Transcript
DNS Security and Stability Analysis Working Group (DSSA WG)
12 January 2012 at 14:00 UTC

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http://audio.icann.org/gnso/gnso-dssa-20120112-en.mp3
Transcript and Presentation will be posted shortly on:
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Attendees on the call:

At Large Members
• Cheryl Langdon-Orr (ALAC)
• Olivier Crépin-Leblond (ALAC) (co-chair)
• Edmon Chung (ALAC)

ccNSO Members

• Takayasu Matsuura, .jp
• Katrina Sataki, .lv
• Jörg Schweiger, .de (co-chair)
• Jacques Latour, .ca
• Wim Degezelle, CENTR
• Roy Arends, .uk

NRO Members
• Mark Kosters (ARIN); (co-chair)

GNSO Members
• Mikey O'Connor – (CBUC) (co-chair)
• Rossella Mattioli – (NCSG)
• Don Blumenthal – (RySG)
• Forest Rosen GNSO
• Rick Wilhelm, Network Solutions

Experts:
• Scott Algeier

ICANN Staff:
Bart Bosinkel
Julie Hedlund
Patrick Jones
Glen de St Gery
Nathalie Peregrine

Apologies:
Luis Diego Espinoza,.cr
Jim Galvin (SSAC)

Nathalie Peregrine: Thank you very much (Tonya). Good morning, good afternoon, good evening. This is the DSSA call on the 12th of January 2012.

On the call today we have Jack Latour, Olivier Crepin-LeBlond, Mikey O'Connor, Rossella Mattioli, Cheryl Langdon-Orr, Takayasu Matsuura, Katrina Satraki, Don Blumenthal, Wim Degezelle, Rick Wilhelm, Scott Alteiger, Edmon Chung, Joerg Schweiger, Forest Rosen, Roy Arends and Mark Fosters.

From staff we have Patrick Jones, Julie Hedlund, Glen de Saint Gery and myself Nathalie Peregrine.

We have apologies from Luis Diego Espinosa and Jim Galvin.

I would like to remind you all to please state your names before speaking for transcription purposes. Thank you very much and over to you.

Olivier Crepin-LeBlond: Thank you very much Nathalie. Have we missed anyone in the roll call, anybody's name that hasn't come up? Please speak up now.

Hearing no one speaking of I wanted to ask also if there are any SOIs to update from anybody here?

Cheryl Langdon-Orr: Cheryl Langdon-Orr.

Olivier Crepin-LeBlond: Yes Cheryl please.

Cheryl Langdon-Orr: Thank you. Cheryl Langdon-Orr for the transcript record, just a minor update which I'm trying to do in as many workgroups as I can remember to do it in.

I have recently been accepted as a member in personal capacity, in other words, as an individual member into the GNSO's Noncommercial Stakeholder Group.

Olivier Crepin-LeBlond: Yippee, well done. Congratulations.

Cheryl Langdon-Orr: Get to be determined. Thank you.

Olivier Crepin-LeBlond: You obviously do. Well welcome to everyone. And this is not Mikey speaking for once. It's actually is Olivier because Mikey was supposed to be away this week on some more important matters.

But of course nothing is more important than the DSSA call and as a result Mikey is with us.

And so what's happening today is that I'll be running the speaking part of the call but Mikey is still having full control of the Adobe Connect Room and dealing with whatever you are seeing on your screen. So if it crashes blame him, not me.

Right. Well we are going to continue our work on the threat sources analysis. And usually we work straight out of the Mind Mapping software that Mikey runs on his computer.

However, as time has gone on a few people myself perhaps included, have become a little concerned that Mind Mapping software might not be something that everyone understands and more conventional ways of

displaying information such as tables was something that might be considered.

So Mikey very kindly looked at the Mind Map which we had work done so far. In fact Mikey do you - can you swap between the Mind Map and the table?

Mikey O'Connor: (Unintelligible).

Olivier Crepin-LeBlond: There we go. And as you will notice on the Mind Map each one of those branches has got the numbers that Mikey has chosen.

So for example for the root zone in the IANA zone file and then if you go a little bit to the right you can see the range of impact and likelihood.

And you'll be able to see their ranging from ten, eight, five, three, one and of course the likelihood ten, eight, five, three, one as well and on the right where the number of choices that we have made during our last call.

So the range of impact in the root zone was eight people thought it would have sweeping involving almost all of the cyber resources of the DNS.

And the likelihood of this happening was for seven people was possible and for one person was not currently applicable at all. So this was then mapped into a table which I guess we can swap to now.

And so here we have in column - and I - it's D15 with the little boxes, root zone and individual administrator changes - oh sorry I'm on the wrong one here. Root zone misconfigure the IANA zone file.

And so that eight that we saw earlier is put in this column. And the seven and the likelihood is put in the column which is pointed to on the screen at the moment with the one right next to it.

And so that provides us with results which we can then see for each one of our choices that we have made earlier.

Mikey do you want to say just a few more words on what the number is on the right-hand side because there's an average number? Is that - how is that calculated?

Mikey O'Connor: This is Mikey for the transcript. Yes. What I did is I took - if you look at the top of the scale for the range of affects there's the ten. And there are eight votes for ten. So I made an average out of that by if you look up here, I don't know if you'll be able to see this or not.

Cheryl Langdon-Orr: Yes that's it.

Mikey O'Connor: But I basically multiplied the number of tens times the number of votes for a ten and the number of eights by the number of - and in this case the example is pretty trivial.

But the upshot is that in this case since we had all tens the average is ten.

