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Session 51 PD

Data Battles – Reports from the Front Lines

Track: Technology

Moderator: Mark D. Horowitz

Panelists: Chuck Allen
Andrew A. Falvey
Gary A. Wicklund

Summary: Volumes of data have always been an integral part of an actuary's work. Data are used in actuarial studies, financial reporting, rate tables and product definitions. While the use of data has been a constant theme, the format of the data has not. This creates challenges on many levels. Several organizations currently are working to standardize the very data that actuaries use daily.

This panel discussion:

- *Summarizes some of the current data standards available, including the SOA's Table Data Standard, XTbML*
- *Includes tips on using these data standards*
- *Forecasts how data standards will be used in the future*

The attendee benefits include:

- *Learning when data standards should be used*
- *Gaining insight to the data standards being adopted by your IT departments*
- *Understanding the cost savings that can be achieved by data standard implementations*

MR. MARK D. HOROWITZ: I'm a member of the SOA. I'm currently a friend of the

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NOTE: The chart(s) referred to in the text can be downloaded at:
http://handouts.soa.org/conted/cearchive/neworleans-june05/051_bk.pdf.

Technology Council. I've worked in a number of places, primarily doing pension valuation software. About four years ago, two other actuaries and I began to create a way to represent mortality tables and other kinds of tabular data so that they could be transmitted between different kinds of machines. There was a problem that we've had for a number of years, being able to make things standard and portable. This work resulted in a standard, which Andy Falvey will mention briefly because it was adopted by his organization, ACORD.

The purpose of this meeting is to summarize some of the current data standards and to offer a couple of tips on using them and to give some forecasts on how some of these standards will be used in the future.

The first panelist is Andy Falvey, who is a consultant with ACORD and who has been working in their standards area. Prior to ACORD, Andy was with ING as an information technology (IT) manager responsible for the development and delivery of electronic data files within the insurance market. He is a chartered life underwriter and chartered financial consultant, and he was an independent insurance agent and registered representative for more than 12 years prior to moving into IT.

MR. ANDREW A. FALVEY: I'd like to start off with a short presentation in regard to exactly what extensible markup language (XML) is and why there are standards. XML, as opposed to any other type of standard electronic data interchange (EDI), is a way to fix the problems that seem to have been inherent with EDI. Specifically, XML is a technology that's not tied to any particular platform or vendor. It's considered software- or vendor-neutral. The standard was developed by the W3C, the World Wide Web Consortium. It's not an insurance industry electronic standard. It's not any specific industry electronic standard. It's utilized worldwide by any type of an industry and is the natural evolution from fixed to tagged file formats.

In the early days of electronics and moving data around, a file needed to be a specific length. It needed to be a specific order. If it was a name, an address and what you're doing, the name had to be in the first 15 spaces followed by the addresses in the next 18 spaces, followed by the meaning of your message in the next eight spaces. Just using a name, for example, the first 18 bytes of those data stream are the name. If you have a name that's 19, 20 or 21 bits long, you'll have to truncate that message. Somebody will have to go back in later and figure out what exactly are we talking about because I can't match the name and data file with the name I'm expecting. It was very structured. It had to be a specific size. As soon as something was out of order, the entire file would error off, which created all sorts of headaches.

Moving along with delimited files, you could expand the size of the file a little bit and put a comma, semicolon, a pipe, whatever you want to call it, in between each particular item so you knew this file started and ended. The problem was, again, if anything was out of order, the whole file failed. You had to go back to the beginning

and figure out what happened.

Moving into XML with tagged files, a tag simply is a naming convention. It says, "Here comes a file. Here comes the name. Here's the name. The name just ended. Here comes an address. Here's the address. The address just ended." It explains what's coming next, how long it is, and when it ends so that your receiving system doesn't expect a name, an address, purpose, et cetera. You can mix it up any way you want. You're telling your system as you go along, "Here's what's coming. Here it is. It just ended." It's the old adage when you're doing a presentation: Tell them what you're going to tell them, tell them, tell them what you just told them. That's what an XML tag is all about.

As the W3C defined XML, it is usable over the Internet. It's designed specifically to be worldwide, not industry-specific. Anybody can use the basic structure of XML. It does support a large variety of applications, whether it's insurance, manufacturing, accounting or human relations (HR). Whatever the case might be, you can use this to send data.

The programs need to be easy to write, and they are. You write your program and then map the data that are coming from someplace else into your program, and you know those data because there's a tag that says, "Here's the name, that's the name, and the name just ended." You're able to move it into where you need it in your program. You want to keep the number of optional features to a minimum—ideally zero. That's the whole idea of a standard. As soon as you say, "Here's a standard, but now we can put in this. You don't have to use it; maybe put in that. Use this over here. I don't want that. I don't want something else," it's no longer a standard. The idea is to try to keep it to the basics, like blocking and tackling in football. That's the basic message. That's the basic XML, and then you go from there to fit what you need specifically.

What's great about XML is that it's human, legible and reasonably clear. By that I mean, if you look at a printout of the electronic data that have just been sent from point A to point B, you can see that there's a little tag that says "name," and there's the name. There's a tag that says "the name just ended." You don't have to worry about what exactly is this. Is this a Social Security number? Is this an identification (I.D.) number? It tells you exactly what it is, so there's no confusion. If there is a problem or you're making some sort of change to what you're doing, you can go right into it, find it and fix it.

XML documents are easy to create. They truly are. There are a number of different software programs out there, freeware, that will help you to parse an XML document and put it together in a hurry. Again, it's vendor-neutral. It's software-neutral. It's designed to move data from point A to point B.

Page 15, Slide 2 shows what an old EDI message looks like. It tells you there's a party, Joseph Gallo. There's a number, but I don't know what it is. This guy's in

Ohio, which is in the U.S.A. It says home. I think his address is 108 Dawson Street, but I'm not exactly sure. Then we have Joseph Michael. First it was Joseph M.; now it's Joseph Michael. I'm assuming that's the same person. I don't really know. That's the trouble with EDI. Again, that has to be in that particular order. You need the name, last name, first name, and some sort of an I.D. Let's assume for a second there's a Social Security number; the state he lives in, which is in the United States, I guess; and the home address, we believe, which is 108 Dawson Street. But there's no way to know for sure exactly what you're looking at in the old EDI standards. It is hard to read. It is rigid. Once you have it, you can't change it because if you try to change the old EDI message, the receiving system won't know what it is. It will error right off because all of a sudden you changed from the name to an I.D. to a state. If you put the state first, the whole system blows up.

