MICHAEL ROSE: Just thanks a lot, Steve, for filling us in on this agenda. We thought it was important today to get on this agenda, because this group, the Healthcare Business Action Group, has been together for 18 months or so. And we're actually at a point now where we're developing some business requirements and moving it onto the Hardware and Software Action Group for some guidance.

And some of our colleagues here that are going to talk today are going to get into some of the details around various areas we think we can use some research help. And clearly, as an industry, this is one area that we're starting to recognize where we do need to start reaching out and getting some direct help from you all. So we thank you for the opportunity today to talk to you. And hopefully, this will be an ongoing dialogue that we entertain with this group.

Well, I though we'd just do a quick round of introductions. In addition to me, we have Bob Celeste from EPCglobal who's the director of the business action groups, and he's responsible for facilitation of the business action groups. Ted Ng, who's a director with McKesson, in spite of what it may say in the agenda. I don't think, Ted, you've gotten the promotion yet, but maybe next week to the vice president and board member. But hopefully, that'll happen next week, Ted. But it's nice to know, you go to Cambridge, you get a promotion.

And Chuck Schramek, who is with EPCglobal now, but he's actually on loan from Johnson & Johnson. And about a year or so ago, J&J, we took we took a decision that we thought it was very important to help the development of industry standards. So we graciously let Chuck go to EPCglobal to help facilitate this development of standards in the health care industry.

So as you see on the agenda here, Bob's going to give us an overview to what's been going on within the BAG the Healthcare & Life Science Business Action Group. Chuck is going to talk around item-level tagging. We had hoped to have Tom Pizzuto here today, who actually was our member from the Healthcare & Life Science group from Wyeth who was our chairman of that group.

But Tom couldn't get up here because of business reasons. Ted's going to cover pedigree and the update around messaging around the pedigree. And then we'll certainly entertain any questions. So we'll all participate in the panel discussion.

I just thought maybe I would touch on a couple of points here. Why are we doing this? It's not like fast-moving consumer goods, where you've got Walmart and Target saying you must and the Department of Defense coming out with mandates. The reason why we're very interested in this is because of some of the regulatory requirements that are starting to emerge. So we had the FDA back in 2004 that issued some guidelines around widespread adoption around RFID at the item level to begin tracking and tracing products.

But the reality is, the issue that we're really dealing with is patient safety. This is an issue that this industry takes very to heart, because frankly, we're all affected by it. We want to ensure that the drugs and advices that you receive are genuine products. We don't want to go down the path-- and clearly you all understand the issues that we could encounter if counterfeit products are out there. So we're very, very concerned about this.

So we're also responding to the movement within the states, where they're adopting what are called pedigree regulations. Right now, we've got a large number of states that are moving in this particular area, and this requires chain of custody tracking of the ownership of products. And as a result, both the FDA and-- well, the FDA particularly feels that this could be a key element to the track and trace of products. So the movement within the states and the FDA, we thought, was very important to be able to collaborate with them to show some movement in the industry with the development of our standards.

But this is not just a US issue, and there are some other motivations that are going over in Europe-- particularly Belgium, Italy, and I know we've seen some movement in some other countries as well, where they're expecting serialization of items. Now, to be very clear, Belgium and Italy, they're not expecting RFID to be applied to a product. All they're asking for is serialization of that item-- mass serialization.

And the movement within Europe is primarily driven because of pharmacy fraud. That's the reason why they're looking for serialization of items, because they want to know when a particular product is dispensed that gets reimbursed and only for one time, not multiple times. So these are some of the emerging regulatory drivers that we're starting to see within the pharmaceutical industry.

This is a model that the FDA'S proposed, and we keep this in mind as we continue our discussions. And I think this is very important. It actually fits with a lot that was said earlier, by the other industries that presented today of, to really enable safe and secure supply chain, you need to be able to track and trace product. But you also need to be able to authenticate product as well.

So in here-- I've got a bit of a build here. But to move us along, we think it's very important that authentication is needed, to be able to ensure that the product is genuine. That's when it becomes a foundational element for any track and trace system.

Clearly, the pedigree allows us to be able to monitor and track that chain of custody, and changes as that product moves through the pipeline. So when you look at authentication, there's also a couple of different elements of that. We're looking at the product identity, but we're also looking at the physical characteristics of the product as well. So it's not simply does it have an ID number, because if you think of RFID at its basic element, and mass serialization at the basic element, we've been able to identify that package and the number that's been assigned to that package.

