

**North American Numbering Council
Meeting Transcript
June 4, 2015 (Final)**

I. Time and Place of Meeting. The North American Numbering Council (NANC) held a meeting commencing at 10:00 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. Hon. Chairman Kane | NANC Chairman (NARUC – DC) |
| 2. Aelea Christofferson | ATL Communications |
| 3. Mark Lancaster | AT&T Inc. |
| 4. Greg Rogers | Bandwidth.com, Inc. |
| 5. Mary Retka | CenturyLink |
| 6. Valerie R. Cardwell | Comcast Corporation |
| 7. Mary Albert | CompTel |
| 8. Jose Jimenez | Cox Communications |
| 9. David Greenhaus | 800 Response Information Services, LLC |
| 10. Paul Kjellander/Carolee Hall | NARUC, Idaho |
| 11. Hon. Karen Charles Peterson | NARUC, Massachusetts |
| 12. Hon. Crystal Rhoades/Cullen Robbins | NARUC, Nebraska |
| 13. Jerome Candelaria | NCTA |
| 14. Gina Perini | SMS/800, Inc. |
| 15. Rosemary Emmer | Sprint |
| 16. Michele K. Thomas | T-Mobile USA |
| 17. Thomas Soroka, Jr. | USTA |
| 18. Ann Berkowitz | Verizon |
| 19. Brendan Kasper | Vonage Holdings Corp. (Vonage) |
| 20. Tiki Gaugler | XO Communications |

Special Members (Non-voting):

- | | |
|----------------|-----------------|
| Beth Sprague | NANPA |
| Amy Putnam | PA |
| Faith Marcotte | Welch & Company |
| Jackie Voss | ATIS |

Commission Employees:

Marilyn Jones, Designated Federal Officer (DFO)

Ann Stevens, Deputy Chief, Competition Policy Division
Michelle Sclater, Competition Policy Division
Carmell Weathers, Competition Policy Division

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

IV. Documents Introduced.

- (1) Agenda
- (2) NANC Meeting Transcript – December 9, 2014
- (3) North American Numbering Plan Administration (NANPA) Report to the NANC
- (4) National Thousands Block Pooling Administrator (PA) Report to the NANC
- (5) Numbering Oversight Working Group (NOWG) Report
- (6) North American Numbering Plan Billing and Collection (NANP B&C) Agent Report
- (7) Billing and Collection Working Group (B&C WG) Report to the NANC
- (8) North American Portability Management (NAPM LLC) Report to the NANC
- (9) Local Number Portability Administration Working Group (LNPA WG) Status Report to the NANC
- (10) Presentation by Professor Henning Schulzrinne
- (11) Future of Numbering (FoN) Working Group Report to the NANC
- (12) Status of the Industry Numbering Committee (INC) activities
- (13) ATIS Report

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VI. Summary of the Meeting

Betty Anne Kane: We'll start. I call to order the quarterly meeting of the North American Numbering Council. It is 10:06 AM. It is Thursday, June 4, 2015, and for the record, we are in the hearing room at the Federal Communications Commission. First, I would like to do the roll call. And remind people, again, after we do the roll call, if you need to be recognized, kindly put your card up and wait about two seconds until the gentleman in the booth can connect your microphone, because otherwise they are off the other times, and then I'll go to the phone and see who we have on the phone. I'm Betty Anne Kane, chairman of the NANC and NARUC representative on the council.

Aelea Christofferson: Aelea Christofferson, ATL Communications.

Mark Lancaster: Mark Lancaster, AT&T.

Greg Rogers: Greg Rogers, Bandwith.

Mary Retka: Mary Retka, CenturyLink.

Valerie Cardwell: Valerie Cardwell, Comcast.

Mary Albert: Mary Albert, CompTel.

Jose Jimenez: Jose Jimenez, Cox Communications.

Carolee Hall: Carolee Hall, Idaho PUC Staff.

Crystal Rhoades: Crystal Rhoades, Nebraska Public Service Commission.

Betty Anne Kane: I'm sorry, I couldn't hear you.

Crystal Rhoades: Crystal Rhoades, Nebraska Public Service Commission.

Jerome Fitch Candelaria: Jerome Candelaria, on behalf of NCTA.

Gina Perini: Gina Perini, SMS/800, Inc.

Rosemary Emmer: Rosemary Emmer, Sprint.

Ann Berkowitz: Ann Berkowitz, Verizon.

Brendan Kasper: Brendan Kasper, Vonage.

Tiki Gaugler: Tiki Gaugler, XO.

Marilyn Jones: Marilyn Jones, FCC.

Betty Anne Kane: We want to welcome Commissioner Rhoades to the North American Numbering Council from the Nebraska Commission and NARUC representative. We have a number of other representatives too, new people. The Honorable Scott Rupp is

also a new NARUC representative. He is a commissioner on the Missouri Commission. Commissioner Rupp, are you on the phone? And Rachel Hassani is your alternate. I said we welcome Commissioner Rhoades. Cullen Robbins is Commissioner Rhoades' alternate from the Nebraska Commission staff. Karlen Reed, has been officially appointed from NARUC also, the alternate. Karlen Reed is the alternate for Commissioner Peterson from the Massachusetts Telecom Communication. Aelea Christofferson, who is from ATL Communications, your alternate is Brian Lynott.

Now, is there anyone on the phone? Is the bridge working? Is there anyone on the phone?

Ron Steen: Ron Steen, AT&T LNPA Working Group, LNPA working group, [indiscernible].

Male Voice: [Indiscernible]

Linda Hyman: Linda Hyman, Neustar Pooling.

Paul Kjellander: Paul Kjellander, Idaho Commission.

Betty Anne Kane: Good morning, commissioner. Anyone else on the phone?

Cullen Robbins: Cullen Robbins, Nebraska PUC.

Female Voice: [Cross talking], Minnesota Department of Commerce.

Michele Thomas: Michele Thomas, T-Mobile.

Rebecca Beaton: Rebecca Beaton, Washington State Commission staff.

Betty Anne Kane: Okay, thank you. Can I ask the people who are on the phone if you would send an email to Marilyn Jones so that we do have a clear record of who is on the phone and who is participating?

ANNOUNCEMENTS AND RECENT NEWS

Announcements and recent news is the first item on our agenda and that was to welcome the new NANC members and alternates. Marilyn, are there any other announcements or news?

Marilyn Jones: I just want to also welcome the new members and to thank all the NANC members who sent us updated membership director information, we really appreciate it. And to let you know that, for the new click-here feature, we have added another component, in addition to the email going to Margoux Brown [phonetic], who is going to cc myself, Anne Stevens, Sanford Williams, Michelle Sclater, and Carmell Weathers. Once we get those emails, I can approve them and then your request should be completed within the next day or so.

Betty Anne Kane: I also want to thank all the committee chairs and co-chairs for getting in your reports electronically to Marilyn and Carmell ahead of time so they can go out to the members of the council and are particularly helpful to the people who aren't here and therefore don't have access to paper copies. For everyone to be able to have that a week ahead is very helpful.

APPROVAL OF MEETING TRANSCRIPT

The next item on the agenda is approval of the transcript of the December 9, 2014 meeting. Are there any additions, corrections, comments on that transcript that was posted electronically? Then, by unanimous consent, we can consider that approved. We did not have a meeting - the next quarterly meeting, which was in March - due to the weather.

REPORT OF THE NORTH AMERICAN NUMBERING PLAN ADMINISTRATOR

(NANPA)

Next, going to our reports, the first to report on the agenda is the report of the North American Numbering Plan Administration, the NANPA.

Let me back up for a moment just to get our items noted. The agenda will be item number one, for the record, the transcript will be item number two, and now the report from the NANPA is item number three.

Beth Sprague: Thank you. My name is Beth Sprague from NANPA. I will be presenting the report of the North American Numbering Plan Administration.

Carmell Weathers: The heavy breather needs to mute.

Betty Anne Kane: Let me remind the people on the phone, do put yourselves on mute.

Carmell Weathers: Chairman Kane, your volume is really pretty low. It's kind of hard to hear even with it non-muted.

Betty Anne Kane: All right, I will send that message to the man in the control room, thank you, Carmell. And Beth, I guess, we'll just --

Beth Sprague: Do you want me to start?

Betty Anne Kane: Yes.

Beth Sprague: Okay. So on the first page, this is Central Office Code activity. For the first four months of 2015, you'll notice we made a comparison to the last four years and observations are that the assignments are going higher. We started to notice this trend in late 2014. So that is Central Office Code activity.

Next is the NPA assignment activity. We have had two area codes that we've assigned in 2015. One of them is a 622 non-geographic; we assigned that in February. The other was Indiana overlay over 317; we assigned that in April. Five area codes have been put in service since the beginning of 2015: the Indiana overlay over 812; California overlay over 415; as I mentioned, the 622; the Tennessee overlay over 615, and the Ohio overlay over 740. There is only one more area code scheduled to go into service this year. That is South Carolina, 843.

Going further down for NPA relief planning, we put a summary of the ongoing projects and the one that has been completed was a 305. This was the Florida Keys extension of 786 over the Florida Keys, and that was effective this week, June 1.

Also, as a result of this boundary extension, the jeopardy procedures were removed, they have been rescinded. And the one other thing I want to note about 305 is all assignments for the remaining 305 codes, they are still going to be for the Keys. That is a previous Florida Commission order. So there are only two jeopardies left in Illinois. That is a good thing.

On the next page, these are the other ongoing relief projects. You will notice most of them, except for the last two on the page, are expected to be completed and in service in 2016. On the bottom of the page, you will notice 212, 646 petition was filed on March 20 on behalf of the industry with the New York Public Service Commission recommending the addition of a new NPA to the 646 overlay complex. So we are just awaiting a commission order on that one.

California, 323 NPA, on April 22, we conducted a relief planning meeting for the 323 NPA. The consensus was reached to recommend an NPA boundary elimination overlay between 213 and 323. That would mean there would be no new area code needed. It is just like a boundary elimination. The recommendation proposes the 213 and 313 [sic] will collectively serve the same geographic area. Public meetings are going to be conducted in September 2015, and after which the petition for relief will be filed.

Also, I talked to Joe Cocke. He's a relief planner. He says that the tentative dates are September 8th, 9th, and 10th. He is probably going to be sending out a NANPA notification notice soon.

That is it as far as geographic NPAs. On the next page, there were two more non-geographic NPA activities we wanted to mention. One of them is a new 5XX NPA code. We published planning letter 479, which is basically announcing the next 5XX area code will be 588. When we get closer to actually assigning, we will send out another NNS. This is what usually do and it is per the guidelines. As a reminder, after 588, the last ERC - easily recognizable code - will be 522, and then we go into the 5XX series.

The next item down is the other planning letter on the next toll-free NPA code. In April, we published planning letter 481. This is a recommendation by the SNAC - the SMS/800 Numbering Administration Committee - the ATIS Committee recommending that the FCC open 833 on or about April 22, 2017. That was the 24-month notice of that next toll-free area code.

Going on down, NANPA submitted a change order. This is the second change order for this current contract. May 22, we submitted change order number two. This was in response to INC issue 794, which is to update the 5XX assignment guidelines to reflect the moratorium on all new assignments. There is

currently another issue that the INC is working on. Part of that issue is conducting a lot of outreach to any and all 555 line number assignees. Remember, 555 line numbers are not assigned to service providers; they are assigned to actual end users. This is a difficult outreach program. We don't have complete and accurate information on all these assignees. They are going back to the '90s. As a result of the ongoing INC issue, there's a perception that it may have started up some new interest in this resource. That is the reason that the INC came to the consensus to request a moratorium on new assignments.

The change order that we have submitted does not propose any system changes, just that we would deny new 555 line number applications. It is a moratorium so that means temporary. We also wanted to mention this, and INC probably wants to mention, that this moratorium does not affect the current use of the fictitious, the non-working numbers that the advertising and entertainment industry uses. So that's change order number two.

Some other NANPA news - we published our annual report for 2014 and that's posted on our website under Publications. Some of the attachments in that annual report are very helpful especially attachment one. It shows the entire inventory of all the area codes and everything that's reserved and the numbers, so you get a good sense of what's going on. Also, on April 20, we published the NPA forecast, the NANP exhaust forecast, and

the 5XX exhaust forecast. The same assumptions that have been used in all of the other analyses were used in these.

The last item on here is about the next NRUF - the Numbering Resource Utilization forecast reporting cycle - that will be due August 1st. That is really all there is to this report. There is another page. It's a listing of all NPAs exhausting in the next 36 months. Unless you have readers, you probably can't read it, sorry. Any questions?

Betty Anne Kane: Are there any questions? Okay, I have a couple of questions. The recommendation for the moratorium on the 555 numbers, you've made the recommendation. Put on the record where it goes from here.

Beth Sprague: The INC issue is actually considered initial pending. It will be until NANPA gets a response from the FCC.

Betty Anne Kane: When was that sent to the FCC?

Beth Sprague: May 22nd, it's pretty recent.

Betty Anne Kane: So the change order was recommended to the FCC. Thank you. On the toll-free numbers, which seems that every meeting we get more, what is the trend on toll-free numbers? Is the number request for them going up?

Beth Sprague: NANPA just assigns the actual toll-free at the request of the ATIS SNAC Committee. So that question probably would be better for someone that represents the ATIS SNAC or the SMS/800, that happens to be sitting there.

Gina Perini: Hi, Gina Perini, SMS/800. I don't represent the SNAC but as the CEO of SMS/800, I can say that there is an increase in trending we are seeing. It has been a gradual increase for many years. We are continuing to track and forecast that and it does track for the need for the code [sounds like] opening in April 2017.

Betty Anne Kane: I wasn't questioning that, but you got what I expected depending on the overall historical trend. Thank you. Any questions from anybody on the phone on this? Thank you for your report. I appreciate it.

Gina Perini: Thank you.

REPORT OF THE NATIONAL THOUSANDS BLOCK POOLING ADMINISTRATOR

(PA)

Betty Anne Kane: All right, the next item, which will be item four for the record, is the report of the Thousands-Block Pooling Administrator. Amy Putnam?

Amy Putnam: Before I begin, can the people on the phone hear?

Carmell Weathers: No.

Female Voice: Very difficult.

Carmell Weather: I can only hear the breather.

Female Voice: Or very bad static.

Female Voice: Yeah, I think it's the static. Every time the speaker is speaking, not you but whoever was talking a minute ago, it sounds like static with her voice.

Betty Anne Kane: We will try putting on microphones very close. Can you hear me now okay?

Female Voice: Yes.

Betty Anne Kane: It's like you're performing in the cabaret, right up there. Again, see what the technician can do.

Amy Putnam: Thank you, this is Amy Putnam. This is the report of the National Thousands-Block Pooling Administrator, and pooling is fine.

If you turn to the first line of the first report - no, I'm not going to go through every single line - we had 13,295 Part 3s processed in April, and just to do a little comparison, 2014 was our busiest year ever. By the end of April 2014, we had processed 43,817 Part 3s. This year so far, by the end of April, we had processed 47,204. So we are on track to have another very, very busy year. In May, which is not on this report because of the time constraints of getting it out to you guys by the end of May, May was our fourth highest month ever with 17,565. That was only 20 below our third highest month, so we are already having a very busy year.

Betty Anne Kane: Okay, Amy could you just, partly for the new people and also just for anyone who is reading the transcript, briefly explain what a Part 3 application is.

Amy Putnam: Every time a pooling administrator handles an application and performs some sort of an action on it, a Part 3 is issued. So the Part 3 is *the* concrete evidence of the amount of application work that we do.

Betty Anne Kane: And those are applications for --?

Amy Putnam: For Thousands-Block or for codes that are passing through the NANPA, which ultimately will be Thousands-Blocks for numbers.

Other than that, the second chart shows the p-ANI summary data. Again, this is a rolling 12-month chart so that next month, for the new people, May will fall off the left-hand side and it will just be 12 months. You will note that, on the top of page three, on the top line, we did have a large number of modifications to existing p-ANIs in March, and that was due to some network clean-ups.

The next chart shows the Part 3 summary data for the last 12 months, how many Part 3s were issued for approvals, for denials, for suspends, or for requests that were withdrawn.

The next chart is Part 3 summary data sorted by type. For the new people, we never said this was really exciting; this is just an explanation of what we do and how it is parsed out.

The next chart shows the number of codes that were opened in the last 12 months and for what purpose, some for LRNs, some for dedicated customers, and the vast majority of them for pool replenishment.

