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Richard
Campbell

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

Text Transcript of Show #116
(Transcription services provided by [PWOP Productions](#))



Mitch Garvis Manages Virtual Machines with SCVMM!
July 1, 2009



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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 #116, with guest Mitch Garvis, recorded Thursday, April 28, 2009. RunAs Radio is produced each week by PWOP Productions, providing professional media and podcasting services online at pwop.com. You can follow the boys on Twitter at twitter.com/runasradio.

Richard Campbell: Thank you, Brandon. This is Richard Campbell. You're listening to RunAs Radio. With me as always my co-host, Greg Hughes.

Greg Hughes: Hey everyone. What's up, Richard.

Richard Campbell: Things are good, man. No rest for the wicked; you have to keep plowing along here.

Greg Hughes: Very good.

Richard Campbell: You know, we're into summertime so there are not as many conferences and things. It's a little more peaceful, but the fall looks like it's going to be pretty frantic again. TechEd is in Berlin this year...

Greg Hughes: Yeah.

Richard Campbell: And I don't know exactly what we're going to be doing there but I know it will be something, and PDC again this year, it's a crazy year as usual.

Greg Hughes: Well, you know it's no rest for the wicked as they say.

Richard Campbell: That's true enough.

Greg Hughes: Nice to have a little bit of slow time and the nice weather though.

Richard Campbell: You bet. Yeah, it's good to be home for a while. All right, let's get right to our guest. Mitch Garvis is an IT trainer with a passion for community. Having founded and led two major Canadian user groups for IT Professionals, he understands both the value and rewards of helping his peers. After several years as a consultant and in-house IT Pro for companies in Canada, he now works with various companies creating and delivering training for Microsoft to its partners and clients around the world. He is a Microsoft Certified Trainer and has been recognized for his community work with the prestigious Microsoft Most Valuable Professional award. He is an avid writer and blogs at both

mitchgarvis.com and at itprotoronto.ca. Welcome back, Mitch.

Greg Hughes: Hi Mitch.

Mitch Garvis: It's great to be back, guys. I haven't spoken to you in a while.

Richard Campbell: Yes. We saw each other at TechEd.

Mitch Garvis: Oh, we seem to run into each other at all these conferences.

Richard Campbell: Yeah, fairly often. How was your TechEd experience? What did you focus on?

Mitch Garvis: I was spending most of my time in two areas. I was talking about virtualization but I was also spending a lot of time in the Windows 7.0 deployment and management areas.

Richard Campbell: Cool. Yeah, Windows 7.0 is a great looking product. I'm pretty excited about it.

Mitch Garvis: It is beautiful. I've been working with it for a few months now. I just installed it on my new laptop and it is flying.

Richard Campbell: Awesome. Hey, virtual machine is the topic of the day specifically Systems Center Virtual Machine Manager. Why don't we start right at the top, sir? Tell us what we've got here.

Mitch Garvis: Well, as you know Microsoft has been making a great big push into virtualization recently. Hyper-V was released last year. They proved that they were a real player in the field, not just a Johnny come lately. Now, with all of these different virtualization technologies out there including both Microsoft legacy technologies and third party technologies such as VMware, it's not going to be uncommon for datacenters to have a mixed environment of all of these. System Center Virtual Machine Manager is the tool that you're going to want to use to manage all of your management simultaneously. It will manage your Hyper-V of course, but it will also manage your System Center V13 parents that will manage your virtual server 2005 R2 parents and you do it all from one centralized console; so it's more than just the managing Hyper-V on one box.

Richard Campbell: Right.

Greg Hughes: So to be clear, what this allows me to manage is my Microsoft Virtual Machine environment. You're not to say that it allows me to also manage VMware, for example, if I happen to have that "in house" as well.



Greg Hughes: Well, actually that's exactly what I'm saying. You are able to manage your VMware machines. Now, Microsoft has made a big push on the interconnectivity and interoperability of these platforms. I want to be clear, this is not just a question of you can import or do a V to V migration of your VMware machines into a System Center environment. System Center Virtual Machine Manager will manage your VMware parents as well.

Richard Campbell: So you don't just pull stuff from VMware. You can take care of -- well, what does it mean to manage a VM in the first place?