What you don't know are about the contents of the package. Was it potentially tampered with, things like that. So that becomes gets us more into the areas of physical features.

Certainly in the future, it would be nice to see if RFID could play a role as a method to ensure that the product has not been tampered with. But right now, in its current incarnation, it cannot do that. But we think over time, it would be nice to see what role RFID could play there to ensure that the product has not been tampered.

On pedigree, we talk about track and trace. So where is the product and where is it headed, and where was the product. So it's the element of looking where it is, but then also being able to look backwards. And that's a very large issue for us.

Our supply chain is not directly from manufacturer to retailer. There is a distributor in the middle there, and there can also be secondary distribution as well. So what you find is our supply chain can be a bit complicated when you start factoring in also returned goods. And the retail pharmacy may not ship those returned goods back to the distributor who originally distributed it to them. So you get into some very complicated situations to figure out where the product was and from whence it came.

So as we conducted our work over the last 18 months, this is the base model that we've been working with and trying to develop some specifications for our industry based upon this model. So with this, I'm going to turn over to Bob, after an intro of what's driving industry. And Bob's going to talk about the actions within the HLS BAG and how we've organized our efforts and some of our current activities. So Bob?

[APPLAUSE]

BOB CELESTE: Thanks, Mike. So I just wanted to give an overview of why health care is looking at RFID. Basically, it's to form the safe and secure supply chain. So you're seeing things up here about item-level tagging, electronic pedigree, track and trace, product authentication. And the group actually has a very regimented way of going through this-- of developing the capabilities that they'd like-- the scenarios, the use cases, and then any variants on those use cases.

Our first capability that we started with was pedigree management. And as Mike talked about, that was primarily driven through the regulations that the industry had. So I'm actually going to spend most of my time on this slide, and I'll give you a second to soak it in.

We're hoping that the Auto-ID members in the audience will take a look at some of these checkmarks. These are areas that we feel that Auto-ID can help us out with. Basically, this slide is broken into a few areas.

The blue areas is our structure. So for each one of these blue areas, there's the co-chairs, and they all report up into the tri-chair area. So you see the strategy work group, information, technology, R&D, and process work groups.

Last year, when we looked at things like pedigree management, one of the things we realized was-- and we've talked about a lot today with security, and the requirements are pretty clear. The people in the supply chain, and sometimes customers, would need to read and write the tags. The bad guys don't need to do that, and that's our requirement.

To that point, because we don't have a very simple, cost-effective, easy mechanism for securing the tags and the information in the supply chain, there's a number of areas you see here where we're looking at security. In the areas of item-level tagging, how to physically secure a tag? In the areas of serialization, how do we secure the number on a tag? In the areas of decommissioning, how do we ensure that a tag does not get removed from a discarded bottle and re-enter the supply chain-- things like that. So security actually has broad ramifications as far as the areas that we're working on.

Some of the areas that we'll be working on in 2006 that are interesting are track and trace. And I want to make a difference in your mind between what track and trace and what pedigree is. So pedigree-- and I think Chuck actually coined this phrase today. With pedigree, if you think about it, it's a business to regulate our message.

Pedigree can be started by paper. They can be started through a EDI transaction or through an XML transaction. Not easily courierable for an industry. So we're also looking this year at the track and trace, the vocabulary that this industry will use, and the understanding they'll have at a business level of what all of the events mean when you move product with RFID tags on them.

The other areas I'll point out that will be new is-- and we originally saw these as variants, so we'll be doing a little bit of a GAAP analysis between the requirements we have today and when we bring companies that focus in these areas. And those areas like cold chain, medical devices, which will start up soon, and biologics, and how they affect and how they add requirements to our pack. So I think I'm maybe done with that. That was my one slide. So we'll give Chuck the floor.

[APPLAUSE]

CHUCK SCHRAMEK: OK, I'm here again subbing for Tom Pizutto with regard to item level tagging in the work that that work group has done for the Healthcare & Life Sciences BAG. This group consisted of a series of about, I guess, 32 individuals that were part of the Item-Level Tagging work group. 10 were from Fast Moving Consumer Goods, 10 were from Healthcare and Life Sciences, and 10 were from the Hardware Action Group within EPCglobal.