However in the case where we had seven ones and one zero once I overcame all the divide by zero screw ups we wind up with an average of under one just a little bit. So that's how that's calculated.

And as long as I've got the floor let me add one other change.

You'll note that I've gone back to the relevance to the DNS rather than likelihood. I want to take full credit for a pretty substantial screw up before I hand the floor back to Olivier.

It turns out that likelihood is going to be determined in a different way and a couple more steps in the methodology and that what we're really doing right

now is trying to decide whether this particular threat event is relevant to our analysis.

It turns out if we have an extremely, you know, we're working on an example right now that's actually a pretty good one.

It's - the combined configuration error by privileged users of the root zone would be devastating in terms of its effect.

But we tend to agree that it's not terribly relevant because and then you have to look at the scale which is down on the bottom of the Adobe room, the - it's still mislabeled. It's called likelihood but it really isn't. It's really relevance.

If we had confirmed examples of a root zone misconfiguration taking down the Internet that would be a very relevant thing for us to take a look at. And it ranges all the way down to well I suppose it's possible if you can bend yourself in knots.

But what we're tending to say about this is that I mean and the reason that it turned into likelihood is because we're saying it's - it hasn't been observed much. And in fact in this case it hasn't been observed ever but I suppose it's possible.

And so this really is a different kind of analysis than likelihood which is coming up later on. So I'm going to hand the floor back to Olivier with that little detour into a method screw up that I apologize for.

Olivier Crepin-LeBlond: Thank you very much Mikey. And it's back to Olivier here.

And so now that you've gone through the table just one last quick thing, the column which is identifier NATE is obviously Non Adversarial Threat Event. And I gather these all have specific numbers so as - so in order to be able to label them later on.

And so now I'll open the floor to questions. And I can see already somebody jumping up and down virtually on this screen. That's Cheryl Langdon-Orr. So you have the floor Cheryl.

Cheryl Langdon-Orr: Thank you Olivier. And I can always put my video on if you want to watch me jump up and down actually as well. And that would be another pod for Mikey to see it on the screen. Then you want...

Olivier Crepin-LeBlond: It might crash (on there). It might crash Mikey's machine simply...

Mikey O'Connor: Oh you're tempting me.

Cheryl Langdon-Orr: Okay.

Olivier Crepin-LeBlond: So go on.

Cheryl Langdon-Orr: Anyway now look my question was actually in response to Mikey's explanation of the threat sources relevancies as likelihood.

And I was with you all the way mate up until you've finished with your explanation and then you lost me. And you lost me because I thought you actually redefined likelihood again.

And I don't want to have to go back to the beginning of all of these and redo them. When we look at likelihood later on then I think what you've just defined still fits as likelihood.

And I would've thought relevance was something rather more in terms of the potential of impact, in fact something rather more closely aligned to the effect than it is the predictability of it being an event.

So I before we go too much further wanted to get that clear in my mind because indeed I might need to go back and redo some of my number predictions from what I've said previously depending on what we all agree on.

And I wondered if someone on the call has that experience of having gone through this particular tool before and can help me with my conundrum. Thank you.

Olivier Crepin-LeBlond: Thank you Cheryl. Mikey?

Mikey O'Connor: Thanks Cheryl. I should have dug up another piece of the Mind Mapping stuff. Now I think I have to do that.

And so if everybody could just bear with me while I drive around on my screen. And I apologize that you're going to have to watch all this.

Cheryl Langdon-Orr: It's very interesting.

Mikey O'Connor: But it turns out that -- and this will take a while to load -- it will not crash my computer however. I just want to assure Olivier of that.

But this is a big file and I need to open it and show you what goes on in the likelihood part...

Cheryl Langdon-Orr: (Right).

Mikey O'Connor: ...as opposed to the relevance part because it's easier to understand what's going on once you see what's - basically in the relevance conversation what we're doing is we're thinning off events that we're not that were not going to analyze in as much depth as we will others.

And so what it's saying is that, you know, for example in the case of the root zone being misconfigured by accident it would be devastating but it's never been seen either in the world or by anybody else.

And so if you - I can't - I don't know if you can - something looks a little small. Let me - got a little bit bigger.

This is the task we're in right now, identifying threat events. And we're actually combining two tasks because of the way we did all these tables because we're also taking a look at threat sources.

So those are the two tables that we're working on right now. And they're squished together into that one Excel spreadsheet.

And so what we're really looking at right now is Table D8 which is non-adversarial threat sources. And we're on our very first one which is that accidental misconfiguration by the powerful user. And then we're also building these threat events.

And when it comes to threat events the scale is the relevance. So here's our little list of confirmed expected, anticipated, et cetera.

And you'll note it's whether it's been seen or not. It's not what - our assessment of the likelihood. It's whether anybody's actually seen it.

And so it is Cheryl, a change in what we were talking about.

Cheryl Langdon-Orr: Yes.

Mikey O'Connor: And so it's important to highlight that change now since we've only done five of them we may want to redo our review.

Cheryl Langdon-Orr: I think some of my answers would have been different and I'm sure how different with...

Mikey O'Connor: Yes.

Cheryl Langdon-Orr: ...this specific scale.

Mikey O'Connor: Yes.

Cheryl Langdon-Orr: And I'm - I just want to sort that out sooner rather than later.

Mikey O'Connor: Right. Now what the methodology is pointing us in terms of the direction that the methodology is pointing us and saying if you've got things that have been predicted or described depending on how big the scope of your job is you may want not to evaluate those.

