KATHY SCHNITT: Welcome to the SSAC Evolution of the DNS Resolution Work Party Teleconference on Thursday the 17th of November 2022. I'm not sure, Barry. Am I handing it back over to you?

BARRY LEIBA: I think so. I might let Andrew actually give it a quick start because I had to drop off a little early last week and he's ... Actually, but Andrew wasn't on either. So I don't know. But anyway, Andrew explain what happened with Steve and Geoff and whatever after [I left].

ANDREW MCCONOCHIE: Right. Well I wasn't on, but I read the transcript. So I'll explain a little. So, yeah, Geoff had some opinions about where to go. And Steve Sheng was on the call, and Steve Sheng took that and basically Geoff's words and put it into the text that we're now looking at on the screen right now. And Geoff also had some thoughts about reorganizing the document a bit, which I think you were on for, Barry.

BARRY LEIBA: Yeah. At least some of that discussion, yes.

ANDREW MCCONOCHIE: But Geoff is not going to be able to join us today because I think he's on a flight.

BARRY LEIBA: Right. And I guess before we get started on anything else, I would just say we're canceling the call next week because Russ and I will both be unavailable due to U.S. Thanksgiving. And I'm sure some of the rest of you will prefer not to join then as well. So we will next meet two weeks from today.

So when I read this text and as I thought about some of the things that Geoff said before I had to drop off, what struck me—I'll just look at the one-line paragraph at the end of the text that's on the screen now—if the DNS is not an unambiguous referential system, what is? What makes the Internet work?

And one of Geoff's points is that the DNS isn't morphing. The DNS is stable. It's the DNS. It is what it is. And, yeah, so I think the point that we've been making in our discussions here is that what's evolving isn't the DNS so much as the general state of resolution around the DNS. It sometimes uses the DNS. It sometimes uses other things.

And there are some aspects of resolving what a name is and where the user is going that goes around that. And some of it uses names in a different way. And some of it doesn't even use names. It uses a completely different mechanism to get the user where the user wants to go. That isn't changing the DNS, but it isn't using the DNS either in some cases.

So what I was thinking was, we went from where a user had something that was called a domain name and it looked like a domain name and it was a domain name and the user maybe knew what that domain name

was and maybe even had a sense of the hierarchy that is in domain names and that sort of thing to a system where ...

Well, we started using domain names for other things and in other ways where they weren't quite the same. They still looked like domain names. They still behaved in some ways like domain names. But maybe they weren't quite domain names and maybe they didn't go through the DNS, or they started in the DNS and went somewhere else afterwards, did something else afterwards; to a system now where the users are using apps and using QR codes. And the apps and the QR codes are doing the work and hiding what's actually behind it completely from the user.

They're not anything intelligible to the user in any way other than the user installs the app or the user scans the QR code and it does what the user wants it to do. And we have several examples of QR codes, for instance, that aren't just URLs that take a browser to a website. They install a certificate somewhere. They connect the app to a device in a way that the user has no idea how that works. It just does it. They put a web password on your device to get to the network.

So that's, I think, where we wanted the document to head. What are these other things that are steering users toward the way applications want them to go, and how is that changing the landscape?

RUSS HOUSLEY: So I think you're framing the right questions, but it’s in what ways are human seeing domain names or things that look like domain names that aren't? What ways are people interacting with DNS where they never

see the name? And what ways are other things interacting with non-DNS but look the same as the middle category? I think those are the three we have to flesh out. And maybe in doing so, we'll find there's a fourth or a fifth. If that makes sense.

BARRY LEIBA: It does. And I think one of the important things is that, yes, there are things that look like domain names that do something else. There are also some things like QR codes, or some apps use the DNS and some don't. And it's all hidden from the user. So there's the stuff that's visible to the user, and there's the stuff that's not visible to the user. And I think it's important to tease both of them out and see how that affects the overall experience of using the Internet today.

TARA WHALEN: Did you just mean the visibility? Visibility covers a lot of things, though. Do you mean the visibility of the name or visibilities of components of the system that are resolving the name? Or both?

BARRY LEIBA: Maybe both. I was thinking of the name. But, yeah, I was thinking of that ... Part of where I was going with what I said before was that the users used to use names for things and now they use QR codes for things, just oversimplifying a piece of it. And they may think of the QR code as just another way to enter the name, but that's not always what it is. It has now hidden the entire operation behind them, and when the user points the phone at the restaurant table, all they see is that they

get the menu. They don't know how it got there. And maybe it went through a normal DNS resolution to a website, but maybe it did something else.

