



Hansel minutes

Hanselminutes is a weekly audio talk show with noted web developer and technologist Scott Hanselman and hosted by Carl Franklin. Scott discusses utilities and tools, gives practical how-to advice, and discusses ASP.NET or Windows issues and workarounds.

Text transcript of show # 60

April 18, 2007

Rich Internet Applications - WPF/E becomes Silverlight

We discuss "Web 2.5" as Silverlight (ne WPF/E) is announced. Seems that Rich Cross-Platform Runtimes quickly approach from both Microsoft and Adobe. What does this mean to the average developer? We also try to make up for some misinformation we spread in Show 46 on WPF/E, and while we do it, we probably speculate wildly and spread more

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Rich Internet Applications - WPF/E becomes Silverlight April 18, 2007

Lawrence Ryan: From Hanselminutes.com, it's Hanselminutes, a weekly discussion with Web developer and technologist, Scott Hanselman, hosted by Carl Franklin. This is Lawrence Ryan, announcing Show #60, recorded Wednesday, April 18th, 2007. Support for Hanselminutes is provided by telerik.r.a.d. controls, the most comprehensive suite of components for Windows Forms and ASP.NET Web applications, online at www.telerik.com. Support is also provided by /n Software, Red Carpet Subscriptions - the most comprehensive solution for adding connectivity to your .NET and ASP.NET applications with components for every major Internet Protocol, online at www.nsoftware.com and by .NET Developer's Journal - the world's leading .NET developer magazine, online at www.sys-con.com. In this episode, Scott and Carl discuss Silverlight.

Carl Franklin: Hi, this is Carl Franklin and you are listening to Hanselminutes from Hanselminutes.com. I am here with Scott Hanselman as I am every week. Hi, Scott.

Scott Hanselman: How are you sir?

Carl Franklin: Okay, well, not every week; once in a while, I go away. But anyway, this show is about Silverlight.

Scott Hanselman: Right. Silverlight - the return, or the renaming, the re-branding of WPF/E.

Carl Franklin: And this is a sort of, a making it right show because our 46th show we did on WPF/E, I guess, you had some comments on your blog about it?

Scott Hanselman: Well, that was the show when I had had a food poisoning like the day before.

Carl Franklin: Ah, right.

Scott Hanselman: Now, I am not necessarily saying that it was the bad Teriyaki that caused the show to be bad, but I would say that out of the 60 shows we have done, it was not the best show.

Carl Franklin: Okay.

Scott Hanselman: And people in the comments on my blog said so, and I agree with them. You can read the comments on my blog about show 46 at shrinkster.com/o3p. This is show 60, so this 14 better than that show. So, we are going to fix this. Okay, so WPF/E, I was a little confused the last time and I mixed up some of my information between WPF and WPF/E, so let's talk about it. So now it's called Silverlight and it's going to be a

browser Plug-in; it's going to support Firefox, IE, and Safari. So, we are talking about Mac here; this is going to work on the Mac. Now, before, we had talked about WPF and I mixed things up a little bit, but WPF is the managed presentation layer that you can use to write applications that run outside the browser.

Carl Franklin: Natively.

Scott Hanselman: Well, I won't say, they are managed applications but they are not native applications, they run in Windows.

Carl Franklin: That's a good point but they run outside the browser I guess, that's -- yeah, that's the way they say it.

Scott Hanselman: So, let's use the terms, outside the browser and inside the browser.

Carl Franklin: Good enough.

Scott Hanselman: Okay. So WPF uses XAML - this is the markup that is Microsoft's markup that's like, you can say things like Canvas, Rectangle shapes and -- it's basically a complete markup for describing an interface, but it also includes animation and you can hook up events to code behind, so it's a complete of way of describing an interface.

Carl Franklin: Right. It's like ASP.NET for desktop applications; it's the way I like to say it.

Scott Hanselman: Okay. You could say that.

Carl Franklin: Yeah it's markup; it's UI markup.

Scott Hanselman: Exactly; it's UI markup and it's very deep. There is a great book -- Chris Sells has got a great book. I am not sure if it's quite out yet; I have been reading some previews of it, but it's on XAML, and also, Charles Petzold has just got a book on doing WPF.

Carl Franklin: Ah, that's got to be good.

Scott Hanselman: So, yeah, Petzold is the man; I read his book '*Code: The Hidden Language of Computer Hardware and Software*', just fantastic.

Carl Franklin: Me too!

