

**HIT Standards Committee
Privacy & Security Workgroup
NwHIN Power Team
Transcript
August 6, 2013**

Presentation

Michelle Consolazio – Office of the National Coordinator

Thank you, good morning everyone this is Michelle Consolazio with the Office of the National Coordinator. This is a combined meeting of the Health IT Standards Privacy and Security Workgroup and the Health IT Standards NwHIN Power Team. This is a public call and there will be time for public comment. The meeting is being transcribed so please remember to speak your name before speaking. And I will now take roll for the Privacy and Security Workgroup first. Dixie Baker?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I'm here.

Michelle Consolazio – Office of the National Coordinator

Walter Suarez? Chad Hirsch?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

He said he would be a few minutes late.

Michelle Consolazio – Office of the National Coordinator

Okay, thank you. Dave McCallie? Ed Larsen? John Blair? John Moehrke?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

I'm here.

Michelle Consolazio – Office of the National Coordinator

Lisa Gallagher? Thanks, John. Sharon Terry? Peter Kaufman? Tonya Dorsey? Leslie Kelly Hall? Mike Davis?

Mike Davis – Veterans Health Administration

Here.

Michelle Consolazio – Office of the National Coordinator

Thanks, Mike. And now for the Power Team, Dixie is here. Arien Malec? Cris Ross? Keith Figlioli? Josh Mandel?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

I'm here.

Michelle Consolazio – Office of the National Coordinator

Keith Boone? Wes Rishel?

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Here.

Michelle Consolazio – Office of the National Coordinator

Jitin Asnaani? Ollie Gray? Kevin Brady? And are there any ONC staff members on the line?

Debbie Bucci – Office of the National Coordinator

Deb is on the line, Debbie Bucci.

Michelle Consolazio – Office of the National Coordinator

Hi Debbie and with that I'll turn it over to you Dixie.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, it doesn't sound like there are many people on the line but at least we can proceed with the first item of reviewing the agenda so that's fine. Okay, next slide, please. This is the agenda. Of course the main purpose of today's discussion is to gain consensus within the Privacy and Security Workgroup on its recommendations to the Nationwide Health Information Power Team with respect to some recommendations the Power Team made in June.

So, we will start by reviewing very quickly those recommendations just so they are fresh in your mind and the majority of our time will be spent on reviewing some draft points of agreement that we have put together and the Power Team's responses to the questions and comments that we received. So, all of these are draft responses and they are up for discussion. Most of them are fairly straightforward I think and the last one is probably – the last comment is probably the one that will require the most discussion which is why we put it to the end. And by the end we will conclude our discussion of the recommendations from the Workgroup and open up for public comment. Okay, next slide.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Dixie, this is Josh Mandel, can I ask just a clarifying question?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Sure.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Sorry, I'm new here and I'm still trying to figure things out a little bit, could you clarify exactly which group made recommendations to which group and then what the back and forth is?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Sure.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

I'm just a little – on this.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, sure the – let me back up a bit, in March I think it was the Office of the National Coordinator gave the HIT Standards Committee, as a whole, some tasks and one of the tasks that was assigned to the Nationwide Health Information Power Team was to review the RHEX Project and the Blue Button Plus, and FHIR, and to make a recommendation from the Power Team of whether – make a recommendation from those projects regarding a transport for provider to consumer exchanges. And so we were asked, the Power Team, and I know this is confusing because I Chair both of them so that –

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

That's okay, I'm following you so far, but the recommendations are from the Power Team to the HIT Standards Committee at large?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

That's right, yes.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Okay.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, all recommendations go through the Standards Committee. There are no recommendations that come directly from any of the Workgroups.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Got it.

Keith Boone – System Architect - GE Healthcare

Dixie, can you hear me?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

– asked to get to – to review our recommendations with both the Privacy and Security Workgroup and the Consumer Workgroup and so we are doing the Privacy and Security one today.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Dixie, you have someone who is trying to comment.

Keith Boone – System Architect - GE Healthcare

Dixie, I'm sorry, this is Keith Boone, can you hear me?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah.

Keith Boone – System Architect - GE Healthcare

Great, nobody could hear me earlier, thank you.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Oh, oh, okay, no I hear you fine.

Keith Boone – System Architect - GE Healthcare

Great.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And Dixie, this is David McCallie I'm late to join but I'm on now.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Good.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

I'm having computer problems.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Good.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

While we're introducing ourselves again this is Peter Kaufman I was late to join too, I apologize.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well, I'm glad you could join all of you. Okay, does that clarify it for you Josh?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Very helpful, thank you.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

And Keith as well, I know that both of you are new so. Okay. These first couple of slides are simply what was presented as preliminary recommendations to the Standards Committee and the overarching conclusion that the Power Team reached after reviewing RHEX, Blue Button Plus and FHIR Initiatives was that secure RESTful transport, OpenID Connect, OAuth 2 and FHIR taken together could be used together as a safe and appropriate set of standards that could be used as building blocks for richer healthcare applications. Next slide.

We recommended that ONC support and encourage the further development and piloting of all three of these of Blue Button Plus, FHIR and RHEX. We've concluded that the Blue Button Pull, which is the part of the Blue Button Plus that is still in development, does focus on a specific need that had been identified for consumers to access their own health information and to authorize a third-party to access their information as well. We didn't know of any alternatives and so we thought that the ONC should continue to support the Blue Button Plus Project.

The FHIR is a content standard, it is not a security standard, the OpenID Connect and OAuth 2 are both security related standards, FHIR really isn't. FHIR is used specifically in the projects that we reviewed FHIR is used or a subset of FHIR is used as a search interface for the Blue Button Plus Pull Project. Next slide, please.

We concluded that RHEX is a very useful demonstration of how a RESTful transport, OpenID Connect, OAuth 2 and FHIR could be used together to support simple health exchange. We thought the project is doing very well; we certainly strongly support their continued pilots that they reported to us as ongoing for 2013. We thought it definitely responded to both an industry need and it was a direct response to a prior NwHIN Power Team recommendation that a third transport was needed and that needed to be RESTful.

We did encourage that for the RHEX Project they consider replacing using hData for content with FHIR and we also concluded that the RHEX Project is a demonstration of a set of standards but it is not tightly constrained to a particular, one or more particular use cases like Blue Button Plus is. So, we felt that given the flexibility of this whole RHEX architecture and the optionality that is available in OAuth 2 that the whole RHEX probably would not be a candidate as a standard but more likely it would be profiles that were based on those common standards. Let me stop there and ask any questions?