Page 15, Slide 3 shows what an XML statement looks like. Here comes party number one. The full name is Gallo, Joseph M., and then it says "end full name." That tells you the full name just ended. The government I.D., then the number and then the government I.D. ends. You would also want to put in there some sort of typecode to say whether it's a tax I.D. number, an employer I.D. number, a Social Security number or what have you. Then it says the government I.D. number just ended. The resident state is Ohio. The resident country is U.S.A. Here comes the address. The typecode is on "home," so it's a home address. The first line is street address, and it gives you the city, the state and the zip code. It says it's the U.S.A., and then at the end it says, "end address country," and then it says, "end address." The address is done. Everything you need to know about the address is right there. You know everything is there. Nothing is missing.

The party is a person—it's not a business, it's not a corporation or anything else—and that is first name Joseph, middle name Michael, last name Gallo, et cetera. This is what an XML stream looks like when you print it out. It's easy to read and understand. Again, it tells you what it's going to tell you, it tells you and then tells you that it's just stopped telling you that.

It's self-describing. It gives you those tags. It's structured in that, while you can move things around, you start with a tag, you put the information in, and you end the tag. The one thing about XML is that it should be well-formed as well as validated, which means that once you start something, you don't put something else in until you've ended it, unless it's some sort of a subset of that. You have an address, for example. You start with the address, and you go to a home address, the city, the state, whatever, and then you end the address. You wouldn't go halfway through an address and then say, "This person is applying for insurance," or whatever the case may be and then end the address later. It is structured so that once you start something you must finish it before you move on.

It is extensible, and by that I mean, along with a name and an address and all of that, if you want to put something else in there, you create what's called a data type definition, or a schema. It's like a dictionary. It explains everything that will be

in that message. If you want to add something to it, you just simply add to it. For example, I need to add hair color to this person, and it's not already in there. I add a tag called "hair color." I have a choice of blond, brunette, redhead or whatever, and that's it. You can put in anything that you need. It's extensible in that you can make it work for you.

XML provides the language, and it's not a computer coding language. It's more of a translation language. I had a person explain it to me once this way. In the air traffic control industry, everybody speaks English. If you have an airliner coming out of Mexico, and he's flying to China, when the pilot talks to the ground control, he speaks in English. The Spanish-speaking pilot translates in his head from Spanish to English and talks to the air traffic controller, saying, "I want to land my plane." The air traffic controller takes that English message, translates it in his head back to Chinese and says, "He wants to land a plane. Go ahead and do it." So it's kind of that translation in between—that's what XML is, so everybody can use the same language.

Industry groups, such as ACORD, provide the vocabulary. Once the language is in place, a group can work with you to get you to use that language to fit your needs. It's reusable, expandable and interoperable. A tag is a tag. You map it to your system. So, a name in the XML stream should match to "name" in your system. But you might want it to match to "address" in your system. Go ahead, nobody cares. If that's where you want it, that's where you put it.

ACORD is an acronym. It stands for Association for Cooperative Organization Research and Development. It's an industry membership-owned association. It's the insurance industry's own way of putting together standards. We've been around since 1970, serving the insurance industry mainly in the past by working on standardized forms and ways of getting paper-based data from point A to point B.

We've moved into the electronic age, and we're working with electronic data standards as well. The whole idea of ACORD is to develop, manage and promote standards. That's all we do. It is an antitrust-protected forum. When we work with all of our different members, whether they're carriers, vendors, service providers, agencies or whatever the case may be, it is a cooperative effort. Everybody works in harmony with each other. There are no antitrust problems because we are protected and registered as a standards organization.

ACORD develops standards. We facilitate working groups made up of our members who come in and say, "We need to do something." We'll put together a bunch of people who want to do that same sort of a thing, and we'll build some sort of a standard. We create the implementation guides that tell the rest of the industry how to go about implementing a particular message or transaction or what have you. We manage that data model. We manage those transactions. We produce the specifications that say, "Here's how XML will work in the insurance industry, here's how to implement it, and here are the basics to make it happen." We do provide

tech support for our membership. We also create sample messages to float out to the industry to say, "Is this something that's needed? Is there a gap in what you're doing that this could fill?" We don't necessarily wait for the membership to say, "We need something." Part of our job is to go back to the membership and say, "Will this be helpful to you?"

We promote what we do, obviously. We do training. We will certify the XML messages that go from point A to point B. If you build a message, saying, "I want to send data from here to one of my trading partners," and it's a standardized message that's been put together, you can work with ACORD to make sure that it is, in fact, a standard message so that when you send it to point B, when you send it to your trading partner, it'll understand it. We can help you with that.

"Evangelizing" is an interesting term. I think that's what I'm doing right now. We promote what we do. We are an industry membership-owned organization. Our only purpose is to help the insurance industry be more efficient in the way it moves data back and forth. We work within three different areas. One is property and casualty (P&C). We also work with large-case commercial and reinsurance, mainly P&C insurance. At the moment, we're looking at bringing together both P&C and the large case into one. We also work within the life and annuity industry. This includes life insurance annuities, disability, health, variable products and anything that is traditionally considered part of the life market. We'll work with a life insurance or financial planner or a pension planner, someone like that, or a group benefits organization.

Our standards are put together through life and annuity. It is the product, It is the participant, and it is the process. All three pieces have to work together. It's all of the products, whether it's term, whole life, universal, variable, fixed annuities—as I said, everything down the line.

From a participant point of view—whether it's the end-user customer, the distributor, the carrier or the reinsurer through vendors, associations and the regulators—all of these people, all of these organizations, all these participants are considered part of the process that we work with. The process itself, using XML—whether it's a data model, a transaction, the messages, whatever the case may be—is a soup to nuts ability, right from product design and development through the presale process with agents, submitting new business to the financial institution, processing that new business—whether there's underwriting involved or whatever the case might be. Once it's in force, being able to service that business, benefits and claims all the way—it's a product or a policy lifecycle ability that we have in place. It includes licensing. Getting producers licensed and appointed with carriers is part of what we can help them to do with our messaging. And it's administration—not necessarily a product, but of a corporation in and of itself, moving messages internally from point A to point B, from the accounting department to the commissions department, from you name it.

Moving messages around is what XML is all about. That's what I'm talking about here, the business message. Business messages constitute some sort of data in some sort of format being sent from a sender to a receiver. What XML does and what ACORD has been trying to do, and has become successful at it now, is get those data in a standardized definition. Our data model has 14,000 or 15,000 elements in it, so there's a lot in there. We've already created 88, I think, different transactions—again, whether it's a presale message, an agent wants to send information to a carrier, or it's underwriting, or it's product development, or servicing a product once it's already in place. There are a number of different messages that already are in place.

I mentioned that part of what we do is certify. You want to take a message from where you are and send it to your trading partner. There are a number of business messages that already have been established. If there's something new that needs to be designed and built, we'll work with you to make it happen. But once that message has been put in place, we can certify anybody who wants to use that message that it is, in fact, a legitimate message. So if it comes to you, you know it's good. It's clean. It's well-formed. It's been validated. It will work for you.

