

NwHIN Power Team
Draft Transcript
July 12, 2012

Presentation

MacKenzie Robertson – Office of the National Coordinator

Good afternoon everyone. This is MacKenzie Robertson in the Office of the National Coordinator. This is a meeting of the HIT Standards Committee's Nationwide Health Information Network Power Team. This is a public call, there will be time for public comment at the end and the call is also being transcribed so please make sure you identify yourself before speaking. I'll now quickly take roll call. Dixie Baker?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I'm here.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Dixie. Tim Cromwell? Floyd Eisenberg? Ollie Gray? David Groves? Arien Malec? David McCallie?

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

Here.

MacKenzie Robertson – Office of the National Coordinator

Thanks, David. Nancy Orvis? Marc Overhage? Wes Rishel? Cris Ross? Are there any staff on the line?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Todd Parnell.

MacKenzie Robertson – Office of the National Coordinator

Thanks.

Matthew Rahn - Office of National Coordinator

Matthew Rahn with ONC.

MacKenzie Robertson – Office of the National Coordinator

Thanks, Matt. Okay, Dixie, I'll turn it to you.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Thanks for joining. Okay, thank you all for dialing in today. I think that, you know, Todd has done considerable work on defining the metrics for the last two categories of the last two criteria that we wanted to...that we've identified for evaluating specifications for national adoption and so today we will go over those last two. He also...we're also going to talk about the process for evaluation and then finally talk briefly about a potential specification that we might use to...hopefully we can finalize that to walk through our criteria and see how they actually work.

I know we don't have a lot of people on the phone today but I think it's fine to cover these final two criteria just with us and I'll present it to the full committee next week. I think people were sort of getting tired and we can present it to the full committee, take their inputs and then go from there, I think that will work just fine. So, with that Todd why don't we just go ahead and proceed. I want to thank you, Todd for the all good work that you've been doing on this.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Thank you, Dixie. All right, so this is the agenda just in a little bit more detail, this shows what metrics we will be reviewing today, market adoption, intellectual property there were a couple of very small changes that we made and that was the second time we had seen those two sets, and then go over ease of implementation deployment, ease of operations where there were more extensive changes because they were the first set...it was the first time that we talked about them in group.

So, visually this is what we'll be doing and you can see I put check marks next to define metrics here for market adoption, intellectual property, but we will be reviewing the final work and then the bulk here is ease of deployment, ease of operations and as Dixie mentioned, the evaluation process.

So, these are the changes to the market adoption, the primary thing that you will see here is that we discussed splitting installation, the user base from a healthcare domain to outside of healthcare domain and so the text between the first...the first row is added and is duplicative of the text in the second row except for the words healthcare market. And we did change...it used to say very few and now is says few and that was a mistake in the previous set.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, is that how we want to leave it? I'm in the process here of downloading the slides here, because I'm on my laptop so I can hardly read what it says, okay, now.

Todd Parnell – 5AM Solutions – Chief Technology Officer

I can read them. So, the installed healthcare user base, so it says few user bases other than developers of the standard or pilots within the healthcare market, for moderate detectable references of use outside the developers of pilots within the healthcare market, and high is numerous users, and numerous references to large user bases.

The second row now says installed user base outside of healthcare and it's the text that was there previously, few user bases other than the developers of the standards or pilots.

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

This is David. I think it looks pretty good. I wonder - does it read better to say few users as opposed to few user bases? Just a grammatical question, I don't know...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I agree, yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

Because if we have to define what a user base was maybe...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Sure.

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

I don't think that changes the meaning at all, I just think it's a utility thing.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, I agree with you. I am going to make that change and if that's the only change on this slide it will go to the appendix and I won't even highlight that change.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And the same thing on row 2 and 4. Oh, no row 2.

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

Yeah, row 2, the other ones all say user.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, it's the first two, yeah and the first two rows really are identical with the...we just decided to split out healthcare from non-healthcare.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, okay.

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

I get nervous, this is David again, when we have specific percentages like 35% in part because somebody could challenge and say, how did you measure that? And in part because, you know, if it was 33% we probably wouldn't want them.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

I mean, these are all such judgment calls, I just wonder do we really want to say 35%? Do we want to say, you know, approaching 1/3 of the market or something, you know, more...giving you a little bit more wiggle room for interpretation?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think we should just delete it. I know that they want to make them quantifiable, I recognize that, but I agree with David, we have to...plus there is a big difference between detectable references of use outside pilots and numerous, so I don't think we...adding that 35% adds much.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

Yeah and I just think it exposes us to, and ONC and anybody else whoever wants to use this in the future, to huge amounts of additional work is somebody should challenge that and say, you know, prove to me that there was 35% use.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

And you couldn't do it for most of these protocols because nobody tracks how they are used; it's not even an answerable question. I'm in favor of the qualitative language of few, detectable and numerous and drop the quantitative.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

This is going to be easy today, Dixie.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, there was a wording change in the third row. It didn't used to say "but anticipating," it said "expecting." It didn't have the "but," and so we clarified that we were identifying a current versus an anticipated future.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay. All right, I will go onto the...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Now the third row in the high column is says, "Standard in broad use projecting to continue." It seems like the standard in broad use should go in rows one and two and then in row three it should just say use of standard projected to continue. Because the first two rows are about current use and the third one is about suggestion.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, maybe where we have 35% in both these rows and one and two we could just put standard in broad use.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And then we essentially separated those two concepts. And in the third row we just say use of standard projected to continue.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, does that sound right to you, David?

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, all right, we have unanimous agreement on this one.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right. I'll move to the next slide. This was attributes of intellectual property. We spent our time really delving in last time on the high for patents and trying to...I think the high level was not subject to patent ambush is what we were looking to be able to provide. So, this high has been completely reworked and reworded. So, now it is not subject to patent ambush, no known or anticipated patents required to implement, or patents to protect openness, contributors to standard make patent methods available with zero royalty available to all implementers.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Are you saying or that we should pick between those two or...

Todd Parnell – 5AM Solutions – Chief Technology Officer

I meant it as a one or...a standard which meets either criterion would be in high.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I see.

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

So, the first one probably ought to read “and” not subject to patent to ambush “and” points one and two, point two or point three.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes, okay.

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

Right? I mean, that’s the logic that you mean?

Todd Parnell – 5AM Solutions – Chief Technology Officer

That is my intended logic, yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, so there is really only two bullets, actually you don’t need an “and” you just need to make the second two a single bullet so that it’s clear, it’s like between the two.

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

...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

All of the others mean “and” too, but...

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

Yes, yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think we do anyway.

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

Yeah, I think you’re right.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

I don’t know, I’m thinking about the wording of the not subject to patent ambush and am wondering how...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

Is there a way to word that, you know, no known risk of patent to ambush, you can’t prove that something is not subject to it, somebody could have a, you know, submarine patent.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right. This was...we...I think in our last meeting we put the not subject to patent ambush as our colloquial way of describing what we were looking for.

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

Yeah, well then maybe we could drop that one and just have the other two as our definition of patent ambush.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think that would be better.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

Yeah, because that's...I think that's exactly...I think you're right that's...our definition of patent ambush is meaning there is no known or anticipated patents required to implement or there are patents that protect openness with zero royalty, that is the definition of patent ambush or of avoiding it.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Well, it's certainly what I...I spent some time thinking and trying to get this, so if you agree that that is the definition for patent ambush I will drop the first bullet and I will leave the two bullets since they will be the only two there with the "or" between them.

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

That's okay with me, but, you know, obviously I'm not a lawyer and certainly not an IP lawyer, so I don't know Dixie if, you know, should we have someone like, oh what's her name? I'm blanking on her name now who used to come to our meetings; it's a lawyer for ONC?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Joy Pritts?

