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RunAs Radio is a weekly Internet Audio Talk Show for IT Professionals working with Microsoft products. The full range of IT topics is covered from a Microsoft-centric viewpoint.



Greg
Hughes

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Mark Beckner Integrates BizTalk with EDI!
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[Music]

Brandon Wenn: From runasradio.com, you're listening to RunAs Radio, the Internet audio talk show for IT professionals with Richard Campbell and Greg Hughes. This is Brandon Wenn announcing show #56 with guest Mark Beckner, recorded Friday, April 11, 2008. RunAs Radio is produced each week by PWOP Productions, providing professional media and podcasting services online at pwop.com.

Richard Campbell: You're listening to RunAs Radio. I'm your host, Richard Campbell, and with me as always, my co-host Greg Hughes.

Greg Hughes: Hey everybody. How are you today Richard?

Richard Campbell: I'm really good. I got an interesting email for you.

Greg Hughes: All right.

Richard Campbell: It starts off, "Hello Richard and Greg. I would like to request that you have an episode related to information security and risk assessment in the IT industry. I'm sure there has to be some industry experts out there."

Greg Hughes: Yes, there are.

Richard Campbell: Yeah, you know a few, don't you?

Greg Hughes: I know quite a few, yes.

Richard Campbell: "My company has a number of large data centers that process financial data for commercial banks. We are frequently audited by corporate, federal and third party examiners." Oh boy, that sounds like fun.

Greg Hughes: That's exactly what I've gone through for the past several years.

Richard Campbell: "Last year we received a poor rating related to risk management processes and procedures. Lately, security has been the really big topic for everyone. I used to support the networking and server environment. I still do that, but 90% of my time is now spent writing risk assessments. Am I alone or are there others in the same situation as me?" The name is "name withheld."

Greg Hughes: Oh boy. You know, the thing that concerns me about that email is that last part. I'm responsible for maintaining the infrastructure basically and I'm also responsible effectively for risk management I would hope. If you're doing risk assessments, then I hope you're in risk management.

The IT industry especially -- again, the similarity being the banking space or the financial services space between my experience and the writer's experience is that regulatory requirements especially in the area of risk management and using... There's a tendency to think about risk assessment as a process or something in and of itself a self-contained thing. Really, risk assessment is part of a comprehensive risk management program and without formalized and well-rounded risk management to include that point of risk assessment, a risk assessment is a one-time deal.

Richard Campbell: Yeah, I worry that people think that risk assessment means risk mitigation. It's just the starting point.

Greg Hughes: Risk assessment is something that you should be doing on an ongoing basis as part of your broader risk management process and program. If we have the same person who is responsible for a server and data center infrastructure and technical maintenance being the risk assessment person, I'm concerned about the risk management process involved there. I think to go to the first point of the email, "Hey, let's do some shows or do a show talking about this," absolutely. It's something that is more and more spreading across more and more vertical industries for people that are responsible in the IT shop whether you are dealing with Sarbanes-Oxley or the type of stuff that IT controls or if you're like in the financial services space dealing with privacy issues and confidentiality and security of data.

Richard Campbell: PCI, all that good stuff.

Greg Hughes: PCI and over into healthcare and a bunch of others. Really, what it comes right down to Richard is good solid security and risk assessment is an absolutely necessary part of any IT person's job now, so there's a component to that, but yet it still has to be properly organized and focused.

Richard Campbell: Well, and I hate the idea of having 90% of your time on anything really.

Greg Hughes: Yeah, unless your job is that you are the risk assessment person.

Richard Campbell: Right, you're the specialist. So, is risk assessment important to you? Send us an email info@runasradio.com and we'll pull some more shows together.

Greg Hughes: Yeah, we would be glad to hear from you. As always, it's those emails that drive our shows.