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

This is Peter and I know that we had this discussion off line about the needs for the Standards versus the Privacy and Security only Committee, but is there any precedent for use of things in the interim before a standard is completed in the case of FHIR I would love to say let's go with FHIR but until the standard is complete use C-CDA or the CDA or something so that people aren't holding off on using the standards waiting for a future standard to be completed.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Let's go to the next slide.

Keith Boone – System Architect - GE Healthcare

This is –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

The next slide addresses that. So, let's go to the next slide. Peter this is a graphic that you see in this slide now, this graphic was developed by the Nationwide Health Information Power Team a couple of years ago and it actually was in the RFI that was released for governance of HIEs but what the graphic intends to show is overall readiness of exactly what you are talking about Peter.

Keith Boone – System Architect - GE Healthcare

So, this is –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

– standards that become real, nationwide standard – yes, somebody –

Keith Boone – System Architect - GE Healthcare

This is Keith, I'd like to get in for just a second here to address Peter's question.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Let me finish explaining this and then I will go back to you, okay?

Keith Boone – System Architect - GE Healthcare

Okay, great.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

What this does Peter is – and there are specific metrics associated with it that I have sent out to you, but this is intended to be used by ONC to determine when a standard gets up in that upper right-hand corner that could be a national standard, right? And it's intended for two purposes; number one to really make an assessment of how ready a standard is to become a national standard. Two, as guidance for ONC on where they invest money in further development of the standards and further policy.

As you will see on here we – and this is the graphic we presented to the Standards Committee, other than https, which we all know is very, very mature none of these are really mature enough to become standards at this point. So, what we were advising is the second option, ONC where should you put your resources to try to accelerate the maturity and development, and piloting of these standards. But we have not said that any of these are mature enough to become a national standard at this point except https. So, Keith?

Keith Boone – System Architect - GE Healthcare

So, to get to Peter's specific question on C-CDA –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

– C-CDA, okay.

Keith Boone – System Architect - GE Healthcare

My advice – can you hear me?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes.

Keith Boone – System Architect - GE Healthcare

Okay, on the issue with C-CDA if you look at the Blue Button Plus Pull specifications they rely on C-CDA as the response to the queries, so the query is what documents do you have for this patient in this time period and the response is these are the C-CDA documents that we have for this patient in this time period so it utilizes C-CDA it's in there.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Right, but our discussion isn't about C-CDA it is about –

Keith Boone – System Architect - GE Healthcare

I just want to address the point that has come up on this call and the previous one from different parties.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay.

Keith Boone – System Architect - GE Healthcare

So, the people aren't concerned about FHIR not supporting C-CDA.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And I think, this is David, I think FHIR addresses a different subset of the space than C-CDA and it addresses some gaps in missing areas. So, it has a lot of potential, the reason for these pilots is to discover what the best fit is, but it is not a replacement for C-CDA.

Keith Boone – System Architect - GE Healthcare

Yeah.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

And I didn't have any problem at all with FHIR, I think FHIR is great, I just didn't think it was mature enough for people to adopt it right away and I didn't want people to hold off on adopting standards because they're waiting for something that is coming down the pike.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Right that's what I understood to be –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

That isn't even what's been addressed here. I think generally there is an expectation that a standard has to at least make it to DSTU before it can be specified in regulation and FHIR is not even yet to their first ballot for DSTU so maturity-wise it cannot be considered but it certainly can be encouraged.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

This is David; I think it's not quite that specific, it just requires a consensus process, the circular A197 or whatever it is, the OMB circular.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

A119.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, 119 –

Keith Boone – System Architect – GE Healthcare

But, you know, it's ideal if you at least finish a consensus process and not pick one up in the middle of it.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, but it can be a consensus process and that's all that's required, it doesn't specifically say DSTU. We've got a long way to go.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Peter have we answered your question, I think?

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

Yes.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, let's proceed please.

Mike Davis – Veterans Health Administration

This presentation very aggressively points to these things like they are real, I agree with John, I'm very concerned that we're, you know, over selling these things in just the wording. This slide is very good, but I think what we should be saying maybe is that these are the industry leaders, these are the main directions and these are where the resources are being put to develop the standards that are necessary but –

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Is that Peter speaking again?

Mike Davis – Veterans Health Administration

This is Mike Davis speaking.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Okay.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes, I should remind you to announce yourself, because this meeting is open to the public so please announce your name before you speak. Mike, I think that's exactly what we're looking for the kind of – for today. So, without going to the next slide would you guys want to move any of those? Now the red are the standards that we're recommending, the white and white boxes are projects we were asked to review, okay, so the red boxes, the red type is – do you think Mike that we have over, you know, inflated any of the red on this graphic?

Mike Davis – Veterans Health Administration

I think that FHIR is still very much emerging, some of the security stuff that we say it doesn't have is actually being developed so it's hard to say, you know, that these are – John and I are both standards guys so we're kind of into that mode, so my recommendation would be to identify these things, the slide is fine but to be more circumspect in the wording to say that these are the areas that hold significant promise. There is really no significant competition with these, this is where we're all putting our efforts so that should be the recommendations to ride these things out, but it is very premature I think to tout them as being ready in any way to meet, you know, business needs at this point.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

So, this is Wes, I'm wondering specifically Mike do you think FHIR is too far up or down or too far left or right?

Mike Davis – Veterans Health Administration

I think the maturity is too high.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, that can tell you that the reason we put that there was that it has at least been adopted by the CommonWell Initiative so we know of real pilots that exist using FHIR and that's the main reason it is there, but –

Keith Boone – System Architect – GE Healthcare

I think we talked about this –

Mike Davis – Veterans Health Administration

We're still going to Connect-a-Thons in HL7 where we are, you know, pulling this stuff together, it's just –

Mike Davis – Veterans Health Administration

I don't see how anybody could implement it.