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

No, not Joy. Jodi.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, Jodi, yeah, Jodi.

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

Have someone like Jodi review this language and, you know, just make sure we're not running afoul of any federal approaches around it. They may have constraints they have to live with around patents. I assume she is going to review it anyway; somebody is going to review this, but...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

It might not hurt to have a lawyer just make sure that we don't have language in here that is inappropriate.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Should it be...is it just for this one row or is it this whole slide?

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

Well, I think it's a good idea to review the whole slide, but I was thinking of this row as the one where we're using terms like RAND and patent encumbered, I mean, I think what we mean is clear and I think it's probably without much controversy, but it wouldn't hurt to have Jodi or somebody to look at it and say that word is okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Now why are the first two...why do those have like little labels on them, patent encumbered instead of...and RAND terms: patent encumbered: when none of the others have that kind of thing? Why doesn't it just say known or anticipated patented methods required for conformance to standards? We don't have to use this word patent encumbered, right?

Todd Parnell – 5AM Solutions – Chief Technology Officer

No, it was just...I think it was a way to express the idea and then give the definition or the elaboration. I'm happy to drop the...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

But, I guess patent encumbered and RAND are pretty common terms to apply to patent though aren't they?

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

Yeah, no I think those are quite commonly used terms, I'm just...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, let's just leave them there because of that, yeah, but we can have, what's her last name? MacKenzie, what is Jodi's last name? Jodi...

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

Daniels, Daniels.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Daniels, yes. I think...

MacKenzie Robertson – Office of the National Coordinator

Sorry, I'm multitasking; Jodi's last name is Daniels. Did you want to have her review something?

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

Well we were discussing the...we have some language in here about patents and we were just nervous that we weren't, you know, we want to make sure we weren't using the wrong constructs to capture our intent and...

MacKenzie Robertson – Office of the National Coordinator

Is there anyone on the Workgroup that could give it a once over? Are there any lawyers on your Workgroup? Power Team, sorry.

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

Yeah, John Houston is a lawyer but he is not on this Workgroup.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, you know, what I can just run it by our corporate attorney that specializes in patents.

MacKenzie Robertson – Office of the National Coordinator

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I'll just send it to him, yeah, you know, he'd look at it. Does that sound okay?

MacKenzie Robertson – Office of the National Coordinator

Yeah.

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

Yes, yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, the one thing Dixie is let me modify, let me just drop the patent ambush line and I will send you a revised copy of this slide for the review by counsel.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, okay, I'll just let you guys know, but he'll give it a quick look and he is pretty responsive. Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, so that was what I had for intellectual property. I'm going to move onto the next slide.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, this is where we started the more significant changes, so metrics for ease of implementation and deployment. So, this used to read...so there were two rows at the top prior that were effort for average developer to implement from scratch and effort for average developer to implement with existing infrastructure. Those are obviously, gone at this point.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

And the line that is now listed as deployment experience used to be named deployment costs and there is now verbiage that is around success factors and implementation delays, which was the way we wanted to express this particular criteria. So, deployed implementation site standard is a barrier to deployment is low, citing it as a success factor would be high and being neutral with respect to it as a success factor leaves you in moderate. And then in terms of delays, significant delays lead you towards low, no delays are high, some deployment delays due to the standard moderate.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

See, I think we've got to get some level of, you know, few, you know, some or many, because we...I'm sure we would have at least one in all three of those, you know, for any given standard that, you know, somebody would step up and say, oh, we're having a huge...that was really hard to deploy and somebody else would also say, nah, it was easy. I think, you know, we have to capture some measure of, you know, I'm not suggesting a percentage, but the equivalent to that, you know, how many people if you asked them about...you know, I've used the example before how when we asked for public feedback on the implementation of the exchange standards once and how long it took them to deploy and one guy said it took him 4 hours, you know, so, in that survey we got people, some people said it was really hard, some people said it was really easy. So, I think that we have to, you know, somehow capture majority, some or something.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

Yeah, I think, you know, that makes sense to me just if we can come up with language that works. The only part that bothers me about the actual criteria, implementers attribute significant deployment delays to use of standard, that doesn't read right to me. It's really we're saying that, well, do we want to say because of the standard or associated with use of the standard? You're not going to get delayed necessarily because...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

It might not be quite such a simple cause and effect relation it's just essentially saying this is a hard standard to deploy. Oh, I don't know, maybe it's okay the way it is. The spirit is pretty clear. It could be significant deployment delays associated with the standard, well no, but it's really...because of the standard. Oh, maybe it's okay the way it is. I take it back.

Todd Parnell – 5AM Solutions – Chief Technology Officer

I think perhaps the word attribute as a verb rather than a noun makes it read a little oddly.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, we could just phrase them the same as the first bullet that is deployed implementations cite the standards as cause of delays in deployment as a second bullet, you know, the first bullet says deployed implementation cite standard as a barrier to deployment and the second one could say deployed implementations cite the standard as cause for delays in deployment. How about that?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes, I can wordsmith that so that basically the note that I took is wordsmith to parallel the first bullet.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, so that they both say, one says it's a barrier, you know, in other words we didn't implement it at all because of that standard and the second one says, well we implemented it but...you know, it's not necessarily the delay but...I guess that's what the barrier is trying to get to is it caused us problems. I think that's what we're trying to...the low is it causes big problems, moderate is causes medium problems and high it didn't, it would meet it.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, we're trying to use...the precondition of this is that you have a successful deployment.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

And then we're asking upon reflection back on your experience, you know, for the standard if you had the standard or didn't how would you characterize the difference between what you did and what you would have done without it and so...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, because they are all deployed implementation.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Correct.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, so obviously deployed implementation in the standard wasn't a barrier because they did implement it. Do you know what I'm saying? So, it's not a barrier; a barrier keeps you from doing something. You could either...I think we're trying to get either difficulties in the deployment or delays in the deployment.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Not really a barrier.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Increased deployment complexity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, that's what we're trying to figure out, complexity, I think...let's see, ease we changed it to ease but we...we changed ease from complexity because we didn't want it negative but now that we've changed it we could use the word complex, you know, we didn't use the word complex before because that was the name of the criterion.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

But maybe what we do is now we have the low, moderate, high, so deployment experience...deployment implementation...

Todd Parnell – 5AM Solutions – Chief Technology Officer

If we change deployment experience to deployment complexity I think we would have lost a little bit because the overall experience of deployment is not just the complexity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right. Deployed implementation cite the standard as a challenge in the deployment.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And then deployed implementations are neutral on the standard as a challenge or success factor and then high is deployed implementation cite the standards as a success factor. How about that?

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

Yeah, that sounds good to me.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right. So should we move onto the third row?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Conformance criterion and tests, all right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So the second row only has one bullet in each of those boxes, right?

Todd Parnell – 5AM Solutions – Chief Technology Officer

No, I was...my notes still say second bullet wordsmith to parallel the first bullet within that second row.

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

Which one are we talking about now, I'm sorry?

Todd Parnell – 5AM Solutions – Chief Technology Officer

I'm sorry; we were staying on deployment experience and for each of the second bullets in both low, moderate and high.

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

Right.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Change the second bullet to the words to parallel deployed implementations attribute significant deployment delays so that...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think we should combine them into a single one. I would suggesting to combine them into the deployed implementations cite the standards as a challenge to deployment to encompass both bullets.

