen?

That's sort of the summary of the working group's task in the NOI. We have the contact information for our co-chairs for the group and my contact information as well. I'm happy to take any questions now or via the contact info you see there.

Travis Kavulla: Thank you, Sherwin. Are there any questions? Yes, we'll go to iconectiv. Sorry. Until I learn

your names, you're going to be referred to as the corporate name.

Chris Drake: Not Suresh. I'm Chris Drake, CTO, iconectiv. Good morning, Sherwin. My question relates to the fact there's a lot of parallel work and related work going on around robocall detection and potential blocking. Is that out of the scope of this phase of the working group?

Sherwin Siy: Yeah. I think that detection and blocking, I don't know if I would say that they're out of scope but they're certainly not the focus of this group. I think the focus of this group really is on the development of these standards, the deployment of these standards and the construction of the governance authorities.

Travis Kavulla: Richard.

Richard Shockey: Sherwin, I would actually recommend that the NANC at least seek input on call authentication display issues - namely, what are we going to do with the data once we got it. We are continuing to struggle among the engineers as to what is ultimately relevant here, but if we can actually get the data to the consumer or especially the enterprise. For enterprise callers, the entire exercise is a little wasted. So any input that we can get from NANC members on call authentication display, namely, what we see on the phone ultimately, would be extremely helpful.

Travis Kavulla: Do you have any response?

Sherwin Siy: I think that's definitely useful information and we would want input on that. I think the focus of the initial questions are probably at an even more preliminary steps on that. Yes, I think that is something that we would want input on from the NANC, from consumer advisory groups and so on as well. Certainly, I know that the Consumer Advisory Committee has been doing some work on some of these issues as well.

Travis Kavulla: Any other questions? Yes, Matt.

Matthew Gerst: Matt Gerst, CTIA. This is a process question and it goes back to the last discussion. As we're starting to think about what are the missions that these work groups' issue has undertaken, the timeline with which we are supposed to do it, is there a report format or something that the commissioner has been looking for that for the working groups to fill out? It might be helpful to get sort of an outline understanding, to get some consistency across each of the working groups on what content needs to be filled in. It might help to speed the process a little bit.

Travis Kavulla: That's a good suggestion, Matt. Sherwin's slide deck presentation dovetails nicely to the letter that I received. They include a certain number of bullet points, so it might be good to have sections of the report that stream in

there. But I would expect that would be to some degree left up to the working group chairs.

If you do go to nanc-chair.org, you can see a couple of the previous examples of reports. I know one was last submitted. I can't remember the subject matter, but in 2016 I know there was a report issuance perhaps on, I think, a VoIP matter. So you can at least see stylistically how the NANC has chosen to respond to these FCC letters before. Yes.

Henning Schulzrinne: Having been on a few of these type of committees, there seem to be two models. One is where a kind of consensus at any cost so that basically you water down the disagreements until -- I mean they've become sufficiently palatable [sounds like] to everybody, or also if that's not feasible, an approach which specifically allows the subcommittee to present diverging opinions, where no consensus could be reached. It is, from your perspective, a preference because I think that governs how the committee works in many cases.

Travis Kavulla: Well, I share your concern having been on a number of least common denominator processes that don't really result in anything but kind of a big pile of mush. I assume that -- maybe this is a better question for Kris and Marilyn. Do you have the question in mind? The question was to what degree is that the expectation that we reach unanimity as a meaning of consensus in these reports as opposed to documenting

a sort of majority view but with a certain measure of say dissenting opinion?

Marilyn Jones: In the past we've had this issue with consensus. So what we've done in the past is, like the Commissioner indicated, to give the majority view and then address some of the dissenting views also if there are any. But usually the NANC works toward consensus, to one view.

Kris Monteith: I think we also certainly want to have the full breadth of the issues that were considered and what some of the tension points might be, what some of the tradeoffs might be - I'm speaking generally obviously - between various approaches. We don't want consensus at the expense of a meaningful input, if that's helpful, Henning.

Travis Kavulla: I see Marilyn has a big stack of these letters which she's now going to distribute in hard copy. Marilyn, do you want --?

Marilyn Jones: I'll start with this one. This is the one we're currently discussing.

Travis Kavulla: Okay. Let me just take this and pass this one.

Marilyn Jones: Sure.

Travis Kavulla: Here you go. I'll take that. Please take one and pass them around. While those are being distributed, do

we have any other questions on this particular item - Call Authentication Trust Anchor?

Okay. Well, you can find all the comments and reply comments in the docket number that's WC #17-97. So you can gratify yourself with some plain reading on that. Sherwin, if you'd like to just stay up there. We still have 20 minutes. Perhaps we can get through your presentation on nationwide number portability.

Sherwin Siy: I'll struggle through myself, if we can get the slides geared up just a second.

Travis Kavulla: So for those following along on the agenda, this is marked as 1:20 to 1:40 PM.

**Nationwide Number Portability Notice of Proposed
Rulemaking and Notice of Inquiry**

Sherwin Siy: Right. So nationwide number portability. We have an NPRM and NOI - a notice of proposed rulemaking and a notice of inquiry - out currently on this. Just to give a quick background on that and also a highlight to what we are seeking input on. I'll get into these in more detail in just a minute.

The NPRM proposes elimination of a couple of routing requirements in the current portability rules and seeks comment on the best path forward for achieving nationwide number portability. We are seeking from the NANC specific

recommendations on which of four particular proposals that had been discussed by the NANC previously and discussed in ATIS with the technical report, which of four of these proposals seems to be the most effective means to get a timely and effective nationwide number portability system, and the costs and benefits and barriers to each of these proposals to allow the commission to help in a sort of way what the best path forward likely consequence is of these proposals for routing interconnection on public safety, and the next steps that need to be taken by the commission, by the industry or other stakeholders in order to ensure that nationwide number portability advances.

As I'm sure you all know, the statute and the rules require local number portability and that there is a de facto. From the consumer standpoint, there is a sort of a de facto nationwide number portability. A lot of consumers sort of assume that nationwide number portability exists merely because they've been able to go from one location to another, one carrier to another on their nationwide wireless carrier to another nationwide wireless carrier. Obviously, that's not the case for all types of connections, all types of subscriptions and subscribers.

So there is a long-standing interest in making sure that that can actually be true, that somebody can keep their line, keep their number as they transfer from a wireline to a wireless anywhere within the geographic United States. This is a

question that has come up frequently in letters to the commission from Congress. It's certainly come up in the commission itself. It's also been raised by industry stakeholders in the past.

The NANC has issued reports on this. Last year, ATIS compiled a technical report analyzing several of the means by which nationwide number portability or NNP could be achieved. The NANC working group from last year provided an overview and evaluation of some of these issues and emphasized the need for further collaboration and potential commission action. That commission action has taken to date, at least in part, the form of the NPRM and NOI and released in October. It recognizes the benefits of competition in consumers of full nationwide number portability. It seeks to advance the deployment and implementation of NNP by eliminating a couple of potential barriers to employment and seeking comment on these four proposals.

To go into those elimination of barriers, the two proposed rule changes. One of them is the elimination of the N-1 query requirement. This is a requirement that was adopted into commission rules by reference from NANC architecture recommendations. The N-1 requirement basically says that the carrier to query the portability database is going to be the second to last carrier to handle the call.

For example, if a call has to go through an interexchange carrier, it's the interexchange carrier who's going to check to see, oh, this is a number that could have been ported. We will check to see has this number been ported. Here is the LRN associated with that. We will send it on its merry way to its new ported location.

If there is no interexchange carrier involved which the originating carrier will know by virtue of what number was dialed because, again, it can only be ported within a particular geographic area, if they know that it's within that area, they know that they will be the N-1 carrier. They will be the second to last to handle the call. They will perform the query and hand it off to the terminating carrier as appropriate. This relies upon, of course, the idea that you're able to know whether or not the number is going to need to be handed off to an interexchange carrier by the number that's being dialed.

If we had a full nationwide number portability system, that might not be the case. In other words, you might end up with a system where somebody sees a number that looks like it goes through an interexchange carrier and hands it off to the interexchange carrier. Interexchange carrier does the query, realizes it's been ported back to the location that the call originated from, has to send that back and so on and so forth leading to a sort of inefficient routing. So we proposed in the

NPRM to eliminate the N-1 query requirement by basically no longer incorporating that particular part of the NANC report into the rules by reference.

The other proposed change in the rules would be to forbear from any remaining interexchange dialing parity requirements. Again, the idea is that some of these requirements may act as a barrier to efficient routing in a nationwide number portability system. The dialing parity requirements such as giving equal ability for consumers to choose between standalone interexchange carriers and the interexchange carrier affiliated with their local carrier. Now the 2015 USTelecom Forbearance order forbore from a large number of, I think to put it mildly, requirements, forbore from this requirement to a large extent, meaning that incumbent LECs no longer need to do this with certain exceptions.