Scott Hanselman: So, there is a couple of different ways you can do this, you can run desktop applications, you just run them with WPF - not WPF/E, and you click once and then you can run things inside the browser frame as an XPAP. This is like, using what I used to do, which



is called ActiveX documents - we used to call them VBP's.

Carl Franklin: So, XPAP is an actual managed application with the full framework required running inside the browser is that what you are saying?

Scott Hanselman: Exactly. So, XPAP is WPF running as the browser using -- being its frame.

Carl Franklin: Right.

Scott Hanselman: So, Silverlight also reads XAML, parses XAML at runtime, renders XAML itself, but it is its own XAML rendered. Silverlight is not WPF; it's not managed code, it is its own XAML parser and it happens to be a slightly smaller subset of XAML. There are things that you can do in WPF that you can't do in WPF/E in Silverlight.

Carl Franklin: And they have implemented some of the framework functions as well, haven't they?

Scott Hanselman: Ah, well, this is where it gets - - because we don't know this yet because they are going to announce this at MIX. So, I can only refer to things that I know on the NET; so I can only refer to things that people have said publicly.

Carl Franklin: Well, I have heard publicly that...

Scott Hanselman: So let's talk about that - I've actually listed all the things you can say, so I don't want to speculate on MIX, because I am under NDA, so I can speak to what I know on the Net. So, here are some quotes on the Net, and these are the ones you are referring to. So, Mike Harsh, one of the PM's on Silverlight has said on his blog in March of 2006 - he said and I quote, "The WPF/E package will contain a small cross-platform subset of the CLR that will run C# and VB.NET. Yes, we are bringing C# programming to the Mac."

Carl Franklin: Yes, that's what I have heard as well.

Scott Hanselman: Exactly. Now, Rory interviewed Scott Gu and he said -- also this is interesting, is there is any possibility of having the framework that runs outside the browser? And Scott said, well, that's something that we are looking into; we call it the in-browser experience and the out-of-browser experience. Rory then said, well, is this secret? I don't want to bring up anything that is secret. Scott said, no, that's not something we have talked about publicly but it's something worth thinking about, and he told

Rory, it was okay to keep it in his Channel 9 Video.

Carl Franklin: But he didn't say yes and he didn't say no. And he also said, we will be talking about that at MIX.

Scott Hanselman: Exactly. Now, if we look at the links for this show, Paul Wilson had a pretty good analysis of this announcement at shrinkster.com/o3r, and he pulled these things together including some information by Joe Stegman. And Joe Stegman said, we will support a small cross-platform CLR execution engine that will run on both Windows. So, it's a different CLR, according to what Joe Stegman is saying. And it gives the impression that you will be doing your development on Windows, and then deploying it, and then the runtime will work fine on the Mac and on the PC. So, it's a tiny cross-platform CLR.

Carl Franklin: Well, this is what I have heard about Silverlight from the beginning - WPF/E, that there was going to be a small subset of the .NET Framework that will be managed, that will run for WPF/E applications.

Scott Hanselman: Right. It seems that people are saying, again publicly, that there is the tiny CLR and then chunks of the BCL that will be available - the Base Class Library. Now, where do you fit this into your applications? - And this is something that I think I got a little confused about in the last show. So it seems to me that before, I had thought that one might want to make a giant full-screen Silverlight application, and the way that people use a lot of the Adobe Flex Applications. Like, if you go to maps.yahoo.com, that is all Flash now; it's a big, giant, Flex application - Adobe's Flash Flex - which is pretty cool; you should check out maps.yahoo.com.

Carl Franklin: And Adobe Macromedia, I guess even before that had the Flash Player, which ran outside the browser.

Scott Hanselman: Yeah I remember that - exactly. Now, we will talk about that and what it means with Apollo, because we are going to be juxtaposing in-browser and out-of-browser. So let's get back to Silverlight. So, Silverlight is going to be a Plug-in that lets you bring XAML parsing - - richer parsing and richer experience than HTML into the browser - PC and Mac, Firefox, Safari, IE. Now, the cool part - and the part I didn't quite figure out last show, or show 46 was that every single element of XAML can be manipulated using JavaScript as if it were just another piece of DHTML. So it's almost like an Extended DOM; you can reach into this Silverlight application and you can create XAML dynamically. So there is a