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

Yeah, so drop delay essentially, and just say that's just part of the challenge.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

Yeah, I agree because you can meet a challenge by, you know, throwing 100 people at it and getting it done on time so there is no delay but it was obviously a challenge.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

I mean not that 100 people will get it done faster, but you know what I'm trying to say.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yeah, that's what I was, yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

A hundred people is a guaranteed way to make it slower.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, now conformance criterion test.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, we had, my notes, it was that we took these and they used to be pretty different and so this the consensus that we came to last time. So, there are three pieces to this test, the conformance criteria being either incomplete or complete and so you'll notice that moderate and high were the same for that top, first bullet. Then we have, around conformance tools, not applied in any setting, applied in the lab or demo setting and applied in at least one operational implementation, and then finally with respect to automated tests, no automated tests, tests for some part of the standard and then i.e., put significant automated test support.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, this one looks good to me.

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

Yeah, I think that's okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think that's one of our better ones. That's almost measurable.

Todd Parnell – 5AM Solutions – Chief Technology Officer

What percentage would you say that that is measurable, Dixie?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

Almost.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, I'll move onto the next slide.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, this is more ease of implementation and deployment. In the first row there were a second set of bullets that had a number of reference standards and those have now been removed.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Monolithic and cannot decompose...

Todd Parnell – 5AM Solutions – Chief Technology Officer

The bullets used to say for low was like reference 8 or more other standards, moderate was 4 to 8 or something like that and high was 0 to 3, so that was the bullet points that got removed.

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

Yeah, my only critique, at least at this point, would be the words like complete loss of context we should just make that more like significant or substantial loss of context.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Without...word just without loss of context.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think that these are probably stated more obscurely than they would need to be. I mean, what we mean is for low is that the specification is a single specification, single specification that cannot be decomposed into smaller parts and then moderate is a specification is modular. I think the use of the term composition makes it a little bit more obscure than it needs to be. Do you know what I mean? Like that high, specification is easily decomposed into smaller modules.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You're not seeing a change; it will just be a little bit more straightforward than it reads right now, I don't know, that's my thought.

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

The issue that I have with this one is more generic and I don't know a way around it, I mean there are some specifications which are of necessity both complex and monolithic, I mean, you know, let's take the specification for, you know, PKI or, you know, crypto for public key/private key architectures, I mean that is of necessity a very complicated specification and I'm not sure that decomposing it would add any value. On the other hand, you take something like, you know, C32 and it's incredibly complex because it's so decomposed, it's so spread out that you can't actually read it in one place.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

And, you know, complexity is what we're worried about here not the organization of the way they attempt to manage the complexity. Do you see what I'm saying? In other words the number of modules and the modularity of it is not necessarily going to correlate well with complexity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, it's more whether it's more has to do with whether it could be more modular and isn't.

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

Well, my counter argument would be you could say that HITSP was incredibly modular, everything pointed to everything else and then they all pointed to other things outside of HITSP, but that's exactly why it was so difficult and essentially why it failed.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, I would, I think I'm going to draw your attention to the bottom two rows as we've gotten further into this discussion, especially the last row, which these are two new rows and I think that we got into a very similar conversation last time and I'm wondering if these address what we're talking about now.

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

They're components of it I agree.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well we talked about...

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

I do remember that we've had this debated before.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I remember too, a conversation around indirection.

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

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Where did that whole conversation around indirection end up? Oh, I see, I'm sorry.

Todd Parnell – 5AM Solutions – Chief Technology Officer

I'm trying to find it; I'm looking through a second set of the slides here on my computer and...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

It was in the complexity, I know where it was, it was in the complexity of the specification, no, no that's this row. Yeah, what we meant here was all that indirection; remember that, that's what we talked about?

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

Yeah and the question is, you know, sometimes indirection is a benefit and sometimes it's a liability. So, you know, if you look at Direct, the fact that Direct was built on top of a number of well-established standards was a strength, right? The indirection and the fact that we didn't have to redefine what S/MIME is was a strength, but you look at HITSP and the fact that there was no single place where you could understand anything about how, you know, I don't know medication profile should be transmitted because it was pointing in so many different directions behind paywalls, that indirection was harmful.

It comes back to the complexity, I just wonder if complexity is, you know, specification is easy to understand and indirections are any cross reference materials are appropriately used, you know, is the high and I don't know do you really want to say something like unnecessarily complex or difficult to navigate, maybe it's navigation.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And we've talked about navigation too, where did that end up?

Todd Parnell – 5AM Solutions – Chief Technology Officer

I don't recall a discussion of navigation.

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

I think we captured a little bit of that in the notion of openness of the standards, I mean we were getting at, you know, the fact that some of the standards, some public standards reference private things like say something behind the HL7 firewall where, you know, you can't get to it to read it because you're not...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, I found it; it's in the next slide, ease of use of specifications.

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

Oh, ease of use, okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, that's where we get providing navigation links or index, do you see that?

Todd Parnell – 5AM Solutions – Chief Technology Officer

I will move it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, that first row, ease of use of specifications. So, that I think is hard to separate from this other one that we were talking about, complexity of specifications.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes, I will move that.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

What is the essential difference we're trying to make between those two rows? I think...I would argue that they are pretty much the same thing.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Well, I guess this does speak to the judgment aspect of...I think that there is a way to say that this is a less complex specification, A is less complex than B, but then there is the...and we can put that in here. And then there is the judgment of does that make it better or not or what weight should we assign to that when doing the evaluation and it seems like having is it complex and then right next to that is it easy to use, so maybe a high complexity that's still easy to use isn't penalized for its complexity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, the modularity actually, it just occurred to me, you know, the S&I Framework people took the base specification for exchange, transports, I don't remember what it was called, but it was the basic transport specification and they made it modular, that one and the security one, and it was, you know, you could readily see it was much less complex once they made it modular, so I think that's probably what complexity of specification is trying to get to. They just, you know, broke it out and it is much easier to understand, but, maybe we just leave it like that and maybe, you know, if there...so we have composition is monolithic and cannot decompose to smaller parts without loss of context.

Todd Parnell – 5AM Solutions – Chief Technology Officer

With some context I think is where we're going.

Matthew Rahn - Office of National Coordinator

Hey, Dixie, where you talking about the modular specification project?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Matthew Rahn - Office of National Coordinator

Well, okay, yeah, that's an ONC led initiative.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, right.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Dixie, my notes from last meeting do say that we spent a lot of time here and that we decided to keep the top set of bullets and delete the second set.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, let's just leave them then and we'll see what kind of feedback we get. Although, I do agree with David that complete change it to...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Some or something.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Some, yeah, all right so for quality and clarity of specifications what changed here was that we used to have terminology that said inconsistent use of terms and we now have inconsistent or ambiguous terminology within the standard and then there was the relationship of the terminology used within the standard under consideration to any referenced standards and so then what I have is low terminology coherence, ad hoc alignment, and explicit terminology alignment. And what I struggled with to get, especially on the high, was you don't have to use the same terms, but you do have to be explicit about how they align to reference standards.

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

Which is why you're using alignment?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

The word alignment.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

No, I think that's a good word.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think people will understand that, yeah, I agree.

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

Yes, you could have said maybe mapping or something, but alignment is more open ended I think.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, technology within standards, alignment with specification, yeah, that looks good to me.

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

I'm okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I understand what all three of them mean...

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, so for specification layering, let me look at my notes for what I changed here. This is a new row as is separation of concerns, so this is wholly new text. So, for specification layering there is both the layering, again there's the distinction between layering within the specification and then the relationship of the standard to any referenced standards within there. So, for within the standard you're looking at no or inappropriate layering, for moderate implicit layering of the business problem and in the high explicit layers, the business problem that are unambiguously identified.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I remember now, these two rows we came up with I think as sort of alternatives to that complexity of specification row.

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

Or to try to capture, it was to try to capture...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

...pardon?