The NPRM seeks -- because both, it could be a potential barrier for nationwide number portability and for the reasons that we're behind the 2015 USTelecom Forbearance order. We seek comment on whether or not the forbearance should not extend to whoever's left in this category, the extent to which how many subscribers are subscribed to CLECs and also standalone interexchange carriers in the first place and what the effects are of that. Would it not be better to forebear from this requirement as well?

Aside from the NPRM section, there is the NOI section of the item which was released in October. There are four solutions that have been discussed that we're seeking additional comment and evaluation on. Those of you who were here for the 2016 NANC group I'm sure are familiar with this. But just to briefly go through that, the four solutions are - nationwide implementation of location routing numbers or LRNs, non-geographic LRNs, commercial agreements, and a GR-2982-CORE which is a specification that iconectiv developed to ensure nationwide number portability.

Again there are those here who can correct any errors in these summaries, in these extremely brief summaries of these four proposals. But in essence the nationwide implementation of LRN would be simply to allow any given number to be associated with any given LRN. In other words, to allow a number to be associated with an LRN in whatever new location it is placed in. There are advantages and disadvantages to this which had been covered I think in the ATIS report and also that was certainly noted by the white paper from last year. It allows many existing systems to continue operating. However, it does require potential changes to the rules. It potentially requires significant outlays for a lot of carriers in terms of equipment and so on. And there would very likely be impacts on e911, toll-free database processing and so on.

The non-geographic LRN. The idea behind this is to have an LRN and actually an area code not associated with any particular geography. This would house the new LRNs to which a number being ported would now be associated. The sub-bullets under there are a very rough summary of some of the principles of that proposal. Again some of the advantages and disadvantages that have been noted are that it supports both wireline and wireless NNP. It allows a lot of existing systems to continue operating and has sort of a smooth transition there.

It does, however, require setting up the non-geographic area code and non-geographic LRNs and a gateway system by which these numbers, these new non-geographic numbers can be associated with other parts of the numbering system. It also requires likely rule changes and may require additional agreements for interaction with those gateways. There is also the potential to simply extend the idea of commercial agreements allowing interexchange or grabbing a third party to install points of interconnection between various LATAs. This was discussed to a decent extent as well though questions about who those third parties are and how they operate and so on are I think a little less specified in past discussions.

Then there is, finally, a standard proposed by iconectiv that proposes -- it's called PORC, Portability Outside the Rate Center. That suggests subdividing the country into geographic

building blocks and using those as the sort of bases for geographic location. Again, pluses and minuses as you see here that people have identified so far. In this case, the NPRM and NOI is still open by the end of December. Comments are due on the NPRM and NOI, and reply comments due on January 26th.

With regard to the specific tasks stemming out of this that we're asking you to take a look at, it is basically while we are expecting public comments on these four proposals, I think the expertise available in this room and amongst members of the working group would be incredibly invaluable in helping develop how these systems actually work; what the costs and benefits are; what the real costs, the real benefits, the real barriers might be to each of these systems.

Hopefully, the structure of the NANC and the working group provide a way for some more detail to be brought out about those advantages and disadvantages specifically what these costs are, what the benefits are, what the barriers are, any consequences for routing interconnection and public safety, and what the next steps might be in order to ensure that we can have nationwide number portability whether those be additional changes to rules, additional proposals, additional coordination by the commission, by stakeholders, by carriers.

Again, thank you very much. If you have any questions, I'm happy to take them now. This is the contact for the co-chairs and myself.

Travis Kavulla: We'll begin with Richard, then go to Matt, and then return it to Sprint, then iconectiv.

Richard Shockey: Sherwin, is the working group empowered to look at ancillary issues to NNP, specifically a requirement or need for national 10-digit dialing?

Sherwin Siy: Empowered to? I don't know that we have the authority to tell you not to look at anything.

Richard Shockey: Well, is it within scope or not?

Sherwin Siy: I think that the initial scope of this is intended to be a little bit more narrow on those, on sort of the four proposals and evaluating those. However, as you saw, one of the things is what else can be done in order to do this. If 10-digit dialing is a significant part of that, then that certainly is part of the discussion.

Kris Monteith: I think some of these questions too, Richard, as the working groups are formed, then you start to get into the work that's been assigned and you see what may be an issue that is not fully encompassed by the charge but is essential to consider as part of this process. By all means, bring those to our attention, to Marilyn's attention, to the

chair's attention and we'll deal with them as they come up as well.

Richard Shockey: My concern is, is it in scope initially or out of scope? Or if we determined that it is in scope, then bring it to you for further determination. That's the procedure?

Kris Monteith: I think that sounds like a good process.

Richard Shockey: Okay.

Travis Kavulla: Okay. I will note on this one obviously there's a bullet point that says make any other recommendations that deem it's necessary to achieve this goal which, as a regulator, I detect to be the catchall that you're looking for.

Matthew Gerst: Matt Gerst of CTIA. Just looking at the suite of issues that the Commissioner wants us to evaluate or wants this working group to evaluate, one of the things I noticed is different from the other working groups is there's a real focus on cost here. Generally I've understood that information submitted to a FACA where the working group is considered public information. Is that correct? Therefore, how does the commission envision a working group collecting information relative to cost? How would you advise the working group to think about that issue?

Kris Monteith: Matt, let us cogitate on that one a bit. I mean certainly the commission has processes in place by which to

maintain confidential information, by which to submit and protect confidential information. Let us just look at that in the context of a working group and get back to you on that one. Good question.

Travis Kavulla: Rosemary.

Rosemary Leist: Rosemary Leist with Sprint. I was just wondering procedurally on this particular one. Maybe it's going to be a question for all the groups too. I don't know. I think we touched on it earlier but I'm still confused. Procedurally, will we wait until the reply comments cycle is completed? Then the NANC is going to at that point start looking at this? Like in this particular case, this one, the reply comment cycle is the end of January.

Sherwin Siy: My understanding is no. The idea behind this is these processes will operate in parallel. So the point of the NPRM and the NOI is to seek comment from the public more generally. The idea is that, with the expertise available on the NANC and the ability to have those discussions face-to-face or at least all on the same conference call, that the NANC might be able to provide information that wouldn't necessarily come up with individual submissions and also can represent a sort of consensus that a collection of submissions in the record might not. So no, I don't think the idea is for the working group to wait for any particular comment cycle to finish.

Travis Kavulla: Yes.

Chris Drake: iconectiv. My question is, it is pretty clear you're looking for a good treatment of the landscape and implications of the four options. Are you also seeking a recommendation, a favorite or just sort of an assessment of each?

Sherwin Siy: I think if the NANC comes up with a favorite, then that's absolutely something that we'd be interested in.

Travis Kavulla: Richard, did you have another question? Anyone else? All right. Thank you, Sherwin, for doing double duty on that. I found it pretty informative. I am glad I read the NPRM and NOI first before hearing Sherwin's presentation or else I might have been utterly lost. Let me just confer with Marilyn.

Let's take a quick five-minute break at this point so people can stretch and say hello to old friends. Hopefully at that point, Chairman Pai will have arrived to give his remarks.

[Break in recording 1:28:09 - 1:33:53]

Travis Kavulla: It's been five minutes. I know a five-minute break is never actually five minutes long, but Ajit has arrived. So if you'd just take your seats please.

All right. Thank you, Ajit, for taking time out of your schedule. I know we're all looking forward to seeing what pop

culture reference you'll introduce in relation to numbering, so I'll turn it right over to you.

Remarks by FCC Chairman Ajit Pai

Ajit Pai: Thank you to Travis. That's a lot of pressure, I've got to say.

Travis Kavulla: I know you'll deliver though.

Ajit Pai: It's a pleasure to be here. We haven't had a lot going on, to be honest, so it's not a problem to stop by for a few minutes and chat. Take time away from our AM radio revitalization effort.

Welcome to the rechartered North American Numbering Council. It's great to see some familiar faces here. To those of you I haven't had a chance to meet, I look forward to doing so and working with you and thank you for your service to the council. The next two years of your lives are going to be occupied with numbering which I know is a big task. I want to especially extend my gratitude to those of you who traveled to be here today. We have many members who are old timers here at the NANC and some who have also shown up for the first time here, so we're hopeful that this combination of the old and the new will mix together in really exciting ways.

Before talking about the new NANC, I do want to say a bit about the previous one. Thank you to Betty Ann Kane who chaired the NANC. The previous one did some really important work on

the LNPA transition and direct access to numbers for VoIP providers, things that might not necessarily make the front page of the newspaper but were really significant matters that we spent a lot of time talking about here at the FCC.

To the new NANC, thank you to our chair, Mr. Travis Kavulla from the great state of Montana and to Vice Chair Diane Holland, an old FCC alum. Well, young FCC alum I should say.

Travis Kavulla: Wow.

Ajit Pai: Congratulations on your recent 29th birthday. Recently I was reading the newspaper *The New York Times* and I saw an article that referred to Travis' hometown of Great Falls, Montana as quote, soul-deadening. Ouch.