And so this is essentially kind of a thinning mechanism. I just want to amplify what Cheryl's saying.

This a slightly different conversation then I led us to which is part of the reason that I'm delighted to have Olivier and other co-chairs like a certain guy whose name starts with (Mark) who will remain unidentified but who announced on the co-chair call that his right arm had become paralyzed when we were volunteering for people to lead the call. It was a sudden paralysis but I'm sure we can overcome that.

Anyway...

((Crosstalk))

Cheryl Langdon-Orr: His concerns but not very long term.

Mikey O'Connor: Yes okay so now let me take you down to the likelihood...

Cheryl Langdon-Orr: Yes.

Mikey O'Connor: ...conversation. And so here what we're talking about is the real likelihood. Now let me make this...

Cheryl Langdon-Orr: These are the Gs. This is where I get excited here.

Mikey O'Connor: Yes these are the Gs. And this is the, you know, so well no, I don't want to go there.

So the assessment scale is, you know, very high. This is adversarial threat sources. And adversary is almost certain to do this all the way down to an adversary is not very likely to do it.

The scale that we're going to be working on for this stuff is the non-adversarial. And here again this is the same sort of thing except that the error accident is very likely - and that's essentially the question that we were asking and answering up until now. This is my mistake.

And the reason that this is a mistake is because in the likelihood conversation, in the methodology in addition to talking about likelihood we're also going to talk about the likelihood that it will actually result in a bad impact.

And so the real likelihood conversation which is going to come after the vulnerabilities discussion is going to be a lot more granular.

And so when I relabeled that relevance thing likelihood I committed a really big error because I smashed a whole bunch of stuff into a word that's not the right word.

And so after you've done the likelihood that it's going to happen and the likelihood that if it happens it's a bad effect that there's a final scale that's basically combining these two.

Cheryl Langdon-Orr: That's the G bit, yes.

Mikey O'Connor: Yes. And that's the one that we're really wanting to get to in likelihood. So that if we - and if you focus on sort of the upper right corner, the very high likelihood that it's going to be adverse combined with the very high likelihood that it's going to be initiated, those are the ones that we're really, really going to want to focus in on.

So there's a little detour. Sorry Olivier to derail a conversation like that but I think Cheryl raised a really, really good question then. Hopefully this answers it.

Olivier Crepin-LeBlond: Thank you Mikey. And I hope that you haven't actually derailed the whole process because looking at the work that we've done so far the question really is what did people here take likelihood as? Did they take this as the current likelihood as you've just defined it or is it likelihood as relevance to the DNS?

Before looking back at that I just wondered if anybody had any questions or suggestions or comments to make on the dialogue that just took place here and on the explanations that Mikey has provided us with?

Cheryl Langdon-Orr: Can we also address Forest's point on Whiting?

Olivier Crepin-LeBlond: I'm sorry I didn't hear you.

Cheryl Langdon-Orr: In the average - in the averages calculation on the spreadsheet...

Olivier Crepin-LeBlond: Yes.

Cheryl Langdon-Orr: ...Forest raised the issue of Whiting. And I think that's worthy of having a deeper meaningful about (active) point as well.

Olivier Crepin-LeBlond: We can do that yes. So the floor is open.

Don't all jump in at once. It's - everyone will have time to speak or maybe not. Okay.

Mikey O'Connor: Let me jump in on the weighted thing.

Olivier Crepin-LeBlond: Okay.

Mikey O'Connor: Let's take that one off to the list. I sort of struggled with this calculation and would like some help with it.

So this is a first pass. The beauty of that spreadsheet is it's really easy to change that equation. And so I'd love some help figuring out how to calculate the weighted average.

I just I put it in the first time and it generated completely goofy results. And I was under a lot of time pressure to get this done so I could use some help on that one.

Olivier Crepin-LeBlond: Okay Mikey. Don?

Don Blumenthal: Yes. The reason I hesitated to answer a few minutes - a minute or so ago was that to be honest I kind of lost track of exactly which question we're addressing right now.

I was with it when Cheryl was talking about - or the discussion in general was how are we defining likelihood?

But then what was said after that I kind of got off-track on what was being asked.

So for what it's worth when you're talking about how are people interpreting likelihood I was looking more at the current definition not relevance but, you know, what are the possibilities?

Olivier Crepin-LeBlond: Okay Don. Thank you. Mikey you want to reply or I also noted that on the chat Forest Rosen is mentioning that he's able to help you out with the calculations.

Certainly at the moment that there's a suggestion that the relevance would be I times L which I believe would be, what would I and L be?

Forest Rosen: Impact and likelihood.

Olivier Crepin-LeBlond: Oh impact and likelihood okay. Thank you.

Forest Rosen: Likelihood as we previously defined which would allow us to stay the course and keep our previous ranking and tallies intact to completion and then calculate relevance based on that simple formula. This is Forest Rosen for the record.

Olivier Crepin-LeBlond: Thank you Forest.

Roy Arends: This is Roy Arends.

Olivier Crepin-LeBlond: Yes Roy please.

Roy Arends: I am - I observed someone saying before that root issues or issues to the confederation of the root zone has not been observed.

I think they have. I'm going to share with you a link on the chat. And that lists some dates. And some of the dates contain some information that for instance things like where is France?

The root zone contains wrong delegation for that FR. That is typical misconfiguration in the root zone and so it really has been observed.

Another minor issue, could we not use likelihood but could we use probability? That makes much more sense. Sorry.

Olivier Crepin-LeBlond: Okay.

Cheryl Langdon-Orr: I'm happy with that.