Keith Boone – System Architect – GE Healthcare

This is Keith, I'd like to bring back a point we discussed in the previous call which is that there are different aspects of FHIR that are at different levels of maturity and in terms of the pieces that were being used in Blue Button Plus they were certainly at a higher level of maturity than some of the detailed clinical data queries that could be used which are still very nascent and still highly under development. FHIR is a rather large standard and there are pieces of it that are at different levels.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Right, I know they are still defining it.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Yeah and this is Wes, isn't it the case that – I mean, I understand that we aren't making a recommendation to adopt anything, we're making a recommendation in response to ONC's question about where it should put its limited resources and so I'm not sure that there is anything about – I mean, we could put FHIR up or down a scotch, you know, in terms of the maturity, but I don't see much to debate about here to be honest.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Why don't we wait until the next slide.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

This is John Moehrke, I think when we go to the next couple of slides Dixie has done a good job of kind of putting these, you know, recommendations to encourage languages really, so I think we shouldn't obsess over this diagram because I think the next couple of slides bring it down to the level we are talking.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Thank you, John; that is what I was just going to suggest. Go to the next slide and let me know whether this reflects your view. These are the draft – what we gathered from our last discussion this is what we thought this Workgroup was saying that you agree that secured RESTful transport, these four can be used together to build safe healthcare applications so that overarching comment you agreed with, in fact some of the Privacy and Security Workgroup members and some of the NwHIN Power Team members as well, are currently working on the development of profiles that are using these standards. So, both of these groups have people who are very acquainted with these standards.

We agree that the Blue Button Plus holds potential as a national implementation specification for 2016, but further development and piloting are needed for the pull capability. You will recall that the push capability is just the Direct protocol which is already in the 2014 edition.

And then the last is we agree that RHEX is a useful demonstration of how these standards can be used together to support simple exchange. So, have we said that, you know, strongly enough that we don't think any of them are ready to become a standard tomorrow?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Agreed.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Peter.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

Well, yeah, sorry I was on mute, yeah, I agree.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, good. Okay, let's go to the next slide, which I think starts on the comments, yeah, these are submitted, there were several questions that were submitted from our Workgroup members and support staff and we attempted to draft responses for your review here.

One individual mentioned that there are other security relevant profiles that are built on OAuth 2 that should be considered as part of our recommendation, the UMA, the User Managed Access, which is a privacy consent standard that is being developed by the Kantara Initiative, SAML their assertion profile for OAuth 2, the dynamic client registration protocol all three of them are in draft and we concluded that none of these are sufficiently mature to be included in the current recommendation, but that we really should watch them and we may want to add them in the future.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Just one point of information, this is Josh Mandel, in terms of dynamic client registration, Blue Button Plus Pull specs are following that draft and using it as it evolves in order to allow Apps to register with data holders.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, I think the other thing you should, on this slide Dixie, is add the JWT token is also in draft form only.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

So, the JWT is what RHEX and IHE have been picking as the primary enhanced token.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Now what we did with the IETF, the dynamic client registration, we made this conclusion because the OAuth 2 spec itself, the framework specification doesn't include dynamic client registration.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Wait, yeah, go ahead.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

But we were aware that it's included in Blue Button Plus now how could we craft our recommendation such that we convey that it's that part, you know, dynamic – we have another question a little bit later about dynamic client registration in fact, but the core recommendation of the Power Team is OAuth 2, OpenID Connect, HTTPS and FHIR, right, it's not dynamic consent registration as part of that.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, I think as you've got it written here though these are things that need to be encouraged and considered they're really enhancements to that basic core. The basic core of just OAuth 2 is really all you need to say in the basic core but you really do need to add these things for specific functionalities –

Mike Davis – Veterans Health Administration

So, now I'm wondering why we have these things all categorized in big capital letters as draft and we haven't done that for the ones that we like. The for UMA is really not so much of a new thing as it is a composite of existing work, it's not – we've demonstrated that already at HIMSS a UMA type of capability. So, while it's draft it's not a big leap either.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

It think, this is David, I think that originally came in reference to the state of OAuth and OpenID Connect we were in that, you know, outside of the healthcare standard's body space categorizing whether they were IETF balloted or not. But I agree –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

And there was no –

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

– full and consistent.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah and there was no subliminal message about the capitalization. I just plain was inconsistent that's all it was, I didn't mean to be.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Also, you know, they come from a space that's less focused on healthcare and maybe a little bit less familiar to us for some of us.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well, should we take the, you know, the words that John mentioned, that these are enhancements to the basic core recommendations that should be watched as they evolve?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Right, yeah and we know that in – you know, for example some of these things have been experimented with inside of Blue Button Plus Pull, some of them are in the IUA profile, some of them have been profiled within RHEX. So, all of these are indeed in scope of specific uses, because they're not core they are specific needs.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well my understanding is that they were all considered for RHEX but not included in RHEX. Now I know Keith, you and Josh I think both of you and maybe John you too, have been involved in RHEX, why are they not core in RHEX?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

This is Josh, I can speak to the question of UMA and RHEX as far as I understand it, I wasn't part of that team, but I did talk with them about it and it seemed to be a simple question of scope, they were doing something like a 4 month project to go from writing specs to implementing pilots and they decided that, you know, delegated authorization was not going to be part of what they piloted in that way.

Keith Boone – System Architect – GE Healthcare

I would say the same thing would go with OAuth 2 dynamic client registration and at the time that RHEX was under development, this is Keith Boone by the way, the time that RHEX was under development it was even less firm than it is today and SAML certainly wasn't within that scope of just simply trying to use OAuth.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So, this is Josh, just a quick comment about, you know, what the recommendations are or should be, these are clearly components that higher level specs might use to put together an overall system just the way that Blue Button uses some of those components the way that RHEX could or might use others of those components. Did the Power Team need to make a recommendation about each component and the profile that brings the components together? Does the Power Team need to recommend at every level or can we recommend the profiles that we think are useful.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

No, we don't –

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

And just say the components are left to the profiles?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

No, we're not constrained at any level at all.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So, this seems like a strange level, right now to me, a strange level for us to be making recommendations because they're tools to help solve a problem but they're not solutions overall. I think that we should be looking at solutions.

Keith Boone – System Architect – GE Healthcare

So, Josh, this is Keith Boone again, I think the issue of sort of at what level could we make recommendations, the profiles like Blue Button Plus Pull I think the evaluation is that these are insufficiently mature to make recommendations about but the things upon which they're based are, to some degree, more mature and we could make some recommendations about directions.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So, that makes sense to me Keith but also the things that are on the screen right now, at least two of them, are not actually components in the profiles that we're looking at.

Keith Boone – System Architect – GE Healthcare

Oh, these – okay, so here these are additional questions.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Right.

Keith Boone – System Architect – GE Healthcare

And look at the bottom conclusion, look at the bottom.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

I just don't think that we could – I don't think we could evaluate every possible technology for doing everything in authorization and come back with recommendations about which ones should be used.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Josh, this is Wes, is the answer at the bottom of that page consistent with what you're saying?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

I wouldn't really make a call about the maturity of any of these, I would just say, you know, these are components on – you know, evolving components on which profiles could be based to achieve, you know, better RESTful health APIs.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

So, if you were asked a yes or no answer should it be included, should these be included what would your yes or no answer be?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

I don't think I can engage in that question, I don't mean to be difficult, I –

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Well, that's the question that's asked, right?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Well, I think we get to define the question, right?