The rate center information changes, the status of rate centers changes, for generally from excluded to optional, either at the request of a state or at the request of a service provider that wants to move into a rate center that is not at that time available for pooling in the pooling administration system. When we get such a request, we open that rate center in the pooling administration system to make it available for someone who wants to pool and wants to move into that area. That does not obligate anybody to pool. If a rate center is not moved from optional to mandatory by a state order, then it still remains optional for the carriers that are in there even if one or another carrier requests that it be open in the system for pooling.

The reclamation summary, number of blocks reclaimed. For the new people, there is always a large discrepancy between the total number of blocks with overdue Part 4s and the total number of blocks that we actually reclaim. We cannot reclaim blocks without authorization from the state, or in the case of a few states who have chosen not to do it, the authorization of the FCC. Although, blocks may appear on the overdue Part 4 list and

notifications have to be sent out to the state, ultimately, obviously, most of those are resolved before it gets to the point of the state authorizing us to reclaim them.

The next chart shows the performance of the pooling administration system and shows those instances of unscheduled unavailability for the last 12 months.

The next chart shows the comparable performance for the routing number administration system. And then the footnote underneath relates to any instances of unscheduled unavailability that show up. We keep them, again, on a rolling 12-month target. The footnote will fall off when those items that are identified in it fall off as well. In this last reporting period, we had no instances of unscheduled unavailability.

Finally, other pooling related activities. All of our contractually-required reports for the last 12 months were submitted on time and posted to the website, and you can see what they are there and how often they have to be posted. For p-ANI administration, we continued working on reconciling the few remaining existing data discrepancies. I say few remaining; I am not counting the ones that appeared on this year's annual report. The annual report files this year contained a number of new data discrepancies and Florence and Diane are working with carriers to resolve those.

We attended the ESIF meeting at AMOC as part of our p-ANI administration. We participated in the regular monthly meetings with the NOWG. As you all know, we also participated in INC, and CGAR [phonetic] and the NANC working groups. All of our pending FCC-approved change orders are now completed and posted on our website under Documents, and there is nothing pending at this time. Any questions?

Jose Jimenez: Jose Jimenez from Cox. The chart on the availability of the system got me to thinking that it is always dangerous about --

Amy Putnam: Please stop.

Jose Jimenez: There are many around this table who wish they could do that.

Amy Putnam: I meant the thinking, not the talking.

Jose Jimenez: Not the talking, okay. How does the pooling administrator and for that matter of the other administrators, you may not have an answer for all of them, but the issue of cybersecurity popped into my head when I was looking at the network availability and issues with that. How interconnected are those databases? Maybe this is an answer that you may not have readily, but I would be interested in understanding how those systems are protected from attacks.

Amy Putnam: Well, there are two questions there. One is how interconnected are they? RNAS is not connected in any way

with PAS or with NAS with respect to anything, not even with respect to data exchange. That would not be electronic in any way, because RNAS deals with p-ANI and they are assigned differently. They are non-dialable numbers, so they are not connected. Certainly, PAS and NAS have data exchange to the extent that any request to open a new code in a pooling rate center comes through the pooling administrator and through the pooling administration system, and that information is passed on to NANPA.

The cybersecurity issues - as part of our contract requirements, we have obligations to be FISMA compliant and FedRAMP complaint, which are the federal standards for cybersecurity.

Betty Anne Kane: Any other questions? Again, from our audio technician a reminder that callers who are on the phone need to stay on mute until you are ready to speak. Even if you think it's quiet, apparently, if it's open, we're still picking up some backfeed. If you got a speakerphone, it says to close your speakerphone. I guess, that means you have to put it to your ear. I'm looking at the audio guy. You're saying people should just keep it on mute, then it's easier to have it on speakerphone and listen to all of this.

I have a question, I am not sure, Amy, if it goes to you or to the pooling administration, it seems a little oddball

question. There was an article in the *Washington Post* about a month ago about a couple of entrepreneurs who are making a business out of transferring numbers. People who had, let's say a business that had a block of numbers where the numbers spelled out something like 727-EAT, or 727-ENVIRONMENT.

Amy Putnam: Vanity numbers?

Betty Anne Kane: Not necessarily vanity numbers but just meaningful numbers, they might be meaningful. People were selling those through these brokers. There was a little story about how entrepreneurial these folks were. My reaction was is that legal and who's in charge of that? I mean, when numbers are assigned to a carrier or when a business gets a number from a carrier, and then they go out of business, can they just sell their block of numbers to someone else? I am sorry, I didn't bring the article with me, I will send it around, but that was my reaction.

Amy Putnam: The guidelines are very specific that those numbers are a national resource and are not something that can be bought and sold. Whenever we become aware of something like that, we notify the FCC.

Betty Anne Kane: Okay, well, I will send the article. They're named, a couple of specific business that were doing this.

Amy Putnam: You may or may not remember that some years ago - and I don't remember the number - the number that is famous in the song, Jenny's number, was actually up to \$20,000 and moving up on eBay before the FCC stepped in and explained to the person that they -- I think it might have been the New York Commission. This was years ago. But yes, somebody was selling that number on eBay.

Betty Anne Kane: Apparently, it's still going on. I identify yourself for the record and for the people on the phone.

Aelea Christofferson: Aelea Christofferson from ATL Communications. I've had a question for a while about there are guidelines saying that the local numbers cannot be sold, but my understanding is there's nothing beyond the guidelines and that the guidelines are not enforceable. Is that accurate?

Amy Putnam: For starters, the guidelines are guidelines. They are not regulations and they are not a statute. We are obligated by the terms of our contract to follow the guidelines. However, as I have often said, we are all carrot and no stick, and when there is an enforcement issue, we turn to the FCC.

Unknown: This is Cox Communications. It is my understanding - and I'd have to pull the rules - that I thought that the FCC rules actually have a section that states the same thing that the guidelines do and, when we worked on the

guidelines, I believe that's where we got them. They were codified and they are in the FCC rules saying that you cannot sell, barter, hoard, or warehouse numbers.

Marilyn Jones: This is Marilyn, DFO. Yes, those rules are for the toll-free numbers.

Unknown: Okay, you're right. Lee [phonetic] and I were on the same toll-free committee and that's the first thing that came to my mind, I apologize.

Rosemary Emmer: This is Rosemary Emmer with Sprint. I just want to real quick say that the rules only apply to service providers and not individual carriers, consumers.

Betty Anne Kane: I'm sorry, say that again.

Rosemary Emmer: That the rules apply to only service providers.

Betty Anne Kane: Not to an individual customer, so if I had a business and I had ten numbers, 72-PIZZA, because I was Joe's Pizza, and I wanted to sell those numbers to trade them to a new pizza company, there is nothing to stop that? This is something maybe we could take a little look into to be sure we know what the rules are.

Amy Putnam: Once we assign a number to a carrier who has complied with all of the requirements of the guidelines, that is it for us.

Betty Anne Kane: My question is, when the carrier assigns that number to a customer, what is the customer able to do with the number? That seems why [sounds like] this was happening.

Mark Lancaster: Mark Lancaster, AT&T. On the point of regulation that FCC does not seem to have anything that would prohibit the end user from trying to market their number, does a state have that? I have not heard of it, but a state could have their own regulations. Historically, the ILECs have had in their own tariffs certain prohibitions on selling numbers. So a carrier may have a state-approved tariff that says that they would not allow it, but of course a lot of the sale of numbers is in the wireless realm and there is not going to be any state regulation that probably applies to them in that case. But it could be, on a state-by-state basis, you'd have variations.

Betty Anne Kane: Of course, you've got so many instances too where the states have moved back from those kinds of regulations including having tariffs for a lot of the landlines either by legislation or by persuasion.

Mary Retka: Mary Retka from CenturyLink. Just also recall that businesses can have changes of responsibility of who owns the business and the telephone number can be a part of that transaction when they do a change of responsibility. That's pretty common amongst the handling of the business office or the

telephone companies. That's often a way that a telephone number moves from one ownership to another.

Betty Anne Kane: That goes through the carrier there?

Mary Retka: Yes, it's processed through the carrier.

Betty Anne Kane: Well, I will get Marilyn to give us a little bit more background on this; what rules, et cetera, apply. I will send on that article. Thank you very much, Amy. You see, it's not all that boring at all.

REPORT OF THE NUMBERING OVERSIGHT WORKING GROUP (NOWG)

Item number five, report of the Numbering Oversight Working Group.

Karen Riepenkroger: Thank you. I am Karen Riepenkroger of Sprint. I am a co-chair of the Numbering Oversight Working Group along with Laura Dalton of Verizon Communications. Today, we're on slide two, we are going to cover the 2014 performance reports and surveys for the NANP and the PA. We will do a section on the NANPA 2014 performance report, on the PA 2014 performance report, and then we have a slide on the NANPA and PA change orders, our upcoming meeting schedule, and a list of our participating companies.

Slide three, is for the annual performance assessment for the NANP and the PA for 2014. We based this upon the 2014 performance feedback surveys, monthly reports that we receive from the NANP and PA, annual operational reviews at the NANPA

facility in Sterling and the PA facility in Concord, California, and then NOWG observations and interactions with the NANPA and PA.

On slide four, for the NOWG, it does conduct three separate annual performance surveys. We do one for the NANPA, one for the PA, and one for the RNA. For 2014, we did a substantial modification to the survey. We streamlined it. We went from multiple questions per function to one question per function, and we also moved to just one comment section at the end of the survey. Additionally, we did receive NANC concurrence and modified the rating categories. We went from five categories, which were previously: exceeded, more than met, met, sometimes met, and not met; to two categories of met and not met.

On slide five is a definition of each of those rating categories. Are there any questions on those last two slides?

Moving on to the NANPA survey, slide six, it's a chart of the NANPA survey respondents and this chart transcends the inception of the surveys in 1998 through 2014. As you can see, in 2014, they did increase in the number of industry and other from 35 to 46. And there was a slight decline in the number of regulators that responded.

On slide seven, are the survey results. Again, we had just one question in each of these sections. I do want to note that these aggregated results do not include any of the N/A responses

that we received, so the overall percentage of met ratings for the NANPA in 2014 was 99.36 percent. Are there any questions on this slide?

On slide eight, on the NANPA survey results, we always provide this, it's kind of a summary of the written comments. As in previous years, this year they did provide significant praise, and in many cases, the comments provided praise for the individual staff members at the NANPA. Some of the adjectives and phrases used to describe the experiences were: responsive; courteous; resourceful; they were friendly; they were knowledgeable; and, they provided great service.

On slide nine, NOWG observations. After thoroughly reviewing these survey responses, the NOWG did conclude that, from the results and the comments, there was a high level of satisfaction experienced by those that did interact with the NANPA. The NANPA does actively participate in industry forums. They promptly addressed any issues that we brought to their attention, and any suggestions that we did make throughout the 2014 year. As in previous years, the NANPA does continue to consistently and to effectively demonstrate their expertise as a custodian of the numbering resources.

On slide ten, we did add in this slide this year on highlights. We have a few items here that we want to highlight that NANPA did meet all of their performance measurements and

required responsibilities in 2014. They implemented process improvements. They continued to educate the industry through NAS instructional videos. They have their NANPA quarterly newsletters. And they had direct contact with the new entrant service providers, and they continued to improve their system capabilities by upgrading NAS hardware and software.

On slide 11, for the 2014 performance year, the NOWG determined by consensus that the rating would be a met. Their performance was competent and reliable, and decisions and recommendations were within the requirements.

On slide 12, each year we do provide suggestions. For this particular report, we provided these following suggestions for their 2014 performance report. We asked that they continually proactively search for ways to improve processes and continue to educate their customers and also enhance system functionality. We do want them to continue to use the NANP notification system to issue informative notices to the industry such as NAS enhancements, new reports to the website, and the availability of the NANPA newsletter index. We are also asking them to include on the semi-annual CIC report reminder notice, a reminder to the users to review and update their CIC contact information as required by the CIC assignment guidelines, and always to continue to provide the high quality and value of service to the industry.

On slide 13, at this time, the NOWG requests the NANC's approval of the NANPA performance report and request the NANC chair to transmit to the FCC, and the NOWG will provide you an updated version of this performance report with the draft watermark removed.

Betty Anne Kane: Very good. You've heard the report, you've heard the recommendation and the request to the NANC that we approve the performance report and transmit it to the FCC. Discussion.

Jerome Candelaria: Jerome Candelaria, NCTA. One of the suggestions is the continued use of the NNS, and I assume that includes the NAS login requirement for any documents. For example, in order to get a planning relief letter that goes to a utilities commission, one needs to log in which requires a password, which expires every six months, which for industry participants is no issue. But I suppose, for those who aren't always participating in numbering, it creates an inconvenience. Is there any discussion about putting some of these documents in a more public area, for example, the annual report or the planning relief letters? We heard an earlier discussion about the need for confidentiality and protection. Is that what's requiring this kind of log in procedure?

Karen Riepenkroger: The annual report today does reside on the NANPA website, on the public part. You do not need a

password to get to it. The planning letters also reside on the public website and you do not need a password to get to it. The planning letters are under, I think, Reports on the NANPA website, and you should be able to get to them.

Jerome Candelaria: Okay. Because I was informed by the code administrator that I needed to go to the NAS NANP notification system to get the memo [sounds like].

Karen Riepenkroger: It's just the planning letters. If you want the minutes, the IPDs and those types of documents, you would need a password to get to the secure part of the website to view those.

Jerome Candelaria: But to get to the planning letter, the letter that actually triggers a lot of the processes set forth in legislation in various states, you need the planning letter.

Karen Riepenkroger: If you need some assistance, I can get with you afterwards and we can look at it, but it does reside out there under Reports on the NANPA website.

Jerome Candelaria: Okay, thanks. That is not consistent with the emails I have received from NANPA, but we will discuss it afterwards.

Karen Riepenkroger: The NNS that we are talking about here is not anything that would take anybody to the secure website. It's just general information.

Jerome Candelaria: Okay, thanks.

Karen Riepenkroger: Thank you.

Betty Anne Kane: Thank you, Karen. Any other questions? Anyone on the phone? We do have a request that the NANC approve the performance report and for me to submit it to the FCC. Is there any opposition to that recommendation or that request? Then, I will consider we've got unanimous consent to do that, thank you very much.

Karen Riepenkroger: Moving on, this is the month that we have the longest report, so thanks for everybody for bearing with us here.

On slide 14, we have the 2014 PA survey respondents. Again, this chart shows from the beginning of the PA survey in 2003. In 2014, the number of respondents was down for industry and other for the PA, and the regulators remain the same at 34.

On slide 15, are the aggregated results. Again, these aggregated results do not include the NA responses, so the overall percentage of met ratings for the PA was 99.79 percent.

On the next slide, the survey results, again, the written comments indicated outstanding praise for the staff. Some of the adjectives and phrases used to describe their experiences were helpful, prompt, courteous, responsive, PA-provided exceptional support, and excellent customer service. So comments/suggesting improvements were mostly isolated. Some of the comments pertain to communication of upcoming PAS

enhancements and the timing of applications, processing, and frequency of report generation.

Moving on to slide 18, we do include the RNA. We have the separate survey for the RNA but it is included into the PA performance report, so this slide reflects the chart on the survey respondents since the inception, again, from 2012 to 2014. In 2014, the number of industry and other respondents did increase and we still say they had the same for regulator.

On slide 19, on the survey results, again, one question per section and the results do not include the N/A responses, and the overall percentage of met ratings for the RNA was 93.10 percent. On the RNA survey results, the provided survey response, they had, again, outstanding praise for the RNA. They noted that they were extremely helpful, they were prompt, they were courteous, they were professional, and they go above and beyond to assist. Under the comments/suggesting improvements were mostly isolated and nothing that indicated any consistent performance issues for the RNA.

For the NOWG observations, after reviewing the PA and RNA survey responses, we concluded that the results and written comments indicated a high level of satisfaction with all who interacted with the PA and RNA. Throughout 2014, the PA and RNA did actively participate in industry forums and they promptly addressed any issues that were brought to their attention and

suggestions that we may have made to them. And the PA demonstrated the ability to process a record number of Part 3 applications in 24 [sic] while testing and developing functionality for the new PAS.

On our highlights page, we do have kind of the same item here about processing the highest quantity of Part 3s since the start of pooling. The work that they did on the system development for the new PAS, which is scheduled for deployment in January 2015, this included documentation development as well as the testing by the PA personnel as they continue to do their day-to-day functions.

PAS and RNAS availability maintained at 99.98 percent in 2014, and in 2014, the PA did secure a blanket safety valve waiver to replenish the pool in the California 415 NPA until the effective date of the new 628 NPA overlay.