Travis Kavulla: Yeah, that is so harsh. So smug --

Ajit Pai: Now I certainly don't want to second guess that kind of hard-hitting journalism, but I just want to say that I hope that none of you will ultimately describe your stint on the NANC in a similar way. As you already know, during my chairmanship, we've been extremely active on a number of numbering issues thus far - the call authentication trust anchor notice of inquiry, the toll-free auction notice of proposed rulemaking, and the nationwide number portability notice of proposed rulemaking. Each of these items, however complex they might be, the ultimate end goals are actually quite simple. Number one, how can we structure these initiatives to benefit

consumers? Number two, how can we better employ market forces to help provide efficient outcomes?

I'll say just a little bit about each of those three items since I know, of course, those are topics of your working groups. Number one, call authentication which I know is near and dear to many of your hearts. This is part of our full-court press on robocalling. Not a day goes by that I don't get an email complaining about the scourge of civilization as once called by Senator Hollings. They often ask, well, why can't you do something about it? Why can't industry do something about it? Well, this call authentication, the anchor notice for inquiries are attempts to work together to do that. We're seeking to encourage industry-led progress on a framework that would help once and for all give a digital authentication, a fingerprint, if you will, to calls that are made.

The second one, toll-free auctions. For new code openings, we just want to see if an auction might be a more efficient way to allocate toll-free numbers just as we do with spectrum. Not long ago I read Ronald Coase's paper from the late 1950s, early 1960s I guess it was, on spectrum. He came with this crazy idea of auctioning off this public resource in order to allocate it to the highest valued user. Well, sixty years later we're thinking maybe it would be time to do the same for numbering.

Nationwide number portability, another long-standing issue. Our hope is that this will promote more consumer choice and particularly switching to smaller carriers. This will promote more competition as that turn is of course one of the factors we see in the marketplace. Also helping carriers design their networks in more efficient ways would be a good thing rather than having them be constrained by an outdated regulation. But each of these three fronts, we're hopeful that we can make progress. For us to be able to make progress, you have to be able to make progress.

So again I just want to thank you for your efforts, taking time out of your busy schedules. I know you have plenty to do in your daily lives. We really appreciate you taking some part of that time to devote to this important task. Thank you once again to the NANC. Apologies for distracting you from the work at hand, but I just want to say we really appreciate what you're doing.

Travis Kavulla: Thanks for swinging by, Ajit, and a pleasure to be here. We've already delved into the discussion and I can tell it's going to be a really active group. We'll get you some reports in an expedient fashion.

Ajit Pai: Thanks so much. I should have apologized, again, for not including more pop culture references. I've already used Tommy Tutone many times that numbering references

out. But, anyway, next time I'll come armed with a few more that might be useful.

Travis Kavulla: Excellent. We look forward to it.

Ajit Pai: *Call Me Maybe*, I don't know. Thanks.

Travis Kavulla: Well, we remain ahead of schedule which means we must be doing something right. So let me confer just briefly with Marilyn and we'll have another item for you presently.

Great. We'll have Bill, if he's ready, come up with his item which appears at 1:00 PM to 1:20 PM for an overview of the toll-free number modernization NPRM.

Overview of the Toll-Free Number Modernization

Notice of Proposed Rulemaking

William Andrle: Good morning. I'm Bill Andrle. I'm in the Competition Policy Division of the Wireless Competition Bureau. I'm going to be briefing you on toll-free assignment modernization proceeding, as well as talking a bit about the charter for the working group as reflected in the letter that's been distributed.

I do at the onset want to mention that the lead on this policy item, Heather Hendrickson, is on the phone. She wasn't able to be here today. But Heather is able also to participate and give input particularly at question time. Heather may indeed weigh in on any particular questions.

First of all, an overview on the proceeding. As Chairman Pai and others had mentioned, the theme in dealing with numbering and at large at the commission is to align our processes and policies with market forces. In this case, with toll-free assignment, the Communications Act requires that numbers be equitably assigned. This proceeding seeks comment and seeks to move towards applying market forces to more equitably assigned toll-free numbers, as well as increase efficiency which on many of these topics you'll notice go hand in hand. Particulars within the rulemaking seem to serve both of those masters.

In the category of improving the equitable assignment, the item seeks input in general assigning available numbers to those that value them most. That's the overriding theme whether we're talking about an auction process or other processes that we seek comment on. Going along with that, hand in hand in market forces, we seek to open up and unbridle the secondary market in how to do that. Increasing efficiency comes hand in hand with some of that. Under the current first come, first served approach, there are certain impediments that you'll see the notice of proposed rulemaking speaks to. Certainly commenters are weighing in on them.

In addition, currently there may be an incentive for ability of people to have more numbers assigned to them than

they actually can actively highly use and value. Therefore, from a standpoint of efficiency, we seek to move toward something that will increase number conservation and reduce number exhaust.

Lastly, not forgetting about the public interest and use of numbers away from the commercial setting, we seek input on a mechanism that would allow public interest-based organizations, government and nonprofits, to access numbers without any cost.

We have issued a notice of proposed rulemaking. Those among us that are in the toll-free community I'm sure are no doubt familiar with it, probably have read it from beginning to end. The comment cycle, which I'll mention later, the initial comment cycle is already closed. Many people have looked at this in detail in the toll-free community but to summarize for everyone, we propose expanding the existing rule part that deals with toll-free number assignment to permit use of that auction methodology that we've been mentioning in addition to first come, first served. We also seek comment on other alternative assignment methodologies. We list a number of them there. We're open to input in general on that. The commission in the item seeks to, at this point, keep the method or combination of methods open while we proceed to tentatively an initial auction of numbers that were set aside with the 833 toll-free code opening.

As you can see, there are about 17,000 numbers in that pool. The commission sees that as an experiment potentially to apply the auction mechanism in cases where there's more than one reservation for a toll-free number, what we call mutually exclusive numbers. If there is only one reservation for the number, it has proceeded through first come, first served and is assigned. But the numbers where there's more than one reservation had been held in a pool, and that is that pool of some 17,000. We proposed to apply an auction mechanism as follows.

The viewpoint in the NPRM that is proposed is a single round sealed bid victory auction which, if any of you are economists, you likely would have studied that. There's a lot of material academic and other material out there about how that process works and the virtues of it, but essentially the winner pays the second highest bid price. Through the game theory of that, it assures that the entity who values it the highest receives the item most efficiently.

We also, the commission, seeks comment on alternative auction types - whatever they may be. Of course on auction parameters, who should be eligible? Should there be a reserve price, what would that reserve price be? Who should conduct the auction, the auctioneer? How should the net proceeds be applied? There is some discussion in the item of applying the

net proceeds in a virtuous cycle towards the cost of toll-free number administration or perhaps even at large to the cost of administering the North American Numbering Plan. All of that is mentioned in the item and we seek comment on all of that.

As mentioned, if the item is adopted and we proceed with the initial auction of the 833 number pool, it would be an experiment. It would allow the commission to get more data and establish more bearings on how to proceed. It's intended in the item or proposed at the Wireline Competition Bureau who would report to the commission on the outcomes and lessons learned

Just going through some topics within the item regarding secondary markets, we as mentioned seek to apply the market-based approach there. Though a subscriber does not as a matter of law and policy own their number, we're talking here about rights of use of a number after all. It seeks comment on opening up an above board open process for one toll-free subscriber to assign their number to another whether that's in the context of the sale and purchase of a business' ongoing concern or in other commercial contexts to be negotiated between the parties.

We recognize, as many of you probably do, that that's already going on in the market notwithstanding rules that had been designed to restrict or curtail that. There's some, as the item says, black market activity now. It's obvious the toll-

free numbers are being marketed for sale if you are looking on the Web and this would bring that out into a legitimized process.

Going along with that and along with the potential new process or processes for assigning of numbers initially, we seek comment on all the various changes that may or may not make sense to enable those. You see, there we ask whether there should be changes to the first come, first served rule as it exists now. Should we eliminate the brokering rule to promote the secondary market? Same with warehousing and hoarding prohibitions. Are there changes needed to the SMS database? For example, including subscriber information so people, willing buyers and sellers, can identify each other in the marketplace for example?

Are the process changes around that necessary? For example, how does the toll-free numbering administrator record, register the assignment of one number directly from one party to another? We also seek comment on whether the commission itself or the toll-free number administrator or perhaps both should establish the terms and conditions now on an ongoing basis that are needed to implement these changes.

Lastly, the commission asks whether it should identify its authority or authority of the TFNA to reclaim a toll-free number that's used for fraud or abuse either in the public interest

context of a nonprofit or government agency using a number or in the commercial context.

Lastly, a note on the mechanism that's proposed or asked about for public interest purposes. To promote health, and safety education and other public interest goals, should we have a mechanism where government agencies - as you'd see described there - or nonprofit public interest organizations to be defined? Should we have a direct mechanism to access numbers, what should be those terms and conditions? Who should be eligible? All those are asked in the item and we seek comment on that.