Our life and annuity area, again, encompasses disability, health, group, variable products, pensions and all of that. The data dictionary is the vocabulary. When you send an XML message, you reference this dictionary, which says, "Everything I'm sending in this message is defined somewhere, and here's where that particular somewhere is." So whatever is in there, the receiving system can say, "I know where that dictionary is. I know what those terms mean. This will work for me." As I said, there are 14,000 to 15,000 elements in the ACORD data dictionary at the moment, and it's constantly growing.

Our object model is the grammar. That's the specific usage of the elements. An XML message from point A to point B isn't good unless you can define what an object is. A name is a name. What is a name? A name consists of a first name, a middle name, a last name or a full name in case it's a business or if it's a person. A name is great. There are eight different ways to describe a name. The object model says a name is broken down like this. It's a first name, it's a middle name, and it's a last name. Or what about the party? In this case, is that party an insured? Is that party a beneficiary? Is that party the owner of a contract? Is that party the corporation sending information from corporation A to corporation B? That's what the object model does. It describes how you're using the term.

Once you have the data and the objects, you have to get that information from point A to point B. XML, again, is not a computer programming language. I like to consider it a translation language. It takes your information, however it's been written, stored or processed; puts it in a package; and sends it to somebody else. That receiver takes that information and says, "The name goes here. The address goes there. The product goes here." It's in the system, which could be totally different from yours. The whole idea is that you build it once, and if it's certified,

anybody who's working from the other end should be able to work with it. You do not have to rebuild your message for every different trading partner, and that's really the key to all of this.

For years, the insurance industry, as well as everybody else, has done what we like to call one-offs. "I'll make a message for this trading partner. I'll make an entirely different message for that trading partner." Do you know what? All the information on both of those is exactly the same, but it's the way it's built so that it will fit the other person's system. XML gets rid of all of that. It makes it easy. You put one message out the door, and as long as you're pointing it to the right addressee and that addressee is working off the same standard, it'll get the message. You don't have to rebuild it for somebody else.

Let's talk about work flow and best practices. Part of what this all does is cut down on your need to rebuild something over and over again. Once you have it in place, you can parse the message, which basically means tear it apart, and place it where you need it within your system. You have a message coming in the door that needs to go to actuarial. You have a message coming in the door that needs to go to policy administration. You have a message going in the door that needs to go to new business and underwriting. The message goes to where it belongs. The other end understands it. Everybody goes to work in a hurry. It cuts down cost and time.

For enterprise use, the common vocabulary messaging is useful. You can talk to external trading partners. You can talk internally within departments. The whole idea, especially in this day and age in this particular industry, is mergers and acquisitions. I mentioned that I came from ING not too long ago. ING started out as a Dutch company. It bought a number of American companies, and I spent four years trying to figure out how to make this company's back-end system talk to that company's back-end system. Talk about a headache. Finally I decided, if we had a standardized language in between, I wouldn't have to rebuild this and that back-end legacy system. I can just put the information up, and it translates back down to where it belongs. You can use it internally, as well as with your external trading partner.

I hit on already the common messaging service infrastructure for communicating with external entities. It used to be that you had to build a different message for every trading partner, and that was another headache. You're sending the same message, but you have to build it differently because the person on the other end didn't understand the message that you built for this guy over here. You no longer need to do that. Your customers, your suppliers and your distributors, hopefully, will be working off the same industry standard that you are. It makes life easy for everybody.

The data model, the logical model within ACORD, sits in the middle. It is proprietary in that it belongs to all of our members. It doesn't belong to ACORD. We just pass the information around. In fact, it doesn't come through ACORD like certain vendors

that say, "Send your message to me, and I'll send it along to the end user." What ACORD does is set the standard using XML that says, "If you build a message this way and define your terms this way, you go directly from you to your trading partner, and you don't need a middleman, assuming your trading partner is working on the same standard." So whether it's the Medical Information Bureau, labs and paramedics or some kind of service provider, many of them within our industry are already working with us and are using these standards.

As for distribution, many of the trading partners within the individual life and annuity area are already working on these standards. In the group area, whether it's pensions or health, they're starting to come along as well. It's a slightly different ballgame, and it's a much bigger sell, if you will, to have them work with us in these standards, but they're coming along because we've already built this data model. Most of what's in a pension plan or in a group health plan is already in a life or an annuity, whether it's a name, a beneficiary or how to settle a claim. We built that already, so we can build it into the larger structures as well. Again, it's a matter of back-end legacy, an enterprise system trying to talk to somebody else. That's all this is. We just provided a standardized way to get your information out the door and to get somebody else's information in your door, past the tipping point.

Standards allow more automation and simplification. I hit that one already. ACORD standards are beginning to be expected and required for product support, policy administration and reporting. That is true. That's not a lot of hype. A lot of the trading partners and people that we worked with between point A and point B are saying, "I'll accept only an ACORD message now." There were several other "standards," and they truly were standards—standard one, standard two, standard three and standard four. They don't want to have to deal with all of those anymore. They want just one. The carriers now are starting to tell their trading partners, "Put it in ACORD XML message because that's the only way we'll accept it. We won't keep building and rebuilding to suit every individual trading partner's needs."

Let's look at the whys. It is Internet. It's Web-based. There's no proprietary anything in an XML message, unless you want to put something specific within your message. "I need this particular type of an item, and nobody else in the world needs it." You can build that into your message, but generally speaking, it's not a virtual private network. It can be, but it doesn't have to be. You can send it over the Web. You can do it in a number of different ways. It helps with reduced cost and time to market. Again, you're not rebuilding over and over again to send the same thing out to every different trading partner. As for compliance, you build it once, you certify you know it works and you're done. You don't have to keep doing that over and over again either.

There are a number of carriers that are working with, and almost exclusively with, an ACORD XML message now. They do work with a number of their legacy standards, but they're coming to a point where they're saying, "This has to be this way now."

The standards are here to stay. They can and will be enhanced to meet your needs. In the ACORD community, we work off of a semiannual cycle. We constantly upgrade our data model twice a year. It sounds aggressive. It sounds like it's hard to keep up, but there's so much going on in this industry—it keeps changing, it keeps evolving—that rather than waiting for it and trying to play catch-up, we're trying to stay ahead of it. We do exploit the existing efforts and new technology. Our members come to us and say, "We're doing this. How do we incorporate it?" We say, "We'll find a way to make it happen, if it will work."

As for the use of available resources and asking for help, ACORD is here to help its members. The members spend a large amount of time volunteering to make our standards work. Again, ACORD is an industry association. It's owned by its members. Everything we do is basically for our membership.