Mitch Garvis: Well, you are not just managing the VM. To say managing the VM, you're essentially starting it up and going into it and doing whatever you do in the actual server operating system. You're managing the virtual hosts so if you have, for example, a datacenter with 20 virtual hosts with 60 virtual machines running on those hosts, you have the ability to maintain a balance and verify what goes where. You have the ability to see how things are running. With the performance and resource optimization, you can get alerts that say, okay, the resources for one machine have changed; it should be migrated on to another machine. You have the ability to deploy machines. You have the ability to say, okay, I have a mail server that requires these specifications, just deploy it into a host group and SCVMM will place it in the group best suited to the requirements. More interestingly, if you have a physical server that you want to perform a physical to virtual, or P2V migration on, SCVMM will do that but it will also say, okay, it will check the resources used on the physical existing box. It will do a test against your virtual environment and say, okay, of the 10 virtual host machines that I have, host box 6 which is part of host group 2 is where it is best suited or where we have the best use of those resources and it will automatically do the migration onto that machine in that host group automatically.

Greg Hughes: That's all really cool stuff back to the mixed brand environment. There are a lot of IT shops that have a lot of legacy stuff sitting around on VMware or they're currently using it. Maybe they've added it in or what often happens is you have development groups or different teams that sort of fire up their own virtual machines and sort of build their own host. In order to bring these things together and try to centrally consolidate the management of those, it sounds like -- again to clarify, does this allow me to manage the host environments for not just the Microsoft products but the other ones as well; and if so, then what does that look like to the IT manager that needs to take care of this problem?

Mitch Garvis: Well, first of all the answer is yes. That is exactly what you do and I want to be clear, I would never suggest someone what, okay, we have SCVMM, you can now deploy your Hyper-V on this box and deploy a new VMware VI3 infrastructure on that box.

Greg Hughes: I got you.

Mitch Garvis: I think that would be a little silly, but if you have that existing VMware environment and you want to integrate Hyper-V, you can manage the two simultaneously. What it looks like is very seamless. Microsoft recognizes the VMware machines. It recognizes the VMware infrastructure and you'll see the box and the physical host operating system, the physical host machines as you would see a Hyper-V host.

Greg Hughes: Got you.

Richard Campbell: All right, so it's not going to make new VMs in VMware but it is going to allow us to manage them as a whole. I got to think that people get into SCVMM late, probably when their VMs are out of control. So how about enumeration like can it help me just find everything I've got out there?

Mitch Garvis: Well, if you're in that situation, what you probably want to do is first of all look at the Microsoft assessment and planning toolkit which will enumerate your entire environment and you can just set it to just say, okay, find my virtual machines, find my virtual parent machines or virtual host machines, and once you have that bring them into a SCVMM. Assuming all of your parents or Hyper-V hosts or even your Virtual Server 2005 and VMware hosts are Active Directory members, when you have the SCVMM running you can literally just say, okay, search for virtual host machines and you'll get the list and you'll be able to bring those in without any problems.

Richard Campbell: So it's the assessment and planning solution will actually help enumerate what you've got out there and you use that data to use the Virtual Machine Manager to actually take control of things.

Mitch Garvis: What the Microsoft Assessment and Planning toolkit is going to do is when you search your wire, if you have Active Directory implemented, and most organizations do today...

Richard Campbell: Right.

Mitch Garvis: The VMM will search the Active Directory for virtual parents and it will say, okay, these are the machines you have, do you want to bring



them in? I should mention that for SCVMM, it is strongly suggested that your virtual parents or virtual host operating systems be members of the Active Directory but if they're not it is still functional, you just don't have the same security issues and you have to add another layer of importing a certificate before going ahead.

Richard Campbell: Cool. I'm thinking about provisioning especially when I'm dealing with developers and they want test VMs for various things. That is where I get a lot of VMs sprawl in my life.

Greg Hughes: Yeah, it makes you think about self-provisioning. Can you delegate provisioning of virtual machines?