RUSS HOUSLEY: They don't ... And so what remains visible in that is that they got the menu.

BARRY LEIBA: Right.

RUSS HOUSLEY: What remains invisible is the domain name, if one was involved.

BARRY LEIBA: [Correct]. [inaudible].

RUSS HOUSLEY: Which makes obscure domain names now perhaps valuable to restaurants. [They don't] have to say "Joe's Diner" anymore.

SUZANNE WOOLF: I'm not sure that's a great example.

RUSS HOUSLEY: Okay. Got a better one?

SUZANNE WOOLF: Well, I'm trying to think what a better one would look like, and I admit that I might be confused just because I missed a couple of meetings. But I was just thinking about a better example, and I realized I'm confused because people have been talking about “the DNS.” And I'm not sure what they mean. Are you talking about the notional namespace and the possible names? Are you talking about the public database of names? Are you talking about the protocol? I don't think we've been consistent about that. So that's the first thing I'm confused about.

Barry, when you talked about whether people were using “the DNS” a couple of minutes ago, I wasn't ... It sounded like you were talking about situations where people are using domain names but not DNS resolution protocol.

BARRY LEIBA: No [inaudible].

RUSS HOUSLEY: I do think we figured this part out to say that there are two things that do get conflated. One of them is whether you're using the IANA managed route with the DNS protocol. And that's kind of what we are now shorthanding to be “the DNS.”

SUZANNE WOOLF: Okay.

RUSS HOUSLEY: But there are clearly examples where the DNS protocol is used with things that are managed in some other way. But we did not come up with a thing where the IANA-managed route was used with another protocol.

BARRY LEIBA: Right. What I had meant to say is ... I meant to call out two different things. What Russ said about what we're calling “the DNS” in this discussion is exactly what I meant. But I also meant to talk about using domain names outside of the DNS—what the users may think is the same thing but isn't because the domain name is not being used with the DNS protocol. And I don't expect users to understand the difference.

RUSS HOUSLEY: Right.

SUZANNE WOOLF: No, but I think—

RUSS HOUSLEY: Well, or at least some.

SUZANNE WOOLF: Yeah. Well, the other thing is, I think we’re not the people that are particularly competent to figure out what mental models people are

applying. Some people will look at those QR things and scan the thing on the restaurant table and, “Oh, that looks just like a browser. Clearly, this is some other way of interacting with the tried-and-true web that I already knew.”

BARRY LEIBA: Right.

SUZANNE WOOLF: Or not.

BARRY LEIBA: Or not.

SUZANNE WOOLF: Depending entirely on the user interface choices made by the app developer.

BARRY LEIBA: Exactly.

RUSS HOUSLEY: Exactly right.

SUZANNE WOOLF: So ...

BARRY LEIBA: And I see users all of the time winding up in a browser app but having no idea they're in a browser app. They just see the rendering of a web page and it looks like any other app to them. And if I drill down and if they asked me a question, they're confused about something, I'll say, “Well, what app is that?” “I don't know.” And we go and look and it's Chrome or it’s Safari or something. And other times it's not.

Anyway, that's where I was getting with that. And I'm seeing a lot of warnings in the press—in the industry press and in the public press—about being complacent about scanning these QR codes because you don't know what they're doing and you don't know where they're taking you and you don't know what it's going to do to your device.

SUZANNE WOOLF: Oh, trying to teach users to be aware of that sort of thing is a lost cause.

BARRY LEIBA: Of course. But the fact that it’s—

SUZANNE WOOLF: That horse is on another planet by now.

BARRY LEIBA: But the fact that it's showing up in the media is interesting, and it probably means that we should say something about it. So, Tara, do you want to say that live?

TARA WHALEN: I can say that live. Yeah. Sure, there's a lot less visibility. But it's not like, as you said, if people actually use the full URL and typed it out like a handle, that was somehow going to be something that either one ... It wasn't anything to ever worry about or even necessarily to give them a good mental model of what was going on either.

So I think it is maybe reasonable to talk about that there are differences in how people are interacting with the namespace, but at some level it might wind up becoming a distinction but not a difference if we're talking about a bunch of follow-on effects. I think it's significant enough to mention that the end user interactions or direct interactions with things that are of the shape of domain names has changed. The implications of that, maybe we can argue about but, definitely, yeah.