As mentioned, the comment filing window has already passed. We're due in November. Reply comments due December 12th. So far in the docket, as of yesterday afternoon when I looked, there were 24 comments and an additional 32 so called expressed comments which as you may know are very brief texts. Comments typically are one or two or three paragraphs. That's what we have on the docket so far. We ask the working group to bring its expertise in a number of particular areas.

As you'll see in the letter and as is replicated here on the slide, we're asking for detail from you as the subject matter experts on this working group about what needs to be changed in the mechanics of it as a matter of overall policy. In the current rules, you see a list of some examples there. We

seek insight into the implications of any of these changes. We also seek information from you on the mechanics of how a secondary market could work or should work regarding both the brokering and hoarding rules and other details. The idea is to make that a fluid efficient market, and your expertise is very important also in that area.

Lastly, we seek comment on two other components. One is this public interest organization government agency mechanism, the details of it, and also the matter of whether the agency or the toll-free number administrator should identify the reclamation of numbers that are used abusively or fraudulently.

The working group co-chairs are Craig Lennon of Google and Susan Gately of the Ad Hoc Telecommunications Users Committee. As mentioned before, the chairs run the working group. The FCC staff are at the service of the working group and the chairs. Alex Espinoza, who could not be here today, is the primary contact for that. I will assist and we are at your service as the working group proceeds. We can take questions at that point if that would be acceptable to the chair.

Travis Kavulla: Sure.

William Andrle: I did want to mention one thing. The reply comment does close on December 12th. But as was mentioned in an earlier discussion, this is a parallel separate track. Through the working group process up through the NANC itself,

the NANC would issue a report as you see in the letter to the commission. That would be submitted outside of any of this comment cycle timing for public comments. The public comments are a separate track of input, as the commission sees it, versus the expertise of the working groups and the NANC.

Travis Kavulla: Thank you, Bill. Are there any questions? All right. Well, thank you for the co-chairs taking the lead on that working group. Thank you.

Now we'll go back in time, to the regularly scheduled item at 11:30 to 11:45 AM. We're joined by the Office of General Counsel's Paula Silberthau who'll give us an overview of the working group appointment process. I'm not sure, Paula, if you're prepared to address other questions that might arise. There had been one about whether or not submitted cost data submitted within a working group context could be kept confidential. If those questions arise, you can take a crack on them and --

Paula Silberthau: Right. I can try or I can write them down and get the answers for you in the General Counsel's Office.

Travis Kavulla: Excellent.

Overview of the Working Group Appointment Process

Paula Silberthau: Thanks for having me. Anyone who's been on this working group before has heard this little speech. It

won't take 15 minutes, I promise you, like six or something like that.

Advisory committees operate under 5 USC App 2 on the Federal Advisory Committee Act federal statute. And the regulations are pretty much done by General Services Administration, which is a little quirky, but that's the way it works. The major guiding principles in FACA are openness in government, diversity but balance in membership, and public accountability. For that reason, we publish in the *Federal Register* 15 days in advance for the most part notice of meetings. We invite members of the public to attend, if they want, the meetings of the full parent committee.

In addition, we're required to keep minutes of meetings which is sometimes done through transcripts or sometimes simultaneous video recordings. All of the documents of the parent committee are maintained in a public file and can be readily accessed. So if you forget something that is said here and it's in a document form, you can get it from our DFO.

The committee chair and the vice chairs are a focal point for communications. You can ask questions through them. They work closely with the DFO to set up the working groups in conducting the meetings. Along these lines, I would request that if you have communications among yourselves or some questions or proposals that you're sending to the chair or to

the vice chairs to please, so that we can fulfill our oversight responsibilities, please cc Marilyn as the DFO because that keeps us in the loop of everything that's going on. The DFO, the Designated Federal Officer - that's Marilyn, correct?

Marilyn Jones: Yes.

Paula Silberthau: Her duties include calling the meetings, approving meetings of both committees and subcommittees, approving the agendas for both committees and subcommittees. This is actually a requirement of our oversight responsibilities under the GSA rules, but we'd want to do it anyway under FCC policies. Marilyn or one of her other liaisons would attend all meetings and subcommittee meetings, chair the meetings if necessary, maintain our records, make sure that minutes are taken. So any questions about how -- that you have that come up about procedures, votes, quorums, things like that, you can funnel through Marilyn. If she doesn't know the answer, she'll ask me. If I don't know the answer, I'll ask GSA, but we will get back to you with an answer.

One thing that's important to understand is the difference between your working groups or your subcommittees and the full parent. Sometimes this gets confusing. But in a nutshell, the working groups are just considered to be very important. It's where a lot of our work gets done, but mainly information gathering as opposed to decision-making. So the working groups

can get information, develop work plans, hash out issues, draft reports and discuss preliminary findings.

The reason that the meetings can be closed is it's all preliminary. Before a recommendation that you guys have at the working group becomes final, typically it goes up through all of you in a full meeting. So please, what should not happen is that you get really excited because you've drafted a report and it's really great. It gets at the working group level and someone thinks this is so good, everyone will love it at the parent level. We're just going to sort of skip that and we're going to submit it to all the commissioners because we're in a hurry and this is really wonderful.

Why is that bad? You've just made the closed sessions of the working group into a parent FAC because you've now communicated directly with the commissioners. So please don't do that because then the cases say, we have to toss out everything you've done. We don't want to do that. We want to use what the working groups have done, but they get funneled up for a vote and discussion in public through all of you. Now I know that NANC covers different issues and maybe you don't have as many reports, but this has been a consistent problem because people don't realize that sometimes the reports have to go through all of you for a vote. So now you know.

Here's what informal working groups can't do. As I just mentioned, they can't function as a de facto parent advisory committee which would mean communicating directly with the commissioners and issuing reports. No. Working groups can't make decisions that would be binding on the full committee. One other little pitfall, we can get around it, but working groups and the parent FAC are all subject to the Paperwork Reduction Act which would govern things like surveys. Before the agency can do a survey -- which I'm trying to remember. I think it's like 11 or more individuals that we send out surveys to. That would trigger the PRA. That needs OMB approval which takes a while.

So you might think I'm gathering information, what do I do if I can't do a survey? There are ways of dealing with it that are less than a survey but will still be able to get information through to you. If you have something you want outside information on, let Marilyn know and we can work with you to draft something up. It would typically be more in like a general notice. It would be posted on the website. Instead of having real specific questions, it would just basically say - the working group is interested in exploring or getting your experiences with X, Y, and Z. If you have something to share with us, please submit it on the website.

I'm not a super expert in this. But as long as the questions are generic enough and general enough, usually it's not considered to be, quote, a survey. But I always work with our guys who are the experts in the PRA and we work this out so we can avoid OMB approval. But if you need extra input, you're getting what you need.

So ex parte rules. Sometimes, often, working groups and full FACAs are working on things that are simultaneously the subject of a pending agency proceeding. You might be having discussions when a commissioner is in the room or a staff member from that proceeding who's a decision maker is in the room. And then suddenly there is an ex parte communication issue, which in this context can be very burdensome because like ten of you might be making really great comments on something and then someone like me comes in and says those were ex partes. Now please follow the ex parte rules and send something in.

So we've developed a bit of a shortcut on that which is that if we're aware that there are proceedings that are pending that overlap which you guys are working on, and this is as I said true for a lot of our FACAs, we have a standard notice that we issue about ex parte procedures that basically exempt your current discussions from the ex parte rules.

But say that if the agency is getting close to decision-making and wants to consider something, a good point or a report

or something that has been developed through an advisory committee, then our staff makes sure that those comments or those reports are put into the docket of the pending proceeding. So essentially this gets everyone in compliance without you guys having to worry about submitting everything yourself. I don't know whether that's the case here, whether this is an issue. But if you serve another advisory committee, now you know how it works.

Just one other practical matter. Occasionally people who are in working groups, either as members or as a chair or vice chair, want to communicate views to third parties on an important issue by an opinion letter or something that's published in a journal. Or by making a speech which you might do if you're an expert in the field before people where you're talking about what's being worked on in the committees.

The only question here is there's no stifling and no censorship. But if you're submitting an article or making a speech with your personal point of view on something and you also say, by the way, I'm the chair of such and such working group, or I'm the vice chair or a member, it's important not to suggest that that's the -- unless it has already been resolved. It's important not to suggest that what you're saying is the official opinion of the NANC or of the working group or of the

subcommittee, and that couldn't involve how you signed something.

It's fine to mention that you're serving on a working group as a chair. But if you're signing something for a journal, it shouldn't be signed: John Doe, chair of such and such working group. It would be: John Doe, member of CTIA or Comcast or whatever. Just that it doesn't seem as though your individual opinion is something that's already been resolved or been preapproved by the working group. This has just been a problem by accident once or twice in the past, so I'm just highlighting it.