Mitch Garvis: Well, what you can do -- VMM has an entire library and template solution. So you can first of all create templates and say, okay, this virtual machine is going to have this hardware and this software, and when you need to deploy that machine you just kick it off and it gets going. You can also create a machine from an existing system and keep it in the library so that when you have to provision a new machine it's there, it has your Exchange Server or it has your .NET 3.5 or whatever you're developing in environment ready and all of this is done with two or three clicks of a button, just say "new machine, go." Now, in smaller organizations you're going to have one person responsible for all of this but let's face it, in a datacenter you're going to have different people responsible. You talked about having developers who need to be able to provision their own machines. What you can do is create operator roles where, for example, Richard is a developer and he is allowed to provision new machines on our lab environment only and he is allowed to deploy machines that have specs for let's say Visual Studio and maybe SQL and whatever else he needs. But he doesn't have access to my production environment, or he doesn't have access to deploy, for example, a domain controller. We can go into the authorization manager and limit the scope of what different operators are allowed to do on what type of machines.

Richard Campbell: Can you control the numbers because a big issue I've got these devs love making VMs but they hate taking them away?

Mitch Garvis: Absolutely and that's very key because like you say server sprawl is ridiculous. I went to an organization several months ago that had four virtual parents and that's perfectly reasonable for a company of their size and they had, I think, 48 virtual servers which was less than optimal for their environment. So yes, you can say this operator is allowed to control up to five machines or up to three machines. So when he gets to his limit and he wants

to create another one, he has to go back and remove one of his old ones first.

Richard Campbell: That's the thing I need. So I'll give me a couple but after that you have take something away because generally the number of abandoned VMs in a test environment stuns me.

Mitch Garvis: But it's not just a question of sprawl. We have to take into account that in most environments, that sprawl has real implications to the licensing. We as IT departments can find ourselves very quickly out of scope or out of license compliance without knowing it and for no good reason other than, well, we had guys who are over eager to just deploy more machines. They don't turn them off which means they are still using a license.

Richard Campbell: Yeah, exactly. You just get sloppy with this licensing. Doesn't a license manager sort of help in this scenario? That every time you spin off a VM, that machine now goes back and talks to the license manager and keeps track of where we are with licensing?

Mitch Garvis: Well, I am definitely not a licensing specialist. I think that there are licensing managers out there. I can't speak to them. I think it is a good idea that any organization -- I know that Microsoft Assessment and Planning had something integrated and I think it's important that organizations do use the tools available to them to maintain license normality or normalcy.

Richard Campbell: Yeah and you know you're not the first one to say I'm not a licensing specialist. I don't know that any exist.

Mitch Garvis: Well, there are people who say they are but I think they are just people who have taken a course or have gotten bitten a lot of times.

Richard Campbell: Yeah. It's terrifying and it's complicated especially when we get into this scenario that just licensing is complex. It takes a lot of cycles to get it right.

Mitch Garvis: That's right.

Richard Campbell: Let's jump out of the performance side of this thing. Can you use VMM to actually assess the load across all hosts and decide where to allocate more resources, or move VMs over to, or provision a new host? That sort of thing?

Mitch Garvis: SCVMM includes a feature called Performance and Resource Optimization. Now, as we all know, Systems Center Operations Manager is the reporting tool that would monitor our environment. PRO or Performance Resource



Optimization is a feature of SCVMM that leverages the ops manager engine and management packs in order to do exactly that. It keeps track on a live basis of what is going on in our environments, where our resources are getting weak, and it allows us to automatically migrate virtual machines from one host to another based on those resource changes, but also lets us know where we stand when we do have to increase. As we were talking about in the sprawl example, it is very easy for our people to say, well, we are out of hard disk, we are out of storage. We need to go purchase. Well, in this economy nobody really wants to go purchase when they don't have to. So using PRO, you can evaluate your existing infrastructure and see what is available and what is being wasted and what they can use now.

Greg Hughes: So I can think about reallocation of resources and moving VMs or moving the load around in a production environment. What's the story in terms of high availability, if you will?

Mitch Garvis: All right. Well, high availability has actually two implications. First of all, Hyper-V is of course a failover cluster aware service, so you can make your machines' failover services off the bat. But SCVMM is going to take that one step further and especially with Hyper-V R2 which is being release shortly, we will go from a quick migration scenario to a live migration scenario. So when you have a machine and the parent is going down, PRO will notice this. It will detect the critical state and move it over with a live migration immediately to a more available machine.

Richard Campbell: This is quick migration so it's not seamless. There is sort of a bump along the way.

Mitch Garvis: Well, at present there is a bump but as I said we're coming out with Hyper-V R2 with Server R2 and that will include the live migration.

