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Iain McDonald Talks Server 2008 R2!
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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 #85, with guest Iain McDonald, recorded Wednesday, November 5, 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; with me as always my co-host, Greg Hughes.

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

Richard Campbell: I'm good. It's the end of the second day. Well, it's really kind of the first day of TechEd. We're still sitting in the community lounge. It's a little more quiet here, just a bit of conversation going on. It's been a real zoo all day though. We've been down here the whole day.

Greg Hughes: Yeah. It's nice and quiet now. The background noise for this particular show is not quite as high.

Richard Campbell: Yeah, I think the other show we recorded, there was actually a panel discussion going on at the other side of the wall from us and it was loud.

Greg Hughes: Yeah. I think there have been times -- we have events overlapping each other, announcements overlapping events, but that's all part of a live show.

Richard Campbell: That's been good fun too. So, we have a very special guest with us. He's shaved and everything.

Iain McDonald: Allegedly.

Richard Campbell: General Manager of Windows Server, Iain McDonald.

Iain McDonald: Hi there. How you doing?

Richard Campbell: Sir. It's a pleasure to meet you.

Iain McDonald: Nice to meet you too.

Richard Campbell: You certainly have been around Microsoft for some time now.

Iain McDonald: I've been at Microsoft 17 years, which just appalls me every time I say it, but I started in product support in Microsoft Australia in 1991.

Richard Campbell: Wow.

Iain McDonald: So, there you go. Answering the phones.

Richard Campbell: So, that's Windows for Workgroups.

Iain McDonald: No, actually I was doing -- it was just after Microsoft had acquired a company called consumer software and I was the mail guy or the email guy and I was the only one in the country and we actually had down there the biggest deal that Microsoft had sold at the time and I was the whipping boy for that.

Richard Campbell: Oh, what fun.

Iain McDonald: Yeah, yeah.

Richard Campbell: And somehow you eventually ended up in Redmond.

Iain McDonald: Yeah, yeah. Actually, I will say that Alex Henricks who works for me who's the director of program management for Windows Server has in his office quite proudly displayed a Windows for Workgroup screwdriver collector's edition.

Richard Campbell: No kidding.

Iain McDonald: I'm sure that you can get them on eBay and they cost a ridiculous amount of money.

Richard Campbell: That's great swag.

Iain McDonald: Yeah.

Richard Campbell: I got a Leatherman a while ago but you don't see just a plain old screwdriver that often anymore.

Iain McDonald: Well, they came in the box.

Richard Campbell: Right.

Iain McDonald: Yeah, because they had a NIC card in there and it came in the box and I think if I remember rightly, they actually called it Windows for Warehouses because nobody ever bought it.

Richard Campbell: I did a lot of workgroup installations on ARCnet and thick ether.

Iain McDonald: That's dating yourself there, isn't it?



Richard Campbell: Oh, geez, yeah it's a shame.

Iain McDonald: So, I did a bunch of things down there, down in Australia, one of the things I did is I trained up a whole bunch of people who work for resellers on what this product was. We had two labs down there and one of them was an Ethernet lab and the other one was like Coax. It was a total pain.

Richard Campbell: IBM had a twinax setup like that. It was a bear.

Iain McDonald: I just remember, one of the guys I worked with had to reconfigure the network one night and he's pulled an overnigher and he still didn't get it working. I turn up at like 7:00 in the morning and was sort of pulling our hair out for another hour and a bit to actually get it finally done.

Richard Campbell: Find what you hadn't terminated or wasn't quite crimped properly.

Iain McDonald: Exactly, exactly.

Richard Campbell: Oh, I hated that stuff.

Iain McDonald: Yeah, I'd rather have a fork in my eye than ever deal with that again.

Richard Campbell: And somehow now you're at the server team. I mean you've always stuck around Windows to some degree.

Iain McDonald: Yeah. I moved over. I was in product support in the States. There were three of us sort of made to escalation engineer originally.

Richard Campbell: Oh yeah.

Iain McDonald: And the first group of those was a guy named Dave McDonald, Darryl Wiley and me. Dave and Darryl are actually in the overall Windows group these days. So, it's kind of funny that all of us three guys are together again, but I did that and then I went to the Exchange group. I did the last versions of MS Mail. Anybody ever used that?