Let's talk about tabular data. This is what I wanted to get into. How to move table data from point A to point B has been historically one-dimensional. A table has only one set of values in it, and that's everything that you want to move. It works well, but is there more? Yes, there is. Working with the SOA and other industry associations, we were able to put together XTbML, the tabular data standard. It does provide a common robust way of expressing multidimensional data. It's not just a singular dimensional data stream. We're working to refine a way to send multidimensional tables through an XML stream, so when you set it up on your end, it's not just one particular piece of data. It's several. You don't have to go table by table to put everything together to say, "OK, that's what that means." Rate tables, commission tables, fees—as I said, from one dimension to many dimensional tables. We can fit it within the tabular data model.

FROM THE FLOOR: Do you have any plans to expand into health records?

MR.FALVEY: Absolutely. Most of the information that you'll find in a health record already exists in some form or another, whether it's in a life insurance contract or an annuity contract as a name, an address, an insured, a beneficiary, how to file a claim, what a claim is, how to track a claim or how to pay out information. What we need is more input from the health community on how to make that more robust and not just try to approach it piecemeal from what we know from life and annuity into the health field.

MR. WILLIAM M. GLASGOW: I'm with Wakeley & Associates. I routinely work with millions of claim records. If I put XML tags on there, I guess that would expand it quite a bit or maybe not, or is there an efficient method of representing the claim records when you know every record has the same format?

MR.FALVEY: Unfortunately, you have to put the tags on everything. For it to be a well-formed message, you have to tell them what's coming, tell them what it is and tell them you just stopped telling it to them. That's the way XML works because that

way it is expandable. You can pick a name from this size to this size, but you must say it's a name, and you must say you'll stop telling the name. Otherwise the system won't know. Once you open up a tag, it doesn't know to close a tag until you tell it to close a tag. That's the problem.

MR. GLASGOW: I think that has an advantage because you're always looking at data here and the data dictionary is somewhere else. The computer doesn't care if you have two gigs instead of one gig anymore.

MR. HOROWITZ: Part of the issue is what problem you are trying to solve using XML. You don't have to take your database, put everything in XML and store the XML. If the XML is primarily to be facilitating communication between different systems or systems over time or different components sequentially, you can take what's in your database—we're doing this at Towers Perrin in the pension area—in its particular format, and you have some piece of program that translates from your form into a standard XML that you have agreed upon with whoever else will be using those data. It gets translated, it gets moved, and then it gets used, and you forget about it. If you want to create a database that's showing everything as XML, that is going to take lots more data. At some point, storage can be an issue.

MR. FALVEY: Please feel free to send me a message. I'll be around after this presentation if you have any particular questions. Thank you very much for your time.

MR. HOROWITZ: Our next speaker is Gary Wicklund. Gary's at Capricorn Research. Gary has more than 40 years of experience working with data and analysis research. Following his academic studies, he taught for 20 years in the management science department in the College of Business Administration at the University of Iowa. He has continued to apply research techniques and technology to expand the process of decision making. He's a fellow of the Decision of Science Institute and became a charter member in 1968. Among other things, Gary will be talking about XBRL, which is the eXtensible Business Reporting Language.

MR. GARY WICKLUND: To bring you up to date a little bit about my background, I was working with the ACORD probably before some of you were born. About 1978 or '80, my in-laws had a brokerage firm. They were licensed in 50 states and had to fill out these forms. I worked with them. They had about 5,000 insureds and 13,000 certificates. I don't know if you've ever seen a Rolodex this big, but they actually had a Rolodex that big.

I was teaching at the University of Iowa, and I talked to my father-in-law and said, "You need a computer system." He said, "You're in the ivory tower. You know nothing about the real world." My mother-in-law listened to me. I did have an opportunity to go out as a consultant, found a system for them and put a minicomputer in their office in Chicago. When I put that in, with respect to some standards and some dates and things like that, where you calculate ages, I said, "This will not work in the year 2000 because of the way the birth dates are and

things like that." Guess what? I was contacted in 1999 to update that program to make it work. My wife says that when I go, she'll bury me with this machine that's sitting in our garage. It's a computer about the size of a refrigerator, the PDP 1123, and I still had to turn it on, plug it to the place where you put the golf cart in, in the garage in 1999 to make this thing work.

That's a little bit about my background. I've been down in the trenches. I've worked with things, and what I'll do today is talk a little bit about how I got where I am and this XBRL type thing, building on ACORD and on some of the other things. What I want to do is talk about the financial reporting, some of the things that are going on in that area. Yesterday, I was in Iowa Friday through Tuesday and in Boston at the NAIC Quarterly Meeting. The week before, I was out in Los Angeles at the Insurance Accounting Systems Administration meeting speaking. The week before, I was out in San Francisco. I'm in Des Moines on Monday, doing another talk about XBRL, and the following week I'm in London at a European Union-type group talking about XBRL. So the XBRL area that I'll be talking about is something that I found in 2002 in Berlin at an international meetings, and I picked up on XBRL, and I'll define that a little bit.

We've already had a definition of XML, but what is XBRL, where is it being used, and where are some of the places around the globe right now where this is taking place? We'll talk a little bit about that. We'll talk about some things that are going on with respect to Electronic Data Gathering Analysis and Retrieval (EDGAR) filings. I mentioned statutory. EDGAR filings are public companies that have to file with the Securities and Exchange Commission (SEC). I've been working in that particular arena. I'll talk a little bit about the GAAP balance sheet and some work that I've done in that arena for the 10-K, about statutory reporting and some things that I was involved with last week with the NAIC.

I founded a couple of software companies that have done statutory reporting. One of them is called the Freedom Group. Some of you may have heard about that company. I was one of the founders in 1986. Then in 2001, we founded another company called Eagle TM, which does statutory reporting. Because of my education background, I'm back working with the University of Iowa and its Institute for Risk and Insurance. As some people might know, the No. 2—at least I think it's No. 2—industry in Iowa is insurance. The first industry is pigs.

Why are standards important? Just think about it. Consumers and business reports are demanding more accessibility. In other words, they're passing on standards. How many times do you take a spreadsheet and key it in again? If you're thinking about the SOX work that's going out there right now, stocks reporting, what are people doing? If you're involved with spreadsheets in your company, you probably have an accounting firm in there looking at these spreadsheets, figuring out how they calculate and some things like that. We've got the SOX reports and what's happening with respect to federal government on some of the things in that arena. Standards are important.

Use one standard tag or label. Usually if somebody has a can of pop, I hold it up and look at the bar code that's on there, and that's a lot like these tags we've been talking about. It is a standard. It was created by Heinz out of Pittsburgh back in the '70s, with a grocery store that had some problems getting ketchup bottles on the shelves when they were in the warehouse. It has a long history in that area.