That's it. What was the question on the confidentiality?

Travis Kavulla: I may have Matt if I don't summarize or take another run at it. But on one of the letters where the Wireline Competition Bureau is directing us to come up with a report, they asked for an evaluation of the cost of certain alternatives. Some of that cost data that might arise from the expertise of individual members of the working group would be considered proprietary. And so the question was how to maintain the confidentiality of that data within a working group report or a report issued by this FACA?

Paula Silberthau: Okay. I'm sure we can deal with that. We do have confidentiality rules which actually with this group, with the NANC, we invoked a couple of years ago when there were

reviews of things. So we'll look at that and give some guidance. But essentially I think what will happen is that when that information is submitted, it would be submitted with a request for confidentiality under the agency's pre-existing confidentiality rules. But in addition since I guess a number of people would have to be reviewing it to come up with maybe aggregate costs or - is that what you might be doing - or a range of costs or whatever.

Travis Kavulla: Not yet clear.

Paula Silberthau: Right. So there might also on top of the agency keeping it confidential, depending on how you guys felt about it within the working group, I think that we probably need a really short confidentiality agreement among the members, any members of the group looking at that information. Because, otherwise, everyone would have everyone else's confidential information with the right to share it in ways that maybe people wouldn't feel totally comfortable. We can work to give guidance but, yes, we can handle that.

Travis Kavulla: Does that satisfactorily at least for the moment, Matt, answer your question? It sounds like we can cross that bridge perhaps when we come to it within a working group context, right?

Matthew Gerst: Yeah.

Travis Kavulla: Questions?

Paula Silberthau: I guess the question would be then as it moves, if that information is going to be moved forward, it depends on whether it's aggregated. So if the information were aggregated, then it wouldn't be as much of a problem if you issued a report on it or moved it up here. If for some reason it has to be continued to be individually identified, then you have sort of a messy issue of more people having to sign the confidentiality agreement. A lot of times, in handling this at least at the working group level, people want to see the raw data. Then it's aggregated so that you can issue a report that gives parameters but doesn't identify the source. That might work.

Travis Kavulla: Thank you. Question? Remind me your name.

Robert McCausland: Bob McCausland, West.

Travis Kavulla: Thank you.

Robert McCausland: Sometimes I have to reeducate myself. One of the ways I do that is I post on my Facebook or on my LinkedIn questions for my LinkedIn people and Facebook friends. Some of those people are commission decision makers and even commissioners. Now I understand that if I'm stating an opinion, it's not that of the NANC or of other members. It's only my own opinion. But when may I cross into ex parte territory in doing so on relevant issues that we're addressing as part of the NANC?

Paula Silberthau: You mean in terms of the Facebook posts?

Robert McCausland: For instance. Maybe it will help if I give an example. I'm not sure how many of my friends care about nationwide number portability, so I may explain it in general terms. I may ask for comments on whether this would be important to you and what kinds of considerations do you think I should take into consideration, what facts should I take forward, what should I consider. People may comment and I may reply. I'm not quite sure where the boundary is in terms of for instance if a commissioner or a decision-making staff member were seeing what I'm posting and seeing what my friends are responding to, if I would be crossing any boundaries.

Paula Silberthau: Yes. Asking the questions is okay because the ex parte rules are triggered only by your substantive comments directed to an agency person. But if that's the way we would write the ex parte -- I can't answer in general terms but for purposes of the ex parte triggers for this group, I think what we will do is we're going to be drafting a pretty broad -- if it turns out there are pending proceedings that could be affected, we'd be drafting a pretty broad ex parte sort of waiver notice that would cover those kind of communications as well. It would sort of glom on to communicate. Not the form but a very general - no. If our

members are making these communications, don't worry about it. So it would cover your Facebook postings as well.

Robert McCausland: Would I have to use any of those words or would I be covered as a blanket --

Paula Silberthau: You'd be covered as a blanket, I'm pretty sure, under the way we currently word it. Because it would not apply to presentations, I think is the term of art for ex parte, any presentations made by members of this group related to pending proceedings. Well, pending proceedings relating to the work of the NANC basically.

Robert McCausland: Thank you. Mr. Chair, I have one more brief question, if I may?

Travis Kavulla: Sure.

Robert McCausland: On the reports of the various committees, will the other committee members get to see drafts of those reports? At what stage? Maybe I should rephrase that question. At what stage will other committee members, if I'm not a committee member, will I be able to see what the drafts look like from the other committees as they're working through them? Is there a process for that?

Travis Kavulla: Your question is if you're a member of the NANC but not a member of like the working group, when will you be able to see the working group's product?

Robert McCausland: Yes. For example, if I were on the Call Authentication Trust Anchor Committee and the Nationwide Number Portability Committee had a draft of its report a month prior to it being due, would I get to see that other committee's draft?

Travis Kavulla: Go ahead, Marilyn.

Marilyn Jones: Yes. In order for the full NANC to consider the draft, it will be distributed among the full committee members.

Robert McCausland: Great. Thank you.

Travis Kavulla: I guess I'd just say that goes back to the earlier point that I think Diane made too that now that we know our work product is due on or about April 7th from this committee, we need to work backward to establish deadlines. That would mean inevitably that we would want a deliberative meeting of this body probably sometime in March and, before that meeting, we would want a sufficient amount of lead time so that people can digest whatever draft reports come up from the work groups. Does that make sense?

Robert McCausland: Yes. Thank you.

Paula Silberthau: We want you to get it in sufficient time to digest it. Especially a group like this, it has a lot of technical stuff as opposed to some of our committees that come up with more generic policy recommendations.

Travis Kavulla: Paula, I'm reading one of these - not even necessary to mention which one - but I noticed in the FCC administrative regulations there is adopted by reference a working group's report. I assume that was probably in the context of the working group actually having sent it up the food chain to the full FACA and them having adopted it.

Paula Silberthau: That would be standard operating procedure, yes.

Travis Kavulla: All right. Any other questions for Paula? Obviously don't do anything transparently dumb.

Female Voice: That's good advice.

Travis Kavulla: That's good legal advice, right? But I'm sure our work groups won't be too trammled by the niceties of the law. I mean that sounds like you can, you know.

Paula Silberthau: Right. There's an immense amount of flexibility. When I first started doing this, I called you and I'd say, well, they want to use this procedure or that, or we want this voting mechanism or that. Do you have any guidance? I'd say, oh no, whatever makes sense. So that's what we try to operate under.

Just one other small point which is that with the exception of the LNPA Working Group, I guess this is already pretty obvious, the old working groups and the old working group memberships ceased. Now with the new term of the NANC, there'll

be new appointments, new assignments, new chairs. I guess you worked that out with Marilyn as far as which committees everyone is assigned to. But to the extent that there are similarly named committees, there shouldn't be an assumption that everyone who is here earlier goes to the same committees, right?

Marilyn Jones: Right.

Paula Silberthau: So there'll be some sort of reshuffling because we have to keep balancing and all that. Thanks a lot.

Travis Kavulla: Thank you for joining us, Paula.

Female Voice: Thank you, Paula.

Travis Kavulla: Well, I think by now it's obvious that we can forgo our lunch break because we're going to get done before lunch everyone. Isn't that a treat?

Discussion of the North American Portability Management LLC

(NAPM LLC) Report

Travis Kavulla: So I think we'll move to the discussion of the local number portability transition. I believe Tim and Greg are both here. This is the first question I asked when they asked me to be chair - is this thing still going on?

Male Voice: A few more months.

Tim Kagele: And it goes on. I think I can say officially it's still good morning. I'd like to echo the chair and the vice chair's remarks and welcome all of the new NANC members.

For those of you that don't know me, my name is Tim Kagele. I work for Comcast. I am a co-chair of the NAPM LLC. I share that role with my colleague Teresa Patton from AT&T. I am here before you today in the capacity as NAPM LLC co-chair.

For those that may be new to the NANC, I think just a quick overview of what the NAPM LLC's role is. It is the contract administrator for both the incumbent vendor - LNPA Neustar, as well as the selected vendor, iconectiv. And we serve at the pleasure of the FCC and work in accordance with direction under the contracts.

In my report today, normally - and for those of you that are familiar with the past reports - I generally start out with statements of work and contract amendments. They are quite voluminous this time. There's been an awful lot of activity since the last NANC meeting. I'm not going to go through each and every one of them, but let me just point out a couple of interesting things that I think members should be aware of.

Number one, statements of work typically are initiated by the industry. In the old days of the LNPA Working Group, recommendations would come forth from that technical group for specific enhancements to the NPAC either to functional requirements specifications and/or IIS changes. The other piece are contractual amendments, and those can be initiated by the vendors or by the NAPM LLC. I just wanted to put that in the

context that the first section of the report addresses those particular items.