Richard Campbell: Cool.

Greg Hughes: So today we have quick migration and tomorrow or very soon we'll have live migration...

Mitch Garvis: That's right.

Greg Hughes: Which is essentially; you don't have the same downtime. Even if it's a quick downtime, you don't have the same kind of downtime that you have...

Mitch Garvis: Well, there won't be any downtime at all. As long as you're using shared storage devices the one parent goes down, the second parent brings it right up.

Greg Hughes: Right. Does the system have the ability to recognize like storage area network or if you're leveraging that type of thing and then take that into account as part of how it manages migrating virtual machines?

Mitch Garvis: Absolutely. First of all, you tell it where you want to store your virtual machines and it will detect automatically, okay, this is not an internal hard drive. This is a storage area network or it is a shared store on a separate box and it will act accordingly.

Richard Campbell: Cool. Pricing, what do you need to own to actually buy System Center Virtual Machine Manager. I know there are so many different System Center products. It's almost like the ActiveX of Microsoft servers now trying to figure out which one is which.

Mitch Garvis: Yeah. Well, for most production environments or large enterprise environments, people should really be looking at the Server Management Enterprise Suite which includes VMM and Office Manager and config manager and data protection manager as a bundle that is a fraction of the price of buying each of the components individually, but honestly the best thing to do when you want to purchase it is to speak to your software vendor or your partner rep and see how much it's going to cost you because it will be different as with all Microsoft products. How much does it cost? Well, it depends.

Richard Campbell: It depends.

Mitch Garvis: Yes.

Richard Campbell: It figures. Let's talk a little bit about the P2V feature because that to me seems very cool being able to reach into a piece of hardware and turn it into a virtual machine.

Mitch Garvis: Isn't that just like black magic?

Richard Campbell: It is, it's voodoo.

Mitch Garvis: Imagine your old Windows 2000 box that have been running for 8, 9, 10 years and you can't replace the hardware and you don't really want to spend the money but you've got this application that the CIO, the old CIOs nephew programmed when he was thinking of going into computers but he is not supporting it anymore because he is now in med school.

Richard Campbell: Yeah but my; that's a fairly specific scenario you've painted there, Mitch. Hmm.



Mitch Garvis Manages Virtual Machines with SCVMM!

July 1, 2009

Mitch Garvis: That is actually a compilation of several scenarios I've come across over the years.

Richard Campbell: Awesome.

Mitch Garvis: Why we need to keep our old legacy machines that are sitting in a corner and growing cobwebs?

Richard Campbell: In reality, that's what happens. I have a Win NT 4.0 box, it works just fine but it is decrepit and being able to just pick that up and do a VM so that the pain goes away.

Mitch Garvis: That's right and being able to take that. Now I will say specifically that NT 4.0 is not a supported P2V scenario for System Center Virtual Machine Manager. It is still nonetheless something that can be done either by tweaking and migrating the hard disk and recreating the virtual machine, or, and I'm going to use those words that Microsoft is always accuse of ignoring, there are third party solutions that will increase the benefit of your Microsoft virtualization scenario that will do that directly.

Richard Campbell: Oh cool. So there is a way to pick up stuff that old. What is directly supported for P2V, the oldest? Is it 2000 and up or 2003 and up?

Mitch Garvis: No. It's 2000 and up.

Richard Campbell: Okay.

Mitch Garvis: Because we have 2000 Service Pack 4.0, or 2003 Service Pack 1.0. It also, by the way, includes Windows 2000 Professional and Windows XP as long as you have the more recent service packs.

Richard Campbell: Okay. So what actually happens in a P2V? Do you have to install something on the client that's going to be migrated?

Mitch Garvis: It does it all automatically for you. It deploys a very small agent and takes care of that. Now for some scenarios -- I'm going to see if I can bring out my slide. In some scenarios I support it with live migration so it literally is up, up, up, up, up on physical until it's up on the virtual...

Richard Campbell: Wow.

Mitch Garvis: And the interesting part about that is it will maintain IP addresses, it will spoof MAC addresses because you dev guys like doing that too. You say, okay, this program is licensed for this network card...

Richard Campbell: Right.

Mitch Garvis: And because I want to keep a strangle hold on my client, this is the MAC address and if they replace the network card you pay again.