Richard Campbell: Absolutely, the emails drive the shows. Let's get to our guest. Mark Beckner is a



Technical Consultant specializing in business development and enterprise application integration. He runs his own consulting firm, Innotek Consulting Group, LLC, delivering innovated solutions to large corporations and small businesses. His projects have included engagements with numerous clients throughout the US and range in nature from mobile application development to complete integration solutions. He has authored Pro EDI in BizTalk Server 2006 R2 book from Apress and co-authored BizTalk 2006: A Problem-Solution Approach, also from Apress. He has spoken at a number of venues including Microsoft's BizTalk 2004 in a Service Oriented World conference, and is certified in Microsoft Technologies, including MCSD.NET. He will be presenting at TechEd in Orlando in June 2008 during the ITPro week.

Greg Hughes: Very cool.

Richard Campbell: As will we.

Greg Hughes: Yes, we will.

Richard Campbell: We'll be busy, busy for that week. I think we'll all going to be running into each other at some point. Welcome Mark.

Mark Beckner: Thank you, great introduction, Richard.

Richard Campbell: Well, thanks.

Greg Hughes: Hey Mark. You know, BizTalk in my somewhat limited experience is one of those names that comes up periodically and people, they sort of fade into the back of their skull as they start to think about all the different implications and all the complexities of doing that, any kind of integration services. It really can be quite complicated but it doesn't have to be, does it?

Mark Beckner: Well, integration as a whole can be approached from a couple of different angles and certainly you are seeing it in a variety of organizations. So, the more complex your organization is, the more complex your integration needs are going to be. The product itself to say is this complex or is it not complex is kind of like saying is the .NET Framework a complex tool to work with.

Richard Campbell: I would say yes.

Mark Beckner: Yeah, there's a huge amount there to understand and to work within, but at the same time depending on what your needs are is going to dictate, you know, is this a product that it's easily adapted into your environment or is this really going to take a lot of work to not necessarily

understand the product but to figure out how do we fit it into our solution or enterprise.

Greg Hughes: If I'm going to work with the .NET Framework, it seems like there's a set of program against it. There's a set of tools out there. There's a whole bunch of sort of standards if you will and certainly community around that. What if my job isn't programming against the framework but is integration? What are some of the things that are important to think about before I start?

Mark Beckner: Well, the first thing is that you've got to go through a requirement gathering and really the business level end of what are you trying to accomplish, what are the end results you're looking for, and try and stay above technology. Talk about what's important to your organization. What data needs to go where? How do you want to route data around? How real-time or mission critical? Is it synchronous or asynchronous? What types of exception handling do you need to put into place? All of these types of conversations should be happening to some extent with developers, but really at the architectural level where what is it you're trying to build and then drill down to the next step of how do we implement it.

Richard Campbell: I often get the sense that BizTalk is treated as a dev tool and generally you're focusing on what development are we going to do with BizTalk and I've never felt that way. I always thought it was very much an infrastructure tool.

Mark Beckner: Yeah, you're correct. It is an infrastructure tool. Certainly, you can do development within it, but at the same time, you're often calling out to -- most of the time, you are calling out to applications that exist, APIs that exist. Perhaps you're calling out to web services that need to be developed or DLLs that need to be developed or whatever it is that are true developer-oriented tasks, whereas, BizTalk orchestrations or whatever it is you're putting together inside the engine is really the glue to hold it together.

Greg Hughes: I'm sure we have people that have never touched BizTalk server, have no version of it yet. What are we talking about when we use the term integration and what are some of the important things that BizTalk can help do? Maybe not even talking specifically about BizTalk, what are we talking about when we are doing integrations in an IT environment?

Mark Beckner: Well, first there are a couple of different things that we may be talking about. Integration could be just the simple need to take data from system A and get it into system B. Think order management where as orders come in, you need to



route it to your financial system and you need to route it to the order fulfillment system and whatever it is. It may be something as simple as when a transaction comes in on one system, how do we push it to these other systems and get that data into a format that those end systems understand. That's one simplistic idea. Another idea is workflow management. So, you've got a process that needs to be automated or there's a series of steps that need to be taken to accomplish a goal. That too falls under the umbrella of integration because your workflow is integrating disparate systems and processes.

Richard Campbell: So, I'm just trying to grab onto a scenario here that makes a lot sense and I guess most of the time I start thinking supply chain because we often are dealing with disparate systems within and without our organization to get all of the goods together to fulfill a customer demand.