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

Yeah, I was just going to say, it was to capture some of what we meant by complexity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Exactly and we got into the same conversation about sometimes a specification is monolithic and that's okay, so we tried to break it up, but I think these two rows now cover what we tried to get in complexity and specification.

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

You're suggesting that maybe we could drop row one?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, I'm going to put that on...Dixie, I'm going to come back to that, let's go through specification layer separation because there is an if.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Once we've gone through them we agree then we'll come back and I can go ahead and delete the first row.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That sounds good to me, thank you.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Sure, so the second bullet point in the specification layers, the relationship to other standards and so the language is compete with or contradict, partially repeat or overlap and the high would be that reference standards address different layers of the business problem.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well that first row, the low row column is supposed to be compete with not complete with.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Compete, right, that's why I started to speak it and I knew what I meant. I don't know why spell check didn't tell me that was wrong.

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

Well, because it isn't misspelled.

Todd Parnell – 5AM Solutions – Chief Technology Officer

I know, I know. I need the one that knows what's in my mind.

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

Right, right. Yeah, I mean the issue we run into here is, again the layering of the business problem is a pretty ambiguous term and you know, you could have a standard that addresses a single tiny part of the business problem and it doesn't have but one layer and there is nothing wrong with that.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

It may not be layered; you see that's why I think we were trying to get to modularity here.

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

Yeah and I mean what we were getting at was the problem when you, you know, have a standard that kind of cross cuts and doesn't align itself, and it makes things more complicated because it, you know, it violates the separation of concerns which we try to attack in row 4 there, but it's kind of one of these things you know what you mean but I don't know how you actually measure it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I wouldn't call it layers of a business problem. I think that that's just kind of begs for an argument.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think it has to do with separating out more like decomposing the business the problem to pick up the term from row one, decomposing no or inappropriate decomposition of the business problem.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, if I were to change the language in specification layer to say for low inappropriate decomposition.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I don't know, David do you agree? Do you think that's layering or is it just modularity? You know, well maybe they're talking about layering like abstraction layers, I guess they are, right?

Todd Parnell – 5AM Solutions – Chief Technology Officer

I had in my mind a computer science...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, layers and abstraction data hiding kind of thing.

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

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, I see.

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

Yeah, you know, boy, same thing I say every time, it's...you know it when you see it but it's hard to define what it is. I mean it is a decomposition, it's in...you know, we want to measure the degree to which the decomposition or the problem into layers is appropriate or inappropriate, but I don't know how you'd say, what do you mean by inappropriate.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Does it make sense, doesn't make sense.

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

Well, we've captured some of it in the separation of concerns, I think that's, you know, that's the orthogonality point. And we've captured some of it in the nomenclature terminology, that's, you know, clarity, I like that. I mean, maybe it's in a sense what we're really saying is the modularity is easy to understand and fits the business problem versus the modularity is unnecessarily complex, hard to understand or doesn't fit the business problem.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Awkward.

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

Yeah, modularity is awkward and/or doesn't fit the business problem versus modularity is easy to understand and fits the business problem.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

And aligns with the business problem.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

I like that, because that aligns with the business problem, if modularity aligns with the business problem it means you could conceivably separate out certain modules and not break the business in a sense, because you've got nice alignment. It's like swapping TLS out and using a VPN.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

That's well aligned.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Without finding yourself in a layering argument.

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

Right, right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, I'll make a concrete suggestion, is I will change this attribute to be specification modularity and leave the second bullet points the same but change the first bullet points to have the language around modularity, fitting or being awkward, or aligning with the business problem.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

Yes, I think that's worth a shot.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Its modularity does not align with the business problem, right?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes. Yes, I have modularity fits the business...yeah, modularity is awkward, it does not fit the business...can someone give me the low again; I didn't capture it very well?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Is awkward.

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

Is complex, awkward or doesn't fit, doesn't align well with the business problem.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, okay and then...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay, I can take that.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And then at the top is modularity is logical and aligns well with the business problem.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, and then the middle one is what? Modularity...

Todd Parnell – 5AM Solutions – Chief Technology Officer

I'll find something.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, so there will just be one bullet in each of those?

Todd Parnell – 5AM Solutions – Chief Technology Officer

I was thinking of keeping the second bullet.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, that's why I asked, referenced standards compete with...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Compete with or contradict the standard under evaluation. I would delete at one or more layers.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, referenced standards partially repeat or overlap with the standard under evaluation. Referenced standards addressed...so the top one would be align well with the business problem, right?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes, the first bullet there is specification modularity aligns well with the business problem and then the second bullet would be referenced standards address different, I don't know whether we want to say layers or not.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

How about align well with the modularity?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Or just referenced standards address different parts.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Of the business problem, okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes. Yeah, that's good, yeah. Only now clean separation high reads the same way. Referenced standards do not solve the same business problem in the standard under evaluation.

Matthew Rahn - Office of National Coordinator

Hey, Dixie, this is Matt, can I make a suggestion?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Sure.

Matthew Rahn - Office of National Coordinator

Todd is it possible for you to put the changes up on the screen as you go through them?

Todd Parnell – 5AM Solutions – Chief Technology Officer

It would be, but since I've been taking the notes in paper form so as not to disrupt the call with typing, I do not have them right now.

Matthew Rahn - Office of National Coordinator

Okay, that's fine.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, do you see any difference between the referenced standards address different parts of the business problem and reference standards do not solve the same business problem as the standard under evaluation.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, there is the first bullet point is talking about within the standard that you're considering, looking at basically the text, the corpus of text in that standard and asking is it modular, does it do a good job of separating those things out. Then the second bullet point is when we now look at referenced standards, other referenced standards that it incorporates, when we read those standards in the context of the standard under evaluation do we have overlap or contradiction or do we have good modularity and separation when we look at them together? That is the intent.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, I think the second bullet of what we now have under specification modularity says the same thing.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Say that again, you broke up just a little bit, Dixie.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think the second bullets in each column under specification modularity now say the same thing as the bullets that we have under separation of concerns.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, because we do call it modularity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And, I don't think there's anything wrong with that, I think we just delete the second bullet under modularity because it now appears in separation of concerns. And, I think what we're talking about in separation of concerns is really how well the referenced standards mesh with the overall standards under evaluation.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

How well they fit.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes. So, Dixie, I...after saying...after hearing you say that I now...I think I agree with you that the second bullet points in specification modularity are redundant and can be deleted.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

David?

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

Yeah, I'm sorry I got distracted by a phone call so I haven't been paying the most close attention, but I think the simplification that you propose makes sense.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, he just said it better than I did that they're redundant. The second bullet in specification modularity, the three bullets are redundant with the three bullets under separation concerns.

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

Yeah, the only possible glitch, and maybe I'm getting just way too deep into thinking this out is you could have inappropriate separation of concerns within a standard or you could have...and you could also independently have inappropriate separation of concerns with external standards, but I think that's maybe just getting too fine grained, right?

In other words my example might be, you know, specifying a crypto standard within your standard that ought to be pushed into a layer somewhere else and an external standard would be one inappropriate separation of concerns, but if your standard was a crypto standard itself, maybe, you know, if you had part of the crypto algorithm specified in one layer of your standard and a necessary part of it specified somewhere else, that's an inappropriate layering within the standard.