In addition to that, we had Dan Engels from Auto-ID center here working with us. And we also had an individual from the Architectural Review Council within EPCglobal. So that group was pulled together from the three BAGs to represent those BAGs and their interests with respect to turning requirements into solutions, or at least into understandable requirements for the Hardware Action Group to act upon.

The objectives that we had before us-- again, because we were basically business action groups, was to really define the business scenarios and requirements that would drive the way we intended to deploy and adopt RFID technology. We started out with business scenarios, again focusing on item level.

Case and pallet had been pretty well covered in a fine fashion from FMCG. Item level had not. It was paramount importance to Healthcare & Life Sciences. And yet, it was also a significant importance to both FMCG and DoD.

Went into tremendous detail addressing the operating environments in which item-level tagging would have to perform. Min/max read and write ranges were critical to us, because it was a very different set of scenarios from pallet and case. Security requirements, which you've heard all day long, were as important for us as they have been for all of you, both in the other industry presentations, as well as the Auto-ID Lab's work that you've been doing to date.

Privacy features, critical to Healthcare & Life Sciences. Again, we have significant concerns there that, unless we educate the public well enough to understand the value of this technology and its use in their best interests, it will be a challenge getting adoption. We have a number of products, controlled substances that, in pharma industries, we have to move out to customers. These need to be shielded and secured so that others do not know what is being sent. We don't want these tags going out live to customers and consumers, because they in turn are paranoid about knowledge of medication consumption being made available to those around them.

And lastly, memory features-- this area is how do we want to use the memory that will be on the chip in the most efficient and effective way? The progress we've made to date-- and again, this group has been working, I guess, since about late July of 2005. We delivered a series of item-level requirements to that group.

It was about 32 pages worth of requirements, spanning both all three-- HLS, FMCG, and DoD, as well as 60 business scenarios that we felt well demonstrated the way this technology needed to work for those three groups. On January 16 and 17, we narrowed that down. We winnowed all the way down to about seven critical scenarios, that it was the intention of the Hardware Action Group and the vendor community supporting Hardware Action Group to do demonstrations of those seven scenarios. And those seven scenarios are the ones listed here. They span, again, the three Business Action Groups I'm here to represent.

Hanging garments on mobile metal hanger racks creates a real dilemma for the apparel industry from a reader perspective, a tenant perspective. A dock door portal, same thing. If you look across all three of those groups, we need to be able to read accurately. And particularly when you get to the health care side, we are not comfortable with 99% reads. We really do need 100% reads.

Apparel point of sale, again, was a scenario we picked, because it represented one of the more challenging point of sale scenarios that needed to be shown to be effective. DVDs in adjacent shelf slots, in that particular scenario, again, represent close packing of a product on metal shelves-- a dense reader scenario, more or less.

Vials and ampoules in a case-- here again, this was a read scenario. And for us, this represents probably one of the smallest products that we'll be tagging, and it represented a challenge for us both on a read and write perspective. The speed at which these move across the packaging lines is of concern, so we need real accuracy there.

AUDIENCE: [INAUDIBLE].

CHUCK SCHRAMEK: Exactly, and probably the most challenging scenario that the Hague faces, in the work ahead of them, is that of the retail form a mixed tote scenario. This is where the wholesalers will put together-- particularly the wholesalers will put together a code of product that could represent a dozen or better manufacturers' products, all tagged differently, all kinds of different products of all sorts of form factors, of materials, and of contents, all together the orientation of antennas, its random orientation. So it's going to be truly a challenge for them to demonstrate that one. And then the last one, the vial and ampoule write scenario was the only write scenario that we did including this, because we felt that this was the one that represented things very close together, very small form factor, going at a particular pace.

The areas of central focus and concern for us in these demonstrations that are coming up are really to look at performance considerations. And again, this is the operation of the tags, operations between tags and readers, operations of fixed readers, and the presence of mobile readers. Again, this is in the retail end of the supply chain that we're addressing. And lastly, operation in dense reader environments. There again, inventory tags that are occurring in the retail setting, either in the store or in the back rooms, with lots of readers, lots of antennas, tons of products.