I've broken this out into two categories. First, the incumbent vendor Neustar. There are two SOWs listed there. One has been approved, one is under review. The third one deals with the contractual change orders that support what we call the term sheets that address various parallel operations attributed to the transition, the LNPA transition. In those particular change orders, each of those were conditionally approved.

With respect to iconectiv, in summary there were ten different SOWs. All of them dealt with ambiguities in the currently published functional or IIS specifications, or addressed inconsistencies that were noted during vendor testing. As you review the report, if you have questions, feel free to reach out. But because there are so many, I'm not going to go through each and every one of them in the interest of time.

In terms of general reporting matters, the NAPM LLC did hold its officer elections at its annual meeting in November. I was elected as co-chair. My colleague Rosemary Leist from Sprint was elected as secretary. And my colleague from CenturyLink, Joy McConnell-Couch, was elected as treasurer. In terms of membership, the NAPM LLC remains open to new members. One of the things that we talked about at the last meeting that

we introduced as an incentive for recruiting new members is to waive the initial \$10,000 new member initiation fee through the end of January 2018. That offer still stands.

Since the last NANC meeting, we have conducted outreach with two different entities, one was a service bureau and the other was a service provider. Next the NAPM LLC has finalized its 2018 meeting schedule. We've also approved the use of Cartesian by iconectiv as the Gateway Evaluation Process auditor, as well as the initial new user evaluator, then Deloitte Services as the successor new user evaluator.

Any questions up to this point? Hearing none, the FoNPAC section and for those of you that may not be familiar with the FoNPAC, that is the future of NPAC subcommittee. That was a duly authorized subcommittee of the NAPM LLC that was formed for the express purpose of developing the request for information, as well as the RFP, and to administer that process. Because we have completed that process, the FoNPAC will no longer be reporting out on activities as the duly authorized committee technically has been dissolved. I wanted to make that point here in the event that members that are familiar with this report pick up on that in the future.

LNPA transition. I think that's the piece that everybody really wants to hear about. First up, the NAPM LLC exercised its right to send a 180-day termination notice to Neustar under

the master agreements as amended by Amendment No. 97. That occurred on November 21, 2017 which effectively terminates the master agreements with Neustar in all seven United States regions effective May 26, 2018. Pursuant to the terms of Amendment 97, which was negotiated with Neustar to modify these master agreements as part of the transition to the new NPAC administrator, the NAPM LLC has the right during the transition to send additional 180-day termination notices to Neustar to extend the termination of Neustar's master agreements in additional 180-day intervals. Subsequent to the issuance of that 180-day termination, we received acknowledgment from Neustar that they have received that and the NAPM has responded to that correspondence. Any question so far? Okay.

Next item. And forgive my cold, please. iconectiv provided the NAPM with written notice on August 2, 2017 in accordance with the MSAs between iconectiv and the NAPM LLC that various actions and failures to act by Neustar have increased the risk of delay in the May 25, 2018 NPAC final acceptance date or FAD. In the notice, iconectiv expressly disclaimed the need to delay the FAD but explained that further actions or failures to act by Neustar could subsequently necessitate a delay in the FAD. Since providing the notice, iconectiv has not - and I want to be very clear - formally or informally requested a delay in the FAD.

Next item. Outreach was initiated with Neustar on September the 13th to discuss several key aspects of closing down the current master services agreement. Initial positions have been exchanged and next steps are pending. Agreement was reached between the NAPM LLC Security Advisory Committee or SAC, iconectiv, and the FCC Public Safety and Homeland Security Bureau for an operating framework to manage iconectiv's compliance to the security requirements enumerated in the master services agreement. This was a huge undertaking, I might add and I just want to extend my thanks to the FCC, to iconectiv, and to all my industry colleagues who helped push that through.

As a follow-up to Neustar's request to accelerate the handoff of their industry custodial responsibilities for NPAC change management, iconectiv successfully assumed this responsibility as scheduled on August the 1st. Any questions so far?

In preparation for the transition, the NAPM LLC, Neustar, and the TOM continue to finalize deliverable term sheets for all the parallel operation's needs. In this regard, data migration and contingency rollback term sheets remain under negotiation. And I believe the TOM will be speaking more about those two particular items.

In accordance with the term set forth in PricewaterhouseCoopers' letter of engagement to serve as the

third party oversight manager or TOM, the NAPM LLC approved the third quarterly extension through January 31, 2018. The NAPM LLC Transition Management Advisory Committee or TMAC, in their role to provide performance oversight and management of the Transition Oversight Manager, quality assurance has been negotiating with PwC for additional program management resources as we enter into the critical final phase of the transition.

Then the last two points. 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 July 2015. Finally, 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.

That concludes the specific elements of the NAPM LLC's report. Included on the last page you'll find an appendix that has the co-chair's contact information, where you can find additional information in terms of the transition and so forth. So let me just pause and see if there are any questions before I turn it over to my colleague Greg Chiasson. Betty.

Betty Sanders: Betty Sanders with Charter. I have a question. I know that testing is underway. I'm curious in regards to, you mentioned there has not been an extension request made or anything like that. How transparent is the

reporting to all of the carriers to make them aware of how the testing is going, if there's any issues associated with the testing that may or may not be but may be very important to the carrier? Because my understanding, when all of this started, this was to be transparent with this transition from Neustar to iconectiv to the service provider operationally. I'm a little curious about how all of that is working.

Tim Kagele: Sure. That's a great question. Thank you, Betty. Let me answer this two ways. First, there is aggregate reporting. I'll let the TOM speak more to this because they'll address this in their piece of the report. There's an aggregate level of reporting that speaks generically to issues that are noted, that arise during testing. That is communicated generally through the transition outreach and education webcasts that are conducted on a monthly basis and/or informally through ad hoc meetings that occur as not part of the former LNPA Working Group but industry interested parties.

Secondly, issues that are unique to a service provider are addressed between the vendors and that service provider only. I'll use Comcast for example. Any issues that may have been noted during vendor testing for Comcast systems would have been addressed between Comcast and our vendors. Does that help?

Betty Sanders: Yes.

Tim Kagele: Any other questions? Okay. Well, I'll turn it over to my colleague, Greg Chiasson. He's with PricewaterhouseCoopers. He is our TOM.

Discussion of the Local Number Portability Administration (LNPA)
Transition Oversight Manager (TOM) Report

Greg Chiasson: Thanks, Tim. Good afternoon, Chairman Kavulla, distinguished members of the NANC. Thank you for the opportunity to address you today. As Tim said, my name is Greg Chiasson. I'm a partner with PricewaterhouseCoopers or PwC. I'm here today representing the Transition Oversight Manager or the TOM.

I'd like to give you an update on the status of the LNPA transition, our accomplishment since our last update, and our planned next steps. I'll say first we'll briefly review the latest transition outreach and education plan or TOEP activities. Next we'll provide an update on the transition, including a view into the key activities and accomplishments across the four primary transition work streams. Then we'll wrap up with a brief rundown of what's coming up in terms of additional transition outreach and education events.

I know we were allocated 15 minutes for this update, so I'll talk primarily to the dashboard that's in the report. But

I will note in the materials that are provided there are some backup materials for each of the four main work streams.

So we start with the outreach events. Since our last NANC report in June, the TOM has conducted five TOEP webcasts on a monthly basis, each attended by approximately 180 participants. As Tim mentioned, this is the main mechanism we use to keep the industry up-to-date on the overall transition. As part of that, we have detailed dashboards on the status of testing - both vendor testing, as well as service provider testing. As Tim alluded, it's anonymized. We don't even use your company names. But for each system under test, we provide a view into where they are in terms of the testing progress, how many test cases have been executed, how many are left to go, what issues are falling out and so on. So there is a fair amount of granular visibility that comes out of that. I also note that in some cases where issues weren't clear on the resolution path for some of that, predominantly the first part of vendor testing, those are brought forward to the LNPA Working Group and discussed in that body and a resolution path identified.

So five TOEP webcasts. We also facilitated four interactive industry working sessions focusing on contingency rollback. Contingency rollback addresses what would happen in the event of a catastrophic non-recoverable failure of the new NPAC. The purpose of these sessions has been to communicate and

socialize the rollback approach, that supporting mechanisms and testing plans within the service provider community as well as to gather industry input. We've also supported a number of LNPA Working Group meetings and we facilitated informal industry sessions in lieu of these meetings in late September and in November to discuss transition-related items. For anyone who've missed these sessions or is interested in the content, the materials are posted on the LNPA transition tab of the napmllc.org website.

So let's look at the dashboard. If we take that, the four work streams, the first one is the NPAC SMS platform build work stream. In this area, production data center construction and configuration was completed ahead of schedule. The software for the NPAC is being delivered in two phases, a Release A and a Release B, to facilitate testing. Release A development and iconectiv testing is complete, and this portion of the NPAC software is now in the final stages of industry testing. Release B has completed coding and development testing, and the software is now in their final stages of iconectiv's formal quality assurance process. We expect industry testing for this portion of the software to begin on December 18th.