couple of ways you can get XAML into this; you can have it directly on your HTML pages just like an embedded piece of XAML - like an island of XAML. You can have it come in as a file, like JavaScript's or SQL, or you can have the XAML come in externally. And the thing that is generating externally could actually be creating it; it could be a static piece of XAML on the file system on being served by the server, or you could have an ASPX page or an HTTP handler dynamically generating XAML. So, the creation of XAML can be done on the server side - on the client side, you could have JavaScript that creates XAML. There are some good samples up at the Silverlight SDK that show you how to, on the client side, retrieve RSS, parse it and dynamically generate XAML and insert it into a Silverlight instance, all in the browser. Now, this use of JavaScript has confused some folks because there is a gentleman named Ted, who has a blog called 'Ted On Flex'. He is a Flash Evangelist; just like Microsoft has Evangelists, so does Adobe. His stuff is at shrinkster.com/o3u and he has a post about Silverlight v/s Flash. And in that he says that -- and this is quote, he says, "Seeing as the CLR didn't make version 1.0, this is a dead loser. Depending on JavaScript to power Silverlight is a big mistake; it severely limits high end potential." Now, I can understand why it's confusing because I have a feeling that it's going to take a while for this to kind of sink in, what Silverlight is trying to accomplish, but what I seem to understand -- what I have gleaned is that, using JavaScript to interact with Silverlight is expected in an AJAX application where you have inserted Silverlight as an active part of the page. But given that we are gleaned that, we are going to have a CLR running inside here -- running inside a Silverlight instance. They are not going to be using JavaScript to power it, but rather to automate it as appropriate. So there is going to be some kind of interesting design and architectural decisions to figure out what you are going to write in C# and what you are going to write in JavaScript?

Carl Franklin: You know, the thing that comes to mind immediately is that there are more parts to this than a simple SWF file.

Scott Hanselman: You know, that's a really, really good point because what they are doing is, providing a thing to bring together all of the different pieces that one might want to use in a really active application -- like if you look at the architecture overview -- that MSDN page, it's the Silverlight SDK is at shrinkster/041 and the architectural overview is at shrinkster/042. They have this notion of a content package; this is one other way that you could bring an active application down. So there is XAML; there is

JavaScript, there is images, potentially some embedded fonts, and then Media like a WMF - like a Windows Media File. So, what you just said is exactly right; there are all of your assets that you might want to use in an active application that can be potentially packaged up and sent down, including information from streaming media sources.

Carl Franklin: Now, how do you -- I am understanding WPF is created with the expression blend and all of this stuff. Do you see expression blend being able to create WPF/E?

Scott Hanselman: Absolutely; that's exactly what they expect you to do. You are going to -- or you can write them in a number of applications, because the idea of File, Save As, XAML, is going to be integrated in more and more design applications.

Carl Franklin: But it's not just XAML; it's the code behind it; I mean, when you are talking WPF/E, the code is on the client, when you are talking WPF, it's sort of...

Scott Hanselman: With both of them as a developer, you are going to use Visual Studio -- and you are going to use -- and with the expression kind of, family of products, it depends on what you are trying to accomplish; you might be using Blend to do WPF/E or WPF, you might be using -- is it Expression Design, to actually create an asset.

Carl Franklin: Yeah. Well, I mean what you just said there, I can't imagine using Visual Studio to create a non-managed -- any kind of code assembly.

Scott Hanselman: Visual Studio has better JavaScript debugging than people give it credit for.

Carl Franklin: Yeah.

Scott Hanselman: And of course with all of these stuff like the IE development toolbar and Firefox debugging stuff like Firebug, JavaScript is becoming a whole programming world of its own, and the browser is the IDE. So, it may feel a little fragmented initially, because you are dealing with a lot of different little text files and such, but those text files can be generated by a number of different tools. You can use the WPF Plug-ins for Visual Studio to do the editing as long as you only use the subset of XAML that Silverlight supports. You can use ASP.NET and you could -- and there is nothing about ASP.NET required for Silverlight. Certainly, we are hoping that people will use this wherever they want to. Now, one of



the things that's significant about Silverlight is that we are talking about Windows Media Support and Codec support on the Mac. So, they are also kind of, promoting Windows Media a little bit more; I think that just as video has been the killer app for Flash -- with YouTube, I think that they are hoping the same thing for Silverlight -- and being able to have much better Codec support on the Mac is going to be better. Also, they are going to have high definition support for 720p depending on your CPU, so that's going to be pretty cool.

Carl Franklin: Now, I am looking at the Microsoft.com/silverlight page, and there is a video there that you can play, and my first thought was, "Ha, that's funny, they are going to have a Flash Video to show Silverlight." But then I clicked "Play Video" and it installed Silverlight.