But, just drop it, it's too complicated. There's intra and inter separation of concerns I guess is what I'm getting at, but I don't think we could probably write that down very easily.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay. So, I'm going to move onto the next slide.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right. So, this is more ease of implementation and deployment. In that first row we had a small note that said that we wanted to put in multiple domains was what we were...specialized expertise in multiple domains for low. Because we discussed that someone would be an expert, that we could expect that people who were implementing this would be an expert in the domain under consideration, you know, like a primary domain but that specification that required expertise in many domains would be less favorably reviewed.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I don't remember that what their argument was there, because it seems like ease of use of spec is if it requires highly specialized expertise. Oh, I remember, that it might be a very niche kind of specification which requires highly specialized expertise to understand it and that may not be a bad thing, but if it requires highly specialized expertise in multiple domains that would be a bad thing, okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, it was a small discussion especially coming off of the very large discussion that we were having on the previous slide.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, but it doesn't look to me like, let's see...

Todd Parnell – 5AM Solutions – Chief Technology Officer

I think...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

The first bullets are necessarily, you know, low, moderate to high is necessarily an even progression, because the one in the middle says required both domain and technical expertise to read and understand the specification, that should be "the specification." And the third, high is easily read and understood by domain experts. So, why does the moderate have domain and technical, and the other two don't?

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

This is David, I see the point, it's just awkward wording. What's wrong in the first one is that the standard requires expertise across domains, across several domains. The one in the middle is what you really want to say is, it's focused on a specific domain, I don't know maybe you just leave out the middle.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, I was thinking if we just delete the first bullet in moderate.

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

Yeah, and then the second bullet maybe instead of saying with little effort say something like with moderate effort.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, what are we talking about domains here?

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

Yeah, my memory here is we were trying to get at the problem that we heard when we were reviewing the NwHIN exchange and one of the programmers that we were interviewing said, you know, you had to understand SOAP and you had to understand ebXML, and you had to understand WSDL, and that it was, you know, that there was just so much required before you could read the spec that it made it really hard.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, that to me isn't multiple domains, that's like expertise in multiple standards.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Or multiple technical approaches or...

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

Well, but that was because those happened to be standards.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

To me domains means, you know, I don't know cancer and heart disease, you know, just totally different subjects, you know, of course I guess that is ebXML and...

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

Well, what if you said, how about we said technologies? Specialized expertise in multiple technologies.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah or technical areas or something.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

Then for high I wonder if it's something like, maybe, I don't want to mess up too much with the words we've got, but the high ease of use is that it is appropriately focused on the domain of interest, of the technology of interest or something. It's really about...it's almost again back to the separation of concerns notion where if you've got a standard that requires many different technologies to interplay with each other you are probably not separating the problem correctly.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

I don't know.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

...this really has to do with how easy the spec is to use.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And, you know, it does get into the modularity because even if the...I started to say again...hyperlinks and it would be much easier than if you just had to look up all this stuff, but if it were hyperlinked and it wasn't modular to begin with it still would be hard to navigate, to use. And maintenance activities are extensive and unique for each implementation, I don't even understand what we meant by that one, with that. Ease of use...we were trying to get over into using this, so there's a use of the specification to build the thing to begin with and there's ease of use in maintenance, so we were trying to capture both I guess.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, I like easily used as a starting point for maintenance activities, that's good, that's pretty straightforward, but I don't understand what maintenance activities are extensive and unique for each implementation here.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay, I will...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

David, do you remember?

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

What was the question, Dixie? I didn't hear you very clearly.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

In low under ease of use of spec the second bullet says maintenance activities are extensive and unique for each implementation. I don't remember what, even what we we're trying to get at there.

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

Yeah, I was wondering that myself.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay, I've taken a note to either remove that bullet or get its origin better and make it more clear.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, actually if you look at the second bullet for moderate and high.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Where is says it's easily used as a starting point for maintenance with little effort specification can be used as a starting point for effort, for maintenance. Then the bottom one should be specification is not appropriate to support, is not useable to support maintenance.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay, for low, I've got that. All right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And you can take a crack at the first one.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, I will take a crack at it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, moving onto the second row the degree to which specification use is familiar terms to describe real-world concepts. There were bullets; I just want to make sure I have this correct. We definitely said that we wanted the terms business language and so this now does have business language as the verbiage and there were bullets, I think that some of these bullets were previously under quality and clarity, right these used to be under quality and clarity.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think these are good, I'm okay with them.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, so then run time coupling, this is a new row based upon our discussion and what we were trying to talk about here was how does this interact with externally defined interface and I am using some computer science style language here to give some more meaningful, aside from just tight, moderate and loose coupling, and message data coupling would be loosely coupled and content or common coupling would be tightly coupled.

So, these have specific meanings in the computer science community, in terms of tight coupling, content or common coupling means that the run time implementation demands knowledge of and uses the internal structures of some other system or interface to which it is part of the run time environment.

And under the loose coupling message and data coupling means that everything goes through messages with, you know, well defined business meaning and through transactions that have an agreed upon semantic.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, if it would just call in the service that would fall under message, yeah.

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

In this case maybe we just...I wonder if again is this one where we leave out moderate and we either just classify it as tightly coupled or loosely coupled? How can you be moderately coupled?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay. This was hard, that one was tough for me when I was...I felt forced to put something into the moderate box.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I'd say moderate was loose with some exceptions.

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

Yeah, you could do it that way and you know, a mix of tight and loose coupling, how about that?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Perfect, I will make that change. We had a row that is now x-out around number of internal interfaces, it has been deleted.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, that's what we decided the coupling was really what we cared about.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, I think that was, the replacement was the run time coupling. So, for degree of optionality, I'm just looking through my notes to make sure that I have all of this. Last meeting we said that we generally liked what we saw here but we wanted to add the optionality cited as a barrier to interoperability versus optionality cited as aiding interoperability in the low and high groups.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Cited by whom?

Todd Parnell – 5AM Solutions – Chief Technology Officer

By implementers.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think we should be explicit about that, because the specification writers will go, oh, yeah that's to make it easier to be interoperable.

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

Implementers cite as a barrier.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes. So, I'm ready to move onto the next slide.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, yes me too, yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

All right, metrics for ease of operations. There were two changes, the first change is in the operational scalability, the Big O notation is gone and the entire cost row is now gone. Oh, and then there was one more change for fit to purpose, it didn't used to say use cases.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Fit to purpose.

Todd Parnell – 5AM Solutions – Chief Technology Officer

I think it used to say needs or something like that and so we added the...I added the term use cases.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I don't think ... how on earth would we measure this?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Well we removed in the high fit to purpose high used to be 100% and now it's at least 95, because we didn't want to say 100% and so this is where we do have specific break points for the percentages.

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

And, again I've raised the same concerns from before that you could be challenged on that to prove it and it would be very difficult.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

It really would, because how many use cases, you know, if we've defined one use case, it depends on how many use cases people come up with.

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

Yeah, and often times the standard is specified without, you know, a completely exhaustive list of the use cases.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

I mean, what would be the use cases for TLS, you know, there's an infinite number of them.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

It's really more, but I think it's important, most specifications describe at the beginning, they say this specification used, you know, when for the following purpose.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Dixie, can I interrupt?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

It was supposed to be the use cases as expressed under the terms of the governance. So, if you're asked to evaluate TLS as a standard you wouldn't read the TLS standard and ask what use cases does it say that it meets and then do the evaluation, you're asking given the business context that the committee that is doing the evaluation was asked to meet certain use cases does the standard meet them.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, we should make that really clear, Todd, yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

But, I remember this conversation because if you think about the RFI and how this process was described, when this evaluation would be underway, would be done is when the ONC hands this team, you know, the standards evaluation team a standard and says look at this as a possible way of pushing data from one provider or allowing a provider to, you know, send data to another provider. So, it would be given to this evaluation team with a specific use in mind, use case in mind. So, it still wouldn't be a number of use cases like an 80% of use cases; it would be how well it fits the use case for which it is being considered.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right. So, I will remove the specific percentages and replace it with language that's similar to other places where we have few, those all kind of things and then I will add text, and I need to wordsmith, but that use cases from the perspective of the governance not the use cases the standards, not the use cases that the standard says it meets.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I'm not sure; it's like how many I think is like how well.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

...use case may go, you know, like in the case of Direct and exchange, when we were evaluating that, it's not like they gave us a list of five use cases, they gave us a very general description of the intended use and, you know, and we would see then looking at does this...and remember we also...they also said...said that they would be giving us a spec for given...to fulfill a given need, you know, this is the need, this is the spec, so it's really not even a use case, it's more a need. And, it's like how well does it...