Richard Campbell: Yeah.

Iain McDonald: And then worked on the original version of Exchange. I did some other stuff. I went to Windows. I was project manager for Windows 2000. It's this little thing that maybe you've heard of.

Richard Campbell: Yeah, once or twice.

Iain McDonald: Yeah, and then I had the project management group for XP in 2003 report to

me and then after we did that, I kind of had gone through doing enough of that and I decided to go over the Server group and I'm program management over there. I did that for a couple of years and now I'm GM.

Richard Campbell: Oh wow.

Iain McDonald: There you go.

Richard Campbell: That's the whole gambit.

Iain McDonald: That's all my life summarized, the last 17 years summarized in a couple of minutes, a couple of seconds. There you go.

Richard Campbell: Yeah. So, Windows 2008 has been a smash hit.

Iain McDonald: We're very happy. I was always very happy with that really. I always thought that we're doing the right thing. I always felt like we had a lot of the right focus. I actually think that we built off a lot of the things we had learnt in 2003.

Richard Campbell: Sure.

Iain McDonald: I think that the R2 upgrade -- you know, the R2 upgrade, some people are like, "It's not got much features," and all that sort of stuff. It was popular because there were features that people wanted and it was compatible and all that sort of stuff. It also proved that we could go and do this sort of regular cadence of releases, that we'd have the idea of a minor release. 2008, there's a bunch of really good stuff in there. Here's the stat that if you're me you really care about. Six months after release, I've waiting for the update but someone's being slow with the update. Six months after release, we had done 15% more sales than the equivalent number of sales for Windows Server 2003, but our support calls were a third.

Richard Campbell: That's a good stat. I like that.

Iain McDonald: That is the sort of stat that if you're me, you want to see every time.

Richard Campbell: Yeah.

Iain McDonald: So, we're very happy about doing the things of keeping the quality up, keeping the functionality and having something that people actually want. So, we're doing an update the beginning of 2010 called Server 2008 R2, which is another minor release.

Richard Campbell: Right.



Iain McDonald: So, keeping that cadence going on and actually this is going to be released to surprise a couple of people. It's going to be interesting.

Richard Campbell: We're talking still a year away then.

Iain McDonald: Yeah, yeah.

Richard Campbell: But 2008 is brand new and it just gives us something to look forward to rather than having to wait for another entire version of Windows.

Iain McDonald: Yeah. We're going to keep with, you know, this is a pretty consistent thing. We're looking at what we do further out and what are the sort of capabilities people want further out in the sort of wild off in the future sort of timeline. When you have a business the size of something like Windows Server, you got to go and sort of say, "Well, you know, here's a roadmap and where our roadmap is going to continue."

Richard Campbell: Yeah. You don't want to surprise. There are an awful lot of people that make Windows successful, both within Microsoft and outside of Microsoft. I guess you got to give them a heads up time.

Iain McDonald: I hope that we can surprise people. I think the things that we can continue to surprise people about is like people haven't needed the --there's a gun going off in the background I'm sure.

Richard Campbell: Yeah, they're shooting at you.

Iain McDonald: Yeah, that's right. You know, people haven't had to wait around for the first service pack for the last couple releases. I think that that surprised people. The interesting thing, actually one of the other best things I heard is that I was talking to a group and this guy said to me, "You know, you've proven that I don't have to wait for the first service pack to come out and you've proven that you can actually get regular. My problem is you're giving me too much stuff too quickly." I'm like every time I want the choice -- if I can be a pain in your...

Richard Campbell: Yeah.

Iain McDonald: Can I say ass?

Richard Campbell: Yeah, absolutely.

Iain McDonald: If I can be a pain in your ass by giving you too much good stuff too quickly, that's my choice.

Richard Campbell: That's what you want to do every time.

Iain McDonald: Yeah. That's what I want to be known for.

Richard Campbell: No kidding. How much can you talk about for R2? What are we getting?

Iain McDonald: We can talk a little bit.

Richard Campbell: Okay.