Somebody was on the faculty with me who put scanning machines in Indianapolis and a couple of other cities, and he has more money than he knows what to do with. But that was back in the '70s, when he piloted some of the research in that area with respect to keeping track of what the people bought at the grocery store and the panel data, advertising, coupons and things like that, working with Coca Cola, Pillsbury, Quaker Oats and companies like that, controlling what people got to watch on cable TV even, showing how to market in that particular area. Again, the standard is out there.

Who's doing some of the things in this? I'll talk about this XBRL organization. I'll talk about the ACORD people that you've heard about, the regulators, not only here in the United States with respect to the SEC, but the Federal Deposit Insurance Corporation (FDIC) with call reports in the banking area and the pilot project that the SEC is talking about. The insurance regulators are looking at things in this particular arena. The industry is looking at some of the benefits for sharing data. Tag it once, and use it in as many places, as you saw before.

What's in it for me? That's kind of why I became involved, the challenge. I expect challenges. I look at some opportunities here. I probably should be enjoying skiing the slopes in Colorado, but I still want to make a difference in the insurance industry before I retire. I see some real opportunities with respect to the statutory reporting and financial reporting and, hopefully, the other areas that you'll hear about this morning.

Let's talk a little bit about this whole process and see where you fit into it. You have some processes that take place within the corporation. You have your business operations. You have internal financial reporting. You have external financial reporting. You have investment and lending. You've heard these things from Andy already, so this is kind of what happens internally.

What's happening as far as the participants are concerned in connection with this? You have the companies. You have financial publishers and data aggregators—Moody's, Standard and Poor's, companies like that—that are looking at this, publishing data about companies. The investors are concerned—Merrill Lynch, et cetera. Your trading partners are out there looking at data management and accountants are. Your auditors are now, more or less with respect to SOX, your auditors, accountants and regulators. The insurance industry, as you know, is regulated by 50 state insurance departments rather than one gorilla, as far as federal regulations. You have 50 states that are looking at what you do. Of course,

you have software vendors that are trying to work in this particular arena, all of these trying to get together.

Where are we looking? We're looking at some of the standards with respect to ACORD for business operations that we've heard about. One of the things that the XBRL group is doing is looking at the general ledger (GL) and trying to put a taxonomy together to do GL-type work. You have the XBRL ledger and then the XBRL financial statements. This is kind of the arena that I've been working in because of the statutory reporting and having to fill out these financial statements for the past 20 years or so.

I want to talk a little bit about some standards. I think you've seen this before. W3C was mentioned by Andy in his presentation. The Organization for the Advancement of Structured Information Standards (OASIS) is another player. These people down at the bottom are using the XML standards, XBRL, ACORD, ebXML, IFX, HR-XML that you'll hear about, RIXM, ISO, et cetera. These are all organizations, and if you go look at a couple of these Web sites, they'll drill you down and show you what's going on in this particular area.

Rather than go through a lot of these, if you're interested in learning more about this whole tagging process, the standards and what's going on out there, www.w3.org is one Web site where you can find out something about activities, schema, markup validations, presentations, the OASIS group, core standards, and what it's doing and, again, each one of the other organizations.

But I'm going to talk primarily about XBRL. I got into a discussion the other day with somebody, and I haven't had a chance to look in the dictionary, but somebody said "extensible" is not a word. The XML language is the markup language that tags data so that they could be understood by any programmer on any computer system, primarily on the Internet—Explorer, Navigator, things like that. You can go in and read these standard angle brackets that Andy was talking about.

We've taken XML and extended it. I'll show some of the things that we've done to extend that definition that Andy was talking about when he was defining XML. One of the other terms that I'll be using is taxonomy. A taxonomy is a dictionary of terms defining the data elements compliant with the XBRL specifications. The XBRL group has put together a set of specifications. Not only do we have those definitions that Andy was talking about earlier, but in XBRL we also have some things that will do presentations, definitions, calculation, and references for you.

There are several what we refer to as link bases or link files that extend the XML. Instead of just putting the tags on it, we'll do something that will let you make a presentation or will let you reference. For example, if you're doing the statutory report that I pointed out before, if you're doing the asset page and the liability page, all of you are probably familiar with the NAIC annual statement instructions or the IASA's textbook on the life, property and casualty and the one it is putting

out in health, hopefully in the next year or so. You can put these in as references to those particular definitions that you have out there, those particular terms. You can do references. You have the calculations that will validate the subtotals that you would do on a financial report.

One of the things that you can do with presentation is convert currencies. I'm going to a European Union conference. We'll learn about how XBRL will be able to take a data set that would be reported in French, Spanish or other languages by converting the labels to another language, converting the currency from U.S. dollars to Euros, yen or currencies. These are some of the things that I've seen in Tokyo and in other countries around the world.

The instance file is tagging the data. The way I like to describe that is taking these tags that you would see with XML and putting them in a wastebasket or in a box somewhere and then pulling out the elements that you need and putting them into your presentation. You don't care about the order. With respect to the name, address, city, state and things like that, I don't care how that comes in. As long as I have a tag on it that's a standard, I can grab that tag and put it where I want on my presentation or on a report. That's the instance file. That takes my taxonomy, uses my XML files and puts the data with it.

The last thing is a style sheet. We talked about presentations. The style sheet is a way to present this so I can show my particular report or present something in a format that somebody wants. One of the things that I know people are working on right now is with respect to some of the state filing requirements that are required of insurance companies. They're putting some tags on asset information, liability information and things that are in that book. If California wants it one way, they can pull it up and put it on their form. They can pull it off another way and put it on the form for Louisiana or for New York using those same data, but working on a presentation that is a standard that not just one insurance can use, but all 5,000 insurance companies could use. One of the things that we've been working on with respect to the standardization of the statutory report is trying to get that asset page to be the same, whether you're a life company, a property company, a health company, a title company or a fraternal company.

I'll talk a little bit about XBRL and its history. The XBRL organization is a nonprofit. It was formed in 1998. The AICPA out of New York was key in connection with the organization. It was primarily accountants. It was an academic from the University of Washington, Charlie Hoffman, who was responsible for this. He started this whole thing with XML and said, "If I could start putting some tags on it and do some extension to that, I could make some things fairly sophisticated with respect to reporting and standards."

The organization's Web site is www.XBRL.org. It does liaison work with those chain participants that I showed—the accountants, software vendors and people like that. The last international meeting was in Boston, April 26 to 29. Twenty-one countries

were represented. I will talk about some of the activities that are going on around the world with respect to the XBRL organization and these countries that get together. We usually have two meetings a year. I'm trying to do one maybe in the United States, in different locations. The Boston meeting was in April. There will be one in November in Tokyo. We've had meetings over the past two or three years that I've been involved with in Auckland, New Zealand. We've been in Amsterdam. We've been in Brussels. We've been in Berlin. We've been in Seattle. We've been in Toronto. That's just to give you some flavor of this international organization that's been working on developing out the taxonomy.

