

Printing Over Coffee Podcast: Session 002

What is Virtualization & VDI Printing?

- [00:10](#) Hey everybody. How's it going? Welcome to another episode of the printing over coffee podcast. If you are new to the podcast. This is where we sit down with top industry experts and thought leaders to extract actionable insights that you can apply to your day to day and helped you to enrich your life. Our guest today has been selected as a VMware expert 10 times from two thousand nine thousand eighteen. He is a technical editor and author who has written and edited a few books including VMware ESX essentials in the virtual data center and virtualization for Dummies. In 2004, he also launched a website called the VMblog, which is dedicated to educating people like you about virtualization and other modern data center technologies. Our guest is none other than David Marshall. Welcome to the show.
- [01:01](#) Hey, thanks for having me.
- [01:02](#) How you doing?
- [01:04](#) Doing well, how about you guys?
- [01:06](#) Yeah, we're doing great. So before we get into the show, just for listeners who have maybe never heard of you or visited your website, could you just enlighten us and let us know how did VMblog come about?
- [01:17](#) Sure. It's actually a, a kind of a funny story. I never really had any intentions of doing any sort of writing or blogging. I was a technical guy so I just sort of fell into it. Back in 2004, there really weren't that many online sources for virtualization outside of the platform vendors themselves. There was one other virtualization blog out there and you know, I connected with him and I used to send in news and items to that blog and I'd also email my internal tech team at the company I was working for at the time with different thoughts, links and updates to keep everybody at the company informed about virtualization. And then one day one of my coworkers came up and said, hey, why don't you start your own blog? And I was like, wow, I guess I can do that, but you know, what the heck would I call it?
- [02:12](#) So I did a quick search on go daddy for the, uh, obvious short term domain names and immediately came up with Vm blog and it was available. So I jumped all over it, grabbed it, and that's how the second virtualization blog was created. I then I parlayed that single event into an eight year writing Gig with infoworld. I became their virtualization reporter and it sparked me to write and publish to server virtualization books. And then later on act as a technical editor for two

other books in the for Dummies series by Wiley publishing. So it's been a, it's been a crazy 14 years, with VMblog.

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Awesome. And how did you get started in virtualization?

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Well, I guess it was sort of a, the same thing like falling into becoming a virtualization blogger. You know, the same thing happened with virtualization itself. So if I rewind things back to, I think it was 1999, I helped start an ASP and for those folks listening that aren't familiar with that, no longer used acronym that stood for an application service provider, think of SaaS before there was a cloud. So to do that, we were using something called Citrix metaframe, which you might recognize as Citrix XenApp today. Back at that time, Citrix had something called asp pricing program, which made the whole thing possible because monthly licenses from citrix in order to host applications and then charge our clients a monthly fee. So, just like every other data center at the time, a lot of our server farm was heavily underutilized, probably running somewhere around five percent utilization, and our data center, grew to around 15 racks of equipment and things just weren't scaling. So the cto asked me to find a way to improve on that. Through some searching we found something new called VMware. At the time, VMware had 2 products, workstation for the desktop and another one called GSX, which doesn't exist anymore, for server environments. I think VMware was somewhere around 30 to 40 people, so pretty small, especially in comparison to the behemoth they are today. And they were working on a new technology called ESX, which was for servers and it was in alpha code, and it was barely usable at the time, but like magic ultimately, it ended up working for us and it did exactly what we needed. So we were able to shrink down our data center footprint using server consolidation thanks to virtualization and it made our business profitable and that's sort of how I fell into the whole virtualization technology and I really haven't looked back since.

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Wow. So you think virtualization is very important in the future of this technology field?

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Absolutely. Like I said, I, me personally, I started virtualizing servers back in 2000 and uh, you know, although it didn't really catch on until maybe 2004, 2005, it really was a major game changer in IT. The success that it's had with bumping server hardware from two to five percent utilization to upwards of 80 percent is the thing that really helped put it on the map. Server consolidation became virtualizations main, main battle cry for years because data centers, we're growing at such a fast clip and it was becoming way too costly for companies to keep up. You know, on another note, the whole practicality of abstracting away the hardware, the way it did in server virtualization really made its way to other areas in the modern data center, storage, networking and desktops. And it lead our industry to what we now call software defined and cloud computing, which allowed us to re engineer and re architect our data centers and the way we do things. It really became the bedrock of most of modern day data center technologies that I now cover on VMblog. And it's definitely important to me personally because I've made it and I continue to make my living because of it.

So as long as you know, virtualization continues to evolve and remain useful, I'll keep evangelizing it.

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So, there are a lot of terms being thrown around, do you see some common myths or misconceptions in virtualization?