Security considerations-- here, as you've heard all day long, the interest here is in manageable, affordable, and non-intrusive security solutions. We just can't afford the cost of the detail or the latency that might be introduced with certain types of encryption and decryption requirements. So this is an area that we really would like to work very closely with the labs on.

Memory read/write locking-- this is hopefully a solution for us as we move forward with respect to shielding certain pieces of information that we need to shield as the products move through the supply chain, yet make them visible at different points in the supply chain for efficiency and effectiveness of those operations. And lastly, decommissioning of tags-- Bob mentioned that earlier in the discussion. This is an area that, again, for the Healthcare and Life Sciences group is of particular concern, because we want to make sure that we have a way of either killing or partially killing tags as it goes out to the consuming population, and possibly bringing it back if we want at a later date, when we want to use it in a much more progressive fashion.

The dense reader environment considerations-- here, we're having trouble, because every one of those scenarios is unique to the business or the operation that's performing them, and how we're going to replicate something like that. And our task coming up is going to be a real challenge. But we do have dense reader scenarios in these various locations throughout the supply chain, either at the dock doors, at the racking and the distribution centers, at the shelves in the retail store, and even at customer checkout. So it's a concern for us in terms of interference.

And lastly are the mobile readers, entering the field of stationary readers. Again, the Nokia phone example of being able to go in and to read a tag, our concerns were, well, is this really going to impact the intelligent shelf readers that may be in place or not. And it seems like from the research that's been done today by Auto-ID Labs here, that's one that we're not going to have to worry too much about.

Now, I'm not going to go into detail on these. But these are just to give you an example of the depth of detail and the comprehensiveness in which we defined our business scenarios to capture the operating environments in which these tanks would have to work. We measured everything from where in the scenario it would occur to the number of tags that would have to be read at that particular point, the interrogation region that the readers would be impacted by, the tag antenna sizes and the variety of those tag antenna sizes, maximum read ranges, maximum tag velocity-- or in cases when they're stationary, how long are they stationary to allow a read.

The reader reliability-- again, this is something that we feel very strongly about being as close to 100% as possible. And then the last one were notes on the materials and make-ups of what these scenarios were all about. A good example, again, going back to the retail pharma tote, here again, you're looking at liquids, blister packs, tablets, syringes, full metal packages, all in a tote to be read with random oriented placement in that tote.

So these are very, very challenging demonstrations. We know, hopefully, that most of it will be successful, and we'll move forward with getting solutions. And where we are now is we're proceeding in this second phase, which is turning all of this over to the Hague for them to take on. There is a little wrap-up work that's still expected of our group, and that's to get a better sense of what the hospital demands are.

Unfortunately, today, we haven't had hospital representation as directly and strongly as what we've needed in the HLS community. But we do need to get more information there, because that represents a possible frequency issue for us, and likewise more complexity. So the Hague is going to confirm that the technology vendors that are going to work with them in these demonstrations, which they think will be somewhere between six and 12 companies working with us.

We want to make sure they cover the seven scenarios in an equal fashion, so they don't all go after scenario one and five, and the others don't get addressed. That's going to be the challenge for the Hague to make sure they work that out. They're going to do the work between February and March 22, at which time, these demonstrations are going to be provided back to the three business action groups-- HLS, FMCG, and DoD. And then we will see where we go from there in terms of what they can do and what they can't. So out of that, we expect a lot of opportunities to come back to you, and ask for assistance in drilling down on how we can turn something that doesn't look like it can work today into something that can six or nine months, a year, year and a half out. OK.

[APPLAUSE]

TED NG: Hi, I'm Ted. I'm going to try to go through, with you guys, what we've done in the BAG for the pedigree side of the business. Again, Mike opened up with very leading drivers of what's causing us to do this. And really, the driver is not pedigree, but the driver is really patient safety in health care.

OK, again, our lightening rod for us to move forward in the pedigree space was caused by the FDA report that was issued in February of 2004. So it appears that we do have a counterfeit problem, and how are we going to deal with that problem? And the report indicated that the best way to do that was to use RFID-based systems.

So I think you guys have seen these products. One side is the good product. On the right side-- I mean, left or right side, depending on the product, is showing you the good [INAUDIBLE] and the bad products. So how are you going to tell the difference? So they're saying RFID is the way to go.