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

No, no we have a question that is submitted here.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Oh, is the question, you know, why don't you recommend these things or, you know, consider them?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

I think the answer could be something like this isn't exactly the level of granularity that we're evaluating, we're looking at profiles that solve the following needs at a higher level and we're looking at the components of those profiles, nobody has profiled the use of UMA in RESTful health exchange to date, not that one couldn't and we're not saying it's a bad idea, it's just there is not a proposal on the table yet that does that.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Well, on the other hand this is guidance to ONC on what to back and what to support.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And maybe –

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

I guess – I guess the question, a different question, the specific wording that you have difficulty with in the current draft answer is the discussion of the maturity and what words in there are causing the issue?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Oh, so from my perspective it’s just not clear that we should be evaluating the maturity of these things because there is not a proposal that these are part of that we’re evaluating as a whole. They’re isolated components that solve the piece of problem but people haven’t described, you know – if somebody said, here’s a spec that uses UMA to do these things have you considered it, I’d say, yeah we should consider it. But if somebody says here’s a component that somebody could use in a spec it just seems like the wrong level of granularity for us to engage in right now given that we have limited time.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I think the point that we actually asked Doug Fridsma about at the June meeting actually, Standards Committee meeting, and that was the question was something like at what level of granularity does ONC see us making recommendations for standards and the response was that both standards and implementation specifications can be included in regulations, implementation specifications are use case specific what you called earlier solutions, but standards are standards or building block or components that can be used to build these use case specific implementation specifications and both are appropriate for regulations and both, if you look at the 2014 edition of the standards and certification criteria you’ll see both, you’ll see the Direct specification in there, which uses basic standards but you’ll also see some basic standards recommended in that, not recommended but included in that regulation.

So, the answer is both, you need two levels of granularity can be incorporated in regulations. Standards as we think of as standards, you know, SDO type standards and implementation specifications.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

So, if we really want to play this game and if we dig into the bullets on this slide let’s look at dynamic client registration, but any metric I can think of of maturity it’s far more mature than the Blue Button Pull specification, it’s had more authors, it’s had more revisions, it’s got more people, you know, in active discussion over it, it’s been implemented in more places how can we say it is less mature?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, go back to Wes’s question – you don’t need to debate it further, you’re – okay just suggest to us what should be the response because the question has been asked.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

So, I suggested that we describe them as of the wrong scope, folks didn’t like that, I don’t know how else to say it other than they are sufficiently mature but we’re not addressing them at this time, I mean –

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Well, so Josh, this is David, do you think that these are inappropriate for use or just not far enough along and/or not included in an existing profile? In other words one of the services that we can do is to rule things out that we think don’t fit or that are redundant or contradictory, but these seem to address emergent problems some of which are further along than others as we move to a RESTful world and as such calling them out for attention but not yet blessing them as ready for primetime seems a reasonable thing to do for ONC.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

So, I agree, I just don’t understand the rationale by which we could say that something like OAuth 2 dynamic registration doesn’t meet the maturity level to recommend, you know, pilots and stuff like on the last graph my understanding was – or on the last slide my understanding was the inclusion was ONC should invest in certain things and this slide is saying ONC should or shouldn’t invest in the things on this slide.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Well, I think it’s saying that these are things that are still in that phase where they are pilotable, they’re in that middle zone of the maturity, they’re not robust enough yet to say that we fully understand how to use them but we think they’re good enough for piloting which is what the S&I Framework projects do they go out and what RHEX did and Blue Button Pull is doing is piloting concepts, and there is a cycle that will go forward between now and the next set of Meaningful Use certification requirements where somebody will have to make a decision as to whether those pilots are good enough, successful enough to warrant actual inclusion in certification standards for 3 or for 4 or for whenever. What we’re saying right now not yet, they’re still pilotable though.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Okay, I’m really sorry to slow this all down, I’m fine with that.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

So, this is John Moehrke –

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

John you –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, what I was going to do kind of, you know, split the difference, I’m very much with Josh that naming these three while also not naming all kinds of other things that are equivalent is it sending the message about the other things, you know, like I said earlier, you know, the JWT token is also in draft and, you know, it’s not listed here so I don’t know what the implications of that are.

On the other hand, as you said, David, you know, we’re just simply saying these things do have a place, ONC should encourage, you know, continued examination of these but, you know, we’re not saying that these are the final lists. I think that’s what I’m hearing –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, I think that’s exactly right John, thank you. I think you’re exactly right, we say that yes these are components that can be – OAuth 2 and there are other components that –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Can be built from OAuth 2 but we chose to just recommend the core building blocks.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah I think that kind of gets me in the same place as Josh saying, well if we make a recommendation on these three what about everything we’re not making a comment about.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Right.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

You know, you also have to always think about the negative, on the other hand, let’s just – you know, I think there are other slides yet to come as well.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

I just think we have recognized the question from some source and we're answering a question. I don't think the question was what are the things you should consider and I don't think it would be particularly important to embark on an investigation to come up with the answer to that question.

Debbie Bucci – Office of the National Coordinator

Wes, this is Debbie Bucci, can I ask a question.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Okay.

Debbie Bucci – Office of the National Coordinator

So, my point – the point I think I was trying to make is if OAuth 2 is the underlying protocol that things like OpenID are built on top of well here are these other examples, possibly to solve problems, that are being built up on top of OAuth 2 is it worth keeping an eye on or paying attention to or how you want to word it that was just the question.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Okay and have we addressed it sufficiently?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

I have no, this is David, I have no objection Dixie if we add the JWT to this slide just for consistency to John's point, I think that wasn't specifically asked of us, but –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well, I don't think – I shouldn't be putting words in his mouth, but I don't think we should start off adding things to the list. I think that this response that I've heard from you guys is adequate that, yes there are these and other things that can be built on OAuth 2 but we chose to confine our recommendation to a set that together – that can be used together to form this, you know, secured RESTful transport and as the foundation for other specifications that can be used on top of them, but I don't think we should add anything else to this list because, you know, as John said, that list can go on and on.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, it's just that JWT is part of the profiles that we are blessing.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, which is why I wasn't too worried when it was missing, so, but –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

JWT is in OAuth 2.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

I think we've beat this one.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, I'm – absolutely not worth the fight.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, okay and my understanding is I remember JWT is in the OAuth 2 spec right.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

No that's not the case.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

It's a separate spec?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, separate spec in draft form.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

It's in parallel to the SAML.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Correct.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Well that’s the JWT bearer association spec which depends on the JWT spec in turn.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

– bring that into our – I don’t want to change the question to begin with, but in our answer we’ll mention JW2 as well, JWT as well.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, I think where we end up here is these are not inappropriate for healthcare.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

That’s very good. Okay, next slide, please.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

We put the slide person to sleep.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Next slide.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

We put the slide person to sleep.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I think we bored somebody. Is anybody driving the slides?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

There we go.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Thank you. Okay, the next question was a comment that Blue Button Plus profile included a stub for patient authentication that was ignored in the profile. Should Blue Button Plus add patient authentication and we looked at the Blue Button Plus profile specification and in truth Blue Button – it doesn’t include a stub for patient authentication it explicitly assigns responsibility for patient authentication to the entity, the provider that’s holding the data that is to be pulled and does this to a redirect to the patient authentication service of that provider.