Scott Hanselman: Yeah, if you Right Click and do a "View Source" you can see on the load there, they say, New Silverlight Player.

Carl Franklin: Right. So, we are actually watching a lightweight video ala Flash Stream through this Web Browser using their technology.

Scott Hanselman: We are not using Flash stream; they are streaming a WMV. This issue about Flash v/s Silverlight is a contentious one. I mean, I am a Microsoft developer and they have kind of, paid my mortgage for a number of years, but I don't want to be considered a religious zealot. So, I mean, I am excited about Silverlight, but at the same time, you have to ask yourself, why aren't more developers using Flash and Flex?

Carl Franklin: That's a good point.

Scott Hanselman: There is a guy named Graeme Harker, who's got a great Flex.NET Blog, and he asked that question, "Why don't more developers use Flex": And I think that it's part of the -- I would agree with him that it's part of this good developer network. Microsoft has done a fine job of releasing just a ridiculous amount of information at MSDN, and their MSDN Universal Subscriptions are really what it's all about; the fact that they released expression as part of -- or parts of the expression suite rather than MSDN subscribers just makes it so easy because how does a developer try to get support for doing something on WPF/E? Well, I am going to go and download it from my MSDN subscription...

Carl Franklin: Absolutely.

Scott Hanselman: ...do a prototype and I am going to show my boss. Right? So, it's got to be

just that easy as well to go and do the same thing, right? So, Adobe has a similar network called the Enterprise Developer Network, and they are getting a lot better to woo, wooing the .NET developers. You can go to Flex.Org and they've got a whole bunch of information up there about how you can talk to Flex with .NET, how you can get on to their Developer Network and they are doing a much better job of opening it up. Early versions of Flex required the Flex Server but now the Flex 2 stuff, you don't need to have an Adobe Server on the backend; you can have .NET pulling out Web services, like, there is a really great tutorial on Graeme's site where he creates a little .NET page that returns some XML and makes a Dynamic Flash Chart using their stuff, it's called MXML. So, Microsoft has XAML, and Adobe has their MXML and it's really simple. I mean, it's like MX:Application, you set some colors, point it to a service, and you say, MX:Line Chart - and in like, 15 lines, he has got a Dynamic Flash Chart - it's way easier than I remember making Swiff Files back in the day. But the real question is, how are they going to be able to woo the developers, because they've got 97%, 98% penetration - I mean, that's how many Internet enabled PC's have Flash on it - it's ridiculous.

Carl Franklin: It is ridiculous.

Scott Hanselman: And how many have Silverlight? Zero.

Carl Franklin: How many have Java?

Scott Hanselman: 87% have Java.

Carl Franklin: It's funny that Java is completely out of this conversation. I mean...

Scott Hanselman: That's a good point; it is because people started to fear it. You ever get that kind of pause as you visit a page that has Java on it?

Carl Franklin: No yeah, I agree.

Scott Hanselman: You are going to go, "Oh, no!!" - everything is going to fall apart now, because I have just reached a page with Java. Now the problem with Flash is that people associate it with Banner Ads and they associate it with Flashy things.

Carl Franklin: Right. "iCandy."

Scott Hanselman: I think that there is largely a perception issue with managing Flash. And then there is also a little bit of that confusion between what was Flash and what was Shockwave. Early



on, I was very confused about their Shockwave and all the 3D stuff and the games you can do in Shockwave. And that was a big download; it was like 4, 5 Megs, and then Flash is just tiny, tiny, tiny and it exists everywhere already. So, there is definitely going to be -- it's going to be interesting to see how Microsoft pushes out this Runtime. Right now, they are saying this Runtime is going to be about a Megabyte -- maybe a Megabyte and a half on Windows, and then a little bit bigger on the Mac because the Mac has both the power PC and the Intel chips. So they have a universal binary format, so the Mac version is a little bigger. But once it comes down, it's just like Flash; the question is, how few clicks can they get it down to? - And then what's the security story going to be like?

Carl Franklin: Hey, did you see Keith Elder's response to Rory and Scott's video?

(20:00:00)

Scott Hanselman: That's at shrinkster.com/o3z.

Carl Franklin: Yeah. He takes it all the way to the iPhone in speculation.