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

You mean it says something like targeted use or something like that?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, something more general than use case and it would be...you know, ideally suited for the intended user.

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

A targeted purpose or...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Targeted purpose, targeted need.

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

Yeah, the notion that it is in the context of being asked to solve a specific problem rather than just the open ended potential for everything.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, the need as the charge from the governance.

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

Right.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Or the ONC.

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

Yeah, governance is a dangerous word, but.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I wouldn't use governance but I would...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

You know, for the targeted use or the charged use or the purpose of use or problem to be solved.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think the challenge there is to make it real clear that we're talking about how they're thinking, how ONC is thinking of using it versus you open up the spec and it says section 1.2 here's what it's intended to be used for.

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

Right.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Correct.

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

Right, right, yeah, because, exactly, I mean, you know, take Direct, you know, Direct was targeted by ONC to address a specific case of push of secured clinical information, the fact that it happens to be a very open ended e-mail standard and a very open ended X.509 standard is not what you'd be evaluating it on the basis of, it's how well does it solve the Direct.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, it was supposed to be very simple, point-to-point, push communication.

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

Right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That's a perfect example, yeah.

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

Right.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay. Now have we gone ta da?

Todd Parnell – 5AM Solutions – Chief Technology Officer

That's the last of them and now we begin the other piece.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, this...

Todd Parnell – 5AM Solutions – Chief Technology Officer

I feel like, Dixie, me expressing to you and David what the summer of 2011 methodology was, is probably the least effective use of everyone's time.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, but let me remind, David, how we did this, is we did a series of evaluations and if you go...we evaluated them and then those that they identified a very low need we just eliminated, you know, in this new world the very low need won't even, you know, we don't even need to evaluate need because ONC will already do that. So, then we did two successive comparisons, go to the next slide, I think its two slides now Todd, oh, do I have...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Oh, I'm sorry, sorry.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay, so go one more.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, these are the ones we eliminated and then the next one we did the mapping and on this first one we did two mappings. On the first one we did specification maturity against technology maturity and everything that we said, well the specification is either low or moderate in the maturity and the technology that it specifies is in this tiny space and then anything that fell in that little red box there we eliminated.

Then the second comparison, it goes to the next one, the ones relating, specifications that remained we then put on this other graph and draft their complexity against industry adoption and then those that fall in that lower left hand quadrant or section I guess it is, we eliminated from further consideration and that's how we came up with the ones that were, you know, ready to be further considered.

So, the next slide, oh this is the graph that appeared in the RFI that says what we're really aiming for is for standards to move from...to compare adoptability and maturity; this is the graph that is right from that RFI. And the adoptability includes, as you can see down there, the three criteria that are really adoptability measures, are the ease of the implementation/deployment, the ease of operations and intellectual property, and the criteria the measure maturity are the maturity of the specification, the maturity of the technology and market adoption. So, that's how they envision the specs, you know, would move through time starting with emerging standards into pilots and ultimately ready for primetime.

So, the next slide is just a way, this was just a thing that I put together that we could use to really summarize what we found in our evaluation. And this still is really a qualitative evaluation, but it's a way of...so I can see it better. So, I put in these the maturity, I just put, taken as an example the maturity of specification, maturity of underlying technology, and I remembered, David, that you're saying that we really don't want to assign scores like a 1-10 or anything like that, what we really want to look at here are how we rated them, you know, on breadth of support, stability these different attributes that we've gone through.

But, what I'm suggesting here is that we then kind of eyeball it and not do like an average, but actually eyeball it and say, okay we give it an overall rating of low to medium or whatever, and then we use that in the same approach to get to the same approaches we did last time, but to get to the ultimate conclusion of how well, how ready for primetime it is. But, I think what we really need to get to is that maturity versus adoptability. Is that the last one that we...let me see, last summer...?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes, that's the last slide here before we get to a different topic.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

No, I was thinking that last summer we did the second comparison was not, was really complexity and adoption, again we want to end up here if we want to end up the same as what's in the RFI is that we should be doing an adoptability versus maturity kind of evaluation.

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

Yeah, I mean, I think that adoptability and maturity are...that's a pretty good cut at it, at the...you know, if you have to collapse a multidimensional space to two dominant dimensions that's what we're doing, those are...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, that's really where we want to be.

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

Right, because, you know, you can easily see the world where we have mature but hard to adopt standards, we have immature and easy to adopt standards, we have, you know, all...you know, the major four combinations.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, but the challenge is how to translate these low, medium, high assessments that we assigned to these into those two dimensions.

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

Yeah, well, you know, the only really valid way would be to analyze hundreds of standards, score them by independent raters, do a principle component reduction, take the co-efficients and there you'd have it, but I don't think it's going to do that.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Now, what I meant was if we picture ourselves walking through this, which we're going to shortly have to do, and you look at all of these metrics that we have defined, okay we translate those into some sort of score card, how do we get from that score card, I mean we have our 3 x 3, you know, we have our 3 criteria, maturity specs, maturity technology, market adoption that fit nicely onto the maturity access, and we have ease of implementation, ease of operations, intellectual property that fit nicely under adoptability, okay?

But, now we've got, we're faced with all these L, M and H's, you know, a lot of them. So, how do we reduce those, how do we do the data reduction exercise so that we can put a standard on this graph as either emerging pilot or national standards. How, do we go about doing that?

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

Well, I mean, do you believe that...are we expected to do this in a quantitative way so that there is actually an access...that there are units of measure on the access and that, you know, we could score something as a 6.3 and plop it on there? I mean, do they honestly think that this can be done with that level of precision?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

No, I think what they want is exactly what they put in the RFI. They want us to be able to put...they hand us a specification, we go through this exercise and we objectively evaluate it. So, I think that's where the objectivity comes in is that we have these metrics, we walk through and each metric we, you know, somehow, well not somehow, we give it a low, medium, high, right? That's as quantitative I think that they want it, but ultimately they want us to come back with this grid, this graphic really and with a point, some point on that grid that shows here's what we think it lies right now. We think this one should be...is ready for pilot. We think this one we need to let, you know, needs to emerge further before it's ready for pilot.

But, I have not heard, the only place I've seen, frankly, anybody suggest that we should rate these from 1-10 is a set of slides that Ellen showed me and I don't think she ever showed the whole team that assigned, you know, 1-10 and an average, but nobody...

Todd Parnell – 5AM Solutions – Chief Technology Officer

This used to...Dixie, this slide right here used to have numbers on it and it has been reworked prior to presentation.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, I thought this was the slide I sent to you.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Not this one.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, okay, then I don't know what I sent to you. You mentioned the other day I sent you something.

Todd Parnell – 5AM Solutions – Chief Technology Officer

You sent me this slide, the governance RFI.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Oh, oh okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

And this slide right here is taken from a Word document that describes the evaluation process and this is one of the worksheets, this is a portion of one of the worksheets.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I see.

Todd Parnell – 5AM Solutions – Chief Technology Officer

To make that happen.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I see, okay. So, this is probably the one that she sent to me that used to have a 1-10 rating.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, it and now after our discussion it now says L, M, H.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay.