So, for 2014, the PA's performance year was determined by consensus by the NOWG to be met. Again, the met was competent and reliable, and decisions and recommendations were within requirements. As a result of the PA performance report, we ask that they continue to have internal training sessions - that's both for the PA and RNA - to ensure that they are giving out consistency in understanding the processes and responding to service providers and regulators. We also want them to consider enhancing the current process for PAS suggestions. We'd like

for them to create a standardized form for the suggestions, submissions, and distribute a notice to the PAS users with this new PAS suggestion form. We are also proposing that they submit an issue to INC to increase the frequency of requesting the contamination report from the NPAC for the purpose of approving or denying block returns. Of course, we want them to continue to provide the same high quality of service to the industry that they have been doing over the past years.

At this time, again, the NOWG requests NANC's approval of the PA performance report and requests the NANC chair to transmit, and again we will remove the draft watermark from the performance report.

Betty Anne Kane: All right, any questions on the report? One quick question, on slide 18 where you show the number of respondents to the RNA survey, it is quite a few less than what responded to the PA survey. Is there a reason for that there is only one state?

Karen Riepenkroger: It's a different group of people. These are the p-ANI users. I am not sure that even though we show this as regulators, it comes from a state 911 organization, so it is a totally different group of people. Its p-ANIs or totally independent of the numbering resources.

Betty Anne Kane: So the people who are asked to respond to the RNA survey are PSAPs?

Karen Riepenkroger: They are the people that get p-ANIs from the RNA, the p-ANI resources. Does that answer your question?

Betty Anne Kane: Yes, I was just curious. Consistently, in the last two years, there has only been one state, entity, or whatever.

Karen Riepenkroger: Well, I might ask Amy to help assist with that, to answer that question.

Amy Putnam: The construct for p-ANI is very different from that for numbering resources. Numbering resources are the purview of the state PUCs. Our experience is that most states are not interested in p-ANI administration. They are interested in the state of their PSAPs, the funding of their PSAPs, the way calls are handled in the state. But the assignment of p-ANIs is not generally a high priority.

The people who would be looking at p-ANIs on the state level tend to be in the emergency management agency telecom division. When we interact with those people, they are very glad there is someone out there doing it, but for the most part, most state-level people are not engaged. There is one state that is very engaged and wants us to change the system to comport with what that state would like it to look like, which is not the same as the industry has directed in the guidelines. There is an issue there.

Betty Anne Kane: Thank you for the explanation.

Karen Riepenkroger: Thanks, Amy.

Betty Anne Kane: All right, we have a recommendation that the report be approved and submitted to the FCC, is there any objection or concern about that recommendation, request? Then, by unanimous consent, I will do that. Thank you for your work on this.

Karen Riepenkroger: Okay, we have just a couple of slides and then we're done, promise.

The next slide is on the NANPA change order. I know that the NANPA covered this, but I wanted to just note that the NOWGs did send their recommendation to the FCC to approve this change order. We sent that on May 29th. Again, the PA change order on slide 28, which was partially implemented 23 and is now completed on January 11th with the release of the enhanced PAS.

On the next slide, is just a schedule of our upcoming meetings and then one slide has our contact information, and note that we do have occasionally other meetings as needed, intra-meetings, and then a list of the NOWG participating companies. Are there any questions?

Betty Anne Kane: Okay, thank you very much. Moving right along, if we could move to item number seven, which is the Billing and Collection Agent Report for the period ending April 30th.

**REPORT OF THE NORTH AMERICAN NUMBERING PLAN BILLING AND
COLLECTION (NANP B&C) AGENT**

Faith Marcotte: Good morning, I'm Faith Marcotte from Welch, LLP. We are the billing and collection agent. On page one of our report, we see a statement of the financial position of the fund. At April 30th, we have \$2.1 million in the bank, \$284,000 of receivables, which nets out to almost \$2.4 million in total assets. The amounts owed to the vendors for the month was \$454,000. That leaves the fund at \$1.9 as of April 30th.

On the following page, we have an actual and then budget for the rest of this year up to the end of June. What we are projecting now is a surplus of \$1,388,000. The bottom right-hand box there explains the variance. So, \$300,000 of that relates to the carrier audits that are not happening while the other items are less than \$100,000 going in different directions. So the total variance is about \$388,000 from the \$1 million of surplus that we allowed for contingency.

The following page is a projection of the fund for the next year, which goes from July 15 all the way up to September 16. The surplus for this year is where we allowed for \$500,000 for the contingency balance. Right now, it's a long way away, but we are showing about \$28,000 variance from that number.

Page four and five are stapled incorrectly on your reports, so page four shows what the liabilities are for the next six

months. They are basically the vendor's fees, each month's fees. We have no other things other than the audit in that number.

Our deliverable report, we see everything is going as normal. The processes are following as they normally do. There are no unusual items. The only thing that I wanted to make a comment on is the contribution factor. We did not get a formal approval at a NANC meeting, but we did it by email and we ended up with a revenue base basically within the range that was approved. So the contribution factor that we sent to the FCC was 0000387. We did send that to the FCC and I believe it shortly will be a public notice and then, 14 days from the issue of that public notice, we can actually send out the invoices. They were to be sent out June 12th normally for payment due July 12, so we are a few days late because we won't have 14 days, but we do expect it any day now. That is my report. Any questions?

Betty Anne Kane: What was the date that that was sent to the FCC? And I want to thank everybody for promptly responding when we couldn't have the March meeting, responding by email your approval. On the contribution factor, do you recall what date it was sent to the FCC?

Faith Marcotte: I don't know the exact date. I think it was the end of May.

Betty Anne Kane: It was the end of May, very recently.
Okay, thank you.

Mary Retka: Mary Retka from CenturyLink. Faith, I see that you have a note on your deliverables report about your contract renewal, so it's another extension on the contract?

Faith Marcotte: Yes.

Mary Retka: I just think that we want to take a look at that.

Betty Anne Kane: Yes, that has been a constant item on our agenda of discussion, for at least since 2009, since I've been here - this contract extension. Marilyn, can you give us any information on the current status of the contract? At least the longer term contact, not an extension.

Marilyn Jones: I spoke with the FCC contracting officer, Sunny Diemert. I was told by Sunny that she plans to have an award out in early August. Before she awards this, it has to be reviewed by our OGC - Office of the General Counsel. So she is going to do that this month, put out a solicitation in July and she plans to have the award by August.

Betty Anne Kane: Okay, thank you. We will look for an update at our September meeting. Item number seven for the agenda is the Billing and Collection Working Group.

REPORT OF THE BILLING AND COLLECTION WORKING GROUP (B&C WG)

Rosemary Emmer: Hi, I'm Rosemary Emmer with Sprint and I chair the Billing and Collection Group with Tim Decker of Verizon. The Billing and Collection Working Group is responsible for overseeing the performance of the functional requirements provided by the North American Plan Billing and Collection Agents. We identify and determine the financial impacts of the initiatives and activities that may be needed to be included in the budget.

Today, our current discussion topics on page three include the oversight, our deliverables, the contract, the budget contribution factor, yearly vendor performance evaluation, and the NANC action item. We are going to focus mainly on the vendor yearly performance evaluation and the NANC action item. But, first, we will go to the next page and talk about the contract renewal on page four even though we just talked about it. The contract expired October 1, 2009 and Welch received an extension contract through August 2015, so 2015.

Moving to the next page, five - budget and contribution factor. I am not going to repeat everything that Faith just talked about in terms of the contribution factor, except I am going to thank everybody on the NANC for your prompt reply for consensus via email on the contribution factor the month before last. To reiterate, it did fall between that range. If you go

to page six, you can see the contribution factor history. That has been updated to reflect this year's contribution factor.

The next page, seven, 2014 performance evaluation, this is where I'd like to focus our attention mainly on today. Like the NOWG, we developed a performance evaluation consistent with the monthly deliverable matrix. The B and C Working Group evaluates Welch's performance every single month. The rating schematic that we have been using for the past several years has been a met or not met and we had scheduled conference calls to gain consensus at the end of the year on the rating and the actual evaluation.

Page eight lists all of the ways that we consider, review, and analyze their performance. I'm not going to read them all, but that is what we use.

Page nine, in 2014, their performance evaluation was a met and the rating is defined as they met the requirements in order to be considered successful. Their performance was competent and reliable. Their decisions and recommendations were within the requirements and expectations. I am happy to report that they received a met. They do an excellent job.

With that, we have a NANC action item that we would like to ask the NANC to approve, the Billing and Collection Agent 2014 Performance Evaluation. We are asking the NANC to do that. Then in my report, I also list our membership, I list our future

meetings on the last page, and the emails for Tim and myself in case anyone is interested in participating in our meetings. This is our conference call schedule for June and July as listed. Please feel free to email us and we will send you the bridge for that. Thank you.

Betty Anne Kane: Thank you, Rosemary. Any questions? Any questions on the phone? Again, we do have a recommendation that the NANC approve the Billing and Collection Agent 2014 Performance Evaluation. Are you also asking that be submitted to the FCC?

Rosemary Emmer: Yes.

Betty Anne Kane: Okay, we will include that in the recommendation. Any objection to that recommendation? Considered approved and it will be submitted. Thank you. Our agenda says a break at 11:35. At this point, we are ahead of schedule so let's keep going.

Item number eight is the report of the North American Portability Management. That's the NAPM, LLC.

REPORT OF THE NORTH AMERICAN PORTABILITY MANAGEMENT (NAPM) LLC

Tim Kagele: Good morning, Chairman Kane, and members of the NANC, my name is Tim Kagele. I am with Comcast. I am one

of the co-chairs for the NAPM, LLC. I share that role with my colleague, Tim Decker from Verizon. For those that may be new to the NANC process, the role of the NAPM, LLC is basically to provide oversight and management of the local number portability administrator.

For the report this quarter, formal actions of the NAPM include, one, statement of work 97 which extends the current master services agreement with the current vendor, Neustar, in all of the seven NPAC regions through September 30th of 2016. It allows for additional extensions of that agreement based upon need, and it also maintains pricing to the industry at the current 2015 levels throughout the contract period. In terms of general updates, we continue to recruit for new membership. So, for those that may be interested, feel free to reach out to Tim or myself and we'll be happy to talk with you more.

Also, the NAPM, LLC formally established the transition team as an advisory subcommittee of the NAPM. With respect to the PhonePak [phonetic] and the future of numbering portability, there's no report this time.

Under LNPA transition, I think this is where most of the activity for the NAPM, LLC has been this past quarter. First and foremost, the FCC released its order 1535 that conditionally approves iconectiv as the next LNPA in each of the seven NPAC regions. The NAPM also developed and delivered the transition

oversight plan and filed that in the docket April 27th as directed by the FCC's order. And efforts are underway as we speak to put in place a transition oversight manager as directed by the FCC's order.

And then continuing, Neustar and iconectiv have both been engaged from a transition planning standpoint. That work is ongoing as we speak. We have also kicked off the contract negotiation for a new master services agreement in each of the seven NPAC regions with iconectiv. That kick-off was effective May 20th.

Lastly, the NAPM, LLC has a reporting mechanism added, a reporting and a comment section on the public portion of its website, so that information can be made more widely available to members of the public and other interested parties. I will pause there for questions.

Jose Jimenez: Jose Jimenez with Cox Communications. I do have some questions around the relationship or the role of NANC in the LNPA transition. Is it appropriate to raise those now, to raise to later? Just from a process perspective, what is the right time?

Betty Anne Kane: You can raise it now and I think we also have the LNPA Working Group report. There may be more, but certainly, this report deals with the transition and the FCC has directed the NAPM to handle that, so appropriate to ask.

Jose Jimenez: Well, Tim, one thing about your report, you mentioned that the contract with Neustar has been extended to September 2016, is that right?

Tim Kagele: That's correct.

Jose Jimenez: Is that because there is some reasonable certainty that the transition will take place by then or is there a need to extend it further? I guess there will be further negotiations with that entity?

Tim Kagele: Well, I would point you to the transition oversight plan that was filed in the docket. That contains an overall timeline. If you'd look at the timeline you'll see that the transition will take longer than September 2016.

Jose Jimenez: Given that the transition will take longer, are there already discussions going on, on extending the contract even further? I mean, I'm just curious. Right now, it is until 2016. If we know that the incumbent will have to continue to perform some role past that deadline, are there discussions already taking place about extending?

Tim Kagele: Well, let me answer it this way, Jose. I would say it's pretty immature at this point to talk about how long the contract might need to be extended for, because all of the transition planning work has not been fully vetted. Once we get to that point, if there is a need to extend that agreement beyond the current timeline, we would do so. Is that fair?

Jose Jimenez: That's fair and this is much better. Then, the transition will go on for the next year and a half, a couple of years. And then coming back to the original reason why I raised my tent [sounds like], I have been curious, on behalf of a company that is not a member of NAPM - but we are a member of NANC - how is it that we will learn more or stay informed on what's happening? Some of what's happening may be confidential; some of it may be operations affecting it, et cetera. There has been discussion from the order back in March to, I think, the planned -- I read it, but I think I remembered something like that NANC will have a role. Just to start, what is that role? Do you have an opinion on that? I am just curious, what is exactly does NAPM envision NANC's role to be?

Tim Kagele: Well, it's probably not fair for me to say what the NANC's role should be. However, we are in discussions with the FCC about that very subject. One of the things that we have identified in the top is the number of different constituencies that need to be informed about the transition process. So we are looking at all the options on the best way of ensuring those entities continue to stay informed about the process.

Jose Jimenez: Thank you. So one of the challenges that I think this body has is that we meet quarterly save for the occasional snowstorm, and I suspect that the activities and

whatever issues may come up in the transition, may have been at a pace that will make it a challenge for this organization to stay ahead of things. For example, the LNPA Working Group meets more frequently. Is that working group a better outfit to get the information from NAPM on a regular basis?

Tim Kagele: Well, again, the NAPM, LLC and the LNPA Working Group have no formal relationship. So that is certainly an option and that's one of the options that is being under consideration.

Jose Jimenez: Is that an option that this body today could decide on?

Tim Kagele: That's really not within the purview of the NAPM, LLC to address, Jose.

Jose Jimenez: Okay, then I guess I'll turn to the chair. We have an interest in having more transparency into this process. I am concerned that quarterly updates on what's happening would be a challenge. I kind of joked about the snowstorm, but we haven't met for six months. That's a long time in something that could affect the entire country.

Tim Kagele: Jose, let me add that the FCC's order also directs the NAPM, LLC to provide formal reports, so that is another option here.

Jose Jimenez: Formal reports to the FCC itself?

Tim Kagele: To the FCC.

Jose Jimenez: How frequently?

Tim Kagele: I believe it's monthly. It's what the order says.

Jose Jimenez: Is there something like the LNPA Working Group -- I mean I don't know if we need to take a step the more formal - and I'm happy to submit a more formal step - to have more of that role definition between NAPM. Something that is less formal than an informal report to the FCC by the body of this group that can get information more real time if there are issues that could benefit from a debate from a more open stakeholder kind of setup. As I said, I'm happy to launch out there with a motion, but I wanted to kind of have a sense where things were first.

Betty Anne Kane: Hold that when we get to the report, which is next, of the LNPA Working Group too, because I have been in discussions with them also on that role. I would want to point out in your report, first of all, on your question Jose, in terms of extending the current master services agreement. It indicates that while it went through September 30, 2016, that has provisions for additional extensions until the NPAC regions are successfully transitioned to a new LNPA. So while there's no times there, it's already in that extension is the provision for additional extensions as needed maybe even region by region.

Secondly, at the bottom of the page, the NAPM has status reporting and comments section on the public portion of its website as a tool to make information widely available to the public, regulators, law enforcement, et cetera. So that's one step that the NAPM has already taken. And when we talk about the LNPA report, I am going to say something now because it's the very next report anyway.

Ann Berkowitz: Ann Berkowitz, Verizon. I just wanted to point out to your point a little bit, Jose, that the FCC put the proposed transition oversight plan out for comment and we just received the reply comments. I think, on Monday they were filed. A lot of people had suggestions about how to care for the outreach. The order said there needed to be outreach with the industry to make sure all interested stakeholders were cared for and involved in the process. It did not define how to do that. A lot of commenters filed comments. Some supported using the NANC; some supported using the LNPA Working Group; state regulators; others pointed to the problem that NANC only meets quarterly. I think that actually it is before the FCC right now to be addressed. I will then defer to Sanford. But I think it's a little premature for this body to make a decision about how to go forward. I think it's under discussion at the FCC. And you've had the opportunity to file comments at the FCC.

