The Next Wave of Virtual Desktop Infrastructure

WHITEPAPER

THE NEXT WAVE OF VIRTUAL DESKTOP INFRASTRUCTURE.

The idea of the virtual desktop and the supporting infrastructure is no longer the latest IT trend but a transformational business reality and some serious opportunity for solution providers.

Just like server virtualization, desktop virtualization helps IT managers manage, secure and deploy technology, all while saving money. But the key to success is finding the right partner with the right virtual desktop infrastructure, or VDI, strategy. This white paper will be taking a deeper look at how VARs can take advantage of the opportunity out there, enhance security and compliance while improving reliability, and help readers understand the benefits of a scalable VDI strategy.

This whitepaper is based on an interview conducted between Emmy Award winning Technology editor for CRN, Jonas Tichenor and Sales Executive with IBM Systems, Steven Fry.

Jonas: Steve, let's start off with what you think are some of the biggest misconceptions that you have to deal with when talking around the virtual desktop infrastructure?

Steve: I've probably engaged just in the first four months of this year probably with 50 different customers who have asked me questions about VDI and I'm surprised about, I don't want to call it the lack of knowledge, but really people understand the word but they really don't know what it means, and there is an opportunity for resellers and companies like IBM to be that consultative selling, that value-selling person to those clients because they are seeking this knowledge. They know, they see that VDI term. They think they know what it can do for their business, but they're looking for somebody who can quantify it for them and really make it real for them.

> **"People understand the word but they really don't know what it means, and there is an opportunity for resellers and companies like IBM to be that consultative selling, that value selling person to those clients because they are seeking this knowledge."**

Jonas: That's a great point. It wasn't that long ago that Gartner made what some at the time considered to be a very bold prediction. There is one from "2012 and Beyond: Control Slips Away," predictions for IT organizations and users that Gartner put together. "There is a growing expectation on the part of businesses that employees will be available during non-work hours and that location should not be a barrier to communication. Furthermore, users will no longer have a primary device for corporate collaboration but will rely on a fleet of self- and business-provided devices with the expectation of a largely uniform user experience." I mean *you* tell

me, Steve, but I think it's safe to say that we are firmly here, that we are firmly in the midst of this prediction that Gartner had made just a couple years ago.

Steve: If you look at what people are using as their tools in their office today to do their jobs, all of the smart devices, be it iOS-based or Android-based, whatever it is, that in itself is driving a huge, huge shift and change in how IT has to provide their services to the people that they support. And then, even to extend that further, I've actually heard of some companies, as they hire new employees, now they're telling the employees, "We're not going to provide you a device. We expect you to use a device that you own yourself. And we will provide you your image. But that device is yours. We're not going to provide you one." It's actually taking the step where the business and the IT are not even getting into the hardware piece. They're leaving that up to the individual employee.

Jonas: And from a secondary market in the channel, we're seeing companies that are then saying, "Look, we understand your company is asking you to use your device." They're going to the company and saying, "Let us show you how to wrap it all up so that there's a security level there," because I know that's one of the questions that come up around VDI is, how do we keep our data secure? Is it the old, singular VPN model, or is there something different that we need to do to make sure that those devices and the images that are on them are secure? And I know that becomes a pretty big question around VDI as well.

Steve: And, quite honestly, one of the benefits of virtual desktop infrastructure is that the device itself does not actually retain the data. If you're in the airport doing some work and for whatever reason you get up to go get in line and you've left your laptop on that seat in the airport, your company's at risk because that hard drive has all that corporate data on it that you might have been accessing, etc.

> **"One of the benefits of virtual desktop infrastructure is the device itself does not actually retain the data."**

From the VDI implementation, if it's a smart device, maybe it's your iPad or whatever, if that thing's sitti

Jonas: It's a great point. The overall strategy becomes it doesn't matter the device, it matters controlling and p

Gone are the days when work was in a central place. We've talked about that, where employees actually went to, and its employees with this expectation that the workplace comes to them wherever they go and on whatever device that they use. And the benefits are certainly significant. But as we were talking about briefly here, so are the challenges.