Just noting it's not like, as I said, the QR code is now a clear and present danger that was not there when people were typing things in that they were told to type in.

BARRY LEIBA: And indeed there was a lightning talk at the recent MAAWG meeting in Brooklyn where the person giving the talk was saying how bad these ... That it's really bad to get people used to scanning these things because they're exposing themselves. And I got up and I said why is this any different from, as you said, typing in a URL if they don't know what it means anyway or clicking on a shortened URL in a Twitter tweet which also is opaque. You don't know where it's going to take you. So, yeah, you're right. The danger was always there.

RUSS HOUSLEY: So, Suze, did you come up with a better example?

SUZANNE WOOLF: [I'm] lost in a maze of twisty passages. Let me backburner that. Let me keep chewing on that.

RUSS HOUSLEY: Okay.

BARRY LEIBA: All right.

RUSS HOUSLEY: So the part that Barry went back to is that domain names still do appear even when there is no DNS protocol. And I think that was the other leg of the stool that wasn't in his initial summary, the ones that are not using the DNS protocol. And maybe we've carved some of them out of the eye IANA root to help avoid confusion to some users—.onion being an example of that [for some] definition of "we." .local being another example of that with a different example of "we." And I'm not sure how that affects this chunk of text on the screen.

BARRY LEIBA: I think one of the things that Geoff was getting at last week was that he doesn't ... Maybe we need to change the beginning of the document.

Maybe we need to change the title. Maybe we need to change whatever the introduction turns out to be to make it clear that we're not just talking about the DNS. Because if what we're talking about is the DNS here, there's nothing to say. The DNS isn't changing. The DNS does predictable things in predictable ways, and the evolution we're talking about is a separate thing.

And I agree with that, but I think that we need to make it clear that this discussion is about what's going on around the DNS, not changes to the DNS directly. We gave that up when we said this work party is not going into DoT and DoH and DoQ and any of that any further. There's no more we really need to say about that. So maybe the title doesn't need to say Evolution of the DNS Resolution. It needs to say Evolution of Name Resolution, Evolution of Internet Namespaces, something like that.

TARA WHALEN: That definitely seems closer to the discussions we've been having—

RUSS HOUSLEY: Yes.

TARA WHALEN: —where the DNS [inaudible] DNS is almost being treated somewhat like a black box. That maybe differences into how things are entering it based on how end users interact. And maybe bypasses going on where people are not entering the system that they thought that they were entering. But all of those things are happening as sort of layer around it to some degree. And the actual inside is not what we're picking open.

BARRY LEIBA: Right.

SUZANNE WOOLF: Sorry to jump in here, but the text that we just had up there, it looks like—and removed. But the text we just had up there, we can't preserve DNS as the only thing that's absolute. It's always relative to something. And after a while, saying you have to have ... At least the way that passage is worded. I know what it means. But what it says sounds like Newton yelling at Einstein.

RUSS HOUSLEY: Mm-hmm.

SUZANNE WOOLF: Does that make any sense at all to anybody besides me?

BARRY LEIBA: Well, I like the metaphor.

SUZANNE WOOLF: Well, and what it is ... It sounds like we're saying, “Gee, the DNS has to remain absolute and has to ...” And the fact is, I think that assumption is [true].

RUSS HOUSLEY: I don't think that's what it's saying.

SUZANNE WOOLF: Okay, good.

RUSS HOUSLEY: Or meant to say.

SUZANNE WOOLF: Good.

RUSS HOUSLEY: I think what we're trying to say—and I wasn't on the call last week, so I'm projecting a lot—is that when you use the IANA root and you use the DNS protocol, you get an unambiguous response. However, there are all of these other cases where that's not the—

SUZANNE WOOLF: Okay. [inaudible].

RUSS HOUSLEY: And I think that's where we're trying [to go].

SUZANNE WOOLF: We're saying that we know what the context is [inaudible] assumption about the context which is not necessarily the case otherwise.

RUSS HOUSLEY: Yeah. And I think that's easier to explain if we turn this paragraph upside down.

SUZANNE WOOLF: [inaudible].

RUSS HOUSLEY: Instead of the question at the end, we assert that DNS is unambiguous.

SUZANNE WOOLF: Well, yeah. This is what I'm saying. This is what sort of confused me.

RUSS HOUSLEY: But I wasn't on the call either, so maybe this is what was said. But, yeah, I had the same disharmony.