Richard Campbell: Yeah.

Mitch Garvis: So it will spoof MAC addresses and migrate IP addresses and do everything automatically out of the box.

Richard Campbell: So literally duplicate the machine to the outside world.

Mitch Garvis: Exactly right.

Richard Campbell: That's pretty clever actually; to hide that whole thing. How long does it typically take for the whole P2V process to go on?

Mitch Garvis: You're familiar with the universal consulting answer, or UCA?

Greg Hughes: It depends.

Richard Campbell: It depends.

Mitch Garvis: That's the one.

Greg Hughes: That's how big the drive is and how much OS you got to move around.

Mitch Garvis: How much is running and how big the hard drive is, exactly, that's what it is.

Greg Hughes: How dare you ask that question.

Richard Campbell: Yeah, silly, silly me. Can we get a spectrum here? What's the fastest one and the slowest one you've seen?

Mitch Garvis: Well, the fastest one is of course going to be the one with the smallest hard drive.

Richard Campbell: Right.

Mitch Garvis: Now, I actually pulled up my P2V online versus P2V offline chart. So looking at that, I suspect the fastest one is going to be your smallest server that's running Windows Server 2008 that supports Hyper-V and Hyper-V Aware that's running on your smallest server.

Richard Campbell: Right.

Mitch Garvis: That's running no services. That's going to go pretty quickly. But this process will take a few hours.



Mitch Garvis Manages Virtual Machines with SCVMM!

July 1, 2009

Richard Campbell: It is a few hours or so.

Mitch Garvis: Yeah.

Richard Campbell: I mean, this is not something you do in a few minutes. It's not a casual "boop!" it's done, thanks for playing.

Mitch Garvis: No, of course not. If nothing else, you are transferring tens of gigabytes over the line.

Richard Campbell: Right.

Mitch Garvis: And unless you have gigabytes or faster networks, that's going to take...

Greg Hughes: Yeah.

Richard Campbell: It's just physically a lot of data to move, no ways around that.

Mitch Garvis: Nope.

Greg Hughes: So in part, it depends on the network.

Mitch Garvis: Yeah.

Greg Hughes: Among many, many other things.

Richard Campbell: Ah, you're killing me. What about Virtual to Physical, the idea that I would bring a machine into the VM world, mess with it and then push it back to the hardware.

Mitch Garvis: Heresy, why would you ever want to do that? Who was the speaker at TechEd who said that nobody should ever use virtualization? Well, the bottom line is people do want to use virtualization and people do want to go back and forth. Microsoft does not support that out of the box and that's where the third party tools, the one that comes to mind is PlateSpin which is actually Novel product if I'm not mistaken, that does that very nice.

Richard Campbell: Oh yeah, PlateSpinner.

Mitch Garvis: It's not stuck, it's not a one way process. You may never go back. Ha, ha, ha.

Richard Campbell: Yeah. Once you're in the virtual, we've got you forever.

Mitch Garvis: That's right, the borgs.

Richard Campbell: Right and you mention this, I think, off the top. There's a V to V migration, I can pull up VM across into VHD.

Mitch Garvis: Absolutely and by the way, V to V is not only for VMware products. It also will take into account Virtual Server 2005 R2 and virtual PC machines that should be brought into Hyper-V, and those are all native to SCVMM.

Richard Campbell: It's all about just trying to get everything into that sort of Hyper-V scenario.

Mitch Garvis: Yeah, that's right.

Richard Campbell: And Hyper-V is really, really a lean, fast, most performant version of virtualization I've seen on the Microsoft side anyway.

Mitch Garvis: Well, look, there's no discussing. Hyper-V is a lot better than what it was and it still has its critics. There are still people who say, "You know what? I don't like Hyper-V because..." and that doesn't necessarily mean it's true but it means that there's a perception of it. I have not found any real issues with Hyper-V other than the fact that yeah, you are taking a hit because of the virtualization issue. It's not more than 1% or 2% of a performance hit; but you can mitigate that, instead of using VHD file you can use Pass Through Disk. With the VHD file you are limited to an encapsulated hard drive sitting on the physical storage device; whereas a Pass Through Disk, you are actually leveraging. If you have a 15,000 RTM SCSI, that is the performance you're getting.