Mark Beckner: Well, supply chain is certainly one that it always comes back to because that's the easiest one to sort of visualize I think from when you're first looking at it, but really the thing to understand is that virtually every organization out there has some level of integration need. Not all places need to necessarily route their data but you may have situations where you want to simply some sort of long running transaction that needs to ensure that when something gets kicked off within your organization that follows through all the way to the end regardless what happens whether a system gets rebooted, whether you're unable to connect to an end system. Whatever it is that you're after, you should understand that there are tools out there that you don't necessarily have to program these types of things from scratch. You don't need to go into Visual Studio and start writing C# and writing listeners and loop shapes and serialization and everything else like there are tools out there that allow you to work from a platform up and not have to write these things from scratch.

Richard Campbell: So, these bits already exist and I think you hit the real key thing, which is the challenge of managing long running transactions. Every time I've worked in the supply chain project, the number one concern was not dropping the ball, that every time you did a handoff, you made a request to a supplier or that supplier gave you back a delivery time that it was properly reacted to or what it didn't get delivered right away because it was delayed by a day or something that didn't get forgotten.

Mark Beckner: Absolutely, absolutely. The thing to really emphasize that is when you're within organizations such as a Wal-Mart or some massive industry where there are a lot of orders or there are a huge number of transactions that are routing around, how could you possibly ever know that things are

finishing or things don't finish? How could you possibly sell for it unless you got some sort of automated process that's sitting behind the scenes? The option is not really to try and build this up from the ground up because there's just no way you're going to be able to within a subset of an IT unit or developers be able to solve for all the possible exceptions or ramifications of what could go wrong or what could interrupt the process or how you would report into it or see and have visibility into that process.

Richard Campbell: So, now we're talking about what BizTalk can actually do for us, that all of those bits are there in a package essentially.

Mark Beckner: Right. So let's say your order comes in and it's getting routed through your system. How do you find out where it's at? How do you know what steps have been taken? What systems have sequentially been written to and what systems perhaps remain in the future?

Richard Campbell: Yeah, where has it fallen off the track?

Mark Beckner: Exactly and how do you recover it. How do you access that? Certainly, within BizTalk you do have all of the reporting and tracking tools and capabilities that you would need to really solve this on a large scale.

Richard Campbell: So, we are focusing on the integration site of BizTalk Server, but obviously orchestration workflow plays a huge role in this of making sure that integration points are handed from one step to the next.

Mark Beckner: Right, orchestration and in many instances there may not be the need for a true orchestration or workflow. You may just have something as simple as when a file comes in on my FTP site. I want to pick that up and move it into my internal network or write it to a database table or something like that and there's really just a one-step process in which case you don't necessarily have to put together an orchestration but in many cases, things are much more complex than that. Even if it's a one-step process, again, what happens if the file you're picking up has bad data or runs into an exception? What are you going to do with that?

Richard Campbell: Right. Let's gnaw on this scenario a bit because I like it. My first reaction is say, "Hey, a file shows up on my FTP site and I want to haul it over there." Well, I can write a script for that that runs every 10 minutes, looks for any files that are there and hauls it over. Why would I want to use BizTalk?



Mark Beckner: Right and I guess there are several answers to that. One is if that was your ultimate solution and you were doing nothing else within your environment other than moving FTP over, then hands down, you wouldn't use BizTalk, right?

Richard Campbell: Right.

Mark Beckner: But the thing is if you got the solution in place, there's going to be many, many smaller applications or uses that you can apply it to. One of which is, "Hey, we need to monitor this FTP site." It takes you five minutes to configure the adapter, you put it into place, you tie it into your common framework within BizTalk, your enterprise application and everything is treated the same. There is no building it up, there is no developer who has to go write the code and whatnot.

Richard Campbell: Right. Well, I find that people believe it as a simple solution and then it creeps on them. What happens if that little applet stops running? Where is the notification mechanism when it isn't working? What if I want to validate the file or I want to send an email when I move one? Suddenly your script gets out of control and now you're writing your own version of BizTalk.