Iain McDonald: We can talk a little bit. So, the things that we're, you know, frankly if anybody's gone and read any of the sort of -- if you've gone to Paul Thurrott's scurrilous rumor site, you know, you probably got most of this stuff anyway. He's just a rumormonger. He really is.

Richard Campbell: He's good at it, isn't he?

Iain McDonald: The sort of things that we've been working on, we've got an update to the Hypervisor. We think that virtualization business is an interesting thing at the moment. However, I believe that talking about something as mundane as a Hypervisor is kind of a semi-boring thing. There's some great technology and there are some great things we're looking at there. The real thing is how we can manage it, how we can go and manage the resources, how we can go and look at physical, virtual, you know, that movement between physical and virtual, be able to go and look at the full stack, be able to go and say, "In this VM, I've got this application doing X and Y," and be able to understand that full stack. That's really sort of a key sort of stuff. So, we got an update to Hypervisor and the boring sort of end of the world. We're doing things like live migration which gives you the ability to be able to go and move a VM very quickly from one Hypervisor host to another as opposed to something like quick migration which means you commit it to disk between going there.

Richard Campbell: Yeah and just have that little blink in the trip.

Iain McDonald: Well, yeah, as opposed to sort of a ninety second blink.

Richard Campbell: Yeah.

Iain McDonald: No, I couldn't do that.

Richard Campbell: I've had those blinks. It's usually jet lag.



Iain McDonald: What would you do if I sat here for like, we sat here for 80 seconds and said nothing? You'd get a lot of that dead air thing.

Richard Campbell: Yeah, people hitting their Zunes saying, "What's wrong with this thing?"

Iain McDonald: That's right, that's right. Well, actually, what you'd hear is loud people in the background, loud English people. Other stuff that we're doing, today we have a limit of 64 hardware threads which means that if you have, you know, I don't know, 8-way system or you're hitting the limits and we know there are designs coming along that have more processes in them and...

Richard Campbell: Number of cores is only going up.

Iain McDonald: Yeah and the commoditization of that sort of hardware is rapidly increasing and so we know that we're going to have to go and sort of make the sort of capabilities available to people on commodity hardware. So, we're blowing off the limit of hardware threads on the system. The cool thing is that we're looking at 256 at the moment, obviously it's dependent on our hardware, all that sort of stuff, and then the design will go much bigger than that. Sorry, I'm just handing something to someone.

Richard Campbell: Yeah, yeah.

Iain McDonald: Yeah, so we definitely think that there's, you know, for the sort of workloads that require that, biggest AP database, these big databases...

Richard Campbell: You're talking about a very core -- this is about as deep into the kernel as you can get, your thread base.

Iain McDonald: Yeah, yeah.

Richard Campbell: That's not trivial stuff.

Iain McDonald: Mark Russinovich actually had a pretty good talk on -- can I say channel9.msdn.com?

Richard Campbell: Yeah, sure.

Iain McDonald: Okay, channel9.msdn.com. Mark Russinovich actually had a good talk about that and talked about this sort of detail, you know, like if you really want to go into the sort of mundane things, we can talk about the dispatcher lock. It's a conversation that we can talk for hours about.

Richard Campbell: Yeah, and very key to everything everybody does, but I think one of the

reasons most people don't anything about is they don't need to.

Iain McDonald: That's right.

Richard Campbell: You've taken a good care of it.

Iain McDonald: That's right. It's one of the sort of core things in Windows that you never really had to see but the dispatcher lock is actually now removed and it allows us to be able to go and get that scale up.

Richard Campbell: That's awesome stuff, but is it really this is what it's all going to be about is we're focusing on the biggest machine you've ever seen? Massively parallel?

Iain McDonald: I actually believe in a scaled out world. I believe in being able to go and say -- I don't actually believe in single node anymore.

Richard Campbell: Yeah.

Iain McDonald: I think that what you really want to be able to go and do is say you have a certain amount of capability, you have a certain amount of system resources or resources you can go and give to a service and as you need to, you can provision the right sort of things.

Richard Campbell: Sure.

Iain McDonald: I think the -- actually, as you talk to people with larger data centers and things like that, moving off the single node administration rack level administration is actually kind of a pretty huge leap. The leap from there to administration of some larger representation, a set of racks, the rackable container sort of things, to that sort of level is an interesting thing.