Jose Jimenez: But, as advisory committee to the agency, on this issue, we certainly have the opportunity to provide an opinion as to where it might be housed. I mean, that is our role in some respects. So I suggest that there is an opportunity for NANC, if we think the right place to accommodate that kind of open forum is the LNPA Working Group, we can certainly suggest that to the commission on our own.

Ann Berkowitz: Several bodies including state regulators did make that suggestion in the comments.

Jose Jimenez: But I am saying that NANC could make that suggestion too. We could. I mean, that's what advisory committees do.

Ann Berkowitz: We could and I don't know if Chairman Kane has had conversations about that, but I'll let Sanford --

Betty Anne Kane: I am going to ask Sanford Williams to give us an update and kind of where it is within the FCC process.

Sanford Williams: Yes. First, I don't know if I should thank Jose now for bringing me out of the background and up to the table again, but it's glad to be back.

Ann is 100 percent correct. The item is before the FCC. Our reply comments came in on Monday. I want to emphasize that the commission, from the eighth floor down, is highly cognizant of the importance of this process. So we all highly engaged in

it. We are aware of the importance of having all stakeholders, especially our advisory committee involved in the process. As Tim mentioned earlier, we are working closely with the NAPM to decide exactly what the role will be. The NANC is free to suggest whatever it would like to us, but we will carefully look at all suggestions including the comments and reply comments, and try to come up with something that incorporates all stakeholders because this is very important.

So we are aware of the fact that we need to get the NANC involved. To some extent, the NAPM will be involved, the transition oversight manager will be involved, and the transition oversight plan, which was filed that Tim mentioned as well, is kind of a temporary role, which will be updated, which will let us know which way we'll go. So the NAPM can't [sounds like] answer what the role will be. You guys, as the NANC, can't say which role it will be. You can make suggestions and we will definitely take all that into consideration as we go forward.

Jose Jimenez: So we do have the opportunity, should we choose to, to suggest what the right approach will be if there is consensus within this body.

Sanford Williams: Chairman Kane is quite capable and aware of the fact that you all can make recommendations. We will take all that to account with our Office of the General Counsel and

other seasoned FCC then to make a decision. The feedback we've received so far, the comments, and the reply comments have been very helpful.

Betty Anne Kane: Sanford, can you give us an idea of the timing on that? I know that the reply comments just came in a couple of days ago.

Sanford Williams: I can give you an idea. We are working on it feverishly. That is something that we are going to doing on here. And Marilyn is working on it, Ann is working on it, and the bureau is working on it. I can't tell you a date, but I can tell you that we're working on it very much in an efficient, sometimes feverish fashion to get this done.

Jose Jimenez: So in the spirit of trying to check if there is a willingness of the body to have a suggestion to the FCC, I would like to at least have us talk about a suggestion, which is the LNPA Working Group be that body for NANC that is the main interface with the NAPM initially. Tim, I'm sorry. You mentioned there is a third party administrator?

Time Kagele: It's a third party oversight manager.

Jose Jimenez: So I think the LNPA Working Group - it makes sense to me you have given the name - I think is in the best position from a ready-made kind of working group - I don't know how they feel about that - to provide that interface for NANC,

with both NAPM and the third party. I just wanted to throw that out there as an idea, just to see what the body thinks.

Betty Anne Kane: Okay, I am going to ask to hold that idea until I'm going to go to the report. If there's anything more on the NAPM report, because they kind of go together?

Tim Kagele: Any other questions?

Betty Anne Kane: Okay, now I'm going to ask for the LNPA Working Group.

REPORT OF THE LOCAL NUMBER PORTABILITY ADMINISTRATION WORKING GROUP (LNPA WG)

Rosemary Emmer: Rosemary Emmer with Sprint. I just wanted to say that, from a Sprint perspective, we think that the LNPA Working Group is a fantastic forum. It's already there and they do all of this work already, and that's where the expertise is housed. So from a Sprint perspective, I would think that they would assuredly, at some point in time, be somehow or another engaged. And I do like your idea of having a direct line in between the NAPM, LLC and the LNPA Working Group.

I don't disagree with anything that you said, but I think, as everyone has talked about so far in the conversations right now - and Chairman Kane said she is talking to the LNPA Working Group - co-chairs and discussions at the FCC are still taking place. I really think that for the NANC to get involved at this point as to what should the process be, I think it's just a

little bit too soon like I think everyone has said. I don't think anybody at least is not disagreeing with what your overall thought process is and the direction that this might go. But I think that it's unfortunate that we don't get to meet every quarter like we would like to. I feel very confident and certain that these issues are being worked and that we will have a direct, clear process on how to proceed with the technical piece of this as we move ahead.

Jose Jimenez: Again, if we have agreement though, if this body as an advisory committee of the commission has an opinion or a suggestion to offer, I am trying to understand what is the downside of offering that suggestion. I thank you for agreeing, but I am saying, okay, well then if we have consensus on a proposed path, then we can at least tell the commission, NANC agrees, this is where it should go.

Betty Anne Kane: Yes, I am going to ask that we hold this discussion until we get --

Ann Berkowitz: Well, I just wanted to add to this, but I want to make sure we are sure when we do have this discussion. They were talking about what we're talking about. Two different paths of outreach in the order need to happen. There's a technical transition to make sure that everybody is engaged and make sure the testing and the technology works. There is also an outreach to just make sure we are reaching the right

stakeholders, the small providers, who may not have been a part of NANC, who haven't been a part of the process so far, and they weren't a part of. This was a NANC process all along. So I think there's two paths to go forward of outreach. They seem to be melding together.

Betty Anne Kane: Thank you. I think that will lead right into item number nine on our agenda, which is the report of the LNPA Working Group, and it gets into this subject.

Paula Jordan Campagnoli: Good morning everybody, I'm Paula Campagnoli. I'm one of the tri-chairs of the LNPA Working Group, and I think my other two tri-chairs are on the bridge. Ron and Dawn, are you on?

Ron Steen: I'm here, Paula. I think Dawn was on earlier.

Dawn Lawrence: Yes, I'm here.

Paula Jordan Campagnoli: All right, very good, thank you. What we are going to talk about today real quickly is a few other things before we get to the oversight discussion that we just had.

First of all, the LNPA Working Group had another election to fulfill a vacant spot for a tri-chair position at the LNPA Working Group. Brenda Bloemke, from Comcast, who had been the tri-chair of the NAPM, LLC decided to retire. So we had to fill that position. So in the May meeting, which was held on the 12th and 13th, we elected a new tri-chair for the LNPA Working

Group, and it's Dawn Lawrence from XO. So we want to welcome here to the tri-chair position and we look forward to working with her.

The other thing on the agenda is the transition of the PSTN to IP. We have this agenda item on the LNPA Working Group every time we meet in case something comes up. At this last meeting, there was no discussion, so we have nothing to report on that.

For the March meeting, we had the nongeographic number portability document that was sent out to everybody. I put in on here in case anybody had any questions on it. I don't if everybody had a chance to look at it or not, but it was sent out with the March report. Any questions so far?

LNPA transition, the tri-chairs of the LNPA Working Group, last week or the week before, had a discussion with Chairman Kane. At her request, she had asked us to, as a starting point for the LNPA Working Group, to look at areas that we could possibly fill in assisting in this LNPA transition. So we did that at the last meeting in May and what we came up with, currently, is that our position could be as an outreach to get information out to everybody.

The LNPA Working Group is an open forum, it's open to everybody, there are no dues or anything like that. You're more than welcome to join. We meet face-to-face every other month. We have conference calls on the other months that we don't meet

face-to-face, and we always have a bridge, so you don't even have to attend in person. So we feel that we are at a good place. We're in a position that we can distribute the information that needs to be distributed, so that was one of the things that we said we would be able to help with.

The other is in the testing environment. The test cases for the NPAC are developed at the LNPA Working Group. So it's a good place for us. We can review the test cases that we have in place. If we need more test cases we can develop them. We can get those test cases out to everybody. Everybody has access to them. Also, when it comes down to the time and the point where we have to do testing, we could make sure that the tests are getting done, that they are being done and everybody knows what has to be done in the scheduling and so on and so forth. Those are the two areas that we saw where we could be of assistance. This agenda item, the LNPA transition, will be on the agenda for all of our meetings in the future. Any questions?

Jose Jimenez: Jose Jimenez from Cox. Ann, right before, you mentioned that in the order there were two aspects of the outreach. They sounded like the two aspects that you [audio glitch] aspect and then a forum where anyone can come in, and I guess, either learn what's happening or post questions about what's happening. So is that the two or is there one more?

Ann Berkowitz: Jose, I think that is the two, but again part of the outreach is we want to make sure, and this was my understanding from the order - if I'm interpreting it right, Sanford - that we want to make sure we capture parties that have not been part of the process. There are small providers; it's been raised in the comments. I think the LNPA alliance has been very vocal about this, that there are parties that haven't been a part of NANC or the LNPA Working Group and they may still not know about the LNPA Working Group. We want to make sure we reach those parties and have a smooth transition across the whole industry. If this does not work for everybody, it does not work for anybody. So I think we want to make sure we're capturing everybody. That may be through the LNPA Working Group, it may not. I'm not sure. A lot of proposals have been forwarded. We want to make sure we care for both.

Jose Jimenez: So, the way the LNPA Working Group works, if we suggest to the commission that the best way that NANC can coordinate on this is through the LNPA Working Group because of its open nature, because anyone can join, and the resources necessary to participate are not significant - you can call if you cannot attend in person. That is the best forum and there is expertise within that forum on the issues of testing and portability that can help guide those who are less familiar. That's what it sounds like to me. Then the commission in the

future order can acknowledge that and through that process make the LNPA forum be that.

I don't know that NANC needs to be the one that publicizes the LNPA Working Group's role. That will be up to the commission when it adopts a future order. All I'm suggesting today is that I think we have an opportunity to suggest to the commission, as a body, that's the right working group. That NANC suggests that we go and use and rely on them, and then allow the commission through its process to adopt an order that makes it so.

Paula Jordan Campagnoli: The perfect example of what the LNPA Working Group can do is, if you look at the one-day porting order that came down from the FCC, we got everybody involved and we had 150 people on one conference call at one point. So we covered a large majority of the industry. I think the capability is there, but like I said, right now, we are just working on things that we think we can be helpful with. The LNPA Working Group is more than happy to take on whatever the NANC addresses to us.

Betty Anne Kane: Rosemary.

Rosemary Emmer: I just really quick wanted to address you. You are using, Jose, the words the right place and the best place. My thought process, while I don't agree with you that that might be the right and the best place, we don't know yet

exactly what the right thing to do is because they're still working on it, I mean the transition oversight manager, the third-party vendor that the NANC ordered for the industry to hire. All of that hasn't been completed yet. I think once the NANC chair and the LNPA Working Group co-chairs, the FCC, once that entity or person or whatever gets brought on board with Tom, then everyone continues having their discussions. I think at that point, it's going to be clear as to what the right or the best approach is.

But I wouldn't want us right now, as the NANC, to send a message to the FCC and others saying, oh, well this is *the* right or *the* best approach today. I don't think today is the right day to do that when they are already having their discussions and they are already trying, and Tom is not even here yet. So that's just my thought.

Betty Anne Kane: Thank you. Let me weigh in. You do have the report from the LNPA Working Group and I did ask them to take a look at how they might be helpful in this process knowing that we needed the FCC's order for outreach. I wanted a very inclusive and broad process in terms of both giving information to people and getting questions back, and feeding and keeping people up to date because as you say we only meet at the NANC quarterly, and then the issue of the testing also.

So the LNPA - and I want to thank them - the co-chairs and tri-chairs did discuss this tentative item. They have identified that they can be very helpful in outreach and that they are very capable of being an important role in the testing process. Speaking not as chair but as the state representative, my state colleagues, they have been filings in the FCC indicating that they would support, that they would like the LNPA Working Group to be and maybe some of the other state members want to speak to that. So that's there.

If the NANC would like to say that they agree with the LNPA, that they can be useful in these areas, we can do that today. I do think things are moving. That's why I asked Sanford what the timing is exactly. The FCC's next step will be to put some more details into this plan. Carolee, you were going to say something?

Carolee Hall: Idaho, Nebraska and Maine filed joint comments in support of the LNPA with the FCC. So I anticipate that maybe there were some reply comments in support of, but the states right now, they're headed towards the LNPA as being the administrator part of it.

Betty Anne Kane: NARUC, the association that represents all the state commissions filed reply comments in support of Idaho, Nebraska and Maine on behalf of the whole organization in terms of the useful role of the LNPA. It's a good play.

Valerie R. Cardwell: Valerie Cardwell, Comcast. Just maybe a 101 question. It's my understanding, I think, that the LNPA Working Group as well as all these bodies currently file a monthly report even if we don't meet - is that correct - to the NANC and we get distribution of the monthly report.

Betty Anne Kane: I know we get a number of monthly reports, updates from some of our working groups.

Paula Jordan Campagnoli: No, the LNPA Working Group does a report once a quarter.

Valerie R. Cardwell: So just trying to put all this together and see if this meets your need or something. If the request were simply LNPA Working Group, whether it's all the issues you are working on or just the transition, can you send out a monthly update? Is that what you are looking for?

Jose Jimenez: In a sense, what I'm suggesting is that what happens before they issue that report, what I'm suggesting is that NAPM and the third-party administrator, that their main principal point of contact be the LNPA Working Group. And then the LNPA Working Group could certainly inform NANC on a regular basis. I just felt that because we only meet every quarter or sometimes every six months, it would be a faster way that the industry, especially those who are interested, can become informed. So I'm really more focused on that initial interaction. I'm basically suggesting that the NANC

relationship with this process really be dealt with through the LNPA Working Group. They do inform us, yes, but that's it.

Tiki Gaugler: Tiki Gaugler with XO. I guess the question, Jose, I don't know that there's a disagreement with the substance of what we're talking about here. We all agree that the expertise exists there. I guess I'm trying to figure out what action are you asking for? Because this group acts at the pleasure of the FCC - we get direction. The NANC itself gets direction from the FCC. We've been told from Sanford and others that this issue is before the FCC. So I don't know that we can now say, hey, the NAPM should do this. I think we're all in a holding pattern. I don't think anyone is attempting to skirt around it or anything, we are all waiting because this is where we are right now. So my question to you is - you keep saying this is where you think it should be. I don't again necessarily think -- there is general agreement about that. What's the action item that you are recommending at this point, because that's unclear to me?

Jose Jimenez: Okay, I will be very crystal. Actually, Sanford allowed that NANC can suggest, so what I'm suggesting is that NANC, this body today, suggest to the FCC that the LNPA Working Group be the main point of contact for stakeholders on one side and NAPM and the third-party administrator on the

other, on the transition issues as they play out over the next --

Tiki Gaugler: In what way, in a vote right now or a filing?

Jose Jimenez: In a vote right now.

Tiki Gaugler: So you want to make a motion?

Jose Jimenez: I want to make a motion. I just wanted to have the discussion, Tiki. I don't know, people may or may not have thought about that. There is a record that has been developed. And I wanted to just kind of get our thoughts around the table as an advisory committee, as Sanford allowed, we can suggest based on our discussion today what the approach should be from the NANC perspective which of our working groups should be the one that does this. Because from my perspective, this body today, those of us who are on this table, we are not it because we meet so infrequently. I think NAPM and the third-party administrator, for a two-partnership with NANC, I think the LNPA Working Group, for all of the reasons we have discussed, is a better approach. So I will put that motion forward that we as NANC, delegate to the LNPA Working Group to take on the role of --

Tiki Gaugler: Again, I don't think the NANC can make that delegation right now. I don't think the NANC can make that motion right now.

Jose Jimenez: Based on what?

Betty Anne Kane: Let me make a suggestion because what I hear around the table is maybe this will help us go forward. We have received a report from our working group, the LNPA Working Group, that they have identified a role that they could play, a role in the transition, a role in outreach, and a role in testing. It would not be inappropriate, it might be useful, for the NANC to say we endorse their identification of that as the two roles that they could play and communicate that to the FCC for them to have before them. Yes, Valerie?

Valerie Cardwell: Valerie Cardwell, Comcast. I'm not as close to some of this as many of you are. So can you share what the alternative or other options are? I don't know if anything was discussed or anything else was proposed. I'm just curious.

Betty Anne Kane: You mean all these comments that were filed with the FCC?

Valerie Cardwell: Yeah, because I'm struggling to understand. We want to put this on the table. I don't honestly know the implications or the impacts, so I want to make sure I'm making the right decision for my --

Tiki Gaugler: I'm sorry. I just was thinking there's a difference between endorsing this as these are our roles that could be played by the LNPA Working Group as opposed to - as Rosemary mentioned - this is the best and right way of doing it.