Mark Beckner: Exactly. Notifications and exception handling and all that, those things end up constituting 80% of code like why do we need to spend 80% of development time handling the 1% of things that could go wrong when you can just go in there and concentrate more on what you're trying to solve for the business and not what you're trying to keep from happening.

Richard Campbell: So, can we talk a bit about the integration points? What is it that BizTalk can consume?

Mark Beckner: The foundation of BizTalk is schemas, XSDs, XML. It can consume any kind of file but what can it actually do with that? Let's say, a JPEG was delivered. You can pick that file up, you can route it around, but you are not actually going to do anything with the data inside of that. The binaries are not going to get you anywhere, but things like flat files and XML documents which is really the majority of standards that are being passed around between systems, that is what you want to do to really be able to base workflow off of what data is coming in. If this order comes in from this customer, I want this to happen versus this customer goes down another branch. Well, you actually look at the data inside of that and how do you that. Well, the data that is coming in is in a standard format and you simply define that schema and then you can actually work with it as if it were an object in .NET or an object has properties and methods. Your flat file has properties

that you can identify and say, "This is the value here is equal to this."

Richard Campbell: Now, is this a developer exercise at this point if I'm actually parsing a document?

Mark Beckner: Well, there are a few things to understand. One, you've got to get away from the idea of parsing a document because really what happens is when a document comes in. It will be understood by the schema of the developer. Yes, the developer has put together the schema or perhaps a schema pre-exists for things. Oftentimes you can find all sorts of pre-existing XSDs and whatnot for certain types of infrastructures.

Richard Campbell: Yeah, folks are using a conventional document format for a kind of order. There's a bunch of XSDs out for that, isn't it?

Mark Beckner: Right, especially within monitored industries. There are the HIPAA standards. Anything that has a standard format is going to have predefined where what column and what row does this value appear in, but once you have developed that and a schema development, if you were to map that over to .NET development would be you're defining your object, what properties do you have on it or you're defining your schema, what fields I might expect to come in, but once you have that foundation built and put into place, when files come in, the BizTalk engine itself will look at that file, figure out which schema it associates with and automatically transform that into a format that you can work with like there isn't really code or developer tasks that have to go in and write something that parses a file or try to figure out what this is and how do I route it that is inherent to the product.

Richard Campbell: So, now we get into that point where I can grab onto a workflow or I understand this document, now I can without code command where I want it to go and what rules it's got to follow.

Mark Beckner: Right; and orchestration is where the majority of visibility. When people think of BizTalk, most likely they think of either orchestrations or mapping because those are the two most developer-oriented items within the product. Orchestration is ultimately behind the scenes of C#, but it's done through a user interface or GUI and you drag and drop shapes. Some of them allow you to actually write code. There is an expression window that allows you to program really what's .NET-like at the subset of everything that you could potentially do in .NET within a scripting window. You also have the ability to call out to any kind of code you want. So, if need to write some complex routine and put it into an assembly, no problem. You can reference it just like



you would from any Visual Studio project. BizTalk is you develop orchestrations and maps and schemas all within the Visual Studio environment.

Richard Campbell: It still seems to me like every step of the way through this BizTalk process, I could be dropping into code. How much of this can be done without doing that?

Mark Beckner: There's a lot of pre-existing components that in the essence of the moving a file from an FTP site into your internal network and writing it into a database, something like that would require no code. You may have to write a SQL statement to do the actual insert or stored procedure, but actual coding, there isn't then. There's configuration, there's a setup of an FTP adapter, there's the configuration and the deployment, but there's no actual code going on. Now, in the case of let's say once you pick up that FTP file, you want to bring it into an orchestration and take something out of that file, some data that's within it and push that out to a web service. The steps that would be taken is you receive that file. Everything up to that point of receiving an orchestration is all configuration, no encoding. Then you look at that file and you extract the data you're after. Well, that's done inherently through your schema and if you put your schema together, then you can access those fields. So far, to get to the content of the data, we've really written no code. Now, you want to call a web service. Well, you reference the web service just like you would from any Visual Studio project and that imports WSDL and the interface that you need to call out to. So, now we have to populate the properties or the interface of that web service. Here's where a minor amount of code needs to occur. You need to say if there are two parameters you're passing into the web service, you got to populate those with values and those values are coming from your FTP file. So, set parameter A = value A and that's your code. Your orchestration development is really dragging and dropping and configuring shapes, ports and how those things are communicating so there's really not coding as we know it going on.