Richard Campbell: It's another jump and then we make the whole thing blurry by calling it cloud and being indistinct on what the machines are.

Iain McDonald: Yeah. The interesting question or the interesting sort of discussion I have is the cloud representation whether you run it or whether someone else run it isn't all that important.

Richard Campbell: No. In the end, it doesn't matter. There's still an OS in there somewhere and it's all in how they get along with each other.

Iain McDonald: Yeah, well, it's all about management at some point.

Richard Campbell: Yeah.



Iain McDonald: It's sort of the fabric that you manage.

Richard Campbell: Yeah, that is the challenging part. From an IT point of view it's just what do I got to do to manage this and make it successful.

Iain McDonald: You know, actually, I think there are two or three things there. One is does the server business get more interesting over the years? Hell, yeah. There's some room for some really big science things and there will be continuing. If you do this like the HPC stuff over there, HPC is just like that. It's a space that is just so cool. There are so many cool things.

Richard Campbell: Yeah.

Iain McDonald: People are doing so many cool things and we've got some really nice things coming along that we'll be talking about in the next couple of months in that sort of space, but they're doing some stuff that's really big science.

Richard Campbell: Sure.

Iain McDonald: I think that, you know, a traditional idea of what an IT person will change, I do think that the job of someone who is an operator will change pretty significantly and I think that the sort of things that will be asked to do will be much harder, but will be kind of more fun. The thing for me is finding ways to remove the mundane tasks.

Richard Campbell: Yeah, sort of grunt work of I got to change the rules on all these users or I got to go inventory this infrastructure. That stuff can be automated.

Iain McDonald: Yeah and coming back on server 2008 R2, PowerShell 2.0 and the embedding of that and being able to go and put it across on a server core and being able to put it all away across I think actually allows us to be able to go and say, "Well, this node doesn't need special treatment and you can go and do this in an automatable way across things," and bloody, bloody, blah, blah, blah.

Richard Campbell: When I found that quote about a year ago, you talking about PowerShell could become the GUI of Windows.

Iain McDonald: I kind of said that to please Jeffrey Snover. The real thing there is that if you go and say that it can be easily invoked, yeah, I don't want to force something on everything, it's just something that has a little bit of footprint, you know, PowerShell has a .NET Framework dependency, so it has a little bit of footprint, I don't want to do that. I always want to be able to go and say that Windows is

thin a layer as you want. The thing could provide some more services if you need them or if you want to pull them out, you could and every time we want to sort of go and put the base sort of system on more and more of a diode on every release, make more things that are in the base system optional, and continue down that path. To that end, in Server 2008, one of the things we're doing -- sorry, Server 2008 R2, one of the things we're doing is we're doing on a server core installation the 32-bit compatibility layer which while 64 will be an optional install.

Richard Campbell: Wow.

Iain McDonald: So, it's like another 300 megs worth of stuff.

Richard Campbell: Yeah, just that much thinner.

Iain McDonald: Yeah. Well, you know, most setup programs use 32-bit, blah, blah, oh, we got some things that we have to worry about there, but you know, giving you the ability to be able to have it there, install it, remove it, put it back.

Richard Campbell: Yeah, I can see putting it in, doing an installation because the MSI install is 32-bit, getting that 64-bit add up, then pulling the *while* back out again just to keep yourself clean makes for a very tight install.

Iain McDonald: Yeah, and then if you go and do some other things we're doing, you know, you'll be able to then go and make your image and your app's on there, you'll be able to go and do something like an offline domain join. So, bang, you got the machine and the right sort of manage in place and if you want, you can put in a VHD format and you'll be able to physically boot VHD as well as run them in a virtual environment, so you don't want image whether it's physical or virtual.

Richard Campbell: It works exactly the same way.

Iain McDonald: Yeah. Well, you know, if it's running physically, it needs to have a couple more things. You're going to need to have the driver model there.

Richard Campbell: Yeah.

Iain McDonald: But if it's running virtually, it doesn't need to.

Richard Campbell: Yeah, all that stuff is in there.

Iain McDonald: It could be the same format if you want.