More devices mean more systems that must be coordinated. There's more applications that have to be supported, more connections that have to be maintained. The availability and business continuity piece—organizations have to be able to quickly recover and retrieve the

data from the devices that are more vulnerable to theft. You mentioned leaving the device on the barstool or at the pool, God forbid. Security and compliance organizations have to better maintain security and compliance of data and intellectual property with corporate regulatory and governmental rules over a greatly expanding range of network connections, and on smart devices owned by individual workers that have a mix of personal and enterprise data. The best hope for bringing these elements together, the benefits and the challenge, is really finding a robust virtual desktop infrastructure strategy and you mentioned that just a moment ago.

It was just a year or two ago that virtual desktop strategies were generating a ton of attention. Today, they're really much more part of the technology road map for various organizations. And we feel that the channel opportunity lies in that road map and in the key drivers that are really pushing this new wave.

There's pressure in some vertical industries to safeguard their confidential data, especially in companies that do have a high proportion of mobile and remote workers. There's a solid drive

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How VDI deployments optimize the IT environment

Improved Manageability	• Easier hardware and software asset management • Easier to standardize infrastructure and services; ensures compliance • Easier to manage user groups/needs in distributed environments
Lower Costs	• Simplifies hardware and software installation and configuration • More efficient to support and manage diverse workplace requirements • Reduces need for help desk and desk-side support
Productivity & Mobility	• Higher availability than a distributed PC environment • Eliminates disruption associated with end user IT tasks • Anywhere, any time access for mobile end users via the Internet
Security & Compliance	• Alleviates issues with hardware and critical data theft • Simplifies data backup • Reduces virus exposure

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for the ability to reconcile the need for choice on behalf of the employees and then the control part of that for IT, and that means a BYOD policy is definitely necessary; but also, a shift in technology infrastructure and virtual desktop answers a bunch of those questions in that space. A virtual desktop infrastructure lets IT manage multiple desktops within a virtual machine running on a central server rather than a one-to-one situation, which can certainly create some bandwidth issues as well. And VDI also allows for a fast and very cost-effective approach to deployment, refreshing in support of desktops, while also maintaining that tight level of control for security and compliance.

With the great benefits and challenges that are associated with VDI, the overall question for a lot of folks out there becomes what's the best approach to a virtual desktop infrastructure strategy? Who is my best avenue for a partner and what are the advantages for my organization? And, Steve, because this space is growing fast and there's a ton of opportunity, not a lot of players that are doing it, certainly maybe even fewer that are doing it well. I would ask you to sort of bring in here IBM's fit and how this story is changing so fast and where you see IBM fitting into the conversation.

Steve: We, as sellers and providers of infrastructure, need to find out and understand where our clients are willing to spend money. And what we're seeing right now is VDI is one of the motivations that's causing end-user customers to spend money and invest in IT, spend on new server technology, new storage technology, network refreshes, all of that type of thing. That's probably from the IBM perspective. We see the end user being willing to spend money in this particular piece of the marketplace and why it's so important.

Granted, the market's growing; people, clients are willing to spend money. What's the motivation from their perspective? Why are they willing to spend money in this arena? And mobility is a critical element here. And it's not only mobility from the individual, I'll say worker. You're a doctor or a nurse for a healthcare company and the city you work in has three different hospitals and maybe two of the days you're in one of the hospitals, the middle of the week you're in another one and at the end of the week you're at a third hospital. That IT staff does not want to have to provide you infrastructure, a desktop or a machine at each one of those hospitals. They'd much rather you be enabled with something that you can carry with you and go from hospital to hospital. There's an aspect of mobility.

> **"Employers have found that when they enable workers to use their own device they tend to be more productive, more efficient, more comfortable working."**

Bring your own device; we touched on it a little bit earlier, why this is really relevant. Employers have found that when they enable workers to use their own device, they tend to be more productive, more efficient, more comfortable working. And secondly, they also tend to work if you want to, say, longer hours. Nobody necessarily likes to hear that but that bring your own device phenomenon does drive that subtle element of people being much more productive because they're comfortable with the tools that they're using.