The problem is we have too many cooks in the kitchen for us. We would love to comply. I think the industry wants to comply. I think it's the right thing to do for us, the right thing to do for the nation.

But if you look at this, 30-plus states have written pedigree laws now. And I represent McKesson, and McKesson's a wholesale distributor of pharmaceutical drugs. We cannot afford to write systems for 30 different states, basically. So we really need to have a consistent model.

The model that Mike showed would be great to have. But unfortunately, Florida, the first one that's coming up for us, which we put a lot of effort behind July 1st of 2006 indicated that we have to be in compliance to their model first, and then followed by January 1st of 2007 is California. And then there's various laws already in place, like in regulatory process like Nevada, like Texas, already in progress and writing regulations that may interfere with what has already been proposed by Florida.

So the real benefit for us, so to speak, is that the models have been proposed by the other 29, 30-plus states here differs significantly from Florida. So there might be some consolidation, so to speak, hopefully by the models. And what we're looking for is some federal interaction here that will allow us to do that.

So really, I'll talk a little bit about the solution is identification and tracking. But how do you do that? I have not heard anything today that tells me that says that we need to do the entire supply chain in all products in the supply chain.

That's not what we need to have done here. We've got to do some type of-- I don't think there's sufficient RFID capacity in the industry to solve and meet all of the demand necessary to enable the entire supply chain of pharmaceutical products. So there's got to be some approach, some thinking, that says that what's a rational adoption approach here?

Is it high demand guys only? Is it the top 100? Is it the guys that are most counterfeited? So we need help and need some guidance here.

But again, we're forced by the Florida pedigree law to enable the whole supply chain. But if you look at-- well, going into what Florida is all about, that model is fundamentally flawed, in the way we would think about a pure chain of custody and a pedigree model. So the Florida pedigree model says it's not the data element, so to speak. It's what you're trying to accomplish here.

And we need this basic stuff. And they don't even talk about serialization. Obviously, when you counterfeit product at an item level, or a bottle level, and they're looking at tracking only a lot and expiration date, so to speak.

So there was other industry groups that have come together-- not just states. I didn't show you the whole picture here. There has been NABP, then there's other groups in uniform.

There's our uniform pedigree council that we put together by different industry groups representing various factions here. But they came up with a different set of data elements associated with what should be in a pedigree. So really, what they did was in those groups was define quote, "the data elements."

Obviously, data elements are of value. Because I'm an IT guy, I work with data elements. But what's more important? What's the process associated with that definition of what a pedigree is?

Who updates the data? Who says what data should be there once you update it? How do I share the information.

And then from the process side, where does it start, who is responsible, who will enforce? Again, we talked about what is authentication here. It's not just a number. It's also the over and covert measures associated with it, and the linking of the two sides of the pedigree model, with a right side and a left side, in a logical data model.

So who pays for the system, which is even a better question. If regulatory mandates this stuff, obviously, there's going to be a huge increase in cost here. And McKesson deals with literally thousands of local pharmacies. And in different parts of the country, we call them mom and pops.

If we put in an RFID system they're associated with a more sophisticated system, can these pharmacies be able to authenticate the product when we receive it? Do they have the cost infrastructure to do so? I know we need standards.

I'm also part of the Information Work Group working within the BAG. What we really need to have is the information model, the logical models, the flow associated with it. You guys, I know some of the speakers here today attempted to bridge into that without talking about it.

But if we really need the rules as an IT organization to do synchronization, validation, ownership, retention, security, Florida says we have to keep the records for a pedigree for three years. We generate-- oh no. I'm not going to go through the numbers of McKesson, but there's a lot of orders. We generate an order for each customer every day of the year in Florida. We do an overnight delivery model.

So how many pedigrees do we need to create for every product there? We cannot afford to create a paper pedigree-based system, and Florida allows a paper pedigree system. And there's no integrity in a paper pedigree system, really.

This is a little bit about evolution of hardware, software, and integration. But if you look at all the different architectural stacks and stuff, really, that middleware is expanding to the edge, and middleware is spanning upward into the enterprise. So there's no static model, so to speak, of technology.

Here we are, moving from gen 1 to gen 2. So we're talking about agile readers. We're talking about-- we haven't really come up with a sense of understanding what are the firm frequencies associated with what we're going to do? How are we going to write these tags, and what should be on the tags? And then we have the performance issues with item-level tagging still to decide.