Richard Campbell: Right. I mean adding stuff like notifications and so forth is largely that configuration kind of task. You don't have to do a lot of customization to make that happen.

Mark Beckner: Right, so for that type of scenario, let's say you don't have any internal system that can send out an email or you want to do something a little bit more robust and just call out to your local SMTP server, so you decide, "Well, we want a reusable way to send out email or notifications." So, you put together a web service. You code it up however you want to code it just like you would a regular web service, but then within

BizTalk, what you're doing is just calling out to that web service. That's where your development comes in.

Richard Campbell: It seems to me that so much of this seems very web service centric. It's all XML documents and validating schemas. Other than mentioning FTP, are there really other protocols that we work with in BizTalk?

Mark Beckner: There's every protocol that you can imagine, so you've got everything from HTTP to TCP/IP. You certainly got WCF that you can tie into any standard away of routing information around is supported and the idea here is that if you can do it in .NET, you can do it in BizTalk. So, the question is, is there a pre-configured or pre-existing adapter? All the standard protocols, there's pre-existing components you can work with. In the scenario where you need to do something special like talk with some proprietary and embedded piece of software let's say, no problem, go for it. If you can write your own adapter, you can write your own way of communicating of whatever it is you need to communicate with.

Richard Campbell: That sort of brings this up to this concept of EDI which is what I remember BizTalk as in the very, very beginning was before the Internet was in the equation, EDI was the way if I wanted to sell something for General Motors, I had to use it.

Greg Hughes: Yeah, I remember talking about EDI and building EDI messaging systems in the early to I guess probably the mid-1990s, early to mid-1990s, but it's come a long way in BizTalk even just the last couple of years, hasn't it?

Mark Beckner: The first thing to say on EDI is it's been around for eternity. When you talk technical jargon EDIs, it's just about as old as it gets and it represents a standard or a schema as we've been discussing. What is your standard for how your data is structured and that allows different organizations to be able to communicate with one another on a standard. What does an order look like? Well, that's what EDI defines. What is happening though is, you know, that's an old technology, there are a lot of solutions out there that were developed over the years and what's happening is organizations that are dependent on EDI are really in need of bringing their infrastructures up to speed with what's going on in 2008. Yeah, we need to do our communication with EDI, but do we need to be dependent on a middleman or a VAN to do our document routing for us or can we ourselves take on this capacity. A tool like BizTalk even before it had the most recent incarnation of EDI is it brought a lot of what organizations needed to the table to be able to route documents around. The fact that they are EDI documents shouldn't preclude you



from being able to pass them around through your EDI application. What Microsoft did with the most recent release, which was R2 of 2006, was really bring all of the standard capabilities of organizations who used EDI need into this application so there are 9000 different standards or tens of thousands of different standards of EDI documents out there. So, one of the things they did was to develop all the schemas that represented those documents so that you have a starting ground to work from. The second thing they did was put together the concept of creating partners and how do you configure those within BizTalk and how do you route documents and determine who they belong to based on information inside of the document. How do you do mapping? How do you map? How do you get your internal representation of that file into the EDI standard? Well, BizTalk has all sorts of maps and tools to be able to do that for you. Really, the EDI capabilities are an extension of what BizTalk was already doing, which is made it that much easier for people to quickly plug into it and use it as the primary logical tool throughout their document.

Richard Campbell: Do you think that EDI is largely archaic, that it's just existing infrastructure that's using it? If you want to do business with Wal-Mart, you have to speak their EDI protocol or is there a new EDI development going on?

Mark Beckner: Well, the thing is 90% of supply chain organization use EDI and they are growing.

Richard Campbell: Right.

Mark Beckner: Wal-Mart alone can cause that industry to be massive and so when you have industry leaders out there who force a standard, that standard is not archaic. That standard is very current and growing all the time because there really is no need to change that standard.