We've been carrying the status indicator for this work stream as at-risk. To be clear, this isn't because key dates for activities like the regional migrations are in jeopardy.

The at-risk status reflects the fact that there really is no slack in the Release B schedule and, correspondingly, there's very little ability to absorb changes in requirements or other unplanned development drivers. The TOM has been closely monitoring Release B development and providing updates through our transition outreach program. To give you a little bit of foreshadowing for next week's TOEP webcasts, we're likely to move this work stream back to green status as development including all the additional work that was required to correct Release A vendor testing issues. It looks to be completely on time on December 15th.

If we move on to the on-boarding and outreach work stream, we were making great progress in on-boarding service providers, service bureaus and providers of telecom-related services. About 94 percent of the SPIDs associated with these users has started the on-boarding process. As of December 1st 1,355 users accounting for 85 percent of SPIDs have fully completed registration. Additionally, I'll note that all service bureaus and all mechanized users have completed registration. Additionally, 73 percent of law-enforcement users have started the on-boarding process and 19 percent have completed service agreements which is really the last step in their registration or on-boarding process.

So let's go on to testing. Release A testing continues with five CMIP systems under test fully certified and seven systems under test having executed all of the test cases but not yet fully certified. Certification of these systems under test is pending the implementation of the PIMs that resulted from the Release A vendor testing process. As I said, this retesting will begin on December 18th. The resolution of some of these Release A vendor testing issues require development activities that were included in the second wave of code in the Release B and, as I said, that will be brought forward for industry testing on the 18th. As part of that, we'll recertify these test cases that were not able to be passed in the initial round of Release A testing.

Beyond the vendors, service provider testing for Release A is underway. At this point 25 mechanized systems are complete and three more are in progress as we speak. XML vendor testing is also underway with all four systems requiring certification now in progress. We're pretty early in this testing process. We started mid-November, but there are a few issues that have been identified with issues and non-conformances in the vendor systems as well as in issues with the new NPAC. The TOM's facilitating meetings to drive the testing in each resolution process right now. We have our keen eye on this because this is really one of the last major hurdles that we need to go through

in terms of being ready for the transition. It's the satisfactory completion of the XML and the remainder of the Release B testing process.

While there's been a lot of progress in testing, we've been indicating the testing status is at-risk for two reasons. First the resolution of the Release A issues has extended past the plan vendor's certification window, and the Release B XML testing is surfacing issues which will require remediation and retesting in what's a relatively tight window. Beyond the vendor and the service provider testing, there's been a fair amount of work in this work stream on the acceptance test plans. These form the basis for accepting the new NPAC as solution-ready. So at this point all 12 acceptance test plans have been approved by the NAPM in conjunction with the FCC.

If we look at the last work stream, in data migration and Go-Live, progress is being made in building out the detailed requirements for parallel operations activities which defined how the transition will work. Well, both iconectiv and Neustar are performing some activities. The first requirements document that covered some of the test data migrations was completed and used in the previous LNPA, the LNPA data migration tests, as well as the seven-region data validation testing of which both are now complete. In fact, the majority of the parallel operations documents and the requirements definition of the term

sheets, as they're called, are finished. The last two, as Tim said, are in the works around data migration and then contingency rollback.

So I say there are some additional detail on each work stream and the report itself. But in the interest of staying on schedule, I'd like to just sort of wrap up by talking about some of the upcoming TOEP events. We're planning for a webcast. On December 12th, January 17th, and February 21st are the next three that are scheduled. Additionally the TOM will facilitate an industry working session on contingency rollback on January 16th. Then as they're scheduled, we'll also continue to support the LNPA Working Group meetings. I'll stop there and happy to take any questions.

Travis Kavulla: Thank you. Are there any questions? Yes.

Female Voice: I'm not sure if I'm interpreting this right. I'm new at this. But if you said that 94 percent of the SPIDs have done their on-boarding that leaves 6 percent that have not. If there are users of the NPAC that have not reached out, are we tracking that and reaching out proactively? If you can explain that, that would be helpful. Thank you.

Greg Chiasson: Yeah, absolutely. So 94 percent of the SPIDs which equates to about 92 percent of the service provider entities are engaged in the on-boarding process right now. On-boarding was one of the very first things that kicked off

probably a year-and-a-half or more now. There's been a very rigorous process to get everyone to sign up for the new NPAC services. And so iconectiv has been doing a very rigorous process to try and get companies to onboard or to verify that they either don't want service or they're either no longer in business or had been combined with someone else through a merger and, otherwise, don't need on-boarding. There's a 12-step process it goes through to prove out that an entity which was currently registered doesn't require service going forward. That's been underway for some time.

I think there's been a lot of good progress. Probably the vast majority of the usage of the NPAC is onboarded right now. We do have more than 100 entities that are still working through this process. That's the gap between the 94 percent SPIDs and 100 percent SPIDs. So that will happen. There can either be progress over the next few months, but there is absolutely a very rigorous and vigorous process to make sure everyone is aware of the need to onboard all through what the TOM's doing, to what iconectiv has been doing. The FCC's been very helpful in putting up public notices on this. We've been asking NARUC members and others in the industry to help communicate the need to onboard to their constituents. I would also ask if the NANC has any contacts. We welcome your support in making sure everyone understands the need to onboard.

Travis Kavulla: Thank you. Greg. Oh, I'm sorry. Betty.

Betty Sanders: I have a question. Betty Sanders. I wasn't able to write fast enough with everything. So when you were talking about testing at-risk, did you say testing at-risk?

Greg Chiasson: Yes, because we had a status indicator for each of the work streams. The testing work stream we have carried at the yellow status or at-risk status. That was really based on two reasons. We had defined a window for the Release A, testing the first part of the code, but we did have some issues that require longer than what we had planned to resolve. Okay. Those were the things I mentioned were part of this new Release B that's coming out on the 18th, and we'll retest there.

So we missed the window. There was this, really the first reason we put it at as at-risk status. Similarly, as we start the Release B testing, the first part is this XML code. That is surfacing some issues which will require remediation and retesting within the timeframe that we have, which is a tight window. We're trying to wrap up that testing by the end of January. So that's the other reason that we're indicating that there's risk associated with this work stream.

Betty Sanders: So are you saying any rollback or any pushing out, I guess, that's the best way I can think about this schedule?

Greg Chiasson: At this point I don't see any reason to reset the dates, but I want to be clear that there is risk here. That's why we're monitoring it. But at this point we're not changing any of the regional migrations or the final acceptance date.

Betty Sanders: Thank you.

Travis Kavulla: Any other questions? All right. Thank you, Tim and Greg, for your presentations.

Greg Chiasson: Thank you.

Public Comments and Participation

Travis Kavulla: We've now reached the time on the agenda or the place on the agenda where I'll ask for public comment. If anyone does have public comment, we'll ask you to limit it to five minutes. Just introduce yourself and who you represent.

James Falvey: Certainly. James Falvey with Eckert Seamans. I'm here on behalf of the LNP Alliance, which is a coalition of 20 plus much smaller carriers than most of the carriers represented on the NANC. As those of you who have been on the NANC may know, our coalition has been trying to monitor the LNPA transition through our participation in the LNPA Working Group to ensure that small carriers' interests are represented. So I just wanted to make a few comments about the LNPA Working Group and the LNPA transition.

There has been a little bit of a spacing out of the meetings of the LNPA Working Group. Obviously it was disbanded as of September, the end of the NANC charter in September. So then, as Greg mentioned, there were meetings in late September and then early November. I think we're now on a course where we may get the new group together sometime after a week from today and that will be tough. We'd love to see a meeting of the new group in December, but we recognize with the holidays that's going to be tight. So if not December, then hopefully early January. The reason is that, if you listen to where we are in the process, we're at a stage in the transition where we should be meeting, if anything, more often than once a month as opposed to less often.

We would also recommend that at the March meeting, which on the current schedule with the May final cutover, that we have a longer segment than 15 minutes for the LNPA transition on the NANC agenda. Greg pointed out to me at the break that he actually had seven-and-a-half minutes, just half of the 15, but obviously no one has a stopwatch. But we would love to have the chair of the new transition working group report, as well as the NAPM, the TOM. Then also have iconectiv and Neustar at the meeting so that folks can get their questions answered.

This will be the last NANC meeting prior to the May cutover, the next quarterly meeting being in June. So that's a

request for the agenda, if you will, for the March meeting. I think I'm not speaking out of turn that Greg would appreciate more time, from what I heard. He has no objection I mean to say in talking to him to having a little bit more time on the March agenda for that matter.

Then I guess the last thing I have is a question in terms of the rollback process. I know that's being negotiated. Rollback, for those who don't know, is that if they start to do the NPAC cutover and it doesn't go very well, then there has to be a process where Neustar can take over so that porting request can continue, that we aren't stymied in that way. Eventually, then we'll take another crack at transitioning to iconectiv, so iconectiv would still of course end up as the NPAC administrator.