So I think Chuck and Mike here really said the same things here. We really need your help here. Help us resolve these issues here, so that we can get this patient safety issue addressed.

So a summary of issues here. Again, top of the list is really for us in health care. We're guided by HIPAA rules.

We're guided by many different privacy and security practices already. We need one that allow us to do what we need to do, and not lose the confidence of what we have in our health care consumer base today. We cannot allow that to erode.

So again, where's the data? How are we going to hold that data? The health care industry model today, it's held very closely to the vest, the data. So we need to come up with models that allow us to expand beyond our current supply chain model, and to say what is the economics associated with it.

Product identification schema-- again, we talked about it in many different forums here today, a local schema versus the global schema. Obviously, the manufacturers have a global business. And yet the NDC number, which is the primary product identifier here in America, is used for claims processing. And a pharmacy, for them not to have that number on the product is a big deal.

And also, I don't know if tagging was talked about by Chuck, obviously, in detail. Forward and reverse logistics participation-- obviously, if you look at the Florida model, it doesn't start with the manufacturer. It starts with the wholesaler. There's a few supply chain participants missing there in the middle here--

[CHUCKLES]

--Including logistics guys. So we believe that, really, the best pedigree model contains all participants in the supply chain. There can't be going from one step to step three, and step two maybe if you have the time.

[CHUCKLES]

So what we're looking for is really state and FDA ePedigree model. We're looking for an electronic model. Electronic models, I believe the pedigree model itself is a pretty uniform model, in the sense that the problem that you can address, in terms of a pedigree model for health care can apply to consumer packaged goods. It can apply to the clothing industry, for example. So the model is pretty clear, but we need to define one across industries. And I think that would add significantly to the adoption associated with it.

Tag frequency, technological maturity-- I caution, as a business, we have x number of dollars each year to invest into technology. What we need to have is an evolutionary step. We can't slowly evolve. We've got to have checkpoints along the way.

I was talking to John earlier over lunch about the concept of we have to set the future vision of where we're going to go. Where are we going to be two years from now, three years from now, wherever the slice and dice is? But the end of year 1, we have to say to ourselves, we're all going to be x 12 by this date, and be able to accomplish these type of things.

So that's what we're looking for here as an industry, because we can't do this incremental adoption approach, because it's a huge infrastructure we have to change overnight. Took us 30 years to get the barcode maturity. We cannot wait 30 years for RFID to become mature.

We all understand the product of identification strength and the need for product identification, and the glory associated with understanding what else we can do with additional bits of information that we never had with the linear barcode. So again, what's a rational adoptions approach? For McKesson, a wholesale distributor, what percentage of product has to be enabled for us to make that a non-parallel set of technologies, so to speak?

I can't be scanning product with barcodes in one hand, and then using RFID on the other. It doesn't save me any time. If I close the tote and I have to open it back up to scan those products that are not RFID-enabled versus guys that are barcode-enabled. So we have to reach a level of maturity in adoption as quickly as possible. And that would be everybody in the supply chain again.

And that goes back to the cost dollars. It goes back to the evolutionary aspects of it. So it's really not a focus on technology. I don't want to make-- I know we're a technology group here. We really need to focus on the long-term vision in terms of a business set of requirements, and saying we're going to sell safe and secure, we're going to sell reverse logistics or operational efficiencies.

One make may follow the other on a logical basis. But when you develop a sense of solutions-- and when I say ePedigree, to me, that's a business scenario, and what are supporting technologies that allow us to get to step one, and then further out, a second step associated with it? And that's all I really had to say. I want to keep to our time here. So I'm sure we're up here for a few questions here.

[APPLAUSE]

STEPHEN MILES: Thank you very much. If we could come down to the front of the room for any questions? You just handed us a big menu.

[LAUGHTER]

Picking up on themes from throughout the day.

AUDIENCE: Hi, I'm Alfonso Gutierrez from the University of Wisconsin, Madison. In the beginning of the presentation, you had a big slide saying that it's for the patient's safety. We're working in some of the blood products on a supply chain, and a big issue that we're dealing with is the patient identification. This is called the patient. And at the end of all of this, it's a patient who is receiving this.