I'm not sure that, again, to your point, this is the opportunity or the right place for us to say this is the best and right, because that's really for the FCC to decide. But could we endorse this and say, yes, these are roles that could be played in the LNPA Working Group? That is what I think the proposal [cross talking].

Betty Anne Kane: It is part of the reason why I reached out to the LNPA Working Group to say what could you do, what do you think would be useful and asked them to report at this meeting. If people are comfortable endorsing their suggestion, that these are roles they could play and put that before the FCC, just communicate that to the FCC as they make a decision.

Ann Berkowitz: Anne Berkowitz, Verizon. Just to clarify, would an endorsement mean that the NANC supports this as a recommendation or we just endorse that? Because I don't know if Verizon is ready to vote on that whether or not this is the way to go. [Cross talking]

Tiki Gaugler: I think that's the point. Sorry, Tiki Gaugler. The language says pursuant to the request is discussing possible areas where the LNPA could be involved. In other words, the group agrees that this is where the LNPA could be involved.

Ann Berkowitz: Thanks for that clarification. I just have sort of one question for Sanford. We're a federal advisory

committee. Is the FCC looking at it or are there any issues around us being a FACA through this process?

Sanford Williams: Sanford Williams, FCC. We do have our federal advisory committee expert, and OGC have been involved in this, so we definitely are looking at that. I want to emphasize that I'm not telling you what you should or should not do, but I do think Tiki's point was excellent.

Betty Anne Kane: Spoken like a true lawyer, thank you. So, Tiki, are you making a motion or we are just suggesting, is there any objection to the put this, to the NANC communicating to the commission that we endorse the report of the LNPA Working Group on the role that they could play in the transition? Period. Is there any objection to that? Very good, then I will so communicate to the FCC. Thank you.

Paula Jordan Campagnoli: So for our next meeting, we have questions from service providers or whoever about things that they would like to see done or something like that. I think, to bring that kind of information back to the NANC meeting, is that -

Betty Ann Kane: Well, you've said that you're going to have the transition as an ongoing - no matter what happens, no matter what the FCC decides about whose role, et cetera. It's going to be an ongoing item on your agenda so we'd like reports back. I mean it's an open meeting every month. We'll get the

quarterly reports. But now having agreed that we're going to tell the FCC that we endorse this potential role, I think, we'll just wait to see what the FCC does in its next order on the next steps in the transition and how the outreach and how the testing is also going to take place, okay?

Paula Jordan Campagnoli: Uh-huh.

Betty Ann Kane: Okay, Valerie.

Valerie Cardwell: Valerie Cardwell, Comcast. I just endorsed it. I just want to clarify in this context outreach meant what in this context?

Paula Jordan Campagnoli: Getting information, you know. If there's information that comes down from the FCC or from the NANC or from the NAPM, LLC that we are allowed to distribute out among the participants at the LNPA Working Group - that's what the outreach would be. We have a lot of people on the distribution list that don't necessarily attend the meetings, but they get the minutes and everything else that we send out. So that's the outreach we're talking about.

Valerie Cardwell: Thank you. Just to reverse that, if someone felt like they were out of the loop - I'm not saying you, Jose, but whatever - they would say, hey, LNPA put me on your distribution list for updates-related to this. And then

you would be the one to kind of communicate. That's what we're saying.

Paula Jordan Campagnoli: And it's very easy to do that. I mean if they're not on the distribution list and they want to get it on the distribution list, send an email to one of the three chairs and we'll get them on there. Then they get everything that we send out.

Valerie Cardwell: Thank you.

Betty Ann Kane: And your next face-to-face meeting is July 7th and 8th in Mont-Tremblant, Quebec, hosted by the Canadian LNP Consortium. So if anybody wants a nice --

Female Voice: I think we should all go.

Betty Ann Kane: Absolutely.

Paula Jordan Campagnoli: You're all welcome.

Betty Ann Kane: I've already had a staff request to go to it.

Paula Jordan Campagnoli: Any other questions for the LNPA Working Group?

Female Voice: Just one. Sanford, I know your load. But I'm framing some things. Would it be fair to say that a lot of

these issues will be resolved before the next NANC meeting? The FCC may have made some decisions before September?

Sanford Williams: I am extremely hopeful that that would be the case. If it's not, I will not be very happy. But I hope so.

Paula Jordan Campagnoli: I know you can't commit, but --

Sanford Williams: I'm going to hide upstairs next time.

Paula Jordan Campagnoli: In the meantime, I will point out that Tim Kagele said the NAPM is recruiting members. So Jose, come on to the table.

Betty Ann Kane: Obviously it's the outreach portion that's prior to the testing, and how that's going to happen, you know. It's a little later in the process. But there's a lot of interest in this. There's a lot of desire to have good information, timely information, and a way for people to get their suggestions and their questions back through to the people doing the transition also. So I'm quite sure that at least that portion of it, the outreach portion, will be a priority for the commission. Yes, I hope, as well as the contract for billing.

Sanford Williams: While I'm here, as Marilyn mentioned, that's in our contracting office. So Marilyn and I can't write contracts, it's as simple as that.

Betty Ann Kane: Right. We know. Thank you. Thank you, Paula. All right, so what else have we got on the agenda here? We do have a number of additional reports. And then we have a presentation by Henning Schulzrinne which we had put off, that I know that we're anxious on that. Do we need to take a break? All right, five minutes, okay? People on the phone, five minutes.

There you go. Marilyn showed me how to do it, if we could come back, please. We're going to come back to order, those people on the phone also. And I'm going to make a rearrangement of the agenda. I'd go at this point to item number 14 on the agenda, which is the presentation by Professor Henning Schulzrinne. He was scheduled for our March meeting to give us an update on what is going on with the taskforce or working group that he headed while at the commission and is still working with it. We thank you for being here. He's got a little schedule conflict so I'm going to ask him to come and do that now. Was this sent out ahead of time, Marilyn, to the people?

Henning Schulzrinne: Yes.

Betty Ann Kane: And people on the phone have it also, okay. But we also have it up on the screen for us to see here.

And so this is item number 14. Just for the record, 14 on your agenda but it will be document number 10 for the transcript.

PRESENTATION BY PROFESSOR HENNING SCHULZRINNE

Henning Schulzrinne: Thank you. I appreciate your flexibility on the scheduling. But on the March slide, things have moved along since March. So I'll be doing a quick update on three items that are hopefully of interest to the committee.

Betty Ann Kane: Yeah. And Henning, before you do that - particularly for the new folks - give two sentences on who you are.

Henning Schulzrinne: Okay, thank you. I'll do that. My name is Henning Schulzrinne. I wear two hats. Maybe I should actually have two hats in my hand because I often switch. I'm a faculty at Columbia University in New York City in computer science. I work on networking-related issues. I'm also currently a technology adviser to the FCC. I'm the former chief technology officer until last fall. And I have worked on that topic for a while. So I know many of the folks on NANC, but I don't think I know all of you. Does that help?

Betty Ann Kane: Yes, thank you.

Henning Schulzrinne: Okay. So let me tell you three things today. I'll provide a little bit more background than

the slides have because I get the sense that some people may not -- they're tuning in, so to say, for the first time. As usual I'm speaking here not representing commission policy because I don't think in many cases there is any commission policy on any of these items.

So this is the IETF Modern Working Group. I'll talk about a prototype that follows up on a discussion that we had at a numbering workshop more than a year ago that took place right here where we looked at the longer term future of E.164 or the +1 numbering space more specifically. Then I'll discuss a little bit some technical issues related to numbering that you have for robocalling and spoofing which is slightly outside but adjacent, so to say, on that.

The IETF - the Internet Engineering Task Force, for those of you who are less familiar with that, one more standards group. They do most of the core Internet standards, our protocol standards or think TCP, HTTP, email, web, all of those SIP web standards, ENUM in the numbering space. All those are emerged terms or are discussed in the IETF.

The IETF has a process for establishing a new work item based on the FCC workshop. They convened what they know as a birds-of-a-feather session, which is essentially an effort to collect people and ideas to see if there's interest in doing

work in a particular area. We met at the Dallas IETF meeting a few weeks ago, and I had a very well-attended meeting for people who were interested in protocols to facilitate the future of numbering in general and in an all-IP environment. I'll say a little bit more of what's happening there going forward. That's moving along as we speak.

There was a general interest in exploring the protocol space as to what needs to be done on a more unconstrained basis, not constrained by existing mechanisms or policies in a policy-neutral way. I'll talk about that momentarily. And ATIS, I believe we'll hear from them later so I won't say much about it. They can speak more to that. They also have had a related effort that I view as complementary to what's happening at the protocol standardization level.

The IETF MODERN group is proposing a charter. So it's an active open working group, so anybody with technical interest, who tends to be more on the technical side - either yourself or one of your colleagues - is welcome to join. We very much welcome participation by carriers, people who are involved in that. I'm just a participant. I'm not a chair or anything. So we're currently drafting a charter. I won't read it all because you can read it on your paper, at least, yourself. That will be sent to the steering group for the IETF which then approves or

not the charter when the actual work can begin. If all goes according to plan, the first meeting of the new working group will be in July in Prague at the next IETF meeting.

The more important pieces, the ones I highlighted, are ones, what the group will do. If chartered, it will produce an architectural overview of the usual requirements type of things. It will deal with enrollment for adding and modifying for existing and new telephone numbers including so-called metadata related to that. Think OCN and maybe CNAM, and maybe other related things, keys for what we call prevention and so on. All of those are labeled as metadata. Then, a set of protocol mechanisms - most likely some version of HTTP given a lack of alternative. Then also a retrieval mechanism so that authorized parties can obtain in a standard way or an IP-based way the information related to TN. So that would possibly subsume the law enforcement interface in the future. That would subsume the other interfaces that currently exist for obtaining numbering related information in a more modern way.

Separately, as an exploratory activity, two students who are working in my research group at Columbia University have as a semester project, started to explore what a system might look like. This is a student prototype. This is not a production system. But the idea is - that often in the IETF we have the

old mantra is rough consensus in working code - is to explore things by prototype so that one can get a better sense of what actually works and what doesn't work.

The idea also I think to some - at least my personal one - is to illustrate that this problem, while not simple, isn't that complicated and it is possible with relatively modest effort here to build something that approximates or is even better than what we currently have functionality-wise simply because we got better tools than what we had 20 years ago.

So we actually set up a prototype that you can log in. And if you send a request, the students will approve you as suitable admin for your pseudo OCN. So it's north, west and south. I think E.164.space as a numbering space for that. Currently it's designed as a fully distributed system. That means they're going to be currently with three servers just for convenience's sake, but we could do more, that all have fully equal rights. You can log in to any of those.

They are set up so that any modifications that are made to a number, the number is locked to the first comer, so to say, before that number gets access and you don't have dueling updates to numbers and all of that. So it resolves simultaneous access to a number by a provably correct standard computer science mechanism that ensures that at any given time, even

under failures only one entity can access. It creates a number entry, for example, to porting or whatever the case may be. It's designed to have no single point of failure so any of the nodes can fail and the system will continue to work as an exploratory one. Because what we simply want to do is do a PIN-based porting model so that a consumer, when they want to put a number, gets a PIN. The gaining provider, when they are ready to accept this customer, uses that PIN to make the OCN change.

This is what the prototype looks like, just a usual screen done, nothing too fancy. You can edit the details of every number, et cetera. Feel free to raise your ten [sounds like] card at any time because I'm switching topics. I'm happy to take questions with the permission of the chair.

Betty Ann Kane: Henning, could you --? Because I have IETF - who it is, what it is.

Henning Schulzrinne: Yes. So let me tell you a little bit more about the IETF. The IETF is an engineering organization. It's not a policy organization. They don't make policy. They're not approved by the FCC or Ofcom or anybody else. They're an international organization. They have met for 30-plus years now. They meet three times a year in various places, both in North America and beyond. It is an engineering standards organization so they write engineering standards which

are known as RFCs. For those of you who are somewhat technical, you've probably seen that term. They write documents that define the protocol standards that run at least large parts of the Internet, as I said, email and so on. It is largely a consensus-based organization because there's no membership. It's an open membership organization. As such, you don't have to pay dues or anything like that. You just have to attend a meeting or attend through the mailing list. Please go ahead.

Jose Jimenez: Thank you, Henning. Jose Jimenez from Cox. This is something that I've been following kind of from the sidelines for a while. I know one of the issues in drafting the charter of IETF MODERN was whether it would tackle any policy issues, and I think the goal was not to avoid that. But when you look at it - the draft charter - whenever you're talking about security and privacy issues, public policy is not far from that. The reason I'm curious about the connection to that is that NANC does have an IP issues management group that is on a regular basis collecting information about what is going on in the industry around the IP transition. If this working group stands up, is there a need for NANC or that issues management group to have a connection to understand what's happening there?

Henning Schulzrinne: Speaking personally, what the IETF often lacks is operational experience. It tends to be more

dominated - not exclusively in this particular case, but more broadly speaking - by software and equipment vendors. Their carrier is now participating in nontraditional entities that have semi-carriers like Google that have carrier responsibilities. At the moment they're primarily big carriers like Google, Facebook and so on. But it would be most helpful if through individual participation or official liaison type of mechanism. Both mechanisms exist so it can be just simply you or anybody else or a committee can send email, and that doesn't have to be formal. I just say, here, this is what we've done, you might want to be aware of that. That's helpful input and I think everybody would very much welcome that.

There's also a mechanism that is done through a formal liaison activity where a group that wants to can register themselves, if you like, as a liaison. Then there's a designated spokesperson say for that group. It really doesn't make much of a difference on a practical level because of the way that the working group tends to work, but tend to want to have as much input as possible. Early is better as opposed to kind of the last minute type of things. But very much the goal is to recognize and, I think that part of the discussion is that there will be a wide variety of policy mechanisms and policy choices in there.

For example, just to illustrate that, one of the goals is that this mechanism's design will be suitable both for private use. So let's say within an enterprise, think of a large enterprise, you know that, I'm just talking to everybody else - is that a private enterprise could use that to allocate telephone numbers within their numbering space that they are managing, if you like, their corporate number space. In that, typically, you think of a large corporation where that would make sense distributed. It should be suitable for more a NANPA level type of assignment. It could be international. It could be connected or not connected. But the goal is not to specify who can get numbers, who can get access to information related to numbers, and what kind of information is stored with the number.

There would probably be a registered typical IETF way, let's just put it that way. It would be there's a core set of things that will be stored because everybody needs it. Then there will be a registry of items so that if say OCNs only make sense in the +1 number space, it may not make sense in many other ones because they don't have OCNs.

There would be a registry which says OCN applicable to the +1 numbering space and +44 can do whatever they want to do. If they want to adopt that, they will do something else that they

need to do. But there would be a mechanism to make sure that nobody else uses the word OCN for something unrelated in that.

So that's kind of the mechanism. But early now, hopefully if the charter goes through, it is to make sure that I design requirements. And this is why one of the first documents is a requirements document folded into the discussion early on.

Jose Jimenez: And then I don't recall whether the IETF MODERN charter, the draft, had kind of a timeline of any kind of sense. I mean, when do you think this group will have something to produce out of the charter?

Henning Schulzrinne: I'm not sure if there's a timeline on there. I didn't check on the agenda, but I guess there usually is a timeline. It's usually a month timeline. Unlike for other things, there is no penalty for not meeting the timeline simply because it's in some sense volunteer-driven. I mean people are paid presumably for their day job, but the organization can't. The only penalty we have is we could theoretically revoke cookies and snacks for people when they show up in meetings if they don't meet their deadline. But the death penalty has not been meted out yet. So there is no mechanism and everybody tries to do their best. My anticipation in just by typical timelines is that typically timelines are on the sixth-month type of basis. So if people try to make that move out along

relatively quickly. We're not trying to turn that into a ten-year effort by any stretch.

Jose Jimenez: Thank you.

Henning Schulzrinne: Moving on, any other? I see no other ten cards. Let me switch to everybody's least favorite topic namely robocalls, at least as recipients, I suppose. So let me just talk a little about what's been happening there. We are starting to see a number of efforts kind of congealing that essentially indicate that we need to do not just one thing but a range of things to stamp out illegal and unwanted robocalls. And I still call it the *Seven Roads to Happiness* based apparently on a children's book of that title. So the seven points that I came up with - and these are not [indiscernible], there are probably more of those - is prevent caller ID spoofing. The STIR group is actively engaged in that. My rough sense is that we're pretty close to agreement on the basic mechanisms. We just need to finish the documents.