So, we felt that, and I think this is what this group would feel as well, that this is a sound approach because it enables the provider organization to enforce their own policies around patient authentication and authorization and because its – the second response there, because it does do a redirect to the providers, patient authentication service that we wanted to make the comment that providers should exercise care in provisioning those patient portal accounts. Okay, comments?

Mike Davis – Veterans Health Administration

It’s a little problematical in the sense that patient directed exchange is not a HIPAA directed exchange it’s totally under the discretion of the patient.

Keith Boone – System Architect – GE Healthcare

I think if you, sorry, this is Keith, I think if you look at the latest updates to HIPAA and the fact that patients can direct information to third-parties that you’ll see that the two are quite aligned.

Mike Davis – Veterans Health Administration

That’s what I’m saying is that the patient may direct exchanges to end points that a health, you know, a provider, a covered entity wouldn’t use, wouldn’t trust perhaps.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

But, I don't see that – this is about how the patient as a person, a user is authenticated and, you know, it assumes the way the Blue Button Plus spec is written it sort of assumes there is a portal-like capability where a patient could log into that portal and it's just saying as they – when a patient comes in and directs the provider to push that information off to a third-party or allow a third-party to pull the information when they do that the way the patient, as an individual, is authenticated should be determined and managed by the provider of the data.

Mike Davis – Veterans Health Administration

So, I'm a little confused by the second sentence on that bullet, it says it is done to a redirect to the patient's authorization service, should that mean patient authentication service?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yeah, so it should say both.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, but in the context of OAuth it's an authorization service.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah in the spec it is too, yeah.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

The authorization, this is Josh, the authorization service, you know, you can think of it as something that runs within the data holder and it first has to authenticate the patient before it can allow the patient to authorize access, so it is certainly doing both things.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

It's both.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, it doesn't have to run within the data holder.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

That's true, conceptually it is – conceptually the App is sending the user over to the data holder, in practice the data hold might delegate that responsibility elsewhere.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

But in either case the provider of the data is determining it, it's in control and it determines based on its own policy.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Right.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

So, it allows the Blue Button Plus Pull to operate in terms of user authentication in exactly the same way as a portal would.

Mike Davis – Veterans Health Administration

Okay, so I got it, so, but I think it's confusing to people unless you can understand all that. I recommend that you just change it to be redirect, just a Blue Button redirect which will frequently be the same as the patient and leave out that middle confusing piece. Do you see what I'm saying? Take – just restate.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah.

Mike Davis – Veterans Health Administration

Redirect, a Blue Button redirect which will frequently be the same as the providers patient's portal logon screen –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, it's a redirect to that portal. The redirect – okay, yeah, we'll fix it, yeah.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, I mean, using the technology term of redirect also confuses many readers. So, if you want to just say utilize.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, that's a good idea, yeah, yeah.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Sometimes we bleed too many technology terms into these things.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, I think that's a really good point we'll use utilizes the same patient authentication and authorization service that the provider uses for its portal or whatever. Okay.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

I do think we are getting a little bit too specific there, but I think at this level we'll be okay.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay. Next slide, please, next question.

Mike Davis – Veterans Health Administration

By the way, on that last bullet, you mentioned that policy decision but who is going to bell the cat on that? Is it going to be left –

Mike Davis – Veterans Health Administration

Is it going to be left to individual entities to determine the level of assurance and we're all supposed to trust that?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, but there will be policy guidance coming out on level of assurance for patient portals and the individual provider will need to conform to that, but, yeah, that's who has responsibility.

Mike Davis – Veterans Health Administration

I'm working with ONC right now in an FHA working group and this is an issue that we don't seem to have anyone who is going to stand up and take the – ONC has specifically stepped away from that level of assurance for patients while their guidelines recommend LOA 3 for organizational representatives and individuals but not patients.

Keith Boone – System Architect – GE Healthcare

You know, I think we need to let patients help decide that and I think that's a policy activity not a standards activity.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And this is David, the Tiger Team did debate this around the level of authentication for just patient access to the portal for the view, download and transmit and agreed with basically what Keith said. Often times the, you know, the proofing of the patient, the credentialing is in person after they visit the physician in the office who is obviously well known to the patient and vice versa so it is actually more robust than it might appear on the screen but they decided not to make a specific policy requirement.

Mike Davis – Veterans Health Administration

Well, we've raised a policy issue is that gratuitous or necessary or are we saying something about it and leaving it hanging?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Would whoever is driving the slide back it up one slide so we can see what Mike is talking about, thank you. So, you're talking about that last bullet, providers should exercise care?

Mike Davis – Veterans Health Administration

Yes, well it says specific level of assurance requirements are best left to policy decisions it is not a technical matter here about REST.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay.

Mike Davis – Veterans Health Administration

This is a policy matter but it is a significant one from an interoperability point-of-view in Direct particularly with respect to what level of assurance was the patient identified at for trust in the address bound certificate that's being used to represent them.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well, this question doesn't even get into level of assurance.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And also it's not about Direct.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Pardon?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

It's not about Direct it's about OAuth.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

By why don't in that last sentence if it makes you feel better let's just stop it at the comma.

Keith Boone – System Architect – GE Healthcare

Perfect.