Different than the consumer products, we have to tie in with the patient. It's not only the consumer that we can just send the product out and we don't care who bought it. Who's dealing with this? Who's skinning this cat of patient identification? Should it be in parallel with all of this?

[INTERPOSING VOICES]

MICHAEL ROSE: I think it's an excellent point. I think this whole area of linking prescriptions to devices-- because the common connection is the patient. So you really don't see anyone solving that problem right now.

One hope on the horizon, though, is there's quite a bit of movement in the government. Dr. Brailer's organization is looking at helping improve the health care system, the application of IT. That's an area that is taking a look at this. So we would expect some of the work that's going on there may eventually move in that particular direction.

The other area, there's an association called NAHIT, National Association of Health Information Technology. It's certainly within their brief, and they commissioned a study last year around the adoption of RFID and other auto-ID technologies, not just for products, but also for patients, too. So I agree with you. It's an issue, but it's still very fragmented and needs to be brought together in a more coordinated manner.

TED NG: Also, from my perspective, RFID and patient identification probably don't go together on the same chip, so to speak.

[LAUGHS]

I think that there's a privacy-- the HIPAA laws. I don't know if you guys are familiar with the federal HIPAA-- Health Care Insurance Portability Accountability Act. That requires that data be secured, and have privacy concerns associated with the linking of personally identifiifable information.

So I don't think it'll be on the product that you get from the pharmacy. There might be a pharmacy number or a script number. But again, your patient information will be stored by the pharmacist. Additionally, again, there's another agency called HIMS, Healthcare Information Management and-- the two S's.

[INAUDIBLE]

Systems, Service-- yeah, systems along that line. Again, electronic medical records is the solution here somewhere along the way. Also in the federal bodies here, they're looking at trying to develop electronic medical records.

BOB CELESTE: One of the areas that may be able to help you out with is that in Ireland does quite a bit of work [INAUDIBLE]. And they've got serialization in the spring of [INAUDIBLE].

AUDIENCE: We're all from the same school [INAUDIBLE] in MIT. Actually, we are doing some marketing research of the RFID in the drug tracking business. We found, actually, the business is growing very fast-- the market size.

Like, in 2006, it's going to be 25%, and in 2007, it's going to be 30%. In 2011, it's going to be 40%, and it's going to exceed, like, $1 billion US. And I noticed that you have a summary of issues. One thing I'm specifically interested in, we obviously didn't get a chance to explore more, is the data network-- I mean, central distributor, and also the secure access, when you have all this networked software located everywhere, probably globally. Is there any initiation or any research in that area, like how you guarantee that data is right before you get it into the network?

BOB CELESTE: So one of the things that we'll be doing this year is the track and trace effort. And that will, first off, define a vocabulary that the health care industry will use to identify [INAUDIBLE] events and understand them from a business perspective. Part of that again, overlaying everything, is the security aspect. And so [INAUDIBLE], in this case a software, actually, we're running security around the network to ensure that data is safe. But that's part of our 2006 effort.

TED NG: Again, it's part of the development of the entire-- if you're looking at just any pedigree alone, you're going to have to define business process rules as to-- at what point is it-- what part of record, so to speak, [INAUDIBLE] pedigree record is created. Who creates a track, who creates a trace, who creates the authentication side, the product identification side? And what part of the supply chain, in terms of the supply chain participants, are required to update this? Because if you want a good pedigree, all the players have to play, and each of them have a role to play.

STEPHEN MILES: I've got a question regarding chemical and thermal stability of drug compounds. Can you say anything on tests you've done with respect to different frequencies of different RFID systems and their outcomes?

MICHAEL ROSE: It's an area-- and I know the Auto-ID Labs here at MIT have proposed to study. It's an area that's still out for investigation. Without divulging anything, some companies have done some work that we're aware of. But it's not been made public yet.

And I think what's going to be required-- and I think you're going to see, the FDA has a meeting on February 8 and 9. It's going to be another call for companies to come forward with public data. They made that call at the [INAUDIBLE] HDMA meeting back last fall.

I think the challenge that companies have around this investigation is, what's the design of experiment? What's the endpoint of that experiment? And that's what everyone's struggling with right now.

AUDIENCE: OK, thanks.

STEPHEN MILES: So thank you very much to the panel.

[APPLAUSE]