Richard Campbell: I see where you're going with this and it gets very clean to internally do these things.

Iain McDonald: And XCopy deployment is like a fabulous thing as far as I'm concerned. I can understand XCopy. There are all sorts of stuff I can't understand.

Richard Campbell: It's familiar for you.

Iain McDonald: Well, if you speak to anybody who works for me, they'll tell you that I'm one of the more ADD people in the world and if we get into the details of setup programs, I'll start losing it.

Richard Campbell: That's fair. Any other tidbits we can have from R2?

Iain McDonald: What are we talking about before?

Greg Hughes: Now, what about Active Directory? Are there any improvements in Active Directory in R2?

Iain McDonald: Active Directory, the management tools are awesome in Active Directory in Windows Server 2008 R2. Anybody who is an Active Directory admin is going to want to give the Active Directory team a big kiss and it's got to be some other little features. If you go to Forest mode, the Server 2008 R2 Forest mode, you'll have things like the ability to be able to undelete stuff and be able to revert your dumb mistakes.

Greg Hughes: You have some experience with that...

Iain McDonald: Yeah, I have some experience, but that's a whole different story.

Greg Hughes: It is a whole different story. So, what about the Active Directory administrator? What is it that they're going to love so much?

Iain McDonald: The basis will be everything will be PowerShell-enabled underneath. So, there's a framework that will be sitting there. There will just be a lot more ability to be able to automate up the tasks and be able to go and just focus on the workflow the things that they need to.

Greg Hughes: Great. You don't have to do all those repetitive tasks over and over again.

Iain McDonald: Well, you'll be able to automate anything you want.

Richard Campbell: I'm still trying to get my head around using PowerShell on Active Directory to do much that management just doing it at the command level.

Iain McDonald: Well, you could do it on the command level or you could use the UI which underneath does it all and, you know, just tipping your hand, the Exchange 2007 admin stuff actually went and did that.

Richard Campbell: Yeah, I think they really -- them and the IIS 7 guys really paved the way for -- in the end, it's actually all PowerShell under the hood.

Iain McDonald: Yeah, that's right.

Richard Campbell: I think that's the way it should be.

Iain McDonald: Yeah.

Greg Hughes: It opens up the opportunity for third parties also to build new management UIs and platforms to be able to do the specific tasks.

Iain McDonald: Frankly, I would love for someone to go and create something that scares the hell out of us. I'm serious. I think if we give people the ability to be able to go and have the best, I don't know, say whatever you want to call it and they do something that surprises us. That's the fun thing. That's the sort of thing that keeps me coming. Every time I meet customers who go and do things, fundamentally break our system and make them great, that's the sort of thing that keeps me coming back. That's the best thing because, you know, like that sort of admitting you're getting to a point where you admit that, "Oh, maybe some people are a bit smarter than us about this or something," you know?

Greg Hughes: I'm kind of curious. Why did you do Server Core? What are the real reasons behind Server Core?

Iain McDonald: I wanted to make Andrew Mason happy. No, that was kind of one of the reasons. We had this effort for a long while about componentization of the system and there had been a number of efforts that had come along. I think that a lecture from a guy named Eric Traut was out on the net at one stage where he talked about a thing called MinWin, which was our internal representation of the minimal sort of set of stuffs that you could go and boot, and we sort of wanted to take a more sort of pragmatic approach to it which is how can we reduce the base system, how can we go and make it a minimal set of stuff, reduce the servicing footprint, be able to go and sort of use less resources, hopefully eventually use less power in the system, all that sort



of stuff and there's something for me that's very interesting around the idea of going and saying, "You've got something that's got tremendous capability, but all the things that you provide, you could configure the system to have only the things that you need and be able to remove all the extra stuff." I believe that there's a certain level of system maturity where you get through where you go and say that you've gone through the point where you've gone and turn all the crap on. I look back on Windows 2000 and I remember it was my fault that IIS was on by default. It was my fault. I wouldn't take the change to turn it off by default. It was dumb. It was the dumbest decision or it's one of the dumbest decisions I've ever made. It was only a couple of billion dollars that it probably affected, but I learned something a couple of years ago. I was speaking to a lawyer friend of mine and he said, "You could get sued for that," and I'm like, "Really?" He's like, "But my questions about being sued, 1) do you want a plane? And 2) if yes, can you stand up in it? If you kind of answered yes to both those questions, you really would be sued." That was one of the lawyers actually said, or a lawyer friend of mine, but really, I think that when you have a look at the long-term effects of us going and creating a system where there was too much stuff turned on, it really was a mistake. So, it's sort of something interesting about going and creating something that is the smallest possible but still provides a tremendous sort of base for people to be able to go and use.