Mike Davis – Veterans Health Administration

Thanks.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Well we were – but we were specifically asked, I don't know –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

No we weren't.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Well, we were, we've been asked by the consumer group on a number of occasions and we responded that it's a policy decision.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Right.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Which it's a tautology but it's an appropriate response.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

But this question doesn't ask it.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And what's the harm of – okay, never mind, it will get asked, it has been asked in other context it will come back.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, David, I agree with you, I mean, stating that it's a policy decision is what we would be stating anyway.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

And the fact that this is a RESTful transaction makes it far more actionable if you didn't get the level assurance on the request then you failed the request its simple.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

So, if we left it like it is, so are you saying we should just leave it like it is?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

I'm just not sure – this is David, I don't see the harm in leaving it like it is, it doesn't change anything but it clarifies why we're not specifying.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, it's also reminding that we're not specifying.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, yeah and maybe it queues up a policy debate when we surface it back out to the full Standards Committee and they could queue is over to Tiger Team or whoever, because I agree some of it has been sidestepped but we are not going to solve it.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, Mike would you be okay with us just leaving it like it is?

Mike Davis – Veterans Health Administration

Yeah, I'm okay with that.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, let's go to the next slide, we'll just leave it like it is.

Mike Davis – Veterans Health Administration

I'm not going to fight to the death over it.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Save your bullets.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah. This comment was a long one from John here and I tried to condense it I probably missed some things, but he pointed out that the IHE internet user authentication profile, which was really informed by the RHEX Project provides a context specification comparable to the current SAML to pass the security assertions and it uses a SOAP transport that is already included in the 2014 edition. That profile also supports the JSON web token, JWT and defines recommended context data fields to be – so it constrains the field and says for these fields you can put these values into them.

So, the question is should this IUA profile be included in the Nationwide Health Information Network, the Power Team's recommendation, and our draft response is that we felt that this profile does appropriately constrain and structure the OAuth tokens to support the sharing of SAML assertions within a SOAP-based environment and that we recommend that it be added to the Power Team's recommendation specifically for use in environments that use the IHE constraint SAML assertions.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

The correction Dixie is that the IUA profile does not have any SOAP it is a RESTful profile. So, I think if you just replaced SOAP-based with REST.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Which sentence, John?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, in the recommendation the IUA would be appropriate OAuth token, actually a JWT token and a SAML for REST environments.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well, the only environments that we know of that would use the SAML assertions right now would be the SOAP-based exchange environments.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Not really true I operate in quite a few RESTful environments that are SAML-based, but either way I understand your point that the SAML token from IUA, which is an option in IUA, is applicable to last miles, RESTful last mile that has back ends that are using SOAP, that's a very complex concept to try to define here.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

This is David, I thought and maybe I'm misremembering, because I haven't read it in a few weeks, but I thought that the issue here was as much not SAML versus JWT or REST versus SOAP but rather the constraints on the fields that would be in the token itself?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

That's the prime advantage that IUA has, yes.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

And I thought – and when Dixie and I were pinging this around that was what I was aiming for Dixie is the constraint around the content, I think you guys call it context.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yes.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Could be used in those in environments where those symbols, where those concepts make sense, which is typically in an environment with a large number of IHE profiles, home community ID and things like that that may not be applicable in all use cases for OAuth.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

True.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

So, that's the spirit of what we were trying to get. We probably didn't word it very well.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, so yeah we could just shorten the recommendation to the first part of that sentence so the IUA profile appropriately constrains and structures OAuth 2 tokens to support the sharing of user context.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

User context I like that.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, I see, but the only environments that are likely to have the data to populate those fields are likely to be the SOAP-based environments, IHE.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

It's more likely –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah, I don't agree there, because some of the user context are absolutely things that we have found necessary for doing the backend access control decisions like purpose of use which would also include a break glass functionality in the case of a provider requesting break glass. So, these attributes can only be made available to the resource for access control decisions on the resource side through these profiles of JWT and SAML so that's really the piece that's being brought here.

It's true that when you get to a patient accessing the patient portal it's unlikely there is any advantage to using a JWT or a SAML token there because it's unlikely that the patient is asserting any other purpose of use except patient's access. So, I just want to put in context what is the piece that IHE is profiling versus what is not.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Can we ask people to give their names? I'm sorry, but we old people our high frequency hearing goes down it's a little harder to distinguish.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Okay, sorry, Wes, this was John Moehrke.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Thanks.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

So, John is the user context – the spirit of what we're trying to say is that it makes good sense to use this especially in environments that are making use of those other – those user context that match the IHE profiles commonly seen, what's the language that we say to address that?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

It's appropriate if you have these data fields.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, I mean, it's sort of saying use them if you –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, I think depending –

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Use them if you need them but how do we put that into –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Well, I think your second sentence of the recommendation says that. I don't think we necessarily have to wordsmith much of the second sentence.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Okay.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Okay, I thought you wanted to drop the second sentence, that's good then.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Oh, no, no, no, no, no I just wanted to drop the specifics about SOAP-based environments.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Got it.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I got it.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Because, although it's true, you know, it's not core, what's core is the user constraints on the structure of the tokens in both JWT and SAML form.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I've got it, okay, so if we change that first sentence to refer to the support, the sharing of user context assertions period we would be fine?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Right, right.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, got it.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah and I'll point out the – and this is only important for those who dig too deep, the current Meaningful Use Stage 2 secure SOAP stack is using a SAML assertion which is consistent with this SAML assertion. So, it's not just IHE constraint it's also the secure SOAP stack for Meaningful Use Stage 2.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, let's go to the next one please. Thank you, John. Okay, this one should be pretty fast and – for those of you who aren't used to how ONC and the federal advisory committee's work, basically this comment had to do with the fact that the Blue Button Plus uses the dynamic client registration and it recommends a whole registry service whereby Apps are judged or assessed with respect to their trustworthiness and the Blue Button Plus also recommends that if the App has not been registered and it uses open registration, so it's not registered with this registry service there be a warning indicating that it's not registered.

So, the question was should all Blue Button Plus Apps be required to be registered with this registry service and what level of minimal assurance is reasonable and appropriate for pull Apps. Now this question is really not a technology question it's a policy question whether Blue Button Plus Apps need to be registered with the registry service and so what we want to do is to recommend to the full committee that they recommend to ONC that they ask the Privacy and Security Tiger Team to address this issue of level of – this policy issue within the Tiger Team.