The FDIC has been active in this the past 1½ or two years. If any of you have banking friends, they'll go live with their taxonomy and call reports from the banking in October 2005. They've extended one of the taxonomies that we built for banking and savings that we released and have put that together to do the FDIC call reports for the bank.

As for the commercial and industrial taxonomy, we released one on March 7, 2005. That particular taxonomy is based upon one that was released in 2003 for doing commercial and industrial. The other one that I was key in working on is the U.S. Insurance GAAP, which we released March 7, 2005. In other words, it is to do GAAP taxonomy for public companies that report with the SEC. These three, because I'll talk about the EDGAR filings in a little bit, are the three that are being used in a pilot project to do 10-K public reports.

Another one is the International Financial Reporting Standards-GP. This is the taxonomy that's been developed by the International Accounting Standards Board out of the U.K. AEGON, one of the companies that was mentioned a little bit ago, has done some work mapping the U.S. GAAP into this particular taxonomy for reporting around the world. It's also a Dutch company.

To review the XBRL organization, there are more than 300 member organizations from around the world, probably about 75 to 80 of them from the United States. I have been active in the XBRL U.S. domain and the adoption. The domain group is the one that's been developed in the taxonomies. It is following the specifications that the international group puts out. Once the taxonomy is built, it is put out into public domain for people to use. We end up having those taxonomies I talked about. The adoption people are reaching out to educate people, providing experiences in the XBRL arena.

I'll talk a little bit about the building of taxonomies, picking up where we are. There is the domain group called Insurance GAAP and Insurance Statutory (IGIS) that I've co-chaired with a person from PricewaterhouseCoopers (PWC). That's where we've built the GAAP taxonomy to do a balance sheet, income statement, cash flow, stockholder's equity and notes. That was released in March. I've been mapping GAAP taxonomy reports for EDGAR for three companies. One happened to be Allstate, and I'll show you some examples. Nationwide and United Fire & Casualty,

which is a hometown insurance company, are the other two. I've also been working with the statutory taxonomy for the NAIC statement.

I'll talk a little bit about the features that you can do with the XBRL taxonomies. It's extensible. I can borrow taxonomies from other particular groups, put it together and so forth. We have rolled out the taxonomy for commercial and industrial, banking and savings, and insurance. We borrowed from the yellow boxes and the green boxes, which are primary terms, financial terms, SEC certification, management reports and accountants' reports—management's discussion and analysis of results of operations and financial condition (MD&A) type things. Each of those has its own little taxonomy. If you need that, instead of having to start over again, you can borrow that. That's this idea of extensible—adding on to a particular taxonomy.

Here's a little bit about some of the players that are involved. There's the Insurance Accounting Systems Administration Group that I mentioned and the Insurance Trade Association. There was a conference in Washington, D.C., July 18 to 20. It's bringing together some training and education for people who are working in that area. Every one of the four or five accounting firms are active with respect to being big participants in the XBRL organization.

Software vendors have several tools to build taxonomies to map, go to GL, go to financial reporting, go to spreadsheets and bring the data together.

Here's a quick list of some of the places that XBRL has been used from around the world. The Australian Tax Company did a P&C filing with the banking industry over three, four, five years ago. The Bank of Spain is active right now. The Dutch Tax and Water Authority out of the Netherlands is a big player. The EU Commission that I mentioned I'm headed to is another. I mentioned the International Financial Reporting Standards taxonomy that's out there that's been approved. The Korean Stock Exchange is using XBRL, as are the South Africa Stock Exchange, the Tokyo Stock Exchange, the U.K. Inland Revenue or the tax returns, and then the U.S. Federal Financial Institutions Examination Council and the FDIC.

Here's a little bit about the FDIC EDGAR filing. The pilot project said that for 2004 filings, people still had to send in the EDGAR filings, which originally were just text ASCII files. They became HTML files. Now they're using the taxonomies that the XBRL group has put together, and they're doing a voluntary program for 2004. There are about seven or eight companies that have participated up until this point. I'd like to see a few more. I'd like to squeeze ING or Allstate or a couple of these other companies to step forward and participate in it. I volunteered to do any mapping for anybody at this point. Primarily the mapping is going out, looking for what they have in their current filing and then putting the tags on it for the taxonomy. That's what I have been working on.

There's a little bit about some references. As I said, there are about seven or eight

companies right now. The financial printers include RR Donnelley and Bowne & Co.. Microsoft is another big player in this.

Page 49, Slide 2 is an example of an instance document. Page 49, Slide 3 shows the balance sheet that I started with for Allstate. That was on the Web site and shows the total investments there. Page 50, Slide 1 is a presentation of the balance sheet based on one of the tools that's out there. Once I tag the data and have that presentation link in there, I can do the presentation, so there are ways to make reports. Page 50, Slide 2 shows a little bit about the SEC filing Word documents—how we put this together, who was involved and things like that.

Page 50, Slide 3 is one on the statutory asset page that I set a standard across most of the reporting types. Bringing it down into the idea of assets I want to look at common stocks. There's the 262411251 in common stock assets. I'll put a tag on that. Page 52, Slide 1 shows what happens with the tags that you end up doing with respect to XBRL. The data type will be tagged. We can make it monetary, date or string. There are 40 types of tags that will describe that. The currency is in U.S. dollars, but I could put it in yen, Euros or others. The language is English, but I could put it in Japanese. I've seen presentations where an annual report is reported in English, and you click like that and see the Japanese characters in there for that same report and the currency is converted to yen.

You have an element name for it, but then the label could be the presentation label. I could put the complete description as to the work I'm doing with the taxonomy for statutory reporting. The context is telling you the date that this corresponds to, whether it's year-end, the duration, some period or something like that. And then there's validation. I have the calculations to validate this. If it's in a financial report, the total would be included.

Page 52, Slide 2 shows an example of a standard tag taxonomy. There's a little bit more in our angle bracket than what you saw out there initially because not only do we have the label or the element I.D. beginning and ending here, but we also talk about what kind of an element it is—whether it's a monetary, whether it's an instant, whether it's a duration, whether it's a debit or a credit, whether it's billable or whether you can leave that blank or something like that. Here's the standard tag, and down here is the instance document again. They have common stocks, no decimal points, the context 004—which is just telling us the year-end element that I defined—U.S. dollars, the amount and so forth.

Page 52, Slide 3 provides another example of the instance document that has all of my data elements in it that can be rendered in a presentation or rendered with the XBRL editor that's in the Internet browser. The other thing I should mention is that part of this is moving forward with work with Word, Excel, Microsoft, et cetera, and other vendors.