There's some indication, this goes to one of the other efforts which is ongoing, as a potential new working group called CNET to clean up CNAM. That's both a protocol mechanism type thing. Because the old CNAM mechanism is very much tied to the legacy way of we can't transport things across the phone system and across seven accepted phone numbers, and so we have

these external database dips which causes all kinds of synchronization problems and as well as problems with dubious information making it into the CNAM databases. So there's a potential for a new working group that's typically called CNET that will look at modern ways of carrying information that might avoid some of the CNAM issues. That's not nearly as baked, I think.

Number one is to look at how we can do consumer-driven call filtering, the motivation being that every consumer likes to have a different notion what's illegal and unwanted robocalls are. They're not lawyers and so they don't know what illegal is, but they probably know what unwanted is. That may change depending on what season of the year it is. You might want to listen to one congressman, but you may not want to listen to 12 iterations of them. And so there is a notion of how do we filter or allow consumers to filter that. I'll just point as a matter of information based on a related agenda item on June 18th commission meeting that deals with that particular topic.

That is an ongoing work that I think the ATIS presentation will probably dive into more detail as to ensure that interconnection doesn't interfere with the ability to assign numbers. That assigning information gets carried across those interconnection points. Also that any display names that might

become part of the revised CNAM mechanism also survives interconnection always when the system doesn't work. We may need APIs for third party filtering so that we can have competitive provision of that.

There's already emerging apps for smartphones, but I think we can do better than that. I'll talk about that separately. A proposal that I've been shopping around, if you like, is to look at shorter term measures that we can take to deal with particularly pernicious spoofing of financial institutions, government agencies and others who use that not just to annoy but to harass or extort people like the IRS scam and the Microsoft scam and so on.

So we have STIR - the number signing working group. The new documents were released in March. I suspect that is the custom, that new document round will happen probably in June and just before the next meeting.

Let me talk briefly about the do not originate proposal because that's something I haven't talked about. The premise is that almost all illegal robocalls -- and here I'm really talking about the stuff which is not just illegal according to TCPA, but probably violates criminal statutes of various sorts. So it's kind of the IRS scam. If you haven't received a call just around April 15 -- anybody here who has not received an IRS call

around that time? For those of you who have been lucky, those are often ones that threatened various dire consequences - imprisonment, deportation, whatever it happens to be - if somebody doesn't pay up through an anonymous cash transfer mechanism, that they pay up a fictitious tax debt to the crooks that are calling you. They often use fake numbers. For example, they fake a number of the local police department or the IRS 800 number and all of that so that it looks more official than they would if they were to just call up with that.

Betty Ann Kane: I will say as an anecdote that break it up, I got one of those. It wasn't that kind, but it was one of these call us. "This is the IRS. Call us back. You owe XX, and send it there." They were so dumb, they used the real number. So I just use dialed *69 and we got them back, and I told them off. I told them we're reporting them.

Henning Schulzrinne: I mean it's on a mailing list of the community that I live in. I would say dozens of people reported getting those calls. They reported it to the police, a local police office. But obviously they can't do nothing about it.

One possibility that we're considering as an option and that needs to be fleshed out is that all of these calls originate on the Voice over IP site for a variety of reasons: money, it costs less, and geographical origin - they're often

located outside the United States - as well as just the ability to ease spoofing numbers on that. But on the other hand, none of those organizations typically being spoofed use just random Voice over IP gateways. They may use Voice over IP, but they use specific Voice over IP gateway providers that are well-known to the company. So they typically use organizations well-represented around the table and not some random Voice over IP gateway somewhere in that.

So if such a call were to show up at one of these Voice over IP gateways and if those entities were to be able to declare that, no, we are not your customer; if a call arrives that claims to be us, and it isn't, then we can do something about it. One possibility is -- again because a number of these gateway providers are at-scale, because we're talking about serving the U.S. is apparently fairly small. We're talking a handful that really do bad at volume because you have to have SS7 capabilities and real hardware and all of that. They occur and there's a number of possibilities. They could decide, for example, to simply rewrite what is known at that point to be a false caller ID because the owner of the caller ID or the holder of that number has attested to that fact to rewrite it.

So my favorite solution is to rewrite the area code into the area code 666. I believe that will never be allocated for a

variety of reasons, and so that would allow the consumer to know that whoever is disturbing their dinner probably deserves very little of their time.

One of the open issues that will need to be discussed once we get into the technical details is who gets on that list, but that could include people and organizations that are on the 911 do-not-call list which would typically include local PSAPs and law enforcement and so on, financial institutions, government agencies, the Social Security Administration and things of that nature. Unassigned numbers, that's another favorite spoofing target. Numbers that are not assigned by anybody are used as originating numbers, the obvious advantage being that you don't annoy anybody by people calling that number back and you can change them very quickly.

TDM carrier numbers themselves facilitate VoIP that you have and other VoIP providers with exceptions for the actual customers who use that. I believe and welcome probably not today but I welcome discussion on the side as to how we can make it happen and whether it works, what might be the limitations and drawback. This is certainly no fix to all illegal robocalls. It is an attempt to deal with a particularly pernicious aspect, namely weird ideas [sounds like], into outright criminality far beyond the violation of a TCPA.

Longer term, we also need to look at automated call blocking so that users or subscribers can put themselves on either white or black lists beyond what is currently possible where you typically label a webpage or some kind of a star code that you can put that number on. But that usually only includes like ten numbers or something like that. Unfortunately, there are far more than ten robocallers out there that are more than happy to sell your cruises and do whatever else.

Again, like I mentioned, longer term we're looking - and the IETF - at improving caller name reliability. The problem right now is that it is very difficult to tell when you receive a caller name as to where that originated. Is that somebody who just inserted that information into some random database or is it the carrier that actually knows that this is a real customer and they have a billing address and a business name that goes along with that? It's not made any easier by the fact that it's only 15 or 16 characters long. It's hard to not abbreviate. So this is a bit of a mess and that makes it very easy for parties to spoof or nearly spoof things.

For example, it was a famous Rachel that probably some of you have spoken to - at least as a non-human person - that was supposedly from a company called Cardholder Services that promised relief in credit card debts. They had credit cards

from any Cardholder Services even though that was not a registered name of any company. Probably it was meant to insinuate that they were related to a credit card company. There was no traceability as to who inserted that number, and how, and why and so on.

With Voice over IP, we now have the ability to deliver caller ID name information not just to a third party database dip but to the call signaling itself. That's always been there. That's called the display name in SIP, and that has no length limitation, I mean, practical length limitation, and could theoretically be cryptographically signed so that it is clear who actually inserted that information and what it is based on.

So you could be imagine also beyond the caller ID information itself and name itself that you could provide additional and testable information to a name so that your display will tell, yes, this is indeed a registered financial institution of some sort. This is indeed a licensed broker. This is indeed somebody who has a plumbing license, whatever the case may be, so that you can indeed validate more than the name. Because, again, it's so easy to make up names that sound kind of semi-official. So that's something we're looking at longer term, to see if that can yield improvements in caller name behavior.

I mentioned the 15-character limit. There's also the architecture issues. One issue that I didn't mention is there's also, if you've ever gotten a robocall -- we heard rings once or twice and then when you pick up there's nobody there. Congratulations, you've just contributed probably to a CNAM dip fraud inadvertently and unwillingly. Namely, your local carrier just paid somebody for making a dip number. They share that revenue with a third party who then simply calls lots of numbers with their caller ID in it. They get a micro-cent for each of those calls that they placed and you have a business model, shall we say.

You can see on this one that some people have used the ability to insert numbering from CNAM information for existing numbers creatively. You can read it. The first one says phone scam, and the next one says Jesus Christ on that. And the databases that allow you to enter information for numbers that don't have a CNAM which includes these spoof numbers.

That's my quick rundown of what's going on in numbering and related to topics. Again I'm always interested in feedback and contacts, as well as obviously questions even now or separately. You can reach me through my FCC address if you so desire.

Betty Ann Kane: Thank you. We've got a couple of questions and I'm going to AT&T first.

Mark Lancaster: Mark Lancaster, AT&T. Henning, I know you've said that you're not working the policy side and so this may be a question more for Marilyn. But I'm curious about this do not originate concept. Do you believe that's a business choice or would there have to be a regulatory mandate to allow the party not to originate calls that they think are of some nefarious --?

Henning Schulzrinne: That's where I'm hoping that before we get even to that, that we can collectively - whether that's part of NANC, part of ATIS, part of some other more informal grouping - to see what the appropriate actions would be. And that's why I particularly also suggested that maybe action short of blocking may well be easier to practically do such as the rewriting of what is clearly an invalid caller ID information into something that indicates either that it suppresses the caller ID information so it shows up as anonymous, or that I substitute it with an indicator that this is not just a normal anonymous call but actually a willfully spoof call which the entity can attest to. And so my hope is that this is well within the existing regulatory framework, but I'm not a lawyer so I won't speak to that too much.

Mark Lancaster: Right. It appears that we could know that it's not a good call. But can we stop that call from going

through? And some of the historical wireline paradigms would perhaps say that we couldn't as a telecom provider.

Henning Schulzrinne: I will only point to on the June 18th commission agenda, as you've already seen, there's a large TCPA item, as the chairman has announced. That will at least address in part some of the issues that you just spoke to. And since that item hasn't been released yet, I won't say more than that. That's where I think creative solutions essentially allow not just call blocking as the only viable option but also suitable marking of calls. That may actually be a reasonable option that avoids -- whether this is within the regulatory framework or not, simply that lowers the possibility for bad things happening advertently, false positives, that type of thing. It allows for traceability as well.

So I think we should try to be creative here and see what we can do that strikes the right balance between protecting consumers against what is clearly becoming now organized criminality and making sure that calls that should be delivered are indeed delivered without suppressing inadvertently otherwise calls that shouldn't be affected by what the bad guys do.

Mark Lancaster: Very good. Thank you.

Betty Ann Kane: Mary.

Mary Retka: Mary Retka from CenturyLink. Thanks, Henning, for the information that you provided today. And following up on what Mark was saying, wouldn't it be more effective on the do not originate idea rather than anonymizing the information and passing it along, if you have the owner of the telephone number already indicating that this is a false use, why wouldn't you send that over to the enforcement bureau and work the issue from there?

Henning Schulzrinne: Yeah. I think that certainly can also help. I don't say that that shouldn't be. The problem often though - as you probably know - is that as much as both the FTC and the FCC want to pursue these bad actors, they often are far removed logistically from that initial gateway geographically and organizationally. They're often multiple hops away where some of those hops are well outside the jurisdiction of U.S. law enforcement. So we all know and I've seen calls which go through multiple countries before they actually reach a gateway provider, such as your own company. And so enforcement, while I think it is an important component, given the limitations particularly the international ones, I don't think we can rely exclusively on nailing every one of those. It's just too easy for new guys to recreate that business model, shall we say.

Mary Retka: And then secondly, you know, this is I think the third time that you've approached the NANC with issues on robocalling. We appreciate the update and the information on that. You did mention that there is a TCPA item on the open meeting agenda, so is there an expectation that you have of NANC other than our continued monitoring of the issue?

Henning Schulzrinne: No, I do not. At the moment I'm certain - given you're large and distributed in terms of large and small carriers, as well as long running experience in numbering related issues - that you monitor it. And if there are issues, for example, that might affect numbering, that you speak up as needed in that. And I see it also to be quite honest, because you're often well-connected into your respective organizations that may not pay as much attention to policy-related issues as you do, intersections of technology and policy that you become a bridge to some extent into that as well.

So no, I'm not expecting that. I don't think - and this is obviously not for me to decide - that NANC purview extends to TCPA issues. I'm pretty sure that's not something you want to take on. I think you've got your plate pretty full as is. But there are numbering issues. For example, let's say if there were ever to be a remapping of illegal, of spoof caller IDs to something, we would want to make sure that that doesn't

inadvertently interfere with other number assignments. So an advice of NANC in that regard on a relatively narrow subset would certainly be helpful.

Betty Ann Kane: Jose.

Jose Jimenez: Henning, just one more thing. You mentioned in the second half of your presentation several other working groups. Are they all IETF working groups that are actual working groups or are other organizations involved in some of these issues?

Henning Schulzrinne: This makes it somewhat complicated. There are I would say four types of efforts going on. So the IETF standardization, primarily we've seen it on CNAM and this [sounds like] is our work and the MODERN works as the efforts that have some overlap. The MODERN work also overlaps robocalling because it may also affect the storage and delivery of cryptographic keys for signing.

The second one is that ATIS - and they'll speak for themselves - have a number of related efforts that are more on the operational, in my sense more on the operational and profiling side in that how do we use bits and pieces designed possibly by others to make good things happen?

Then there is the M³AAWG VTA SIG which is more an operational group. Some of your organizations participate in that, different people, but I think many of the organizations around the table have representatives there. That's message abuse working group that deals generally with messaging abuse, email, SMS and phone calls. And they have a new special interest group that will be meeting shortly, I think, in the next few days actually in Dublin. I won't be there. It's a closed group, more of a confidential type of group that looks at what's happening in spoofing land, so to say, or in robocall land, and see what they can do about that.

And then there are also more informal efforts, that's kind of number four if you like, for some of the early efforts, where it's not quite clear where they're going to find a home among those groups. And in some cases, they may not need standardization. They may just need an informal industry corporation to get off the ground, and some may never get off the ground for that matter. So some of the things do not originate or some of the filtering stuff may end up in the IETF, and may end up in ATIS, or may end up nowhere.

Jose Jimenez: That M³AAWG Working Group that you mentioned that was more closed, if I wanted more information in any way, who would I contact?

Henning Schulzrinne: I can direct you. I'm not in any way representing that group, but I will certainly be more than happy to point you to the webpage for that group. They have chairs. I think somebody from AT&T is one of the chairs. They will then be able to see if your organization qualifies as a member or is a member --

Jose Jimenez: I'll have them endorsed by me.

Henning Schulzrinne: My sense is they want to keep the bad guys out. It's really more that they don't want to have a robocaller kind of listening in on that. I'm no way implying that -- any other questions? I see one more ten card up.

Rosemary Emmer: Hi. Rosemary Emmer with Sprint. I was just wondering in terms of the prototype and mainly the work that's going on in IETF, the activity there, some of it is closely related to the numbering work in some of our rules and guidelines. At least that's what it sounded like to me. And it looks like there's just a lot of collaboration that may be needed. I'm glad that you came, and thank you for presenting today.

I just thought I would bring this up for discussion. Do you think that it would be appropriate to ask the IETF to give a report to the NANC or to give a status report of some sort to

the NANC going forward? So that if we see that they're working on something that is really affecting the numbering, we know we may be able to at that point engage? I don't know. I'm not sure how I really feel about it. But that's what I was thinking during your presentation and I thought I would just throw it out there.

Henning Schulzrinne: What I can see, there are probably three ways to make sure that there is open communication between those two groups, between NANC and the IETF groups in that sense because there might be several. Clearly what might be relevant is all of their meeting minutes and slide presentations are online. You don't need a password. You just go to the minutes, and the meeting times are announced. So that's the informal way. The two other ways that I can think of -- I will be happy to continue informally. But like I said, I'm not the chair of any of the groups. Most likely I think for any reason won't be. I'm to continue to provide regular updates as the chair deems fit.

Thirdly, I would imagine - again without trying to speak for any of those - is that any of the working group chairs that are actually chair of working groups, they're generally happy to speak to organizations to update third parties on progress as needed. And I certainly would be happy to act as the informal

email bridge to whatever because these are people I know pretty well. Just to explain, they have the opposite problem. They know who the IETF is; they just don't know exactly what NANC does. So they probably need more information and need more introduction on that side in some cases, just like in the other direction as well.

Rosemary Emmer: Right. Thank you. That's great. For instance, at Sprint we meet weekly in the IP team. And there are some folks that are involved on the IETF that let us know or share a status, so I get to hear what's happening from them when I'm able to join those calls. And there's numbering people and network people on those calls, which is good for Sprint. But we may not even catch everything.

And not all companies have this particular kind of internal set-up. So that's why I wondered if there should be a more formal status somehow that comes out of that team to the NANC. I mean I'm talking about to the NANC, not like just a regular status report that they send somewhere. And I'm not sure about whether they should, but I'm kind of feeling like a lot of us at the table may not get this information or may not realize that there's another team that's talking in so much detail about something that we specialize in.

Henning Schulzrinne: And I'm certainly more, again, within the constraints of both organizations on how they tend to work, I'm more than happy to see what we can do to make sure that there is an appropriate information flow happening at the level that is -- because, as you know, the mailing list can get pretty intense. Probably the level that nobody except engineering numbering geeks cares about is that you have a way to make sure that early on everybody is in the loop so that there are no surprises.