Olivier Crepin-LeBlond: Interesting points. Thank you very much Roy.

((Crosstalk))

Forest Rosen: (Unintelligible) using in terms of concepts but not word? I would argue we are using probability but we're calling it likelihood. So I would say they're synonymous in our usage.

Cheryl Langdon-Orr: But that's - so Cheryl here for the transcript record. If I understand what Mikey took us through before that is something, that probability is something that we're almost looking at in both tables, both the A tables we're in now and the G tables we'll get to later.

Olivier Crepin-LeBlond: Thank you Cheryl.

Mikey O'Connor: This is Mikey. Let me jump back in and just sort of tackle some of this.

Man: I'm sorry I just pressed the wrong button. I wanted to mute again and then I switched off. So I just dialed in again.

Mikey O'Connor: I think that the cautionary note about - I think we may have to redo the work that we did on relevance because we - there's an important intermediate step before we can really assess likelihood.

Cheryl Langdon-Orr: Yes.

Mikey O'Connor: And that's identifying the vulnerabilities and the predisposing conditions that affect the likelihood.

And so rather than I - that's part of the reason I'm so profuse in my apologies because I think that my mistake means that we have to redo the work because we aren't really ready to do the likelihood conversation quite yet.

We've got to get through the vulnerabilities first. And then once we know what the threat events are and we know what the vulnerabilities are then we're in a much better position to determine the likelihood.

Whereas right now we're basically basing our individual likelihood assessments on our individual knowledge about vulnerabilities rather than the shared knowledge that we develop in this step that's between us...

Cheryl Langdon-Orr: Yes.

Mikey O'Connor: ...and that likelihood step.

So again I sort of throw myself on the ground and expose my throat for you to I'll bite. But I think that - I think we have to redo the relevance one with the correct definition in mind.

Cheryl Langdon-Orr: And we can do that now fairly promptly. It won't take us all that long.

Mikey O'Connor: Yes. I think that's right.

Forest Rosen: Did we not define that column previously as likelihood?

Mikey O'Connor: Yes. And that...

Cheryl Langdon-Orr: But it was the wrong thing to do.

Mikey O'Connor: Yes. That was the wrong - and that was the mistake I made.

Forest Rosen: And we have that documented in our assessment of likelihood thus far?

Mikey O'Connor: Yes. But the problem is that we don't have the information we need to make good assessments of likelihood right now because we don't know what the vulnerabilities are.

Forest Rosen: This is a guesstimate?

Mikey O'Connor: Yes this - and it's not only guesstimate it's a guesstimate based on each of our individual views...

Forest Rosen: Okay.

Mikey O'Connor: ...of what the vulnerabilities are. So it's not a guesstimate that's even based on consistent underpinning facts.

Forest Rosen: Okay.

Mikey O'Connor: So it's just a train wreck. And it's my fault.

Cheryl Langdon-Orr: But what Roy brought in terms of that last link -- and thank you for that Roy -- Cheryl for the transcript record -- is exactly why you go through the these kinds of steps in this particular order.

Mikey O'Connor: Yes. I think that's right.

Forest Rosen: If we - I would argue if our goal is to determine where we should apply for further research and investigation is that not the case?

Mikey O'Connor: Yes.

Forest Rosen: Then the...

Mikey O'Connor: But we don't do that now. We do that after vulnerabilities.

Forest Rosen: No understood. So we're trying to focus in on the proper vulnerabilities. I would say that the two columns we have right now if you multiply them together give a score of which the relevant values are what are reported not the actual value.

The actually value is meaningless. It's the scale between the maximum value and the minimum value that's relevant that gives you the relevance as defined by impact times probability, right, the larger the more important for our assessment.

Mikey O'Connor: Right.

Forest Rosen: So from the risk assessment perspective we may - you may consider us off-track. But from my perspective where you are now if you continue you will be able to simply calculate that R equals I times L and determine very quickly what's at the top of your list and in fact what you do is apply a force ranking.

Mikey O'Connor: So let me take us all the way to the very end of the process because I think that this table is important for us to see.

This is a table definition that is the one table to rule them all when we're all done. And those are the columns that you can see, threat event, threat

source, range of effects, relevance, likelihood, vulnerabilities -- blah, blah, blah, blah, blah all the way down.

And what eventually happens is exactly what you were saying is that we wind up...

Cheryl Langdon-Orr: We have the risk, yes.

Mikey O'Connor: ...multiplying. And I think that we're maybe going to add a couple of columns to this table because of the controls points that Cheryl brought a for example.

And so what we are in the process of doing right now is really defining these first three columns in this final table, actually the first four. That's the reason that we squished them together.

And then we go off, we do some work on vulnerabilities and in fact the order of the table doesn't quite reflect the methodology then. You know, we do the vulnerabilities stuff.

Well no actually the - so than our - there are three likelihood columns that we'll get to in the next steps after we've identified our vulnerabilities.

And then ultimately we do that arithmetic that you're describing where we combine all of these columns into an overall likelihood and a level of impact to - and ultimately get to the final answer that we're all shooting for which is risk.

So I apologize for not going through this before. I didn't get through this sort of decomposition of the methodology until over the holiday break.

And it was when I got to this table that I realized that I was putting two things together that I should've put together. And I was also, you know, these likelihood things are different.

Cheryl Langdon-Orr: Yes.

Mikey O'Connor: And what they do in the range of effects is they say after you've done this if you find a few that are only theoretical but never have been observed then you probably don't have to go quite as deep into the subsequent columns.