Greg Hughes: Sure. I mean get great functionality out of the small resource overhead. You're also reducing the attack surface.

Iain McDonald: Well, it's not only the attack surface, but the amount of stuff you have to push out, stuff you have to manage, stuff you have to be aware of, blah, blah, blah.

Greg Hughes: Absolutely. So, what is new as far as Server Core goes in R2?

Iain McDonald: .NET on Server Core.

Greg Hughes: Which is a big deal.

Iain McDonald: And, therefore, PowerShell and, therefore, ASP.NET and, therefore, lots of lovely loveliness.

Greg Hughes: And we got IIS 7 on Server Core.

Iain McDonald: So, we did IIS 7 on Server Core with Server 2008, but we didn't do ASP.NET. So, this time we've done ASP.NET on it.

Greg Hughes: Great.

Richard Campbell: So, that now is going to be the reference standard for our good web farm is that's the leanest, meanest configuration you can have.

Iain McDonald: It's kind of what we hope.

Richard Campbell: Yeah.

Iain McDonald: I really think that it makes a lot of sense to do that.

Richard Campbell: It's an area I've done lots of work in, so I'm looking forward to really taking that out for a spin and making it work hard for me.

Iain McDonald: Yeah. You know, we've been looking at it in a big way. We just think that it just makes a lot of sense. There's some other cool stuff that's coming along too, you know. I think the Media Service Spot was one that was kind of a little, I don't know, seen as sort of overall or something like that for the last couple of years and there are some really cool stuff. I just saw before I came down here, I just saw John is one of the guys who works on the Media Service. He showed me some stuff about HD streaming and being able to go and do, you know, the right thing that stream down to an endpoint user and it was really, really cool. It was way beyond what we've actually had in the past.

Richard Campbell: Wow. It's funny because that's sort of like a flash from the past. That was very much a dotcom boom thing doing all that streaming media stuff. It's like it's come back again.

Iain McDonald: Well, I think, you know, as we look at the sort of stuff that people want now, there's a lot more sort of podcasting or video casting, all that sort of stuff, and people are actually going and finding the usefulness of doing that rather than I think the past people just sort of did it for no good reason.

Richard Campbell: Yeah, they just do it to try it and now we're finally getting to a point where we've got the bandwidth and the resources to really handle those big volumes.

Iain McDonald: Yup.

Richard Campbell: Well, I think we're coming about to the end of the show here. Any final words? Stuff we should make sure people are focused on? Apparently, if I want the truth, I just go talk to Paul Thurrott?

Iain McDonald: Allegedly, you know, like Paul is a legend in his own time, at lunchtime. He'll take that quote from me, I'm sure.



Richard Campbell: I'm sure.

Iain McDonald: No, we'll have a beta coming out in early next year. People go and have a look at it, it's fun.

Richard Campbell: Take it up for a spin.

Iain McDonald: Server 2008 is out there. We're happy with the release. We're not putting a gun to anybody's head to get an upgrade, but hopefully we're going to give them capabilities that will...

Richard Campbell: That will make them want to move.

Iain McDonald: Make them want to move and that's my whole thing. I don't want to go and sort of, you know, even though I must be fundamentally evil being a Microsoft employee. I don't think that we need to -- I think if we go and produce great capabilities, people will move to the latest versions.

Richard Campbell: Sure, I agree.

Iain McDonald: And that's the thing.

Richard Campbell: Iain McDonald, thanks so much for coming on the show.

Iain McDonald: Thanks, fellas. Oh, actually, hola. Hola from Barcelona.

Richard Campbell: We'll talk to you next time on RunAs Radio.