What do we do next? Learn about the benefits, and I think as Andy was talking

about we've got standards out there, lower costs, analytical ability, sharing things, learn about XBRL, learn about ACORD, learn about the SEC pilot project and develop or use the taxonomy for standards activities.

MR. HOROWITZ: Thanks, Gary. Chuck Allen, who's the founder and director of the HR-XML Consortium, will talk about HR-XML.

MR. CHUCK ALLEN: I think some of the concepts that I want to cover will mesh well with what Andy and Gary have said.

One thing that Andy mentioned was the fact that ACORD is an industry group. It's an antitrust registered organization, and HR-XML also is registered with the Department of Justice. One thing that's a little different is HR is not an industry. It's a horizontal business function. I have a brochure with some of the organizations that are involved in HR-XML. They represent different industries: insurance, financial service benefits, recruiting and staffing, assessments and background checks. An important theme that I'll be talking about is supporting distributed business processes, supporting distributed computing.

Basically, I'll go over HR service delivery priorities and the technology directions and concepts driving HR service delivery choices. I'll talk a little bit about HR-XML and Web services, and give you some examples.

Here's a key question. What do business managers and their advisers—including you, primarily as advisers—need to know about HR technology? Obviously, HR-XML, ACORD and XBRL are "products," so to speak. These are all freely available standards, but they are products that are applied by software developers. Software interface developers use our standards. What do business advisors and business managers need to know about it? There are some basic things that you need to know to keep yourself and your clients out of trouble. My basic answer is business managers and advisers need to understand key technology directions and concepts.

What are HR service delivery priorities today? Here are a few of them. One is delivering manager and employee self-service while ensuring uniform compliance with employer policies. I think many of you know what I'm talking about. By employee self-service, I mean giving employees access to Intranet- or Internet-based portals where they can put in change information—make address changes, add a dependent, make name changes and that sort of thing—that may affect downstream employee benefits eligibility. Manager self-service involves, perhaps, the recruiting and staffing area and monitoring applicants as they go through the hiring process.

Another priority is giving HR personnel, employees and managers access to integrated information in real time. Of course, this has always been important in the financial sector, and we'll talk about a couple of scenarios in which we can show that HR can benefit from real time, and why not? Why not allow big transactions in

real time? At home, you can reserve plane tickets and trade stocks in real time. Why shouldn't you be able to make changes to your prescription drug plan enrollment and have that reflected in real time? Why does it have to take days or weeks?

I'll talk about reducing administrative time, flexibly integrating best-of-breed hosted solutions with core HR systems, and I'll give a few examples of that, such as eliminating two-step processes and multiple log-ins. I think a Holy Grail for HR services delivery is a single sign on, one password to access distributed resources. Finally in the HR space, HR service delivery is moving outside the enterprise. I don't know if you've noticed this through reading the business papers or in your own organizations. There are a lot of different models, everything from comprehensive HR business process outsourcing to a variety of hosted application service provider (ASP) solutions. I can tell you that it's moving outside, and I can tell you a little bit about how HR-XML and Web services will support that better.

There are broad discernible trends if you take a look at technology, and these favor technology and solutions that are opaque. By opaque, I mean it hides the technical details. For a user, the most common interface is a browser. To make things happen on a system, you click things and enter information in forms, and you get responses back via your browser. All this technical stuff is hidden, and that will be a trend that will undoubtedly continue for the good of everyone.

I think the only little asterisk there is that even though technology is opaque and that is good for users, I want you to understand a little bit about what's going on behind the scenes. There's a liability issue that we'll talk about. HR data—every bit of it, practically—is confidential information and personally identifiable data.

Other broad trends favor solutions that are connected, that bring distributed information together: real time, that present information as it happens; secure, we probably talked a little bit about that, and we'll talk about that some more; and distributed. Distributed is a loaded concept. I think one way to define "distributed" is maybe in an economic sense. I believe this. I don't know what your economic leanings are, but work will be done over the long-term. Work will be done when it can be done the most efficiently, the most cost-effectively and with the most quality. There are a lot of dimensions to that—outsourcing, off-shoring. Some of the ASP best-of-breed solutions out there may be another representation of the distributive concept of work being done where it can be done.

What's next for HR and technology? I don't think there's any crystal ball out there that predicted all of the change that's happened in the past 10 years. It's also difficult to predict winners and losers in particular vendors out there. I don't know how many of you predicted that people thought it would be part of Oracle five years ago. We can't predict all the technical innovations that will shape HR services delivery in the next 10 years, but one thing I want you to leave with today is knowing that the foundation for the innovation has been laid.

In my grander presentation, I go through some of this history. I show where, in the past, this has been the case. There's a stage of laying foundation technologies, and then there's a stage of those technologies having business impact. But without going through the big presentation, rest assured that the foundation for the next stage exists today. A couple of key foundations are HR-XML and Web services. HR-XML was founded in 1999. There are key technologies, such as simple object access protocol. It's been around since 2000. This is basically your handy protocol for moving data around the Internet. It's as simple as that. It's been around in its original form since 2000 and broadly supported in software developer kits and application servers. The foundation is here.

HR-XML is a nonprofit corporation founded in December 1999. We define freely available standard vocabulary to streamline HR data interchange. We're open to users, vendors, consultants and standards bodies. ACORD is a member of HR-XML. We have more than 100 organizational members. We're international. We have a chapter in Japan. We have a European chapter. What we produce is a broad library of data interchange standards, and Gary and Andy have given you an idea of the vocabularies, taxonomies and data models. But broadly speaking, some of our major specifications are benefits enrollment for health plan enrollment, group life enrollments, as well as flexible spending account enrollment. We have payroll specifications. We have pre-employment assessment, stock option plans, simpler staffing procurement and résumé specification.

We have some aggregates that are shared throughout the major specifications, such as a model for competency or education history or security credential. We have data types and finer grains, reusable components, such as a person's name, an e-mail address and that sort of thing.

Similar to what Andy said, we want to promote standards development efforts. One way that we promote them is with a certification program. To date, we have 45 organizations. You'll recognize many of these, such as Oracle, Fidelity, Hewitt and SAP.

The other building blocks that are laying the foundation for some of the next stages in HR services delivery are Web services. Web services refers to a URL-addressable software component, something that you can find based on an Internet address, a URL. It can be integrated with other components via well-defined interfaces. Web services are implemented by sending and receiving XML messages. Many of those XML messages would be defined by ACORD, XBRL and HR-XML.

Web services is a loosely coupled approach. I believe it was Mark who mentioned in reference to this gentleman's question about storing data that XML can be used to wrap the data. This is putting a façade on, perhaps, an existing application. In the HR world, there are a lot of payroll applications that work now and probably will work in the future. But you can bring them into the realm of Web services by

putting a listener, this façade, on the top of it to receive input and to generate output via HR-XML. It has a key point. Although this is all new, it doesn't mean you have to change everything.