But I'd caution us not to get ahead of ourselves also in the arithmetic because I think eventually we...

Forest Rosen: Yes. We okay, now understanding that you have a framework to follow my advice if - well let me ask this. Should we rescore in the time remaining on our call today?

Cheryl Langdon-Orr: I think we can.

Mikey O'Connor: Yes. I think we can too. But, you know...

Forest Rosen: My recommendation is to do that and normalize now. I'm coming at it - I didn't know that you had that framework so I was just expressing my observation of what you were presenting me in a raw way.

Yes we- it'd be our own pot but given that you have a pot let's follow and just normalize now, because then we correct and we're able to then leverage the value of this methodology through to its end.

Mikey O'Connor: Couldn't have said it better.

Olivier Crepin-LeBlond: Excellent. Okay, well we still have Joerg who's put his hand up.

Joerg Schweiger: Yes thanks Olivier. Joerg for the transcript. I actually do doubt that we are in a position to revote, and that is due to the fact that if what has been said before is true that we could calculate the relevance and that is just a product

from a range of the effect and likelihood, then we could just not - yes, we vote for the relevance because that would have been a value that we could just easily calculate.

And prior to that we said that we are not in a position to determine the likelihood because we haven't taken a look at the vulnerabilities before. So actually I doubt that this would - or revoting would lead us to anything that is more helpful than what we already got.

Olivier Crepin-LeBlond: Thank you Joerg. Mikey, you want to say a few words about this, because I think relevance - it might need to be redefined clearly as to what is actual relevance in this case since we have - our likelihood is being a separate set of things that we will be looking at.

Mikey O'Connor: This is Mikey. I was trying to get to Cute and I've completely hosed up my pods. Hang on just a second. Oh that's perfect. I've got them absolutely backwards.

There is some things which if I were the king of Adobe Connect I would change. One of them is the way that you rename pods.

Cheryl Langdon-Orr: Yes.

Mikey O'Connor: There, now I can tell which one is the one that I'm renaming, which I can't do in the pod thing.

Cheryl Langdon-Orr: It's annoying.

Mikey O'Connor: Yes. There - so just - okay. At least I've got the dang name right. Joerg, I think that the process of redoing this could be fairly quick, especially given the fact that we've got an awful lot of folks on this call who can - if you look in the pod now that's called Relevance there's the range for it. If we've got confirmed examples, and let's just pick one...

Joerg Schweiger: So Relevance 1.

Mikey O'Connor: Relevance 1 would be - it's theoretically possible but we've never seen it in the world, as opposed to a 10 which would be - oh yes, we've seen that. And so, you know, have we seen a change in a Lesser Zone file that was, you know, a configuration by a - oh yes, we've seen that so I think that's a 10.

Man: So Mikey?

Mikey O'Connor: Yes go ahead. Somebody's got their speaker and their phone at the same time. We're getting that classic echo.

Man: Okay. Okay, if I understand this correctly we - this is a self-assessment of probability but nonetheless a probability.

Mikey O'Connor: I think this one is not. I think this one is have we seen this happen in the world? If it's confirmed...

Man: Understood but that is still like - it's a self-assessment.

Mikey O'Connor: Oh I see what you mean. Yes. Yes. I think that's correct.

Man: So I believe that our assessment of likelihood was in fact by definition what we're talking about in relevance. It's a semantic issue that we're stumbling over but...

Mikey O'Connor: Yes, that could be.

Man: And point out from the group in my recollection we were using it in custom as this defines. I don't think we're off base. That's what I've been trying to get a beat on is are we really off base in our assessment? And it's starting to sound like maybe we're not. I'll hand back now.

Mikey O'Connor: I think you may be on to something because we were using this scale in the conversation. We were saying, "Okay, have we seen this? Is this confirmed?"

I think the problem is that I let us use a bit too broad a definition than this one is really wanting us to use. So I think that we were close but what we might want to do is sort of go through just real quick - we've only got - remember all we've got to do is review basically one, two, three, four, five - five of these decisions and just verify that we got them right.

I don't think that we - it would take very long on this call to do this, and then carry on from there.

Olivier Crepin-LeBlond: So here's Olivier. I think we should really get on with it and perhaps not erase the numbers that we have so far on the table so as to see whether we actually stick to the same numbers, because I have a feeling just like what we've just heard that we might not be that far off.

And the second thing is I think that we should also maybe keep a record of the numbers that we've got here, since in the future we will be looking at the idea of likelihood in a slightly different context.

But we can see if those numbers cannot be directly used into the next table that we'll have with likelihood involved. How does this sound?

Mikey O'Connor: Olivier this is Mikey. Can I ask permission to go back to the mine map because it'd be really easy to do that in the mine map?

Olivier Crepin-LeBlond: You have your fingers on your mouse. You can do anything you want on Adobe. You could put pictures or your car, your back guard and anything it is. I'd have no control over it. Please go ahead.

Mikey O'Connor: Okay, thank you.

Cheryl Langdon-Orr: A difference between control and permission, you know.

Mikey O'Connor: Yes I know.

Olivier Crepin-LeBlond: You can do anything you want except if it crashes your machine.

Cheryl Langdon-Orr: No, actually I'd like to see him crash his machine. I get little joy at this hour of the night under normal circumstances so, I mean, that could be fun.

Mikey O'Connor: You're no fun. There's no way that this is going to crash. All right, so here we are back at our list - same list that you saw in the spreadsheet. We're going to change the word to relevance.