Keith Boone – System Architect – GE Healthcare

So, this is Keith, I struggle with that one because I think you are right that it is a policy issue but there are plenty of patients out there who want their own access, their own Blue Button access to their own data who should be enabled to use standards like OAuth and Blue Button Plus and shouldn't have a huge barrier put in front of them in terms of having to register their own application to access and do what they want with their own data.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well, we didn't say that it's not an issue, we said it's not a technology issue it is, in fact we do say that we would agree with you that it does need to be taken up by the Policy Committee but it's not a standards issue it's a policy issue.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

But one point of information, this is Josh, in the Blue Button Pull spec the way it was written and we needed this to achieve consensus within the Blue Button Working Group it's a requirement that any Blue Button server, data holder supports open registration so that's the way the spec is written today and that is the way our reference implementations work. Trusted registration is an option but open registration also is there as a baseline functionality.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

And we –

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, so it –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Said in this last sentence that defining a mechanism that would support such a registry that's our technology statement.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Right, so should there be circumstances, this is David, where policy requires it we think this technology approach is the right one, albeit not yet mature, not finished.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes. So, we are basically using this question as a way to get the Standards Committee to recommend to ONC that ONC task the Tiger Team to address it that's what we're saying, this is a legitimate question that should be taken up by the Policy Committee. The Tiger Team is part of the Policy Committee not the Standards Committee.

Okay, let's go to the next one which is the one I thought, you know, would take the most time and the question was should any requirements or constraints about OAuth 2 access token format be recommended either for Blue Button Plus Pull or for the overall recommendation of OAuth 2 and we felt that the – we really had not gone to sufficient depth around how Blue Button Plus and OAuth 2 use tokens for this Workgroup to really come up with a good answer and so we've asked Josh to lead the discussion of this question. Josh?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Sure, so I have just – well, I have two slides, but they're almost identical except for one text label so if we could advance to the next slide, slide 13. So, I want to talk about what we do in Blue Button Plus just for context for folks on the line.

So, this is a diagram that comes from the cloud identity blog which is great and the post of this comes from, actually, has a lot of, you know, good context in terms of understanding where OAuth fits in the landscape, but the particular point that this slide is highlighting is a boundary in the OAuth 2 spec and that boundary sits between the client, which is an App, and some conceptual box that you can draw that includes both the authorization server and the protected resource, so that's the AS and the PR.

So, in OAuth 2 that's the strong boundary that the spec sort of has encoded in it. The App goes to the authorization server to get a token, later it takes that token and it shows it to the protected resource. So, that implies the protected resource in the authorization server need to know some things together somehow and so for example when the authorization server issues a token the protected resource has to recognize that token later as being valid for certain purposes and not valid for other purposes.

If a decision gets made perhaps to expire a token early it may be that the protected resource needs to recognize that decision. And vice versa when a patient goes to authorize an App at the authorization server it might be really nice for the user experience of authorizing an App, it might be really nice if I could see for example what data of mine is going to be shared with the App and that means the authorization server to enable that would need to be able to show, you know, some of the basic data from my medical record to me or for example the authorization server might want to show me a list of the patient records that I have access to which could be, you know, myself and my children and the authorization server might allow me to select one of those records and decide which one.

So, in general there are connections between the authorization server and the protected resource, they have to make some agreements about how to talk to each other and the client is separated by a strong boundary from that combined entity below the line. So, if we can advance one more slide, please, to slide 14?

So, what are structured tokens about? Well, the thing where structured tokens really play a strong role is where I've drawn it in here, the interface between the authorization server and the protected resource. A structured token is one way to allow those two entities with, you know, underneath that boundary line, two entities that are conceptually within the sort of data holder realm, so structured tokens is one way to let those guys communicate with each other and, you know, the typical thing is the authorization server will generate a structured token, which looks like a signed assertion with a bunch of claims, that the protected resource can later validate at the time when a request comes through. So, that's one very convenient way to separate out that functionality and if you want to it even lets you sort of outsource some of the authorization server components and, you know, keep them separate from your protected resource servers which might live within your organization.

It doesn't solve all the problems that I talked about though, so for example if you do want to provide a friendly user experience on your authorization server well the authorization server probably does need access to some of the patient level data that lives within your organization. But it helps in one direction at least, which is once the token gets issued it gives the protected resource a way later to recognize and validate that token at that time. It doesn't handle the case where a token might get expired early if all the protected resource is doing is validating claims that are baked into the token because those claims will never change, but it does help some use cases.

So, when we evaluated for Blue Button Plus whether we needed structured tokens for our use case the answer was no the thing that we're trying to do in Blue Button Plus, the thing we really want to enable is access across that boundary lining in yellow between the client, so our Blue Button App, and the data holder that was the piece we really wanted to solve to make sure that anybody could take an App and plug it into any provider they wanted.

And the details of how a provider operates internally whether they want to outsource some of their authorization work to another organization, you know, delegate it or whether they want to have two servers, you know, that run both within the same network and talk to each other by sharing token IDs, we didn't see any benefit in trying to profile how that worked or at least not sufficient benefit to constrain other use cases.

So, the decision we made in the Blue Button Plus Workgroup was the only constraint we put on the token is that it have sufficient entropy then no one can guess it and on that we say, you know, let's let things evolve within the data holder communities if people want to experiment with, you know, SAML assertion tokens or JWTs that have structured context in them or if people just want to generate random strings and attack token introspection endpoints to them so that the protected resource server can just talk to the authorization server later and say, hey, is this token still valid and if so send me back the claims of a, you know, simple JSON object.

We wanted to enable that kind of experimentation to happen while still preserving a rigid interface on the boundary we care about which is the one in yellow. So, that's the decision we made there, I wanted to just share that with the group and I know on the last call we raised the question of shall we be imposing requirements for token structure and I would say that in general I don't think we should and we can certainly recommend particular structures for cases where they make sense but not to impose them and say, you know, you should always have a JWT with following claims if you want to do secure health exchange, it's not needed for security and it's not needed for privacy it can be enabling in some use cases.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

So, this is John Moehrke, I absolutely want to say I agree provided the authorization server is co-resonant with the protected resource. When you end up with an authorization server which is not part of your healthcare deployment such as you are using a Facebook or a Google, or a LinkedIn, or a Salesforce.com, or what have you then you – that's the case when you need to add these extra pieces. So, I just wanted to add that caveat.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

What does co-location have to do with it?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Shared access to sensitive data is what you really mean right John?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

I missed the question, sorry?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

This is David, Dixie asked what does co-location have to do with it and I think what you meant was –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Oh, okay, so the co-location is that the authorization server can make the authorization decision completely. Effectively in the diagram that's being shown here, for those of us who know classic access controls, the authorization server is the policy decision point, it is making the decision. The protected resource is the enforcement point, it is enforcing that decision.