Scott Hanselman: And he is speculating that this could potentially go to a mobile device - that if WPF/E is only a megabyte and it's a little tiny CLR again, you could get -- he calls it Mobile iCandy. And this brings into question kind of, the whole CLR ecosystem now; suddenly we have got maybe two CLR's on the desktop - we have got WPF/E -- excuse me, again, Silverlight - it's going to take a while for me to get used to that. So we have got .NET 3.0, and then we have got this tiny Runtime - this tiny thing - and then also on the Mac now, but then on the mobile device, which he is totally speculating, we've already got the compact framework. So, it will be interesting to see which frameworks survive, you know, had they written a better framework.

Carl Franklin: Yeah, so everybody thought show 46 was confusing; I am just as confused today as I was then.

Scott Hanselman: it's a shame. Let's try to review because I am feeling this is a little bit spastic and we still haven't gotten to talk about Apollo.

Carl Franklin: Well, I mean, the fact is that there is still a lot we don't know, you know?

Scott Hanselman: Well there is; and we are going to find out at MIX. Rory and I filmed a number of videos for MIX that we should release on Channel 9 soon and I know that there is going

to be stuff at MIX that no one knows, no matter how much speculation there is.

Carl Franklin: Right. And Richard and I are going to be interviewing Brad Abrams during that same week of MIX, so we are going to pick his brain about everything they are announcing there too.

Scott Hanselman: Right. And I am going to talk to Scott Guthrie while I am down there as well.

Carl Franklin: So, we are covering it folks.

Scott Hanselman: Oh, it's covered. So, let's try to review here for a second. So, WPF, the Windows Presentation Foundation would be the rich XAML-based replacement for GDI, that runs outside the browser and requires .NET 3.0 - runs on Vista, runs on XP. Okay? WPF/E, now called Silverlight -- Silverlight is a tiny, about one Meg unmanaged Plug-in for browsers; it will run on Firefox, IE and Safari. So far, they've announced support for Mac; they have announced support for Windows; they are saying, they are going to take it back to Windows 2000, but I don't know. It will at least work on XP and Vista.

Carl Franklin: Nothing about Linux huh?

Scott Hanselman: Nothing yet about Linux. I don't know, but if you remember that the Mac is Linux - the Mac is UNIX.

Carl Franklin: Yeah, that's FreeBSD based right.

Scott Hanselman: So, just the fact that they got it to work in the Mac is a good sign.

Carl Franklin: It's a very good sign.

Scott Hanselman: But at the same time, there are so many flavors of Linux and there are so many different browsers. So, it'd be, which one do they do; would they do Ubuntu and Ubuntu and Suse and -- which browsers...

Carl Franklin: That's one of Linux's big problems.

Scott Hanselman: So back to the review; so you can embed your XAML on HTML pages, you can fit a Silverlight object kind of seamlessly into an existing ASP.NET in an AJAX application. I don't think it's fair to say that Silverlight will replace your application; rather, they would augment it if you wanted to add a bit of activeness to your site - active charts, active graphs, new kinds of Visualisations, video, stuff like that. You are going to be using the tools that you already use;



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JavaScript, AJAX, ASP.NET or whatever markup you are used to using.

Carl Franklin: There is every reason to believe that it will be a subset, just like pocket PC is a subset, where the stuff that's implemented is backward compatible.

Scott Hanselman: Right. I have a feeling that people who know C# and VB.NET will find their investments to be safe.

Carl Franklin: I am sure they will.

Scott Hanselman: Okay, now, on the -- we haven't given them fair time, we should probably interview a Flex guy; we should actually have someone who knows Flex give me a call and we will do a whole show on Flex.

Carl Franklin: Right. And then we got to talk about Apollo.

Scott Hanselman: Okay, so Flex of course, is the -- Flash Flex is Adobe's Plug-in. Of course, they have 98% penetration while Silverlight has zero; people often called Silverlight 'The Flash Killer'. We don't if that's fair or not, but it's clearly getting right into their space. I think that there is some really compelling reasons to take a look at Flash, and I think, ubiquity, especially for public websites, is one of them. I think that Adobe does kind of a mediocre job of making .NET developers aware of this stuff, but that's kind of the job of the evangelist, to spread the word. I think that Graeme's site is a good start. 'Ted On Flex' has a lot of information about this. Now, Apollo is -- and we've got a link to that up on the site, it's at shrinkster.com/o3x -- we have got lots of links we haven't mentioned that are up there, so make sure to check it out; we have got Screencasts of how to develop stuff in Flex. So, I want to make -- again, we are not able to give Adobe full time on this particular show, but we will do a show in the future.