So I'm curious. I understand there's a term sheet on rollback, but the NAPM I guess is the entity that I understand will determine when rollback is appropriate. I think our group would like to see smaller carriers involved in that decision as well in some way, but in addition I think we need terms for the rollback. Apparently that's being negotiated.

But then a question for Tim. You mentioned that there's a six-month termination, that there's a termination of the Neustar contract coincident with the testing cutover in May. My question is, what happens in light of Greg's -- and I don't mean

Greg personally, right? He's been working very hard on this. In light of the orange flags, if you will, that the TOM has identified, what happens if we go beyond May and vis-à-vis Neustar's participation? I don't know if you can address the rollback because you said you're in negotiations. But if you could speak to that, that would be wonderful. That's all I have.

Travis Kavulla: Okay. Thank you.

James Falvey: Thanks.

Travis Kavulla: All right. Welcome back to the table, Tim. We'll ask you to address that succinctly.

Tim Kagele: Jim, as always, thanks for your questions. I can't get into the specifics of negotiating the terms of rollback, but let me just speak to the 180-day termination notice. As Greg mentioned, there is risk associated with the transition. But as I made abundantly clear, there's been no informal or formal request to change the final acceptance date. There's a process by which that happens.

So if we were to learn that such request were initiated, the process would be reviewed and a determination would be made on whether or not it was necessary to extend the final acceptance date. That process includes partnership not only with the vendors, partnership with the industry, but partnership with the FCC. So it's a very collaborative process, not

something that's taken lightly. But there is a way to make the determination. So I hope that that answers your question.

James Falvey: Partially. I think I know the answer to the rest of this. But once that decision is made collaboratively in the manner that you suggest, then presumably there's some further discussion with Neustar to extend -- you said you terminated their contract. I don't know if there is some 60-day bubble beyond that. That's what I'm asking - is when you extend, would you then go back to Neustar?

Tim Kagele: The provisions of the 180-day termination notice allow for such extensions should they become necessary.

James Falvey: Thank you.

Travis Kavulla: Thank you.

Tim Kagele: To be negotiated, of course.

James Falvey: Understood.

Travis Kavulla: Is there further public comment?

Bill Reidway: Hi. My name is Bill Reidway, vice president of product management for Neustar. I'm sure everybody's eager to continue the discussion about the LNPA transition, so that's why I'm here. Just a couple of points perspective on some of the comments that had been made. First, I want to note, Neustar actually wears three different hats in the transition. The first is as the incumbent provider; the second is as the FCC's national pooling administrator; and the third is as a provider

of telecommunications-related services - a commercial vendor supporting about 200 operators in terms of their connections to and from the NPAC.

A little bit of perspective given the comments that have been made. First, for the good of the order, I want to note that Neustar has not to date received any formal allegations that actions or inactions with respect to its participation in the transition could be contributing to a risk. That's something we're happy to continue to discuss with the PwC and NAPM and others, but to date we haven't received any formal notices of such.

A couple of other points. With respect to transparency around testing, if I could respectfully augment what my friend Tim Kagele has gone through. It is true that the issues that are specific to vendor participation with customers tend to stay confidential for the good of those operators. From Neustar's perspective as a provider of telecommunications-related services, a vendor supporting multiple customers, we have actually waived any consideration of confidentiality with respect to our participation. As a matter of fact, we've actually favored that these issues that have been coming up in testing be discussed in public forum like the LNPA Working Group so as to most expeditiously and most effectively resolve those issues.

I think we got through that process. With Release A, we were able to leverage the local number portability working group to do so. As I said, Neustar kind of waived any considerations of our own anonymity with respect to that process from our perspective for the good of the transition itself.

I should also point out that that process is limited to the testing that goes on to support actual user interaction with the NPAC. So the test cases that are under discussion we've used in the past to certify new PTRS systems with the existing NPAC. Between now and April 8th at least it's Neustar understanding that there's another category of testing. I think Greg went into it in some detail, the acceptance test plans. In Neustar's capacity as the pooling administrator and as a commercial services vendor, we've also been asking for a little bit more transparency on that as well because the kinds of exercises that iconectiv is going through in order to self-certify its NPAC for preparation for production is helpful to us and our customers in terms of preparing for the types of things that we might want to run and validate in advance of the transition.

Then the last remark is, with respect to contingency rollback, understanding that these conversations are still ongoing and that there's been a lot of good participation amongst the industry and that's accelerating as we get closer to the transition, one of the only jobs that Neustar's got as the

incumbent in this situation is to be ready to take the NPAC back in the event of an issue that warrants an industry decision of that type.

So far, from what we've seen, we've got concerns about the proposal that's been initiated. We think that some testing needs to be done to validate that the proposal that's been put forward is actually workable. We've had some service providers that generally think that this might be okay. We've had other service providers, customers of ours, that have expressed concerns. So we think some additional attention needs to be paid to that in order to effectively derisk the transition for service providers and for consumers.

The last thing I'll note is I like to add my support to Jim's point of view that maybe some additional time at the March NANC be granted so that we can accommodate whatever needs to be done to get ourselves ready. I don't know if it's within the proper order but if anybody has any other questions for Neustar, I'm happy to take them.

Travis Kavulla: Any burning questions? Thank you.

Bill Reidway: Okay. Thank you.

Travis Kavulla: Any other comment?

Other Business

Travis Kavulla: All right. Marilyn, do we have any other business that we need to address before we adjourn?

Marilyn Jones: I just want to let the members know that Carmell and I are working on some NANC meeting date for 2018. As soon as we get those approved, get commission approval, we will send those to the chair and the vice chair and subsequently to the NANC members.

Travis Kavulla: As discussed earlier -- go ahead.

Jacquelyne Flemming: I'm sorry. Jackie Flemming. I'm new to this process. When you asked for any other comments, I thought about the public comment. Just one other question I probably should have asked earlier on the working committees. Are there any restrictions that I should keep in mind in who can participate on a working committee?

Travis Kavulla: Marilyn.

Marilyn Jones: Restrictions as far as?

Jacquelyne Flemming: In the working groups, our committees, you are asking us to give you names of individuals to participate in working groups. I just wanted to know if there are any restrictions on who can participate.

Marilyn Jones: In your company who can you nominate? No, there are no restrictions.

Jacquelyne Flemming: Very good. Thank you.

Marilyn Jones: You're welcome.

Travis Kavulla: Marilyn, did you have any other thing to add?

Marilyn Jones: No. Just be on the lookout for the 2018 dates. Once we get those approved, they will be posted on the Internet also. And we're going to post all the documents that were presented at today's meeting on the NANC chair website.

Travis Kavulla: Okay. Yes. Okay. Hi, Karen.

Karen Charles Peterson: Hi, Marilyn.

Marilyn Jones: Yes?

Karen Charles Peterson: When do we need to get those emails to you in terms of the working groups?

Marilyn Jones: Give those emails to me by next Thursday, December 14th.

Karen Charles Peterson: Thank you.

Travis Kavulla: Will you send out a reminder email tomorrow?

Marilyn Jones: Yes, I will. I will send you guys a reminder.

Travis Kavulla: Yes. Rosemary.

Rosemary Leist: Rosemary Leist with Sprint. I have two things. Well, actually three things. The first thing is I've been told that the bridge is muted. I know we're getting ready to finish up, but people probably want to know that we're finishing up so we might have to unmute the bridge.

I also wanted to let everyone know that I'm going to think about how to thank the co-chairs of all of the old working

groups. I've been sitting here during this whole meeting trying to think about how I could do it at this meeting, but there's just too many things going on in my head over two decades of these working groups. So I'm going to prepare something for the next meeting that will take probably two or three minutes or five.

Also there's one person -- I don't know if we're still on the bridge or not. Mark Lancaster with AT&T I understand is retiring. He reached out to me last month. I'm assuming he's still on. I haven't spoken to him in a while. He's done so much work at the NANC since before I came, and I've been here forever. He's just participated on so many levels, in so many different groups. When I first started co-chairing the NOWG a long, long, long, long time ago there was so much controversy, and he really helped to mentor me back then. He's just really contributed a lot to the NANC all of these years and I just wanted to thank him before we left for all of his hard work. Thank you.

Travis Kavulla: Thank you. Okay. So be on the lookout for Marilyn's email reminding you to get nominations for working group members in. Marilyn, I think you just said next Thursday.

Marilyn Jones: Yes.

Travis Kavulla: It would be appreciated if you got those. Those need to go through the vetting, the same ethics process

that you all went through. Diane, myself and Marilyn will talk about working back from our April deadline for those reports and then I think we'll probably convene some kind of omnibus conference call with the working group tri-chairs and co-chairs in order to get their input on what they think they need relative to the work stream. So a lot of work to be done. Thank you for showing up to the first meeting of the rechartered NANC. We're adjourned. Thank you.

Voices: Thank you. [End of file/transcript]