SUZANNE WOOLF: And I've heard Geoff say more or less the same thing before in the context of things like [inaudible] and changing topology of Internet routing where if you can't assume that your IP addresses are functionally unique, instead you have to specify that their unique within a certain scope where the scope is not necessarily the Internet.

I have heard him say that since we gave up determinism around the context for using IP addresses, we shouldn't do the same thing to DNS. And I don't necessarily disagree with that, but I don't think ... It would

definitely be nice. I'm just not sure it's possible in those terms. So I will try to come up with other language. But I think, Russ, you're right that turning it upside down and just provide ... I mean, I think we can provide a reassuring answer to the question, but I think it's a little more complex than what's there.

BARRY LEIBA: And I think even the DNS has variations based on context. When we pass context in we say, “Turn icann.org into an address.” Oh, but wait. I want to send e-mail to it, so I want an MX record. And I get a different answer than when I want to go get the website, for instance. So we set the DNS up so there are ways of passing context to the DNS and telling it what sort of interaction you want to do that's going to change the answer DNS gives you. But it's still deterministic based on that.

Maybe that was not helpful. I don't know.

SUZANNE WOOLF: Yeah, my brain is stuck in low gear today.

BARRY LEIBA: Gabe, I just want to welcome you since you haven't generally been on these and say hi and thanks for joining—

GABRIEL ANDREWS: Hi.

BARRY LEIBA: —and encouraged you to make comments that you might have.

GABRIEL ANDREWS: Listening for the most part. This is obviously a topic of interest to those of us in law enforcement, even if we're a bit in the sausage making. But trying to pay attention to the evolution of how bad guys might obfuscate the kinds of communications they do and then give some forward-looking thought to how we would get in front of it if we ever have to get legal process to either [seize] mechanisms, or what have you. And it gets very complicated very fast. But I appreciate you guys letting me be a fly on the wall and listen to these talks.

BARRY LEIBA: Well, I'm hoping you'll be more than a fly on the wall because I really want that perspective to be in the document as we write it. I think it's really important to have some thoughts that are connected to experience in law enforcement that can go into this.

SUZANNE WOOLF: Perhaps that are connected to realities as experienced by most users.

BARRY LEIBA: Yes, exactly.

SUZANNE WOOLF: Because I think we've all been looking at this for long enough that it's really easy for [inaudible].

GABRIEL ANDREWS: Understood. Then, yeah, if you guys don't mind me throwing in rotten fruit from the galleries on occasion, then I'll do so whenever I think I have good enough aim. But otherwise, please don't take offense if I do be quiet for the first few that I listen in on, though, until I get a better handle for where it would be constructive.

SUZANNE WOOLF: Well, part of your job is to make sure that the rest of us don't tie ourselves in knots more than we have to.

BARRY LEIBA: Or make assumptions we shouldn't be making.

GABRIEL ANDREWS: Copy that. Can I throw out a metaphor? You guys were asking about these before. But for a lot of these instances, I just kept thinking of taking candy from strangers as a metaphor for a lot of this. Because, you know, you talk about the QR codes. You talk about the shortened bit.ly links and whatnot. I think the end user always has an expectation of what's going to be there when they open a wrapper, but they aren't always cautious about who they're accepting it from. And if you do that, you can be in for surprise when you pop it in your mouth.

RUSS HOUSLEY: Yeah.

SUZANNE WOOLF: That’s really good. I like it.

RUSS HOUSLEY: Every Halloween, we send the masses out to do it.

BARRY LEIBA: Yeah. I like that metaphor. That’s an interesting one. One thing that you just reminded me of was when we were interacting from a computer with a web browser app and a mouse, you could teach people to fly over the links and the browser would show them what was behind it. So what the user could see said “click here.” They could now put the mouse over it and would see the URL. And now as they've gotten to touch screens and mobile devices, you can't do that. And the way to see what a link does to you is by going to it.

SUZANNE WOOLF: Oh, and you don't even necessarily know ... It's not even necessarily a separate decision. If you've got your chat agent configured, when it sees a URL, to go configure [inaudible]. That’s whatever's there. You may not even know what happened. There's no discrete event that you have any control over.

BARRY LEIBA: That's true. As far as I know, I can't even stop my chat app from doing that. If you send me a link, it's going to do it's going to give me a preview of it.

SUZANNE WOOLF: I think you can turn that off at least in Slack and the Microsoft one. But, yeah, who knows that they need that?