We're going to open up the scale. There we go - make it a little bigger and we're going to - oh no, actually we're not going to do that. We're going to do it like that.

Olivier Crepin-LeBlond: You're going to - likelihood on this and you're just going to make another one called relevance.

Mikey O'Connor: Exactly. Now we have the same - we have our scale. I'll take those - I'll leave those up. Well no, I'll just leave both of them up, that way we could compare. How about that? Does that work?

Olivier Crepin-LeBlond: Yes.

Mikey O'Connor: Perfect. All right, carry on.

Olivier Crepin-LeBlond: So another question. Thank you Mikey. And so here's Olivier again. Another question is whether a misconfiguration on a Major Zone, com, net, UK, de, et cetera would be relevant.

Have you ever seen such a thing happen before? Is this correct Mikey? That's the way relevance is defined.

Mikey O'Connor: Yes, the scale is - we've seen it before and it's confirmed by our organization. Expected means we've seen it before in other organizations' experience but not our own.

Anticipated is just that. We haven't actually seen it but we think it's going to happen. Predicted is it's theoretically possible all the way down to possible, which is - well I suppose if you constructed a crazy scenario it could happen. So that's the...

Olivier Crepin-LeBlond: Okay. Okay Mikey, and Joerg has this answered your question on the chat since you asked what did relevance mean now?

Joerg Schweiger: This is Joerg for the transcript. I'm still not overwhelmed by the definition but I think I can try to cope with it. And I still do doubt that each and everybody taking part in that call has the same definition for relevance in this very point in time.

But I can live with mine in my head and I hope that is - this one is quite similar to what all the others do have in mind.

Olivier Crepin-LeBlond: Okay, thank you Joerg and your definition - just for the record your definition of relevance is...

Joerg Schweiger: I'm more on the impact side. Relevance isn't - doesn't have any impact on - yes, on the DNS. That's what I would understand by the term relevance and not - if I have ever seen it before or not, because this is just a - well a - kind of a routing through history.

Have we seen it before? Yes or no? Well this is - it's no assessment of the certain risk I think.

Olivier Crepin-LeBlond: But Joerg bearing in mind though the impact was the previous numbers that we have calculated, the ones which said, you know, sweeping impact involving almost all the cyber resources all the way down to minimal involving few of the cyber resources of the DNS. So that one is more a case of have you seen such a thing happen before?

Joerg Schweiger: Yes I know and the second best definition I could give is that it's just a product of the impact on one hand side, and the vulnerabilities and the likelihood.

So we could calculate the relevance given those three values I just mentioned before.

Olivier Crepin-LeBlond: I understand your point but I think, and correct me Mikey if I'm wrong, that there are more than one level of impact which we're going to look at. Sorry, more than one level of likelihood that we will look at.

Cheryl Langdon-Orr: Yes there is. That's exactly what happens when you look at the difference between Table C. Sorry for jumping in Mikey. You can do it. But as far as I understand it the - it's the difference between, you know, the Table Es and the Table Gs and then the macro table which takes into account the likelihood from the Es and the Gs.

Man: Exactly. And we just need different terms to call this a thing, but we're walking through a process and they're just - they're coming up with terms that could be any other synonym. It's just we have to believe the process in my opinion.

Olivier Crepin-LeBlond: Okay, so thank you and so now we'll - let's go down to the voting. In the meantime we've seen Mikey who has changed the pods and has put in the thread sources, the Relevance 1 pod saying 10, confirmed/seen by the organization; 8, expected/seen by the organizations' peers or partners; 5,

anticipated/reported by a trusted source; 3, predicted by our trusted source, so that doesn't need to have been exactly seen or experienced somehow.

It's just predicted. And then one possible described by somewhat a credible source, which obviously is your neighbor's cousin's wife's third child who knew someone who knows somebody else who has heard about this.

So your choice now for voting on the Major Zone problem, an operator makes a mistake and effectively makes a mess of a Major Zone, com, net, UK, de, et cetera.

Have you seen such a thing happen before? Only three people have voted so far, so there's a little pod on the left hand side. Just click on the...

Man: ...possible to draw a threshold for what we consider major by perhaps the number of the names under extension? If we forced ranked all the TLDs, top-level domains, by number of active domains, forced ranked that and drew a line saying below this is not major.

Olivier Crepin-LeBlond: Well I think that major is a case of com, net or org being off the air or some major configuration mistake that effectively breaks the DNS, even for a short while. I see Mark Kosters actually mentions this, 17th of July 1997, as an example.

((Crosstalk))

Man: Is it the top ten perhaps, the top ten TLDs because the top ten by numbers of domains would be considered "major."

Olivier Crepin-LeBlond: Yes I think we can say that. Yes.

Man: Okay. Thank you.

Olivier Crepin-LeBlond: Since whenever - yes Jacques Latour asks in the chat, "Since when if ever - has it ever happened before?" because if it's ever happened before then it will score high.

If it's never happened before then it will score much lower. And I can see that most votes now go to the high side, and I think we'll probably - we'll take it as that then. Oh, but the votes are changing still. So...

Cheryl Langdon-Orr: And this is one where - Cheryl for the transcript record Olivier.

Olivier Crepin-LeBlond: Yes Cheryl.

Cheryl Langdon-Orr: This is where I think - and it may not - we may not see it in all of them, but this is one where I think we will see a shift from where we were in the 1 and 3 up to the higher end.

Olivier Crepin-LeBlond: Absolutely and I can see in the chat several examples. Roy Arends comes up - came up with examples.

Cheryl Langdon-Orr: They're rolling in - exactly right. Yes. Yes.