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Yeah, I do. So like out of the gate, I'd say one big misconception is that people think if you have virtualization, well you automatically have a cloud and vice versa. Or if I put another way, there are people out there that conflate the two concepts as one and the same when in fact they, they just aren't. The truth of the matter is you can have virtualization without a cloud and you can have a cloud, you know, without virtualization. The two are often combined, but they don't have to be. If we look at the performance side of things, there are still those that think virtualization causes a performance hit and therefore things like tier one apps like sequel exchange, oracle, sap can't or shouldn't be virtualized. That myth has been floated around for years, but the truth is with the advancements made within the virtualization layers itself, along with advancements made in the hardware and software that accompany it, even those heavy load apps can almost always be successfully virtualized.

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Heck, even the vendors have their own best practice documents on how to optimize those mission critical apps across the different platform choices and then, I guess, really quickly I see two other myths that come up a lot as well. One being around security and oddly enough, I've seen it go both ways. I've heard people say virtualization in and of itself inherently provide security and then others say, you know, virtualized machines are way less secure than a physical one, but honestly in my opinion, a virtualized server is as secure as a physical server with the same configurations. But like anything else, virtualized environments still require us to lock things down and if the DOD uses virtualization, it better be secure right? So you know, just because you virtualize it doesn't mean you automatically get a secure environment out of the box. And then something, I guess a bit closer home for me is that myth about virtualization only being for servers and not for desktops.

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I've been involved in Vdi and Daas and Waas, no matter what acronym you choose to use for quite some time, and we always used to joke that whatever year we were in that would be the year of Vdi and desktop virtualization. But honestly the technology changes that's taken place in the last, I don't know, year maybe two, have really changed that misconception a lot from the changes that we've seen at the virtualization platform layers themselves, to the third party software enhancements made or even the hardware changes that are taking place with the CPU, the storage, the GPU and 3D graphics enhancements at the end point devices, thin clients and zero clients. We really are at a point where virtualizing the desktop is a real thing.

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Do you see any worst advice people have been using in the virtualization world?

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That's a tough one. Um, I'm not really sure. We, we just talked about different myths and misconceptions. So I might sort of change that question around a bit and say, I think the worst advice I hear is that you have to move everything to the public cloud. Like most I'm fully aware of the benefits of doing so. But you know, honestly blindly saying that everyone should move to the public cloud without doing any sort of assessment of their own environment is bad advice. The fact, is some virtualized privately controlled environments for more than good enough and you know, could be the right thing for a particular organization. Some of these people have built their own private clouds which worked great for them. And you know, I hear it all the time when I go to trade shows and I hear industry pundits claiming that by such and such year, some huge percentage, you know, 80 percent, 90 percent of companies will shift everything to the public cloud. But I just don't buy it. Not when I talk to people who are happy with what they've built in house and they may end up with some hybrid mix somewhere down the road. But again, this notion that everyone has to automatically move to the public cloud or they're doing something wrong, in my opinion, is just plain bad advice.

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What is the one reason that most organizations fail to succeed when trying to build a virtualized environment?

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Well, like anything else in life, I think it's because of a lack of planning and then education. So when I started with server virtualization, it was sort of like a science experiment built out on an environment. If you're able to make it work, you probably had the best environment you could build because back then it was pretty simplistic with what was available at the time. It either worked or it didn't, but now modern server virtualization technologies have taken away a lot of that complexity and they move to a next next, next type set up. The problem with that is it's only beginning of things and only a small percentage of what's needed to get fully virtualized. The setup, the securing to get it fully operational, it's getting it installed on a box and set up is the simple part. The hard part comes with the configurations and the tweaking of the environment and making it all work with the hardware

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and software that you're using. You need to think about and plan for security, management, orchestration, the networking, the storage, et cetera. That's why IT has created a focus on virtualization, much like it did with educating admins on networking, storage and the like. Building out sort of an expertise on that and that's why training programs are offered today and that's why certifications exists. You need to get the right people and you need to plan out your environment. That's not to say that you can't easily build out a virtual server or virtual desktop, but if you're migrating your data center or your office from a physical environment to a virtual one, there's a lot more to it if you want to succeed. And I really believe most organizations already get that and they've already experienced it for themselves.

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So, what do you think about virtualization and printing?

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First off, it's a good question. Whoever said computers and moving to a digital world would stop people from printing and using paper was dead wrong. Even though we read stuff on the screen, we're still printing things out left and right, so virtualization and printing. For me, virtual environments, they're known for being flexible and in their functionality, but they're not without their drawbacks. So over the years I've seen where advantages of centralized apps and remote collaboration don't always pair well with the complexities of virtual enterprise printing, which can be less than optimal as print management solutions, but that's where specialized printing management software comes into play and we're seeing things like print job compression which can alleviate the toll that heavy printing activity can have on a network or things like driverless printing so that you don't have to worry about compatibility issues and software conflicts. So, thinking back to my desktop virtualization experience, another key area would be to incorporate printing technology in order to do things like proximity printing or location based printing to be able to dynamically install and remove nearby physical printers even as users to roam within a session. That's especially important with VDI and a lot of use cases for some of the more security related verticals like healthcare or finance. And with that said, I know this is your show and I'm just the guests, but since you guys are the experts on printing and I'm normally the guy asking the questions, I'd like to sort of flip things around and maybe ask you a couple of questions as well, if that's OK.