Todd Parnell – 5AM Solutions – Chief Technology Officer

With the notes and justifications.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

So, the question remains, given that we have all these worksheets and we recorded L, M, H on the worksheets, right, and we have two worksheets, we have one, you know, going back to the previous slide, we have one on maturity, one on adoptability.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, you roll up for each.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, how do we do that rolling up?

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

Well, I think one thing you could do, you could actually just, you know, score these by say counting a low as 1 point, a medium as 2 point and a high as 3 points, and sense you'd have to require that every standard be rated by every, you know, category so that you didn't...you know, everybody had the same opportunity to get points, and then just divide the numbers into the ranges. If you got less than 20 that's a low, if you got between 20 and 40 that's a medium, if you got over 40 that's a high or whatever it adds up to for each of the two accesses.

I mean, I think that would be a, you know, quasi-quantitative way to do it. It's not very meaningful statistically because there is such high correlation between these measures, you know, it's hard to know that adding two mediums...

Todd Parnell – 5AM Solutions – Chief Technology Officer

And some of these are actually penalties, meaning that there are some where if it was a low it's not just giving you a couple of points instead of a lot of points since it would be a negative consequence for being rated into the low category.

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

Well is it the case that a perfect standard would score a high on all of our measures?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I don't understand what you're saying, Todd, there is no negative, you know, it's still low, medium, high.

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

Right, the world's worst standard would get all lows and the world's best standard would get all highs.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Ah, so imagine that you have an otherwise perfect standard that has some restrictive patent encumbrance, go back to the intellectual property one, that makes it barred from consideration.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, none of them would be barred from consideration if they...we assume that if ONC hands it to this panel to evaluate its viable, it's just a matter of how mature and adoptable it is.

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

But, Todd does raise, implicitly raises a good a point, which is by doing just a simple summation of the scores you were assuming that all of them are equally important.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

And I don't think any of us would say they're all equally important.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That's right, that's right.

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

Lord knows how we would assign weights to them either. I mean, that's the flaw of thinking of this as a quantitative process.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

It's really qualitative where what we've achieved here is a set of analytics that you can apply or a set of evaluation criteria, evaluative criteria that you can apply to help you think through how to analyze a standard and I don't know, I don't know, that's really a tough problem outside of doing it literally on hundreds of standards and then kind of, you know, retrospectively saying, these are the standards that have been incredibly successful in the market, how did they score, you know, and then adjusting your parameters so that the good ones actually score well, almost a machine learning kind of thing, but no one is going to bother to do that.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Well, let's...the dimensionality of the problem is very high if we were to go to each of the attributes, that would be a very large problem space, but if we allow...let me just go forward one slide, if we allow the roll up and we look at the overall ratings and we go low, medium, high for each of these where the overall rating is happening but not at the individual attributes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That's at the criteria...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Then...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That's at the criterion level, right?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, yeah, and you are looking at, I think it might be 6, it might be 7, I would have to...we might have changed one of these, but you aren't looking at that many possibilities.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, what I was thinking is if you go to the next slide, I remember David saying that we didn't want scores, so you give them L, M and H, and then you really decide on an overall rating but use the individual criteria, an overall rating for...I think these are attributes, yeah these are at the attribute level, so you have the attribute scores there and then each individual grader, if you will, would then assign a low, medium, high that isn't really an average but is rather their feel for where it should be, like you have, well 4 is not a...you know let's say...it really would be more of an average though probably. Yes, I think that's what we do, I think we just count it through a 1, 2, 3 average and then put them on the...yeah, I think and then use it for our test case and see how it comes out. Now, how many, let me see, how many criteria do we now have? Let's see...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Criteria or attributes?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Criteria, all right, so I'm going to count them up. We have market adoption, intellectual property, ease of implementation and deployment, that's up to three now, ease of operations, four, maturity of specification, five, maturity of underlying specification, metrics for maturity of underlying technology, six, yes we have six.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, they're the six that I have listed on slide 14.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yeah, I just wanted to make sure that we weren't...we hadn't added or subtracted. So, it is the six that appear on this slide.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That would be...under each access, so, no I think that's what we do. Take a very straightforward approach and see how it works out and do our test case and see how it works out. Adoptability and maturity are certainly equally important I think.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, then let me see if I can...I think that I have to go a little quantitative to get an average because, let me just work this through, sorry wrong button, each individual reviewer will go through low, medium, high for each attribute and then produce an overall rating of low, medium, high, then we will have more than one reviewer for each specification and so at that point in order to average each reviewers...I'm suggesting that we average the reviewer's ratings with a, like a 1, 3, 5, low gets 1, medium gets 3, high gets 5 and use the average across all reviewers and then place that onto the 3 x 3.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think it would be better to do a consensus kind of thing; the reviewers come together with their individual scores, they discuss and agree on a score, because, you know, different people have different scales in their minds.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

This actually works out pretty well, I've led two reviews for the ONC at the Regional Extension Centers and the methodology they used is that, you know, everybody scores on their own then you come together and you come to consensus on the score then it really does work pretty well because people discuss their scores and then they come up with a, you know, consensus of scores.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And that works pretty well.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And then you aren't, you know, averaging my tough grade with David's easy grade rather it's a way to calibrate our metrics between us so that we both agree, well okay if that's what you mean by easy then, you know, fine, if that's what you mean by low, David, then I agree, you know, kind of thing. How does that sound, David?

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

Yeah, I think that there is nothing we can do to really take this out of a qualitative judgment and the metrics that we've put in place and the attempt to kind of do the scoring is just to help you focus but in the end it's going to be a group of people making a decision, so, you know, a collaborative process is probably the best way to get there.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, I think we position it as a structured, well defined structured methodology for arriving at what essentially is a qualitative judgment.

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

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

And, you know, we know that this is just one factor that, you know, some standards happen, you know, even despite all the bad things that we can say about them, decisions that were made in history or a piece of legislation that was written by people who didn't know what they should have been writing, or whatever.

And then we know, you know, that there are some standards that are going to be so new we have no idea how to score it, but we have all the confidence that it approaches the right approach and we want to give it the best shot at a chance to succeed so you'll take that into account, but you'll at least be able to explain, you know, what you knew and what you didn't know.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah how you...it's a structured way to really...you know, as objectively as possible arrive at what's necessarily qualitative.

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

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

My one concern, I just want to draw your attention back to this, the picture specifically, is that the boxes for national standards piloting version standards sometimes cross the sextants. Is there any way that we would be able to, under this methodology, this group consensus methodology, be able to put a, I'm just going to look at the middle box there, is there any way that we would be able to x it such that it was the national standards versus x it such that it was in pilots? Because, if I just said it was medium maturity, medium adoptability I don't know whether that puts it on which side of the line.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, I think this graphic; if you have a better way to do the graphic you should do the graphic that way. I think that this is for illustrative purposes for the RFI. I don't think that there is anything quantitative about it.

Todd Parnell – 5AM Solutions – Chief Technology Officer

So, you wouldn't be looking then for a recommendation coming out, because if you had to put a one line recommendation that said we recommend this standard for emerging or just a single to say it's either emerging pilot or national standard, you wouldn't be able to, you're not looking to do that?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, we are. They're looking for...that's really what they want a recommendation that puts a standard in one of those three areas there.

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

But, you know, what's missing from that is that assumes every standard is going to fit in either an emergent pilot or national standards bin and I think we can name standards that we don't think ever should be taken out of the box, I mean they should never be implemented at all, where's that on here?

Todd Parnell – 5AM Solutions – Chief Technology Officer

It's that white line.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, that's that white area down there in the lower left hand corner.