So, if the AS can make the policy decision completely then this works out perfect to use a bearer token and you don't have to have structure to the token. In all cases the protected resource must validate the token and enforce the decision that's in the token, it can – in advance cases it can do additional decisions, you know, which is what IHE is focused on is how do you enable that protected resource to make additional decisions that the client-based authorization server couldn't quite make so to speak.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So, John, this is Josh, let me push on a couple of points to see if I first understand and then to see if I agree with what you're saying. So, when you take the example of let's say Facebook as your authorization server do you mean like literally Facebook, like the Facebook that we have today in 2013?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Sure.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So, Facebook doesn't do that today in 2013, they don't act as a Blue Button authorization server, they don't know about Blue Button scopes and, you know, the parameters that you need to authorize the Blue Button App.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

They certainly authorize applications.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yeah, you can authorize a Facebook App.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

To access – so they do create authorization.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Facebook –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

– authorization statement.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yes, so Facebook does have OAuth 2 authorization servers.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

That let you authorize an App to access your Facebook profile but they don't have a server that will let you authorize an App to access your health data inside of your data provider that's not a thing they do.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

– you can go to – using OAuth when I go to some of my PHRs, my standalone PHR.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Okay, so you’re thinking about a Facebook sign in where your PHR delegates sign in, so the way you sign into your PHR is they send you over to Facebook is that the case you’re thinking of?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Yeah.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Okay, so great, so those are two different issues. One is –

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

It is within the scope of OAuth concept of authorization. It is authorizing this application.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

So, it’s really an authentication mechanism. So, the blog post here that I linked on the slide is a great one that looks at the use of OAuth for authentication rather than OAuth for authorization and so certainly you’re right that under the hood an authorization takes place in OAuth 2 language but the whole point of that song and dance is to convey to your patient portal that you are signed in as such and such a user at Facebook which then your portal, you know, has associated with your account. I want to draw a distinction between that use case and authorizing – so there is no Blue Button App in that scenario, right?

The App in that scenario is your patient portal and the data holder is Facebook, perfectly valid use case for signing into you portal but what we’re talking about here is a third-party App that wants to get access to your clinical data and an authorization server that either lives at or is, you know, delegated to by your doctor’s office.

So, I could imagine a future world where Facebook adds some new functionality to, you know, write down assertion signed by Facebook that says, you know, Josh authorizes the blood pressure App to access his data from the health clinic at such and such address. I could imagine that, but that’s not something Facebook does now.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

It looks to me like it would be important that both the authorization server and the protected resource are – the policy is and implementation are controlled by the same entity because there has to be some way for the protected resource to understand the information in the token that receives.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

So, this is Josh, I agree that the policy is at a high level controlled by the same entity because the health clinic for example or the hospital decides whether they are going to run their own server in house or whether they are going to delegate that service elsewhere. So, they do decide on that policy which is to say if they want someone else to run their authorization server for them they can do that.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

So with an unstructured token it’s up to the data holder to make sure that the token that’s sent to the protected resource will be understood by that protected resource?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Structured or unstructured that’s the case and, you know, in particular with –

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Right, but I mean –

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

An unstructured token, which is a bearer token these issues are orthogonal. So, for example one way to solve this problem about structured tokens is the authorization server hosts which is called a token introspection endpoint, so later when the protected resource sees the token it can make a call to the authorization server and say, hey, I’ve got this token is it still good and if so what’s it good for, so that could happen actually at the time when somebody tries to access a resource. I’m not saying that’s how things always should be done, but I’m saying that’s one way you can build out that same functionality even without using structured tokens.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, other comments?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Josh would you, this is David, would you reiterate your recommendation again now that we've dug in a little bit and learned something?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yeah, so I'm recommending that we do not make a statement that structured tokens, you know, must be used or even should be used in general for the actual token that gets assigned by the authorization servers to an App that is later going to make RESTful calls. I'm saying we can point to specific profiles, which describe how to do that and say, you know, in some use cases those profiles for how to structure your token might be useful, but it's also perfectly safe and accessible not to use structured tokens if they don't help you.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Got it, so this is David again, so you're saying that there are certain use cases where the tokens maybe helpful but they should not be required of all use cases in healthcare.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yeah, so we talked about the IHE use case before where it's very convenient if you already had a policy server that knows how to evaluate these signatures great do it, but it's an internal kind of decision.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yes.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

And this is John Moehrke, I totally agree.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Yeah, I like that.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Cool.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, anyone else? Okay, all right, so are we ready to move on? That's I think our last one.

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Isn't that the end?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Sorry, did somebody say something?

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

No.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, okay I think that we made our conclusions as we went along but let me review what I have written here that we need to really change is that – let's see on slide 8 the one about – let's see Blue Button Plus using dynamic consent these are – oh, this is the one – this is the comment about the – that these were enhancements to the basic core that should be watched as they evolve but they don't need to be incorporated as part of the recommendation.

Let me see what else do I have, the – let's see slide 9, change the language around the utilizing the same authorization services for the portal that's the one having to do with user authentication and the last one is slight changes to the IUA recommendation so that we refer to sharing of users context assertions rather than SAML and not constrained to SOAP. Okay? I will make the changes that you guys recommended and I'll run it by you for just the same slides but with the changes noted and if you have any further recommendations just send them to me. That sound good?

John Moehrke – Principal Engineer, Interoperability & Security – GE Healthcare

Sounds good to me.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

Yes.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, all right thank you Peter. All right.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

Well, nobody was saying anything I had to take myself off mute to thank you for running the meeting.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

You're welcome. Okay are there any further comments that anyone wants to bring up? Okay, thank you all for dialing in.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Public comment?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Huh?

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Do we need to get public comment?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, we do have to go to public comment.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Oh, okay.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

I thought you were saying goodbye.

Michelle Consolazio – Office of the National Coordinator

No, I don't think she was ready yet, but Dixie are you ready now to open?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I am.

Public Comment

Michelle Consolazio – Office of the National Coordinator

Okay, operator can you open the lines?

Caitlin Collins – Project Coordinator – Altarum Institute

If you are on the phone and would like to make a public comment please press *1 at this time. If you are listening via your computer speakers you may dial 1-877-705-2976 and press *1 to be placed in the comment queue. We do not have any comment at this time.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

All right, okay, thank you all for dialing in.

David McCallie, Jr., MD – Vice President, Medical Informatics – Cerner Corporation

Thanks, Dixie.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

And watch for a revision that will show exactly what changes we made to the responses. Thank you.

Mike Davis – Veterans Health Administration

Bye.

Peter N. Kaufman, MD – Chief Medical Officer & Vice President Physician IT Services – DrFirst

Bye.

Keith Boone – System Architect – GE Healthcare

Bye all.

Michelle Consolazio – Office of the National Coordinator

Thank you everyone.