I mentioned the healthcare, the doctor/nurse/clinician example earlier. There's a huge data security and compliance requirement in that specific industry. Here's an example of how VDI and the ability with electronic medical records or electronic health records, that information needs to be maintained and be secure. And via the virtual desktop infrastructure, you're able and the IT staff is enabled to protect that data and ensure that they're meeting those compliance requirements.

Complexity and costs: Now, if we all turned the clock back maybe five, six years ago, and seven years ago, depending on how far back you want to go, server virtualization and things like VMware vSphere, Microsoft Hyper-V, KVM's Server, those kinds of products were just hitting

the market and people were a little bit nervous about how to deploy this new technology and make it more efficient. Once that hit mainstream, man, everybody jumped on board. Almost every end user you go to, they have some type of X86 and it's virtualized, again either with a VMware vSphere, a Microsoft Hyper-V.

We're right on that same precipice now with VDI. I think we've gotten to a point where people are very, very comfortable with the technology. They know what the complexities are and they know how they can deploy it and save money. I think right now this wave is built and it's ready to crest over, and the whole market's ready to jump in here.

If you're an IT person, you manage an IT staff of people, you have a bunch of servers in a data center—what are the things that you're hearing that are your pain points from your business today? You're hearing people say I want to access and do my job no matter where I am, be it at an airport, be it at a Starbucks, be it in a different country, whatever it might be. I also want to do it at any time. If I get up at 3 in the morning because I know there's this nagging report I've got to get completed or something, I want to be able to do that. And then, thirdly, any device; I want to be able to do it either on my smartphone, smart tablet, or on my traditional corporate provided laptop, desktop. I'll say these are the three key elements that your typical IT manager, CIO, right on down, they're feeling the pressure—this anywhere, anytime, any device access from the workers and the people that they're trying to support in the business.

From a cost perspective, it is much easier from an installation standpoint if you've got a standard set of images that you have to build up, provide and support out to the end user community, instead of what we see today with the traditional laptop or desktop in the worker's office where everybody's desktop is customized for their own use and needs, much different from a VDI perspective. Now, the cost standpoint is probably you'll see more benefit there because of actual reductions in help-desk or desk-side support. What many users or what many companies find when they deploy VDI is that the calls about, "Hey, I've got a blue screen problem," or "My application isn't up and running," these types of issues go away for the IT staff, and they see a tremendous value in the pressures from end users contacting the help desk or requiring help-desk support.

VDI is becoming more and more prevalent across the industry. I think if you would've looked back a few years you probably would've seen VDI being utilized in some specific areas. But now we're seeing it branch out and being utilized in almost every type of industry you would normally sell traditional IT products: Healthcare, banking, manufacturing, retail, education.

I will just focus on the healthcare piece real briefly. That's one I'm particularly familiar with because we see a lot of healthcare, hospitals, clinics coming into IBM and asking for assistance in how they should deploy VDI, what's the right infrastructure, etc. And this is not only the

clinician's part of healthcare. But this also gets into just the base IT workers and human resources, and finance. It permeates all through the overall healthcare organization. It's just not the clinician's piece; it also goes back into just the day-to-day workers.

Another area that we see a lot of interest in is the state/local/federal agencies, particularly state and local governments. We're seeing a lot of activity requests come in from counties, states wanting to understand how they can deploy VDI.

Another one I'll point out real quick, education, particularly higher education, where they have to ramp up, as an example, a lab to support hundreds or thousands of students for research projects. Maybe they want access to the library, tests, whatever it might be—there's a tremendous amount of opportunity in that piece of the education market.