Richard Campbell: There's nothing inherently wrong with it.

Mark Beckner: Right. Yeah, it's old school. It's flat files.

Greg Hughes: No self-describing tags and all the nice stuff you get with like an XML style format but like you say, if everybody is using it, everybody is using it.

Mark Beckner: Exactly, not only are they using it, but they are increasing the need for it all the time by doing more and more business. So, it's certainly not going to be decreasing. It is increasing as we speak.

Richard Campbell: So, do we see BizTalk's role as largely a translation from EDI into, say, a more modern format for operating within your enterprise and then perhaps back to EDI to go back to another system?

Mark Beckner: Not necessarily. You can envision that, okay, so the organizations that have been doing business for a decade or decades don't necessarily need to update their back-end systems. Most likely they are, most likely things are being migrated and updated just like in any environment, but they are under no obligation to change those, but they may want to change the way they do business with their customers B2B commerce like how do we, for example, one of the big things with EDI and passing documents around is the idea of the value added network or the VAN, which made a lot of sense in previous times because what the VAN was doing was ensuring that documents were received and routed to the appropriate trading partners, that there was some sort of receipt mechanism, that there was some sort of tracking so that customers could truly say, "I got my document there and everything is fine." Now, they're looking at it and saying, "Do we really need to pay this continual cost to the VAN when we can route documents directly to our trading partners and they directly back to us?" What BizTalk allows a company to do is to play the part of the VAN and that's really known as AS2 or direct commerce between partners and it eliminates a huge cost and really an unnecessary aspect of it for doing the business.

Richard Campbell: It sounds like the same impact that the Internet has had in the sense of it's tough to be a travel agent in this day and age because we could do so much of it ourselves. It sounds like BizTalk is doing the same thing in the VAN situation.

Mark Beckner: Absolutely and yet you look at it there are travel agents on every corner still, so there is certainly a market and there's certainly a purpose for the existence of the travel agent and the VAN and they're not going away anytime soon, but at the same time, there's this massive new market for direct over the Internet AS2 commerce.

Richard Campbell: It also seems like it's going down the company chain too, that this is becoming more of a medium scale business task than it has been in the past. Yeah and if you go back to the discussion around Wal-Mart, they're constantly out there looking for vendors who can supply a single product on a moment's notice at a low cost. So, you've got really a different type of supply chain model with these larger retailers because they're going out to local groups, they're going out to large existing groups to look for the same product, so it doesn't matter what size you are business is, you still



have to interact over EDI with the customers. So, whether you are small, medium or large -- is BizTalk the right solution for a tiny little farmer who is trying to supply local dairy over EDI and they've got one or two orders a day? No, but if you're truly trying to automate your processes and you have a certain level of business, then absolutely it makes sense to go out and find a tool to do that for you and get the benefit.

Greg Hughes: Yeah, if you're McDonald's and you have a bunch of companies, and you own farms and franchise farms, certainly then that type of thing for that supply chain makes a lot of sense.

Mark Beckner: So too, you know, let's go back to the FTP. You want to move something from an FTP site, well; you've got BizTalk in your house so now start to apply it to other solutions. There's certainly going to be different types of things that you're looking at. You can say, "Well, we've already got this tool. Let's use it for what it was intended for and the benefit from that aspect of it also."

Richard Campbell: Sounds great. Mark, it looks like we're just about out of time. Any call outs? Things we've missed? Places people should be looking?

Mark Beckner: Well, there's a lot of information on BizTalk as a whole out there. As far as EDI, since it is kind of a new aspect, there is less information. I have put together a book on that and it certainly traces through an end to end life cycle of how do you build an EDI solution on BizTalk and what you get out of it, but you can certainly visit my website at www.innotechgroup.com for more information on that.

Richard Campbell: That will get you started and the book is, "Pro EDI in BizTalk Server 2006 R2." Our guest has been Mark Beckner. Mark, thanks so much for coming on the show.

Greg Hughes: Thanks Mark.

Mark Beckner: Thank you very much for both of your time.

Richard Campbell: And we'll talk to you next week on RunAs Radio.