Finally, I want to talk a little bit about Web services security. This is a new paradigm. This is one of the big concepts I think you'll want to understand. If you're advising employers, if you're involved in moving personally identifiable data, it's a concept that you'll want to understand. Web services security is designed to work with Web services. It relies on message-level security. This is a simple concept that's a departure from the current process. I think we're all familiar with secure sockets layer (SSL) protocol. It just celebrated its 10th birthday. It's been around since 1994 and was originally developed by Netscape before it was standardized. We should all collectively thank SSL. It successfully secured billions of browser-to-server commercial transactions, and it has been adapted to support computer-to-computer data transfers. It's the most common need today for providing confidentiality for XML while it is in transit across the Internet.

There is one issue, in that SSL provides security while only data are in transit. The security context that SSL provides is only the part in-between, for example, an employer, perhaps, and a business process outsourcing company, and, perhaps, an ultimate service provider and maybe an insurance carrier.

Web services security puts the security along with a message so that the security context is extended. It goes along with the message. Web services security is a palate of different options, but some of the primary building blocks within Web services security are security for authentication purposes—digital certificates, as an example, encrypted data in the message and digital signatures. XML can be signed and encrypted at the component level. I think Andy and Gary showed you some examples. You got an idea of what XML tags look like. You can encrypt any part of an XML message. You can sign any part of an XML message so that the receiver knows that's the way the data were sent and that confidentiality is not only protected while it is in transit—that's what SSL does—but it also can support it, it can protect it, while it is being held by an intermediary.

Here's an example: background checks. A background check is a complete identity theft opportunity. In any case, an employer probably doesn't want to hold that complete record. As a matter of fact, I can tell you most employers are pretty good in terms of their information practice. If they don't need to know anything in a background check of a record, they don't want to store it on their system.

What they do want to know first off is that no disqualifying information was found. They want an alert or they want to know if there's some potential disqualifying information. Employers even outsource the handling of compliance, with notifying the candidate if they're affected by an adverse decision on the basis of what was found in the consumer report, giving the candidate a path to appeal.

But employers don't want to see that unless they have to, and why would they have to? It probably would be regarding something that was going to court, right? It's probably related to a hire/no-hire decision. In a hire decision, it might be related to a negligent hire. Maybe they hired somebody and needed to go back and look at that background check because this person got into trouble on the job or caused harm to others. They have to take a look at that background check to see if there is something there. Do they have liabilities? Were they negligent in hiring? There's also, of course, the no-hire decision. That could be discrimination. That would be the liability.

The idea, through public key technology, is that could be a record to be stored by an intermediary, such as their HR business process outsourcer. The business process outsourcer couldn't look at the data because it would not have the key. They don't have the public key. It's like calling the help desk when you lose your password. The help desk says, "We can't tell you your password. It's encrypted. We can reset it for you." It would be like that. It would be a lockbox for your sensitive data, a basis for proper handling of this confidential information. Why worry? HR service delivery is moving outside the enterprise. It's highly distributed. I think it's hard to find an HR process that doesn't involve an intermediary. I'll show you a few examples.

This may be one of the primary things that HR-XML does that interests your group. We handle enrollment and eligibility information. Generally speaking, the scenario that we want to support is this employee self-service scenario, where life events, business events or events that change information related to enrollment and eligibility can be handled through some sort of self-service portal. Perhaps they're stored in a core HR system and then transferred to a plan administrator or outsourcer, such as a Hewitt Associate, Towers, Fidelity, et cetera. We want to get that in real time to the health plan, the dental plan, the prescription drug plan or to the 401(k).

What would typically happen today is that the changes go into the portal, and they sit there for a day or two or maybe as long as a week before they get to the downstream health care provider. There are benefits for everybody involved in this information chain. I was in Austin speaking with a prescription drug plan, and you have to believe that prescription drug plans like this idea of moving to real-time information: the idea that when somebody puts that card on the counter, they are getting current information, and that's good for everybody. That's good for the prescription drug plan. It's good for the person whose kid has the ear infection and needs the antibiotic and who may have just recently joined the plan. That's the enrollment scenario that we support.

This has a good deal of uptake; Hewitt, Fidelity, MetLife, BenefitXML and SHPS are certified against our enrollment specifications. UnitedHealthcare has also implemented it. They were a participant in a pilot, our "Benetest" program. Dental enrollments are being done in real time.

BenefitsXML is an interesting company. It provides hosted adaptors for insurers. If you're a carrier and this XML is something you don't want to bother with it, we talked about your not having to necessarily change your database. You saw my picture of the façade. You can buy that façade. You can buy a Web service to provide the façade to your existing enrollment system in many cases.

Trizetto is an implementer. It has a case study on the Web site. Independence Blue Cross, our first BlueCross BlueShield company, went live last month. Cargill, the agricultural giant, is also an implementer, one of our employers that has done some of this.

Technology is more and more opaque. Page 8, Slide 1 represents a Web site. You find a job on an Internet portal. You apply for the job. It requires you to put in a user name. Here's an application form. You're opening it up, and it looks like they're grabbing you Word résumé and uploading it. It takes the information from the Word résumé. It saves somebody from typing.

I wanted to make a point that the technology is opaque. You don't know what's going on from the Web form. Here's what is happening behind the scene. This is a distributed Web service. You have a recruiting enhancement solution. The people who designed that portal are firing off of a Web service hosted by Resume Mirror, the company that provides that résumé parsing solution. That all happens in real time. It's invisible to you as the user, but that's an example of a Web service, distributed computing and finding components in real time to deliver new services.

Here's another scenario assessment. A candidate applies for a job, and the employer orders an assessment if the candidate satisfies threshold requirements. The assessment company schedules the test, candidate shows up at the employer and tests at a kiosk setup there. Here's the cool thing. As soon as the candidate hits the response, the test results are sent back to the assessment company and stored in real time. The manager can look at the assessment results before he calls the candidate, who's on site, in for an interview. The manager doesn't have to tell the candidate whether there will be an interview. Basically, this has been implemented by one of the nation's largest uniform services company. Imagine sparing yourself from an interview you don't have to do. I like it.

This is a pharmaceutical company with \$31 billion in annual sales and 64,000 employees. Basically it has three applicant tracking systems needed to present all job postings from its Intranet and Internet Web services and used the HR-XML as a standard means to deliver all those job postings from all around the world in real time to its corporate site.

Hopefully, I've given you a different spin on XML and how it might be used and given you maybe a few clues as to how it affects HR services delivery and your clients.

MR. HOROWITZ: I'd like to thank all of the participants on the panel discussion. I hope that you have been able to take away the notion that XML applications are not the business per se of insurance or pensions, but rather some of the enabling technologies. XML is helping to make communication much easier between the different systems.