Now, let's just focus a little bit on the actual user instead of the types of the marketplace. What do these users look like? And from experience and what we've seen, we see users can pretty much be broken into three different levels. We'll just call it a casual user. Their workloads are typically task- or transaction-oriented. Their devices can be desktops, thin clients and kiosks, pretty traditional. Now, an office user, they're typically knowledge-type workers and, again,

their access devices will be desktops and then probably smart devices, and they can access through kiosks as well. Now, we do see casual workers and office workers driving more of the mobility requirements in this arena.

Now, when you get into the power users, those are the guys, they probably have two or three or four screens in front of them, probably two or three high-powered PCs in separate enclosures. They're doing heavy-duty multimedia; maybe they're doing some 3-D. These folks tend to be fixed in a single work location, and the power user does drive a different type of demand on the VDI infrastructure versus what your casual worker or office user would drive. One of the elements—when we do engage with the client—that is very, very important to understand is what their power-user requirement is inside the client themselves.

Let's just talk a little bit more about how to identify a target client or somebody you might want to approach—one of your customers you might want to approach with VDI. Obviously, pretty simple, if they come to you and say, 'Hey, I'm interested in this whole VDI thing.' Boy, great
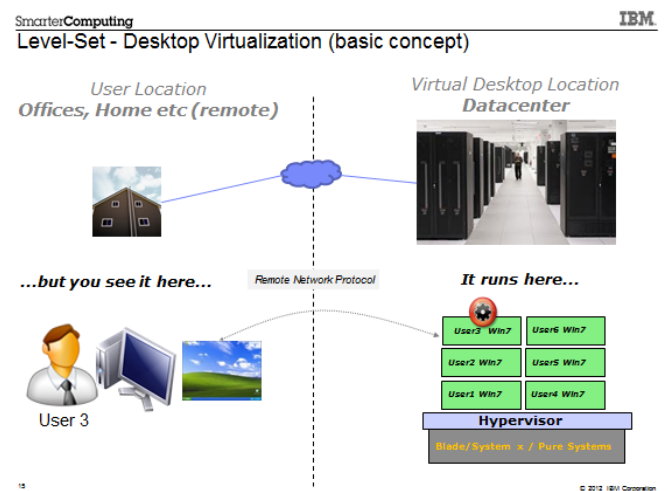
entryway. But if you're out prospecting, trying to understand wherever you're located who I should be looking for, VDI is suited for anybody across the small, medium, all the way up to the large enterprise-sector-type clients. You'll want to look at those businesses that typically have a high percentage of remote or mobile employees. And then lastly, from a compliance or security standpoint, I mentioned, this will be the third time I've mentioned healthcare, a highly regulated industry, could also be financial, banking, etc., and then firms that are concerned with regulatory compliance.

The audience inside, those individual client profiles, individual clients, traditionally sell to the C-level, line-of-business execs, compliance officers, security officers—now I will suggest to you that in the discussion, and what IBM has seen a lot of engagements with customers, the IT ownership—when you get into that level of discussion with the client, there can be a push and pull between. Is this something that the desktop team's going to own or something that the server team's going to own? And from experience, I can tell you if you don't ensure that those two teams are aligned within the client, you're going to start heading down a VDI project, and it could get stalled or it could end up restarting because the desktop team and the server team weren't necessarily aligned in driving what was the consistent view from the overall client standpoint.

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Target clients

Client Profile	▪ Ideally suited for all customer segments: GB and Sector clients ▪ Segments with high percentage of remote and mobile employees ▪ Highly regulated industries and firms concerned with regulatory compliance
Target Audience	▪ C-Level LOB Execs, CFO, CTO/CIO ▪ Compliance Officers ▪ Security Officers ▪ IT ownership- Desktop team or Server Team
Typical Opportunities	▪ Clients driving a worker mobility initiative within their business ▪ Client has acquired new line of business that requires new security or compliance capabilities ▪ Customers looking to cut costs from end user management expenses ▪ Customers wanting to refresh older desktops ▪ Customers having to transition to Window 7 or 8 ▪ Clients considering VDI Gen 2.0

Typical opportunities: What are key words or things that you might see inside a customer that could indicate that there's a VDI opportunity for you here? Maybe the client has indicated that they're going to drive a worker mobility issue within their business. Another one that we see pretty commonly that causes somebody to look at virtual desktop infrastructure is that they've acquired a new line of business. Maybe they purchased a new company, or maybe they're expanding where they're currently doing business and this new line of business actually brings security requirements or compliance requirements that they didn't have in what they were traditionally doing previously.