Richard Campbell: Right.

Mitch Garvis: VHD files are, let's face it, the same performance IDE and SCSI.

Richard Campbell: Yeah, it's all the same and the same thing which is you can take over a NIC and the NIC is now part of that VM. It's not virtual networking.

Mitch Garvis: Exactly.

Richard Campbell: So it's close to BareMetal as you can get which, you know, I'm interested on your position on this, this maybe a little off topic but it's an interesting debate, it's so should everything be virtualized or are there a certain classes of systems that should stay BareMetal?

Mitch Garvis: I'm not going to say that there are classes of systems that should or should not be virtualized but if you look at your environment then you say, okay, I have 10 machines running on the same level of hardware and three of them are running at 15% and four of them are running at 12% or 20% and one of them is running at 85% resource usage, that one you should probably leave alone.



Richard Campbell: Right.

Mitch Garvis: But if you'd ask me is there anything that you should deploy in a physical server every single time when you're deploying new, not really. Until a couple of years ago, Microsoft recommended SQL Server but that has changed.

Richard Campbell: Yeah.

Mitch Garvis: Unified communications...

Richard Campbell: OCS.

Mitch Garvis: Still works better on physical.

Richard Campbell: Right.

Mitch Garvis: And anything that requires specialized hardware that you don't want to spend a great deal of time trying to create virtual machine drivers for.

Richard Campbell: Right.

Mitch Garvis: For example, if you have those telephony systems then you're probably better off on physical. Also the one thing that we don't like is that USB doesn't work very well on the virtual environment just yet.

Richard Campbell: Yeah.

Mitch Garvis: Give them a couple of years, we'll get that one running.

Richard Campbell: A new virtualization in Windows 7.0 seems to support USB just fine but I know that I've done extensive testing with it to see if it really works well but at least it's supported.

Mitch Garvis: It works nicely.

Richard Campbell: Okay, so maybe in R2 we'll start seeing the support for that sort of thing.

Mitch Garvis: I wouldn't look at R2 but maybe R2 Service Pack 1.

Richard Campbell: Right, okay. Of course, the only time I care about USB on servers is I've got certain kinds of software that use Dangles for copy protection.

Mitch Garvis: Yeah. For that, I guess, you would have that issue. I don't know how many systems are still using those but if you do have them then you've got to either find a way around it and they're always around it...

Richard Campbell: Yeah.

Mitch Garvis: Or go physical.

Richard Campbell: I'm trying not to violate licenses here. Where I ran into it is in this whole collection of products in the clothing manufacturing space that live with Dangles and we just can't virtualize the stuff because we keep running into that.

Mitch Garvis: Yeah, you're going to have to wait for USB support on hopefully vNext.

Richard Campbell: Yeah, hopefully. Anything we missed on the Virtual Machine Manager?

Mitch Garvis: Well, let's see. We've discussed that it supports cluster... oh, there's also, if you use Outlook web access, there's what I call the System Center VMM web access which is the self-service portal. So you don't have to install the console on every machine that you're going to use.

Richard Campbell: Right.

Mitch Garvis: Or if you have operators who aren't full administrators, rather than giving them back just to the console, you can just give them access to the website. It's an add-on but it's included with the product. So it's just installed off of the SCVMM DVD and it requires IIS7 and it works beautifully.

Richard Campbell: So this is how the devs can provision their own test VMs.

Mitch Garvis: That's right.

Richard Campbell: Beautiful.

Greg Hughes: Excellent.

Richard Campbell: I like that a lot, and that's about it, huh. I mean, it seems like a very simple product. I think everybody needs to have it really if you're going to run any substantial number of VMs.

Mitch Garvis: Well, let's face it. If you have a single virtualization host and four or five VMs, you don't need it.

Richard Campbell: Okay.

Mitch Garvis: If you have multiple VM hosts, whether it's 2 or 200, then you can manage them individually or you can manage them essentially. It's simple math.

Richard Campbell: Yeah. This is just about keeping amiss.



Mitch Garvis Manages Virtual Machines with SCVMM!

July 1, 2009

Mitch Garvis: You know, the Microsoft's basic, rational, dynamic model? Well, dynamic basically means working smarter and not harder and that's what the System Center family let's you do and SCVMM is no different.