Olivier Crepin-LeBlond: UK, de, sc, fr and several others so I think we can stop the vote now. And we have ten - we have four people who have voted a 10, seen by the organization and seven people have voted 8 as seen by the organizations' peers or partners.

And so of course we then see quite a difference between relevance and likelihood, because of course once bitten twice shy and we're hoping - I guess all of us are hoping that this would never happen again since it's already happened in the past.

Perhaps we can move then to the next one Mikey if we're all happy with this. And now we'll look at the Lesser Zone, so the Lesser Zone being the last - well after the top ten so from 11 onwards.

Same question as before, "A Lesser Zone that is not outsourced to a major provider," and here you'd be looking at the dot nths of this world. I don't know how to reset the votes though, so the votes would have to be...

((Crosstalk))

Cheryl Langdon-Orr: ...provides it, yes.

Olivier Crepin-LeBlond: Yes.

Cheryl Langdon-Orr: Yes. Only Mikey has that power.

((Crosstalk))

Mikey O'Connor: Busier than a one-armed paperhanger.

Olivier Crepin-LeBlond: Aren't you happy Mikey that whilst you're playing with your computer and switching windows and carrying votes and stuff, someone else does the talking for you?

Mikey O'Connor: I'd love that.

Olivier Crepin-LeBlond: We'll ask you to play music in the background though in the meantime as well. Okay so the vote has been reset I gather and so now I'll repeat the question.

Lesser Zone - so from the 11th largest onwards or even less than that I guess - what is the likelihood - sorry, the relevancy - has something like that happened in a Lesser Zone?

Has a Lesser Zone been off the air/crashed/disappeared due to an unfortunate configuration error? And I can see that more than nine - has everyone voted? Oh, the vote goes up. Goodness. Well this one seems to have much consensus.

Cheryl Langdon-Orr: Can I respond to Edmon's question in the chat?

Olivier Crepin-LeBlond: Yes Cheryl, please go ahead.

Cheryl Langdon-Orr: I mean, as far as I understand it - Cheryl for the transcript record. That's not what I understand. Let me start that again. Cheryl for the transcript record.

Full stop. Edmon, as I understand that's not actually what we should be taking into consideration here, but we will be taking that into consideration later because if memory serves when - we did raise this question when we were doing our first round of voting under the other criteria.

And it's not the time for us to look at the effect. It's the same as you'll get to choose I guess for other sorts of threats this collateral damage, which is exceptional and damage which is unacceptable, and that's not what we're up to yet.

Olivier Crepin-LeBlond: Thank you Cheryl. Any comments to that? I see Mikey has been changing the Major Zone box and added top ten or amount of traffic.

Mikey O'Connor: This is Mikey. I'm thinking that we will probably want to return to this conversation. In the spirit of trying to redo the votes I'm just capturing this discussion but I think - yes, I'm doing it in such a way that when we get to writing the report or maybe even before that we can clarify this, because I think it's a really important and interesting distinction to talk about.

Olivier Crepin-LeBlond: Okay. Right, well we still have only two minutes left on our call. I wonder if we can just then update - so we can update the Lesser Zone to 10 relevance. No, no, not the likelihood, the relevance one.

The likelihood remains as it is. The relevance goes to 10, confirmed or 12 at 10 basically. And my screen has gone a bit strange now. And in the meantime whilst Mikey grapples with his fruit-based machine, we have the Root Zone, an individual administrator changes and publishes the contents of the Root Zone file; something that they should not do or something that they should not control as such.

And we have to bear in mind that for this one - yes, I'll let Mikey do the - Mikey, could you reset the votes? And I think everyone understands this - what we're voting on now so...

Cheryl Langdon-Orr: Thank you.

Olivier Crepin-LeBlond: Thank you. So the Root Zone - an individual administrator changes and publishes the contents of the Root Zone; something they shouldn't control. Have you seen something like that happen in the past?

And that's the Root Zone file. We're really looking at A. I don't see everyone flocking to the discussion yet. Does anyone - has...?

Cheryl Langdon-Orr: Well I'm just looking at the chat. I'm assuming - yes.

Olivier Crepin-LeBlond: You would've imagined that there were automated systems to stop something from happening. But this has indeed happened in the past I understand, and I can see from the chat...

Cheryl Langdon-Orr: Well if it's happened in the past then it's happened.

Olivier Crepin-LeBlond: Does anyone have an example of this just to tell us apart from the case of bad glue or - I hear a dot fr ns - name server problem. Okay so here we have six people who have - oh, there's still more votes coming in. Since we are over time now I'd just like to...

Cheryl Langdon-Orr: Can we just keep going and just redo these, unless someone else has a incredibly important top of the hour commitment?

Olivier Crepin-LeBlond: Yes, does anyone mind if we just...

Man: I second that.

Olivier Crepin-LeBlond: ...extend this call by five minutes? Yes I hear the seconded so...

Cheryl Langdon-Orr: I think it's too important to break here.

Olivier Crepin-LeBlond: Okay, we're on a roll.

Cheryl Langdon-Orr: Good. And it's my 2:00 am so if I can damn well do it the rest of you can.

Olivier Crepin-LeBlond: And I see several people having also ticked and said yes, they're okay with it. So six people have gone for 10, two have gone for 8 and two have gone for 5, so that's a little bit more spread.

Cheryl Langdon-Orr: That's okay.

Olivier Crepin-LeBlond: But since we are doing calculations on averages and so on, I don't see any importance in trying to squeeze this into something more focused. I see a definite confirmation of it being quite high.