Another area: Customers looking to cut costs from their end user management expenses. Now, at the end of the day, what client is not looking to cut costs? If you're talking to a customer and they have a lot of—maybe they're a 500,000-employee-type business—I can guarantee you can go in and have a good engagement with them about talking about how they can lower their management costs for their desk-side support or desktop support.

Customers wanting to refresh older desktops, this is a good wedge into getting that VDI discussion started with that client. Now that doesn't necessarily mean the customer is going to actually deploy or refresh new desktops. But this provides a good element to bring in that VDI discussion. Very rarely do we see clients refreshing desktops and deploying VDI at the same time. Those two elements seem to be separated, but with that desktop refresh initiative, it does give you a good wedge to go in and have the VDI discussion.

A couple of other ones real quick: Transitioning; the client's transitioning from Windows 7 or Windows 8; and then the last one is client's considering VDI Generation 2.0. A lot of the opportunities that we've seen from the IBM perspective: The customer deployed VDI two or three years ago and now they're looking and they're wanting to understand how can they expand this out to the rest of their business, or how can they refine and tune what they currently have—how can they squeeze a little more out of what they're currently using?

Jonas: So if you're a reseller out there, the big question now is what's in it for you? Why commit time and resources of your business to go chase after this piece of the marketplace?

Steve: Obviously we all do this to make money. I can tell you from experience with the end users I've dealt with, the vast majority of them are looking for a consultative selling approach when it comes to VDI. Most clients are going to need help here.

If you can staff up, and I'm going to—not that these are preferences or anything, but as an example, if you were to staff up somebody in your organization that had VMware virtualization skills around vSphere, and maybe they had Citrix XenDesktop skills for the VDI deployment, if you had those two skills inside your company and you could go out to clients, and that person could talk about VDI and how they virtualize servers and how the VDI implementation gets deployed, that person would be busy 100 percent of the time, no doubt in my mind. And to take that a next step, your customers that this person would be talking to would see a huge amount of benefit of the experience and knowledge of that person, guaranteed.

VDI also tends to drive a richer and deeper service engagement versus traditional server consolidation. Server consolidation brings a level of complexity. And I won't kid you here. VDI is one step higher on the complexity level to deploy, size, assess than server consolidation. From the reseller perspective, here's a great opportunity for you to sell those services skills to go out and potentially do design workshops or assessments for your client. And I guarantee you, again, they will see value in that effort because they are looking for those types of things from the marketplace today.

It can also bring you opportunities from specific industries. Maybe you're in the healthcare industry and you have an Epic skill set or a Cerner skill set or a McKesson skill set as an example. VDI is very, very prevalent in the healthcare industry. Now you have a way not only to look at that core healthcare application, but you can also come at it from the infrastructure to support that core app and using VDI as an example. Just to take that one step further, we see very popular deployment of Epic being utilized, the core Epic database and application running on some larger X86 servers or potentially Unix platforms on the back end and then the actual workers being enabled with their Epic applications, through a VDI implementation.

So as I wrap up, I really have two calls to action for you. If you're new to VDI, I'd ask you to engage with IBM. We can help you. The other point here is, don't miss the opportunity.

If you're already doing VDI, I'd ask that you engage with IBM because we've got three things that can help you. We've got the infrastructure that can help you drive more value. We've got the services where you might need some help. And we've got some real simple, easy sizing tools.

If you don't know where to start, you're at an impasse, 'What should I do,' feel free to send me an email. I've got one of the shortest, simplest to remember emails in the whole IBM Corporation, frys@us.ibm.com.