I don't think anybody wants surprises because to some extent IETF standards are voluntary standards. I mean in the sense as there is no protocol police that can make you do things in that. They succeed or in some cases fail because of adoption or non-adoption. They either meet the needs of certain segments of industry or they do not. Nobody likes to do work that essentially just sits as documents somewhere and so there is mutual interest in making sure that early on particularly requirements and a number of things are --

I particularly want to encourage you in work [sounds like] I'll get to speak of soon. I have a FoN [sounds like] group. NANC seems like a natural point of intersection. Because, again, this is meant not to address next month's need. This is really a way to have a clean slate design that may have backward

compatibility interfaces because certainly I'd imagine that there would be existing APIs that would do the same thing as they've always done. But that there's new opportunities as we get new entrants in the numbering related spaces and get new needs and new requirements that don't need to be formulated. The new opportunities for example on number porting, the consumer interface side, this is what I was briefly hinting at, that we can now do that. It just weren't feasible 10 and 20 years ago because people didn't have web access at that time obviously.

Betty Ann Kane: Jose.

Jose Jimenez: Rosemary, I agree with you completely. This is why earlier I raised should the IP IMG provide some kind of go-between us and certainly IETF MODERN. Because what they're talking about, if you look at their charter - numbering assignment transformation and all of that - I think that would be a natural interaction. We have a co-chair here. But I don't want to necessarily just say IP IMG is it, but I thought that would be a good intersection for that.

Betty Ann Kane: You were referring to the Internet Protocol Issue Management Group that we set up.

Jose Jimenez: Right.

Betty Ann Kane: Okay, we'll take a look at that.

Jose Jimenez: It makes sense to me to have that.

Betty Ann Kane: Remember that?

Jose Jimenez: Yeah.

Betty Ann Kane: We have people working on that, yeah. One last question.

Gina Perini: Gina Perini with SMS/800. The IP IMG who I'm one of the tri-chairs of, Valerie and Ann also are here, we don't get direct reporting in from the IETF because they're not under our purview per se. I mean it could be discussed whether we want to have that happen, that there would be reporting into the IP IMG. Again, we're just a monitoring group. We don't do anything. We just take that in and then just try to disseminate --

Henning Schulzrinne: That's a good idea. I'm more than happy to have -- given the hat problem that I have, I have not been as active as I probably should have been. But I would love to if you ask me or the three designated chairs - whatever they are designated, if a working group gets set up and designated, usually the co-chairs for the group - to just simply give an update on one of your calls on that. That might be a good way

to dive into more detail. And if possible, I'd check the meeting that you have here.

Gina Perini: I do think that makes sense. Because there has been a lot of sort of questions and confusion, plus people wondering what's going on.

Henning Schulzrinne: If you want to, since I've been engaged more and have reasons we know -- we know each other, so to say, I'd be more than happy to. Send me an invite for your next call more specifically and I will do a catch up.

Gina Perini: Great. I think we actually have you in the chain. So I'll make sure that we highlight --

Henning Schulzrinne: I'm on the chain. I've not always paid as much attention.

Gina Perini: Yeah, absolutely, especially if you don't have to report in or do anything. It's a totally different engagement. But we'll do that in a good way, right? Valerie.

Valerie Cardwell: Thanks, Gina. Just for clarification, Henning. In terms of the work that the IETF and the MODERN group is doing, I don't know if it was directly launched from the commission's testbed initiative. I'm assuming it was, but maybe that's the wrong assumption. But you're familiar with what I'm talking about, right?

Henning Schulzrinne: Yeah.

Valerie Cardwell: Is that group in any way plugged into the testbed stuff since they're talking about numbers? Can you just --?

Henning Schulzrinne: It's the same people. I don't want to attribute causal relationships here. It just happened that the same people who work at the workshop, and including myself, also were involved in the formulation of a working group within the IETF. So there's certainly correlation. Whether there was causation, again, other countries that have a numbering space other than +1 were very interested at having a meeting, for example, because everybody is looking at the same issue that they often have even no mechanisms because they had no porting, for example. They have a very informal type of -- they had a single carrier. No porting. Very simple environment.

And suddenly they find themselves, oops, we need to do porting. We have many more competitors in there. And so they find themselves with problems that the U.S. and other +1 countries have had for many more years. And so, yeah, I would say certainly my personal sense is I see those as complimentary efforts in that the IETF group will essentially further the goals of a testbed discussion in that.

Gina Perini: Thank you. Just one other comment, not to steal your thunder but as a commercial for the IETF MODERN. You guys have a very active distribution of your email list. I think it was shared at this forum or in the testbed forum that if you want to join the conversation of the IETF and that MODERN group, you just join it and you get plugged in to all the conversations kind of going back and forth. I'd say it's probably one of the most active sessions that I've been on. There's always at least two or three mails a day going back and forth on these issues. So just a little plug. Thank you.

Henning Schulzrinne: Thank you.

Betty Ann Kane: Thank you, Henning. I really want a question to wind this up. And we got three more reports to go. You mentioned email, and I was thinking throughout this what we're looking at is to know the numbering equivalent of what has happened with email. First of all huge amounts of spam, spoofing, fake emails - the role of filtering some of which is done by the Internet service provider which automatically blocks things, and then some by the customer by your address book and who you block.

But I'm also thinking every time that happens, somebody finds a way around it. So I know the challenge in doing it for numbers, as well as just for words or for email, doing it for

numbers is tremendous. Probably it's going to be an ongoing as we move. This is all part of it as we move to an IP-based telecommunication system for voice and other things that went over the traditional phone system and the traditional numbering system.

Thank you. We will look to the Issue Management Group to monitor what you're doing. Any time we think there's something that we should get a report back, an in-person report, we'll certainly continue to do that. Thank you.

Henning Schulzrinne: Thank you.

Betty Ann Kane: Now we've gotten a little longer, but I think that it was important to have that update which we had asked for. We have three reports left which were originally numbers 10, 11 and 12. So I'm going to move to what will now be item number 11 in terms of the report, the report of the Future of Numbering Working Group. If you want to do it from there Carolee, that's fine.

REPORT OF THE FUTURE OF NUMBERING (FoN) WORKING GROUP

Carolee Hall: Good afternoon. My name is Carolee Hall. Besides Idaho PUC, I am one of the tri-chairs of the FoN. And this will be brief. We explore changes to the environment including new and future technologies, the impact of market

placement and/or regulatory changes, and innovations on telephone numbering. We had a white paper. The subcommittee created the white paper on geographic routing of toll-free services which we shared with the NANC back in December.

We also had an all-IP addressing subcommittee. It was created to define future identifiers in support of IP industry trends beyond the E.164 numbering plan. The team continues to meet monthly and plans to create a white paper to present to the NANC when completed. The working group has also organized a nationwide 10-digit dialing open discussion topic for future discussions. Our next call is July 1st. If you would like to join the tri-chairs, myself, Dawn Lawrence or Suzanne Addington, our emails are on the back and we'd be happy to sign you up. Any questions?

Betty Ann Kane: Thank you. We do have that report which we got and did send it on, the white paper.

Carolee Hall: I think Rosemary has something to add.

Betty Ann Kane: Rosemary.

Rosemary Emmer: Rosemary with Sprint. There has been a little controversy over the white paper since the last NANC meeting. I have a prepared little statement to talk about the white paper. I hope it clears everything up for everybody. My

intent is to just clear this up and close it out, and let's move ahead.

Following the presentation of the geographic routing of toll-free services at the December of 2014 NANC meeting, participant comments suggested that additional time was needed in order to fully digest the material. It was suggested that a carefully crafted cover letter should accompany the document in order for it to be officially referred to the FCC from the NANC. Well, I'm reading from the NANC transcript. You may find that cover letter that's in front of you, that we copied it and put it in front of everyone at the table. But we've made some changes to it real time during this NANC meeting, so no worries. My transcript copy does not have a page number, but I'm going to read from the December 2014 NANC transcript, and this is towards the end.

Hank Hultquist, AT&T: Maybe it would be useful to have a cover letter drafted that would sort of layout this report was prepared by this group. It is based on a lot of consideration of these issues. We have not considered the validity of the legal arguments raised herein, but it certainly is an issue that I think, as was pointed out, people have heard concerns on. So I think if we had something before us that we could say we would approve that letter, that might be more productive.

David Greenhaus prepared that cover letter. And as I mentioned, copies are provided in front of you. David actually prepared this letter weeks ago and sent it to Hank and I for review, which we did. The cover letter then went to the FoN which by due process, I think, was incorrect. I think it should have been sent directly to the NANC. I think this work has been finished already at the FoN. This is what I believe after doing the research. I didn't catch that process for FoN [sounds like] until yesterday when I started digging deep into this issue.

I was made aware of potential process fall and maybe some opposition of the language so I read the subcommittee meeting notes. I read the FoN meeting notes. I read the NANC transcripts. I read the paper again. And as we all know, the paper was formed at the FoN. Well, it was thought of at the FoN. A subcommittee was created at the FoN. The white paper was written. The FoN approved the transmittal of the letter to the NANC. And in the meeting notes, it said the expectation is that the full FoN will then forward to the NANC and the NANC will send it to the FCC. That's at least what they were wanting. The subcommittee sent it to the NANC in December. We talked about it in December, but we did not reach consensus to move it forward because we were going to wait for the white paper.

So there's been some concern over whether the white paper content was, quote-unquote, endorsed in total or if it was simply approved to transmit forward. I believe as of right this minute in this room that all of us who have talked about this and argued about the semantics, I believe as of now we have a meeting of the minds that the content has not been endorsed. But we can approve to transmit this forward with making it explicitly clear that the FoN and the NANC has not considered or taken a position on the legal argument related to CPNI.

The paper is factual, my opinion. It's very well written. The content is pertinent to our moving forward with IP. It outlines customer-affecting issues and it is overall a good tool, I believe, to be made aware of. I want to make sure there is no uncertainty as to the intent of moving this paper forward with anyone in the room. So I'd like to read the cover letter for the record that we have made updates to since you've had it in front of you, and to have the NANC consider the language. We need to make sure it's factual, and true, and depicts exactly what we collectively want to move forward.

Betty Ann Kane: Rosemary, you're correct. I misspoke. We approved that at the December meeting that we were going to transmit it. But we had not approved what we were going to say in transmitting other than --

Rosemary Emmer: That's right.

Betty Ann Kane: So it's correct. It has not actually been sent because it was sent out for people to look at and make a decision how we would word the transmittal to the FCC.

Rosemary Emmer: So it would read: The North American Numbering Council's Future of Numbering Working Group prepared a white paper that was approved by the NANC for transmission to the FCC. The FoN prepared this white paper to call attention to certain problems resulting from new technologies and evolving numbering policies, including transition to an all-IP network. The NANC has not voted to endorse the entirety of the content of the white paper. The document incorporates claims related to Section 222, legal arguments related to CPNI and other analysis that the NANC has not considered in-depth nor taken any position thereon. It reflects the output of efforts of the FoN Working Group. And the NANC, having reviewed the white paper, has reached agreement for its circulation to the FCC. We encourage you to read through the white paper and to circulate it to your staff and other interested parties, and we invite your input and comments.

I don't know whether the last sentence needs to be there or not. But in any event, that would be up to you.

Betty Ann Kane: Okay.

Rosemary Emmer: That's all. Thank you.

Betty Ann Kane: So your suggestion in terms of the draft letter would be to take out the sentence in the first paragraph and the sentence in the second paragraph that describes what the report covers?

Rosemary Emmer: Yes, basically, and also another sentence that says the FoN as an advisory committee to the FCC, because it's not.

Betty Ann Kane: Right, it's a working group.

Rosemary Emmer: Yeah. But I am more than happy to send the final version to you, and Carmell, and Marilyn, and to send it to the NANC or however you'd like to work it.

Betty Ann Kane: Okay. Discussion on the should I say abbreviated letter. Valerie.

Valerie Cardwell: Valerie Cardwell, Comcast. Just two things. One, I think I raised some concern about when this issue was first raised months ago and I still have the same concerns. I just want to put it on the record that I'm not sure what the precedent is for this body to support or transmit whatever white papers that originate out of particular

committees. So that's my general consensus or concern. It's that I don't know if we've done that before or if we want to get into that mode of doing it because it seems to imply - that's my word - that we, as the NANC, are -- we can say what we want in the paper. But at the end of the day, I think if it comes from the NANC, it implies that the body as a whole supports whatever is in there. And personally I haven't read this particular white paper. Again, I just have concerns about the precedent we're setting.

Having said that, assuming that this body decides to move forward with this letter, the only other edit I'd like to suggest is where it says in the third paragraph, the last sentence, and it says and the NANC having reviewed the white paper. I suggest that we struck because, again, as the NANC as a whole -- I know I haven't reviewed it and I don't know if that was an expectation that we were supposed to review it and come to this meeting with the review and then review the letter. I just have concerns about that statement having what it implies, I'm sorry.

Betty Ann Kane: So you would suggest just stopping at, "it reflects the outputs and the efforts of the FoN Working Group."

Valerie Cardwell: And Mary, who always keeps me straight, is adding that at the December meeting the white paper was discussed.

Betty Ann Kane: Yes, it was.

Valerie Cardwell: But again, discussed/reviewed semantics, I don't know what the expectation was for us as a body to vote on the white paper and then talk about -- I thought we talked about the process of having it submitted to the FCC and we said, well, if we're going to do that, we'd do it with a cover letter and things like that. But again, I raised the same concerns and I just want to raise those again.

Betty Ann Kane: You're correct. It was presented at the December meeting. The NANC agreed to transmit it to the FCC, and then it was to take some time maybe for people to read through the paper again and to decide exactly what we would say in the letter in transmitting it to the FCC for their information as the work product of a working group of the NANC. Yes. I think this letter with the edits that have been suggested is very neutral. It was a good product and sending it to the FCC -- I think the last sentence is fine. I encourage you to read it through. Circulate it to your staff. It's good work. Anything else? Ann.

Ann Berkowitz: Ann Berkowitz, Verizon. Just actually a little bit of wordsmithing, this is the revised track.

Betty Ann Kane: Certainly. Because it's always good to have a committee do a letter.

Ann Berkowitz: Yeah, I know.

Betty Ann Kane: It's helpful. I hope everybody feels comfortable.

Ann Berkowitz: Two things. Because I want to make sure that it is clear in the letter that we are passing it forward. So I would in the last paragraph and remove the word in its entirety of the content, remove the word entirety. It sort of implies that we approved some of it or we just --

Betty Ann Kane: I'm sorry, where are you?

Ann Berkowitz: That NANC has not voted to endorse. I would just say the NANC has not voted to endorse the content of the white paper.

Betty Ann Kane: Or just the white paper.

Ann Berkowitz: Or just the white paper. And I would flip around the very first paragraph. It opens with the FoN Working Group was approved. It's a letter coming from the NANC. I

would be little bit more proactive and say the NANC is transmitting this white paper.

Betty Ann Kane: We're hereby transmitting this white paper to the FCC for your information.

Ann Berkowitz: And approved by the NANC for transmittal, again, can be a little confusing or misleading.

Betty Ann Kane: I think it's implicit that if I'm sending a letter, I'm not doing it on my own. And I can't remember off the top of my head but somebody asked a question about it. I know in the years I've been here we've had sometimes a report that we thought was good and we've sent it forward for information either without endorsing it or making it clear that we were not endorsing it. I don't think this is the first time because we do have good work that comes out of a working group since sometimes I've been asking for consensus on approving what the recommendations are. But this is just good work.

All right, who's next? Tiki.

Tiki Gaugler: Tiki Gaugler with XO. Along the same lines of wordsmithing, the two lines here say the FCC toll-free industry stakeholders and other interested parties. I mean I'm not sure what that means. This is to be forwarded to the FCC, correct? What's the purpose of the rest and what were --

because I have concerns about it going to a broader -- like here is it to a bunch of people and we haven't even endorsed the content of it or considered it. In the two lines, at the very first line, at very top it says to the FCC --

Betty Ann Kane: Well, it would be a letter. Yeah.

Rosemary Emmer: Just to answer that question. We've had so many iterations of this and we were just putting something on paper from something to give this to Chairman Kane so not knowing that she might take this out. Because that's kind of looking a little bit more like a memo.

Betty Ann Kane: Yeah, it would be a letter.

Rosemary Emmer: It will be a transit middle letter.

Betty Ann Kane: It would be a letter.