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Yeah, definitely. Go ahead.

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So talking about virtualization and printing, from your experience, what are some of the most common issues you've seen people have with printing?

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Well on the VDI side, obviously, you mentioned it already. Bandwidth is always an issue. Dealing with manufacturing driver is always a challenge. Just the driver itself, a lot of times is not stable sometime when, especially when you run it in the server environment where it is designed for a single user, you're gonna use it in a multi-user environment. It tends to cause a lot of issues with compatibility side of things and uh, and then as mobile or people become more mobile, it tends to move around and finding where the user is and giving him the right printer become a big issue too. And those are the fields that I think constantly cause issues in the Vdi environment.

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Yeah, I definitely agree with that. I guess with that said, what's the best way you think to go about solving some of those issues?

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On the driver side, obviously there is a universal printer driver that's being used so that you can use one driver in a multi-user environment, so that you don't have to install multiple manufacturing driver. So that's off the driveway issue problem. And then decompression is kind of solved, depends on the, uh, the format that is being used, there is EMF, enhanced EMF, PDF format, XPS format. All those had, um, tried to minimize the, a problem. Um, then the other fun is management, obviously, to try to get a user managing the assignment of printer, and especially when they move around a lot, it becomes a big headache

and specialty software out there that do a follow me printing and I, I keep saying that secure pull printing is the best answer, but then a lot of people don't like it because they have to wait for the print jobs when you are in front of the printer. So yeah. But I think that that, those are the couple of ways that you can try to resolve those issues.

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Now that I have you, with the expert, there is something that, you know, me personally, I've been trying to get an answer to this and clear up some questions around, you know, with Citrix they've got a universal print driver and they've had it for some, quite some time now. Can you maybe talk about the differences between Citrix's UPD and the others that are on the market? I'd love to better understand what makes UPDs different.

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Sure. Yeah. I think that's a lot of confusion in that too. I think we usually universal printer driver term, when we released UniPrint, because "Uni" means universal. But anyway, uh, once we've got that term going, I think there's a lot of printer driver manufacturer like HP and Lexmark and all those guys. They now have a, ah, at first they just called it monolithic printer drivers because there's one driver to support multiple manufacturing printers. So they're very specific to HP. For instance, HP has a universal driver that support all the HP printers, Lexmark have one, and almost every single manufacturer have, what they call a universal printer driver, but those driver only support their own printer line. So those are a bit different. We'll put that aside and then we have TRUE universal printer drivers like Citrix and a couple other competitor of ours. The question then is what format does it actually generate?

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So Citrix, uh, it was PCL, then it was EMF and now is XPS. Those are the actual format of what is representing the job. Other competitor use different versions too. For UniPrint we use PDF and we think that is probably one of the best format you can pick just because it had been supported by all of the operating system and different platform OS, and that is the one that I think is most universal just because you can read from a mobile phone from that, even AS400 have a PDF reader for reading PDF files. Right.

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Yeah. That totally makes sense. I, I appreciate that clarification. I guess one of the things, if we could circle back, we were talking about VDI and if we're at the point now where VDI is really, really at the point where it's taking off again in for 2018, what sort of things do enterprise printing solutions offer VDI providers within printing that they can't do or they don't do on their own? You know, how does it make Vdi work better for the end user?

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OK, yeah. I can see some vertical industry that have a VDI deployment and find it's very difficult, like we said before, to really find where the user is because VDI inherit, gives you the mobility that you want, you have all the access to a virtual desktop, but really where the user is, becomes a big issue. I'll give you an example of that, big healthcare organization where the doctor obviously roam around the whole day, everywhere, and one of the pain point for them is when they disconnect and reconnect from a virtual desktop, the end application

really don't know where the user is. So when they tried to print to the right printer that's next to the doctor, it becomes an impossible task. Enterprise printing solution out there basically query the end user station, and based on the end user station, like the doctor, by the end station is, they will redirect the print job on the fly, because some of the medical application doesn't really know and aware that they are being virtualized to a data center and so it's impossible for them to be able to send a print job to the right place.

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And that's one of the scenario, where a enterprise printing solution will help in the VDI environment.