Richard Campbell: Yeah, exactly and the logical extension of this; I'm just glad to see us getting a handle on the sort of sprawl and management tools. Is there nothing specific in VMM that I can't do anywhere like P2V. Can Hyper-V do that without a VMM?

Mitch Garvis: When you create a virtual hard disk, you have the option of copying it from a physical hard disk. So using that, you can then create the machine around it and make it work. Is it pretty? No. Does it work? Yes.

Richard Campbell: Okay.

Mitch Garvis: In Hyper-V you don't want to have the library issues but you can set up a deployment server that would do it all. So if I wanted a new Exchange Server I can just take my sys prepped image and deploy it all to it. It's not as fast. It requires more work. I happen to know a lot more about deployment than a lot of Exchange Server managers do. I mean, again, it can work in Hyper-V but it will work better with SCVMM.

Richard Campbell: Right.

Mitch Garvis: Managing multiple hosts, you can do it all from one MMC console but there's no interactivity between server 1 and server 2. SCVMM supports host groups where, okay, I'm going to take an action for the host group rather than individual servers.

Richard Campbell: Okay. Wow, I'm looking at the licensing and pricing on the Microsoft site. This product is cheap.

Mitch Garvis: You know, 599 per license.

Greg Hughes: Not bad.

Richard Campbell: Yeah. The Enterprise edition is standalone, 869 U.S.

Mitch Garvis: Which isn't bad.

Richard Campbell: Yeah and in the work repetition which is limited to five physical hosts is \$500.

Mitch Garvis: Yeah.

Richard Campbell: I just think that's a bargain really for what it is. Why would you not have this?

Greg Hughes: You can run a heck of a test lab with five physical hosts if you're putting your money into the hardware, that's for sure.

Richard Campbell: Absolutely and if you have more than five physical hosts, bumping up another \$500 seems pretty reasonable.

Greg Hughes: No big deal. That's a good point.

Mitch Garvis: It's the cost of one hard drive.

Richard Campbell: Yeah. There's really no justification for it. I mean, the product is under a thousand dollars and that's not even counting if you have volume licensing deals or any of the other things that would make it cheaper. This is just buying retail straight up.

Mitch Garvis: Yeah. Microsoft really wants people to be using these tools. They're not saying we want to make billions of dollars on SCVMM. They never will.

Richard Campbell: No.

Mitch Garvis: They are saying, hey, we want people to work smarter, not harder and we want to give them tools to do that and we want to make it easy for them.

Richard Campbell: That's cool.

Greg Hughes: For a small shop, I think, if I remember correctly I haven't looked at this recently. It live in install SQL Express 4.0 if you're not using full...

Mitch Garvis: That's right. That's what I usually do in my test environments. It will install SQL Express for the self-service portal, it will go in, it will check your prerequisites and install them for you if you're missing anything.

Greg Hughes: Cool.

Mitch Garvis: It's really a very intuitive package. It's not like config manager or ops manager where you need an entire infrastructure and courses on how to do it. If you are given a CD and said, okay, go run it, it's an hour work.

Richard Campbell: Right.

Mitch Garvis: If you're trying to do it in a workgroup environment, it may take two or three hours, but in the regular environment it's an hour.



Greg Hughes: Are there any limitations if I choose a SQL Express option over SQL Server that I need to be aware of?

Mitch Garvis: Those are database issues but if you're managing more than five hosts, I wouldn't recommend the workgroup.

Greg Hughes: Yeah, that make sense.

Richard Campbell: Right. All right, Mitch, I think we're just about out of time. Any final words?

Mitch Garvis: Virtualization is where the world is going and whether you are a dev or an IT administrator or a business decision maker, you should make sure that your environment is virtualized. Now, when I say that, virtualization has become a buzzword in our industry and a lot of people use it without knowing the full implications of what it is. Make sure you know what you're talking about when you say, okay, we need to virtualize because virtualization also includes your desktops and applications and with thermal services your display. Virtualizing your servers is a way to cut your costs and Virtual Machine Manager helps you to increase the cost cutting benefits.

Greg Hughes: Very good.

Richard Campbell: Mitch Garvis, thanks so much for coming on the show.

Greg Hughes: Thanks Mitch.

Mitch Garvis: Thanks for having me, guys. It's always a pleasure.

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