Rosemary Emmer: So it's meaningless to us. To the people who put the letter together, that too is meaningless. So if we can completely strike it, it would be fine with those who put the letter together.

Tiki Gaugler: Okay. So the intent is to just forward this to the FCC.

Betty Ann Kane: Yes.

Tiki Gaugler: Okay.

Betty Ann Kane: And then the fact that we've done it and the report, which was entered into the record of our December meeting and it's there in the minutes, it's there for everyone to see - the public. And the letter was --

Tiki Gaugler: Absolutely. I wasn't unsure if there was an intent to do some additional distribution from the group, which is what it appears when you --

Betty Ann Kane: No. The decision at the December meeting was to send it to the FCC, and that's where I would do it in a letter form. But it will be public for anybody else who wants to see.

Tiki Gaugler: Understood.

Betty Ann Kane: See the letter and see the report.
Anything else?

David Greenhaus: David Greenhaus from 800 Response.
First, I just want to thank Rosemary for doing an excellent job not just in helping to craft this letter but also her looking into all aspects of this in the presentation she just gave to kind of give a good summary of where the process is and where it stands. I'm personally comfortable with the suggestions that have been made, the kind of new edits to the draft that was circulated. Just one comment on Tiki's comment that the NANC

has not voted to endorse the entirety of the content. Maybe that should say has not voted on the content of the work. Because if we say has not voted to endorse, it's maybe we had voted not to endorse it.

Betty Ann Kane: Not endorse it, okay. Has not voted on the content of the white paper.

David Greenhaus: Otherwise, I'm very comfortable with it. I would also just want to add that I think that the Future of Numbering Working Group is by its nature driven by issues that are brought to the group by the participants. It's not unusual for that to result in some sort of a white paper or whatever the output of the review of the issue is. I think this kind of things is, particularly from that group, could certainly happen again.

Betty Ann Kane: Yes.

David Greenhaus: Thank you.

Betty Ann Kane: I think we've had reports from them in the past also. Jose.

Jose Jimenez: Jose Jimenez from Cox. Just in terms of the process, Chairwoman, I heard you mention that there have been other instances of working group reports forwarded to the commission without the substantive blessing of the NANC. Is the

intent regarding this particular report that NANC will not revisit it at a future date?

Betty Ann Kane: I don't think there's been any intent decided one way or the other on that.

Jose Jimenez: The reason I asked then is if the commission receives the paper and likes it, dislikes it, acts on it, then in a way the fact that they already have it, what role will we play in that future consideration of the substance of the paper?

Betty Ann Kane: I assume if the FCC Commission asks for our advice on it, then we would give them our advice since we are an advisory, or ask for our advice on the issue.

Jose Jimenez: But it was our own working group that submitted this, right?

Betty Ann Kane: Right, for information.

Jose Jimenez: Maybe this was part of the discussion in December and I just don't remember it. I am struggling with the process.

Betty Ann Kane: Rosemary read the transcript and read the filings and whatever. She'd be a good commissioner reading the record there. So I think the letter speaks of itself and the action speaks of itself that we're transmitting this. And as I

said, I can't remember off the top of my head everything that comes before us. Sometimes it is just interesting information that we want to share without even being asked or being ready to make a recommendation or a position. Sometimes we give papers that say here's one way, here's another way, here's a third way. And we think that's interesting. But this is no implication, other than we're sending it to them, that one of our working groups did it.

Jose Jimenez: So this would not preclude the agency or us in the future saying we do not endorse this paper?

Betty Ann Kane: No.

Jose Jimenez: Thanks.

Tiki Gaugler: I forgot to mention what I was saying before that I agree with I think what Rosemary pointed out when she was reading the last sentence here. It seems to indicate there's some future something. So I would strike that sentence as well, the one particular word that says we invite your input and comments. That indicates there is something going on and it's a little unclear as to what that is, so strike that whole sentence too.

Betty Ann Kane: Anything else? All right. We have consensus now to transmit it. We've already decided to transmit

it, but transmit it with this cover letter. Okay, I will do that. Thank you. All right, now we have the INC report. There, you're ready. Thank you. This will be item number 12 in the transcript.

STATUS OF THE INDUSTRY NUMBERING COMMITTEE (INC) ACTIVITIES

Dyan Adams: Thank you. Good afternoon. My name is Dyan Adams. I work for Verizon Communications, and I am the co-chair of the ATIS Industry Numbering Committee. At our May meeting, we did hold co-chair elections and Connie Hartman of iconectiv was elected to the other co-chair position along with myself. So we'd like to welcome Connie to the leadership role. And also say thank you to Shaunna Forshee for her leadership over the past two years.

So today we'll share our usual general information about the Industry Numbering Committee and also INC's activities associated with six issues. The ATIS Industry Numbering Committee provides an open forum to address and resolve industry-wide issues associated with planning, administration, allocation, assignment and use of North American Numbering plan, numbering resources within the NANP area. We also provide membership information for those that are interested. INC held three face-to-face meetings in January, March and May. And our

next face-to-face meeting is scheduled for July 28th and 29th in Denver, Colorado.

INC continues to keep issue 748, our issue related to the IP transition on its agenda, and continues to consider possible next work items. We've been monitoring the work of the IETF STIR Working Group regarding security and cryptographic certification of TNS. INC reviewed the LNPA Working Group white paper on non-geographic number portability, and INC has been monitoring discussions on the IETF MODERN Listserv that was created as a result of the numbering testbed workshop.

Slide 6 - issue 781 is related to intra-company OCN changes. INC guidelines direct that a thousands-block or code cannot be transferred to a different company when the current resource holder has not certified that there are assigned numbers within the resource. However, no criteria exist to address transfers of codes and blocks within a company known as an intra-company OCN change. If a block or code is no longer in use, it should be returned. Therefore, the guidelines were updated to state that an applicant requesting an intra-company OCN change that is not the result of a merger or acquisition must certify on the application that there are assigned numbers within the resource.

Slide 7 - issues 788 and 794 are both related to 555 line number assignments. The 555 NXX assignment guidelines were created, and line assignments began in 1994. The intent of the 555 resource was so consumers could dial a 555 line number to get to public information service needs that may not have been met at the time. The 555 line numbers are a public resource, and administrative assignment does not imply ownership by the administrator or the assignee. The vast majority of 555 line numbers are assigned to individuals. However, through NANPA's investigations - as Beth mentioned earlier - it appears few are in service.

NANPA has been working to contact the assignees of 555 line numbers and provided us some data associated with its outreach. As of April 2015, NANPA has not received evidence that any of the assigned resources are in service. INC believes the success of continued outreach is questionable due to the lack of valid contact information for the majority of the assignees. INC agreed to place a moratorium on all new assignments of 555 line numbers until it determines the best use of this resource. And as Beth stated earlier, the moratorium doesn't impact the use of the previously set aside 555 line numbers for the movie/television industry nor the 555-1212. As mentioned earlier, NANPA filed Change Order 2 and the NOWG sent an

approval recommendation to the FCC. Once the moratorium is implemented, NANPA will issue a planning letter which will serve as final notice to assignees before resources are reclaimed.

Issue 790 updated the guidelines in regard to grandfathered blocks on the Total Numbering Resources Report. A few years ago, around 2012, under issue 698, INC worked with state commission staff to develop the total numbering resources report in an effort to aid service providers and state commission staff in verifying the total numbering resources in a particular rate center under a given OCN. At that time, grandfathered resources were not included in the report. So since the enhancement of PAS back in January, the assigned and retained grandfathered blocks and non-pooled grandfathered codes now show in the total numbering resources report and INC simply updated the guidelines to reflect that.

Issue 792 involved updating the CIC assignment guidelines by eliminating administrator ability to grant extensions, to activate CICs by adding the ability for CIC assignees to request extensions from the FCC by adding an administrator responsibility to provide a reminder notice to the assignee of the Part C due date. And finally, INC revised the CIC assignment guidelines so the FCC directs the administrator to

reclaim CICs that have not been activated within the required timeframe.

And our last issue to report on is Issue 796 which is related to voluntary code transfers for LRN purposes. The INC guidelines do not allow a CO code to be transferred to a different company known as an inter-company OC change when the current code holder has not certified there are assigned numbers within the code. The guidelines do allow voluntary transfers of CO codes between service providers if they mutually agree and if there are assigned numbers within the code.

To avoid opening a new code for LRN purposes, service providers seek voluntary code transfers from other service providers. But sometimes the only codes eligible are codes that have no assigned numbers in them yet. So INC added text to the guidelines to allow service providers who voluntarily transfer a code for LRN purposes even if there are no assigned numbers in them yet.

Slide 12 lists the issues in final closure with one exception or correction. Issue 794, as I stated earlier, regarding the 555 line number assignments is actually an initial pending and we'll immediately move to final closure if and when NANPA Change Order 2 is approved.

And the last slide provides our usual INC webpages. Any questions?

Betty Ann Kane: Any questions? Thank you very much. And our last report is the ATIS transition.

STATUS OF THE ATIS ALL-IP TRANSITION INITIATIVES

Jackie Voss: Hello. My name is Jackie Voss with ATIS. I was going to provide a brief update today on the various activities taking place within our organization related to the all-IP network.

Slide 2 highlights the areas that I'll touch on that include the service transition, the ATIS/SIP Forum IP-NNI Task Force, public safety related applications taskforce, and the testbed of the landscape team.

On slide 3 I'd like to note that our focus not only addresses on standardization, which is outlined in the horizontal rows, but also on the operational impacts of the transition to IP. We're also addressing the cross-functional activities such as testbeds and best practices, and performing outreach to targeted industry groups specifically related to public safety applications.

As part of the primary transition plan, ATIS is analyzing a basic set of services commonly provided in circuit switch PSTN

and addressing the technical issues surrounding support of these services in a mixed circuit switch/packet switch environment and, in the future, in an all-IP environment.

ATIS plays a leadership role in enabling an all-IP network. One of the important elements of this is the ATIS that formed IP-NNI Task Force. This group affords expanded industry prospective with a combined membership from ATIS and the SIP Forum. Phase 1 has successfully been completed with the publication of two reports, one report related to routing and the other to protocol. Building on these deliverables, phase 2 is being discussed to explore a broadened industry scope.

On slide 6 we see that the overall objective is for the environment to be a total IP interconnection. There are several different approaches that could be taken that are outlined as far as to have standalone IP islands, eventually just let the market take itself on and see what is resolved. There could be a mandate for a single IP interconnect, or what we would hope for would be a voluntary industry collaboration so that we have end-to-end IP interconnection with all operators involved. As I mentioned earlier, phase 1 is complete and phase 2 is being scoped. Consideration is being given to enhance security mechanisms for IP-NNI, secure caller ID, address video and Rich Communication Services, as well as validate the various routing

options that were identified, and evaluate whether it's possible to potentially narrow those options for routing.

Slide 8 provides information regarding the Public Safety Related Application Task Force. This taskforce was established to address the infrastructure related to public safety. It's examining multiple applications that will be impacted by the transition. We're in the process of creating a catalog of available solutions to meet the needs of public safety in an all-IP network.

Recently, an RFI was distributed electronically to the stakeholder organizations and I provided the link on slide eight if you'd like to take a look at that RFI. The RFI remains open and ATIS is continuing to collaborate and collect detail on the target applications. Once the RFI is complete, a final report will be developed and the output will be shared with relevant regulatory and industry interest groups. ATIS will also be exploring the means to host the information and communicate the solution to the industry, and also look for opportunities for further education on the impacts of the transition.

Finally, I wanted to touch on the testbed landscape team that we have. This was established in December of 2004. There were several industry initiatives that called for testbeds to validate various solutions for the transition. We recognized

that the individual testbeds could be duplicative in nature where many functions would be duplicated and be inefficient to operate. Therefore, we are evaluating the existing testbed activities to identify common requirements among them and look to recommend a path forward.

A little bit about the testbed. It's intended to be both broader and narrower than what the FCC proposed in their testbed workshop. It will look beyond numbering and potentially include E.164 numbering and toll free, various routing architectures, and some vertical services. It's intended to be narrower and that it will focus on the transition to an all-IP and the IP network-to-network interface. It will investigate the target environment regarding what a single virtualized testbed environment might actually look like, but in the context of the practical transition.

One slide 12 you can see that several use cases are being discussed related to numbering, routing, and provider-to-provider testing. And then more specifically on slide 13, which I won't read to you, we've listed specific use cases. They're being looked at. They're listed there on slide 13.

Slide 14 just provides a pictorial. It explains that we're not looking at establishing a physical testbed for vendors and service providers to bring their equipment, but we are looking

and focusing on a virtual testbed to help facilitate service provider-to-service provider and vendor testing. We're doing this by developing test plans, methodologies and the program management tools.

Slide 15 outlines the status of where we've been, where we are, and where we're going. The initial report was published in March 2015, and that report is available on the ATIS website. It provides an initial assessment and indication of interest of the companies to participate in one or more of the testbed cases that were identified in the report. Discussions are now taking place on recommendations and next steps, and then finally the implementation of the recommendations.

As an example, one of the possible scenarios that we're looking at would engage the IP-NNI routing use case scenario where two or more service providers agree to test a routing scenario potentially looking at provisioning mechanisms, data exchange protocol, call routing methodologies. Once the feedback comes back from that, then the testbed landscape team could in turn work with the IP-NNI Task Force, take that information back. They could refine the document that they produced and then potentially work with the IETF to see if there was something that they could do to run code on whatever gets resolved.

So as mentioned earlier, the next step is develop a formal recommendation for an action plan based on further analysis of the use cases and the expression of interest by the participating companies to provide required software equipment and personnel for the actual testing. The recommendation would propose a timeline with the focus on the initial test and identify responsibilities for key deliverables both in terms of technical and project management. And that final report is scheduled for completion in the third quarter of 2015. I conclude my report for today. Do you have any questions?

Betty Ann Kane: Questions?

Male Voice: [Indiscernible] Is the protocol on routing documents and the testbed draft available to non-ATIS members?

Jackie Voss: They are. They are available via our document center. You would just need to establish an account there, but you're able to download those for no charge.

Betty Ann Kane: Jose.

Jose Jimenez: Jose Jimenez from Cox. One question on the PSRA taskforce. In the last report I saw from that, the response rate was kind of varied among the various stakeholders that's been served or have been approved. How is that looking now? Is it improving? Is ATIS getting more interest out there?

Jackie Voss: I believe that they're doing some direct outreach with some of those groups, but at this time I don't have a specific feedback that they've gotten. I can get back to with that though.

Jose Jimenez: Sure. Thanks.

Betty Ann Kane: All right. Any other questions. Thank you. And then the original number 13 on our list, the report of the Internet Protocol Issue Management Group, we don't have a report from them for this meeting. So that concludes all of our reports.

SUMMARY OF ACTION ITEMS

If I could summarize the action items that we took, they're essentially transmittals to the FCC of the approval and transmittal of the NANPA performance report, the PA performance report, the billing and collection agent performance report, endorsing the report of the LNPA concerning the role that they could play in the transition, and transmitting the FoN white paper on geographic routing of toll calls. And that are the action items. Are there any public comments? Okay.

PUBLIC COMMENTS AND PARTICIPATION

Ann Berkowitz: Yeah, I just have an action item question, and I looked at people who know the NANC a bit better. LNPA

Working Group change in chairs, does the NANC need to do anything or we just need to know about it?

Betty Ann Kane: I believe just these two. They've been reported to us. That's been noted in our record. And we thank the new chairs who are willing to step up and do that work. And again, so much of the work that NANC has done is through the working groups and in monthly meetings and monthly calls. We always would express appreciation to those who've done it before and those who are willing to step up. Jose.

Jose Jimenez: I happened to be on the NANC website at the FCC, and I noticed that the charter for NANC expires September 2015. So that's the process for that? Is that just renewed automatically by the FCC?

Betty Ann Kane: I don't think that FCC does anything automatically. I think they will look at it. And as they have in the past, make a decision. It's not self-perpetuating, that there will be an action. Marilyn.

Marilyn Jones: Marilyn, NANC DFO FCC. Yes, we go through a rechartering process. And so, yeah, we work with our Office of the Managing Director and Office of the Bureau Chief. We get a recharter, and then what Carmell would do is send out to all

present NANC members --, you're going to get another nomination approval letter.

OTHER BUSINESS

Betty Ann Kane: Very good. And so our next meeting is September 30th. Actually, it says adjourn no later than 2:00 PM. This was a longer meeting than usual, but I think we had some very good information that was shared. So thank you all. Get some lunch and safe travels. Thank you. The meeting is adjourned.

[End of file]

[End of transcript]