BARRY LEIBA: Yeah. And we know that there have been issues with one-click actions that have had to be backed off of. Like one-click unsubscribes that would wind up getting unsubscribed just because it came into your mailbox. You didn't [inaudible].

SUZANNE WOOLF: Yeah. So basically, not only are we taking candy strangers, but we're not even washing it first. I don't know.

BARRY LEIBA: [inaudible].

SUZANNE WOOLF: But, no, it's even worse than taking candy from strangers.

RUSS HOUSLEY: Yeah. You're popping it in your mouth before looking at it.

BARRY LEIBA: You're letting the stranger put it in your mouth. Maybe that's the metaphor.

SUZANNE WOOLF: Eww.

GABRIEL ANDREWS: Oh, that gets real gross real fast.

SUZANNE WOOLF: All right, we're not using that.

TARA WHALEN: This transcript is going to be fascinating.

SUZANNE WOOLF: Anyway, before the rest of us abused it to death, I liked Gabe's metaphor.

BARRY LEIBA: Crunchyfrog.com, for those of us who know the Crunchy Frog Monty Python sketch.

TARA WHALEN: Enough.

SUZANNE WOOLF: Oh, man. I've been up since 3:00. Can anybody tell?

BARRY LEIBA: No, actually not. You sound quite lucid.

TARA WHALEN: Maybe punchy.

SUZANNE WOOLF: Yeah, something like that.

BARRY LEIBA: Okay, so do we have more that we can feed to Andrew to get more text in one direction or another either into this paragraph or this section that's on the screen or elsewhere in the document?

ANDREW MCCONOCHIE: I'm not sure what I've been fed so far. Definitely not candy. So I guess that's a basic question. How would you like me to modify this text or modify text in the other document? What would you like me to work on next? Even if you maybe point me at a section and I can just throw some text in there for next time even if [inaudible] what to put in there.

RUSS HOUSLEY: I would like to see you try and turn this upside down. The DNS, when you use the IANA root, gives you an unambiguous response and so on. However, sometimes domain names are used in other contexts. Sometimes you never even see the domain name with the QR code and so on. I'm basically taking that last sentence on the [inaudible]—

SUZANNE WOOLF: So it's almost—

RUSS HOUSLEY: —as the starting point.

SUZANNE WOOLF: Yeah. Sorry. I didn't mean to step on you, Russ. I'm thinking out loud. And it's so nice to be able to think. I think that starting with the question "what are the important characteristics of DNS that are critical to making the Internet work" and explain the referential integrity piece. I think there's a couple of ... Yeah, that second paragraph is pretty good. And this third is not bad, although I might ...

But basically, you keep some form of the question. Keep the first couple of paragraphs there. And then we can explain that being able to rely on the DNS is really important and ... Part of what you have to convey is that none of these statements is absolute and it's all about drift and tendencies towards being more of one thing and less of another.

ANDREW MCCONOCHIE: Well, Sue, I think right now basically wherever you are on the Internet, the DNS is kind of the default resolution content.

SUZANNE WOOLF: Yes.

ANDREW MCCONOCHIE: And a great risk is that changing. So a great risk would be the DNS no longer being the default.

SUZANNE WOOLF: Or it no longer being a reasonable default.

ANDREW MCCONOCHIE: Right. Or there's—

SUZANNE WOOLF: [Reasonable] is sort of ...

ANDREW MCCONACHIE: competition ... Yeah.

SUZANNE WOOLF: Yeah.

ANDREW MCCONOCHIE: Like a very clear default.

SUZANNE WOOLF: Yeah. Well, because there are plenty of places in the world where people know that you can't to a certain website by name because there's provider blocking of name resolution. But you can get to the same content some other way. But that's kind of an edge case. And as long as it remains an edge case, we don't have to worry about eliminating it but we do have to worry about encouraging it to get more. And with all of these things, it's very hard to say on which day this became too big of a problem.

BARRY LEIBA: And there remains—

TARA WHALEN: No.

BARRY LEIBA: —the geo—

TARA WHALEN: No, no, no.

BARRY LEIBA: —the geographic issue that I've brought up a number of times where we've sort of pushed it off and said, “Well, if you go to google.com from

different places in the world, you'll get to a different server, but it's still semantically the same thing. You're still getting to Google." And I think that's not a universal thing. I think there are domain names you can go to that really do give you different results in different places.