(00:25:04)

So, Apollo is the out-of-the-browser -- like you referred to Flash Player back in the day; this is kind of like Flash Player+++. It's a Cross-Operating System Runtime for Adobe. So we are going to work on Windows, and again on Mac. They are saying it's going to come out second half of 2007; it's going to work on Vista and XP Service Pack 2.0; it'll work on both versions of Mac, PowerPC and Intel. They're going to have a support a support for Flex, Flash, HTML - support to talk to the File System, so they are going to have a security model, Java Script support, they are going to have a partially implemented native

windowing API, so these applications could potentially look a lot like Windows apps and behave like them, but they will be running in their own process space. You can actually go up and get their Alpha and run Apollo applications now. On the version that I used, you are sitting in your browser and you see a .Air extension and you click on it and then it leaps out into the browser almost like a click-once experience, out into Apollo.

They are also saying that for 1.0, they are going to have support for PDF and transparency and some different kind of cool things like that.

Carl Franklin: Cool!

Scott Hanselman: The Apollo Runtime they are saying is going to be between five and nine Megs - this is from the Apollo FAQ.

Carl Franklin: Okay.

Scott Hanselman: And then, you can just use HTML or JavaScript, or you can use all the Flex Flash and stuff. So, it's a very similar environment; it's almost like Apollo is bringing -- they are trying to bring Flash as a complete runtime.

Carl Franklin: Right. A small OS...

Scott Hanselman: Yeah, it's actually getting more into Java as the end space...

Carl Franklin: Yeah, I was just going to say.

Scott Hanselman: ...a little bit more than it is getting into WPF space.

Carl Franklin: Okay. So I think we pretty much righted the wrongs and covered the -- Crossed the Ts and dotted the Is.

Scott Hanselman: And certainly brought up another new questions and confused folks.

Carl Franklin: Several.

Scott Hanselman: We have got a whole pile of links to this kind of stuff. I hope we did a decent job of explaining kind of how this fits in. I know that I feel a less confused because I understand now, how I would add support for Silverlight into my existing applications, but I also need to spend more time looking at Flash and weighing the pros and cons, because all I really want to do is, give a rich experience to my users, and I want to do it in the easiest possible way. 97% penetration or 98 % penetration for Flash is pretty compelling, but a one Meg download for some applications is



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reasonable, especially if it doesn't require any existing Runtime. Let me say this before we go; just looking at the February CTP of Silverlight -- still called WPF/E at the time -- I just ran a Silverlight sample and I loaded up Sysinternals Process Explorer just to kind of look inside to see what's happening, because I wanted to see what DLL's get loaded...

Carl Franklin: How much memory it's using.

Scott Hanselman: Exactly; and the WPF/E stuff, it's only loading four DLL's on the version that I have got. They are all unmanaged - currently those DLL's have names like AG Core and AG codec and AG CTRL -- AG Control - those are the tiny little DLL's, totally unmanaged code, I tried to reflect into them. I used the tool called DumpBin that comes with the Windows SDK; you go dumpbin/dependents, and you can basically ask these portable executables, you can say, "What dependencies do you have?" One of the things you want to find out when you are bringing something on to your system is, what do you need to have? So, I ran DumpBin on each of these things, and it's interesting, most of them have just the basic dependencies; the C Runtime, GDI32 - the only one that was particularly interesting - the only interesting dependency that I thought was that they depended on direct sound. So, dsound.dll was in there, but all the other things are just the usual suspects - Shell32, Kernel32, WinINet, stuff like that.

Carl Franklin: So, it's very, very tight - unmanaged code?

Scott Hanselman: Yeah, it appears that they squeeze a great deal of functionality into a Meg or two, and the dependencies that they have on external things are very minimal. Again, I am totally speculating here, but it feels to me like, since they have so few dependencies that the compatibility and the chances that this will work on everyone's machine without a lot of versioning problems of the underlying DLL's...

Carl Franklin: Pretty good.

Scott Hanselman: It sounds pretty good. Again, total speculation based on one running of DumpBin - but I encourage folks to do that kind of spelunking as they learn about this new technology.

Carl Franklin: Alright Scott, and well everybody be listening around April 30th that week around MIX for the real scoop straight from the horse's mouth. From one end on Hanselminutes, from the other on .NET Rocks!, we'll get to the bottom

of this, and I am sure it's going to be good news. And Scott, that's a show.

Scott Hanselman: Good deal.

Carl Franklin: Alright, thanks again, and we will see you next week on Hanselminutes.