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

Yeah, I mean, so, you know, I think you could conceivably go through and say, well...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think that they would call it emerging, that's just a nice way to say it, I mean, what they've talked to me about before is an emerging standard, you know, you come up with an emerging standard, that means it's not ready for primetime and with that, if it is emerging then you say also make a recommendation as whether ONC should encourage it's continued development, right, or not.

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

Yeah.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And if it's "not" it just remains emerging forever. We all know of standards that have been emerging forever.

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

Yeah, if they're worried about putting some of it in regulations there may be some that we don't want to ever mention in regulations.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, they wouldn't, they would never mention anything in regulation unless it falls in that national standards area.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That's the only thing that would ever get in the regulation, but as you well know, like look at the Direct Project, they thought it was ready for pilot, now you didn't...it didn't get in regulation until it was judged ready for national standards but it did get funding for ONC for piloting.

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

Yeah.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And so did exchange, they got money from ONC for piloting, but that money was spent before either of them ever made it as a national standard. So, I can't envision ever that a standard that actually appeared in the regulation would then be piloted, you know, it would be piloted before it ever made it.

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

Yeah, so then let me ask another question, on these, the current accesses of adoptability and maturity, are we envisioning that you can...that when we go through this collaborative process that you get for any particular standard a single L, M, H for maturity and a single L, M, H for adoptability?

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

Okay, so that means that every square is all or none, you're in the center of the square or not at all.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Well, that's why I was asking if that was true.

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

Yeah, so and I missed it with the first time around because I wasn't thinking clearly, but...

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I wasn't either, yeah you're right. Yeah, that's where...

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

So, as it is now where you have, you know, the border between pilot and national is, you know, 2.5, you know, that won't work, you'd have to color each of the 9 quadrants as a whole and I don't think that's what they want necessarily, although, again forcing us to be so sort of pseudo-quantitative that we can distinguish between 2.4 and 2.5 on one side of the line or the other side of the line is silly, because we can't do that.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right, right and the level of granularity, if we really translate it into quantitative would depend on how many metrics we had defined for a given attribute and how many attributes we had defined for a given criterion.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, perhaps you actually have two discussions then, I know that this is now making it more lengthy, but imagine that you ended up with high adoptability, medium maturity and now, I mean, you're in this, you know, you're in that box that looks like it's half national standards, half pilots.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Then the...given that you're in the high/medium box the evaluation committee then makes a recommendation, again through consensus, to choose is it a national standard level or is it the pilot level and those decisions, you can see how those decisions were supposed to be weighted through looking at this picture.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah and I would also remind you that when we did this last summer the team actually assigned some things like a low/medium or a low/high, or you know, they didn't...they weren't happy with low, medium, high is what I'm saying, they really did...that's why if you go back and look at those docs they aren't like right all in the middle of, you know, medium or high, because people actually assigned them low, medium or, you know, low/high, high/low that's just the way it happened. So, maybe what we should do...maybe what we should do is use like a 5 point scale not try to break it down to, you know, of course 5 would give you a...I don't know. I don't know how to do that. David, you're the one...that you don't want numbers right? You don't want scores?

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

Well, I don't, I mean, you know, I'm just one...I just believe that this is so fraught with so many judgments I'm in a theory of systems where a series of qualitative judgments are then turned into a score which then people start to actually treat as if it means something and it's the inappropriate assumption of precision that's just not there.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

It is, it is.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, you want the judgment of the people to still be carried when outside observers talk about the output of the work.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Right.

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

Yes and you don't want to imply that you know more than you do or that there's more meaning than there really is in a specific number, you know, if somebody sees 2.6 which is above the 2.5 cutoff and they assume that means the standard is ready without understanding what the trade-offs are compared to the standard which landed at 2.4, you know, you just, you lose something and it's an easy out when you let people turn it into a number and if that number doesn't mean anything then you shouldn't turn it into a number.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Well, that's why I like leaving it at low, medium, high, but allowing people if they want to say it's a high/medium or whatever they can because it's just a point on a graph, it still isn't a number.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You know, so they have...and for a given criterion you don't keep separating out these different metrics but you treat them as inputs into an overall score of low, medium, high for a given criterion. I think that's the right way to go actually.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

You use these low, medium, highs to inform your judgment and to force you to think of it in an objective and structured way, but ultimately you end up with a low, medium, high.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay, I will do this write up. I will have materials that lay this out so that we are speaking to a process that is documented and we can mark that up.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, that sounds good and we run into...

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes, we have. I was just going to, just to finish out, I think that unless there is...we don't have different participation this meeting, but it looks like we'll go with HL7 InfoButton as the example one for the next meeting?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

I think so, I think that makes sense. Oh, our next meeting we're going to hear about this RESTful exchange.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Right, but that is not even a written document yet, it's an in process inflator, so it wouldn't be a candidate.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, David doesn't know that. David, Doug Fridsma asked to have part of our next agenda to brief us on that RESTful exchange work.

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

This is the Mitre RHEX work?

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

Yeah, I'm fully up-to-speed on it, but I'd be happy to sit through and hear everybody else's reaction to it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, yeah and you don't think that's ready to be an example exercise though, right?

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

No, there targeted completion where they will have done there, you know, tests and have all the specs and everything written is I think October 1st or October 31st or something, it's a fiscal year whatever that is, federal fiscal year. So, they are at a stage where they know what they're doing and they could explain it to us, but it's not finished, they haven't actually done it, so I think they're reserving the right to change things as they get out there and actually do the work over the next couple of months.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Yes.

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

I mean, I think if they presented what their planning to do we would quickly be able to tell them what we think of it, because it's precise enough so that you get the gist of it easily, but there's some details that are still yet to be nailed down, so it's not precise enough to be actually considered a standard.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Okay. So, for next week's meeting do you think it's okay to present our work to the full committee at this point?

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

Yeah, I think so. I think we have to be cautious and maybe for Doug's benefit more than the rest of the committee is to downplay the notion that this is going to magically generate a score that can drive a bureaucratic process, that this is a way to focus a qualitative evaluation around some specific metrics.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes.

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

I don't want Doug to think that we've done more than we've really done.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah.

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

And I don't think he'll make that mistake, but just, you know, if there is to be a good discussion, I mean, maybe people on the committee feel that we should come up with something that can generate and actual, you know, score in which case we need to plead for more support because we didn't have enough people.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, okay.

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

So, I think it's certainly ready for discussion, I mean, you know, this is one of many, many, many factors that goes into these debates, as you know, so I don't think we should overrate the importance of it.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yeah, they're trying, they're really trying to...it's a way to focus the qualitative method in a very structured way, yeah, well, yeah, I'll come up with words, all right.

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

Yeah, and you know, we've had these wars in the past about standards and this is an attempt to try to be more objective and it's a step in the right direction and I think it's going to yield useful insights into how to think about evaluating standards but it isn't going to give us a simple algorithm that generates a yes/no.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Yes, okay.

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

Okay.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

That's the way I'll present it. Okay can we open this for a few minutes to public comment, MacKenzie?

MacKenzie Robertson – Office of the National Coordinator

Sure, operator can you please open the lines for public comment?

Caitlin Collins – Altarum Institute

Yes. 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.

MacKenzie Robertson – Office of the National Coordinator

Great, thank you.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

And thank you again for dialing in David, I appreciate it and thank you Todd for all of your work.

Todd Parnell – 5AM Solutions – Chief Technology Officer

Okay.

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

Bye.

MacKenzie Robertson – Office of the National Coordinator

Thanks everybody.

Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Thank you, have a good evening everybody.

Public Comment Received During the Meeting

Complexity of Specification relates to the specification. Ease of use of specification likely relates to the execution of the specification