And there are certainly things that are blocked in certain—for odd reasons. I can go to some businesses in the U.S. or government websites in the U.S. that will just refuse to let me go there if I'm in Europe. And it's kind of odd, but I don't know if that's something that's all part of this—"Is DNS really unambiguous?"

RUSS HOUSLEY: It's not DNS that's causing that behavior. It's somebody's refusing to give you an answer that is in the DNS.

BARRY LEIBA: Some of it is DNS. Some of it is that the website is not responding to it or is redirecting you, but some of it is DNS giving you different results from different geographies.

ANDREW MCCONOCHIE: Okay. Yeah, so that's really ... I see those as, really, kind of two separate things. I mean, I think we can work them into ... They're definitely two different paragraphs, like this whole—I go to a CDN in one place and I go to that same CDN and in a different place and I get completely different answers. That means a very different thing than a completely different alternative naming system. But I see them as two things we

can kind of talk about separately, but maybe we can get some high-level theory to kind of bring them together. So we'll all work on that.

BARRY LEIBA: Okay. And it may turn out that the whole geographic thing that I was going on about is not relevant to what we really want to talk about. But let's see what comes out of it.

ANDREW MCCONOCHIE: I think it is. Or at least I know Geoff wanted to talk about it because I know in the transcript, he mentioned EDNS Client Subnet. So I think that's part of what he's trying to get at there in the third paragraph.

SUZANNE WOOLF: So I put a reference in the chat which will make some of you sad because it's a philosophical reference. But the paradox of the heap, otherwise known as the bald man paradox. It's worth thinking about for a minute because it's sort of what we're talking about here. At what point does the DNS no longer contain the property that makes it the DNS?

BARRY LEIBA: Right, right, right. I used to refer to it as the rock band situation.

SUZANNE WOOLF: No, that's the Ship of Theseus.

BARRY LEIBA: How many original band members need to leave before it's no longer the same band?

SUZANNE WOOLF: No, that's a different one.

TARA WHALEN: That's Ship of Theseus. Yes.

SUZANNE WOOLF: Yeah. But anyway, at the risk ... Where is an actual philosopher when you need one? At risk of having to fill in, that's probably of some use. The usual resolution is to say it's the wrong question. The premises are vague as the source of the paradox, but it does sort of have the sound of what we've been saying here. It's not as good as Gabe's metaphor, but at least it's in Greek.

ANDREW MCCONOCHIE: Well, I think I have a good assignment here to continue working on this text and expanding it.

RUSS HOUSLEY: Cool.

ANDREW MCCONACHIE: And I have two weeks to do it.

BARRY LEIBA: And you have two weeks to do it.

ANDREW MCCONACHIE: And I don't even celebrate Thanksgiving, so there you go. I really do have two weeks to do it.

RUSS HOUSLEY: Well, for those of you who are in the U.S. and will celebrate, happy Thanksgiving.

ANDREW MCCONOCHIE: Happy Thanksgiving.

TARA WHALEN: Give thanks to the naming systems and all of their bounty, the blessings of [their fruit].

SUZANNE WOOLF: All right. So we're going a little metaphor crazy here, but I like that one, too. So it's all good. And we are thankful for the metaphors.

BARRY LEIBA: All right. So are we saying we're going to give people 20 minutes back?

RUSS HOUSLEY: I think that's what I'm hearing.

ANDREW MCCONACHIE: Works for me.

BARRY LEIBA: Okay. I think this was a fun conversation, and I think it got us somewhere. We'll see you all in two weeks.

SUZANNE WOOLF: Andrew, thank you for your patience.

ANDREW MCCONOCHIE: Yeah, sure. It's fun. I just hope Geoff likes my text. We'll see.

RUSS HOUSLEY: I was about to say.

SUZANNE WOOLF: Yeah. I mean, we're not rejecting it outright, but we are proposing some tuning to it. So, yeah, it'll be interesting to see what he says and ...

RUSS HOUSLEY: Don't set the bar too high.

SUZANNE WOOLF: And we can work from there.

RUSS HOUSLEY: Exactly.

SUZANNE WOOLF: It'll be fine.

ANDREW MCCONOCHIE: You Americans enjoy your turkey day.

BARRY LEIBA: Okay, thanks.

SUZANNE WOOLF: We'll do. Take care, guys.

BARRY LEIBA: Bye, everybody.

TARA WHALEN: Thanks. Bye.

[END OF TRANSCRIPTION]