So the next one is the Root Zone. An individual administrator changes an operational parameter that removes the Zone from being published or publishes it incorrectly.

Cheryl Langdon-Orr: (Unintelligible).

Olivier Crepin-LeBlond: Unfortunately I have no control. Here we go Mikey. Thank you. So have you ever seen an individual administrator changing an operational parameter that removes the Zone from being published or actually publishes it incorrectly?

That's interesting because I'm not sure if there were any examples of this but...

Cheryl Langdon-Orr: I don't remember any - examples were given. Has anyone on this call got those?

Mikey O'Connor: This is Mikey. We lost Mark unfortunately and I think he's the one that's the source of some of these since he's, you know, tends to see the IANA stuff.

Cheryl Langdon-Orr: Okay.

Olivier Crepin-LeBlond: Mark - the - one of the last things that Mark mentioned was the dot fr ns fubar. Does anyone remember this or know about this, because I'm not knowledgeable about it? Did that prevent the Zone from being published?

Mikey O'Connor: And again this is the Root Zone so this isn't...

Olivier Crepin-LeBlond: It is the Root Zone, yes.

Mikey O'Connor: Yes.

Roy Arends: Hi, this is Roy. This was 19 October 1987. The Root Zone contained the wrong delegation for dot fr.

Olivier Crepin-LeBlond: But did it prevent the whole Root Zone from being published?

Roy Arends: No. No sorry. No, it had a misconfiguration in the Root Zone. I'm sorry. Yes, now I understand the question and no, this has nothing to do with it.

((Crosstalk))

Olivier Crepin-LeBlond: But that affected dot fr but didn't affect - yes. Okay thank you Roy. So it affected dot fr but it didn't affect everyone from the Root Zone I guess.

Roy Arends: Exactly. I was actually responding to the remark made about Mark Kosters and the delegation for dot fr, but it had nothing to do with this question. That was more to the previous question, so I have no answer to this question. Sorry.

Olivier Crepin-LeBlond: Okay thank you Roy. No, but it's good. It's good we at least have the explanation and I can see that it confirms the vote which was received for the previous one, since everyone rated it pretty high.

So that vote on this one so far is - then it's interesting actually. It's got four people that have voted 3, so it's predicted by a trusted source and one person - sorry.

And four people with 1, possible, described by a somewhat credible source. So it's not impossible that it might have happened, but it doesn't appear to have been something that either of us have seen firsthand.

Cheryl Langdon-Orr: Good. Okay.

Olivier Crepin-LeBlond: Great.

Cheryl Langdon-Orr: Next.

Olivier Crepin-LeBlond: We can scroll down. The next one is the Root Zone and the IANA Zone file, is that correct? Let me just check this correctly and see. Yes, so the next one is the misconfiguration of the IANA Zone file itself.

Cheryl Langdon-Orr: Anything's possible.

Olivier Crepin-LeBlond: So has anyone actually come across the misconfiguration of the IANA Zone file? Has anyone seen it in person, seen it actually happen?

Mikey O'Connor: This is Mikey. We - this is one we really might want to take an action item to just check with Mark, because if anybody's going to have seen it he's the person who's likely to have.

Olivier Crepin-LeBlond: Well if - okay.

Roy Arends: For some - just something else guys. I have all the Root Zones and files since 1999, and there hasn't been any misconfiguration in the Root Zone that has been published since 1999.

Cheryl Langdon-Orr: So I'm happy to leave it as possible but not as not seen. Yes, I'm actually happy with that.

Roy Arends: Okay.

Olivier Crepin-LeBlond: Thank you. And was that Roy Arends?

Roy Arends: Yes it's Roy.

Olivier Crepin-LeBlond: Okay Roy. I just wanted to make sure for the transcript...

Roy Arends: Got you. Yes.

Olivier Crepin-LeBlond: ...that you were going to be tagged as Roy. Okay excellent.

Cheryl Langdon-Orr: It's easier when you're the only - you're the token female on the call you see, because then if they just put in the voice, you know, female voice in the transcript you can still work it out it's me but you boys do need to identify.

Olivier Crepin-LeBlond: There are two ways to identify you Cheryl. One, you're the only female on the call or at least speaking on the call, and the other one is you're Australian.

Mikey O'Connor: Oh you were on such thin ice there. I was waiting to see where you were going with that.

Cheryl Langdon-Orr: He likes to live dangerously.

Olivier Crepin-LeBlond: Okay. Right. Listen, we're over time. I do realize that some people are - wish to perhaps move on. I think we've gone through all of the ones that we had gone through so far and that we're on record, so we've pretty much done what we needed to do.

Mikey O'Connor: Kudos to Olivier.

Olivier Crepin-LeBlond: Any comments?

Cheryl Langdon-Orr: I say it's all good. A job well worth doing.

Olivier Crepin-LeBlond: Okay. Well, well done Mikey in having been able to switch from the different screens and the votes and all that. I think it went quite well. Thanks to everyone for attending and for spending those extra minutes.

And we will meet again next week. I gather I haven't got the exact dates but you'll receive that on your email. Any other business before I close off this call? I don't see anyone so thanks to everyone. The time is 15:08 UTC and this call is now adjourned. Thank you. Bye-bye.

Roy Arends: Thanks Olivier.

Cheryl Langdon-Orr: Bye.

Mikey O'Connor: Bye-bye. Thanks Olivier.

Cheryl Langdon-Orr: Good job everyone. Mikey, are you still on the call?

                    END