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Yeah, that's great. Yeah, I could definitely see that with different compliance, regulatory things like hipaa in the healthcare space that that would be a huge feather in the cap for a VDI solution. So moving on, we talked about VDI and another question that I had was around cloud. So everybody's talking about cloud, this cloud that, with cloud services becoming really popular these days, what's the latest with cloud printing and what should people, what should they know about?

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Well, I guess one of the key thing is about moving into the cloud is that your network connection is no longer local, so you have to deal with bandwidth issue. A lot of times if you want to print and because printers are still old in terms of technology, they normally require you to have a direct connection to them, so it's almost like phone number. You need to have an IP address that they can address too and it's passively sitting around for you to send a print job to it. When you move stuff to the cloud, your cloud space, your desktop will no longer have direct access to that printer, so if you want to print to it, you will have to set up like a VPN between each office or remote location to the data center and that is a big task on his own, to try and set up VPN. So what you need to do is basically figure out a way or gateway solution somewhere to allow the datacenter to have access to your printer with those big infrastructure overall. And I think that's one of the key point when it moves up to the cloud.

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And obviously, you can't move your printer to the cloud, or else how am I going to get my print job to me directly. Does that answer your question? Sorry.

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Yeah, no, that definitely, uh, definitely answers it. Thanks, for thanks for that.

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So, um, I'm just going to try to close it off and ask you what do you see the future is for virtualization?

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Well, I guess I, if I break out the crystal ball and look something in the near term, I think we'll see more of the same. Like I said earlier, unlike industry pundits, I don't really see a mass migration of everything going from on premises to public cloud, at least not in the near future. I think we'll see the public cloud grow with some existing things being migrated over there and we'll see some net new things being created from the get go, but I still see in the near, near term future

still a large percentage of on premises. With the technology itself, I believe we'll continue to see incremental improvements and updates get made to the virtualization platforms. And I think we'll continue to see, you know, third party companies continue to innovate and expand on virtualization to offer new features and add on capabilities that people haven't even yet thought of.

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So things like VMworld is where we see a lot of that third-party innovation. I think the cost of virtualization software will also come down, you know, VMware is the 800 pound gorilla. It's arguably the most enterprise ready feature rich solution on the market. But it's, it's hard to keep charging top dollar when, you know, things like Hyper-V, KVM and other virtualization platforms even like Acropolis from Nutanix are hitting the market at near zero spend. So as prices come down, I think that's just another reason why organizations will keep things on premises because that's one of the big costs that will get alleviated. You know, obviously I've talked a bit on here and elsewhere about VDI and what I believe, you know, that's, that's headed, I think, you know, 2018 and beyond. I think it's a that VDI is going to start to take off. And then finally one other area of growth and change that I see will come from hyper-convergence or HCI, which uses a hypervisor and abstraction capability to virtualize all the elements of a traditional hardware system. I expect we'll see HCI become a more popular extension of traditional virtualization in 2018 and beyond and that's primarily as a means to simplify IT operations. So that's a few things where I think me, I see virtualization heading in the future.

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Awesome. So what's next for you? Do you have anything new coming out from VMblog?

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I keep trying to position VMblog to keep up with the times. So, you know, I've started off with virtualization. I've migrated over to cover cloud computing. I now cover, you know, hyper convergence and IOT and containers. So, you know, I'm always expanding coverage, a VMblog and uh, as the modern data center evolves, I'll keep evolving the blog to make sure that folks who have normally been sorta that virtualization practice person, you know, get exposed to all these new sort of outlier technologies that still have a way of connecting back to virtualization and building out that modern data center.

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That's cool, so if our listeners want to reach out to you or connect with you, where can they find you at?

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All right, so here's my shameless plug. The best place to connect with me is obviously at VMblog.com. I'd welcome anyone and everyone to come check the site out and reach out to me through there as well. If they're looking to find out all the latest news, you know, I'm biased. I think that's where you'll want to go. Again, I cover all the modern stuff from virtualization to containers and uh, if you want to reach out to me on twitter, I'm there usually online throughout the day. You can find me @vmblog and I'm always looking to make new connections. So please reach out, add me, Dm me, tweet me, whatever. And then we can also take the, a conversation offline as well. I'm usually, you know,

at some of the traditional trade shows, citrix synergies, the vmworlds of the world. So, if you're at a trade show, I'm at tap me on the shoulder and let's have a conversation.

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Awesome. So if you guys want to learn more about VMblog or connected with Dave and we will be putting the links in the show notes as well as the transcripts so you can go to our website uniprint.net/episode2 all the show notes will be there. So thanks again for joining us and thank you Dave for coming to our guest today. Hopefully we will have you again back in the future.

[27:47](#)

Thanks for having me. I had a lot of fun.

[27:49](#)

Thanks. Take care. Bye

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Bye. Bye.

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