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Chapter 4: Virtualization

Blade servers were once low-power, specific-function technologies that didn't offer the capabilities of rack servers and, therefore, were not good for virtualization. That's no longer the case.

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Chapter 4: Virtualization

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Virtualization and blade servers: Pros and cons

Harley Stagner
July 2, 2007

What do you think about blade servers and virtualization as an Enterprise option?

Harley: Server virtualization technology combined with blade server technology is a very compelling scenario. Virtual server technology consolidates many physical machines onto one physical machine and blade technology makes managing many physical machines almost as easy as managing one physical machine. Blades share interconnects, power supplies, and storage. This simplifies the data center by cutting down on cable clutter and management overhead associated with multiple physical non-blade servers.

So, one could provision virtual machines and physical machines in the same blade chassis. This creates a very flexible environment. The best part is that the infrastructure would be standardized on a particular hardware and the same management tools could be used to manage the blades.

However, there are some considerations to make with blade servers. They require excellent power and cooling since there is so much computing power in a small space. Also, the initial blade enclosure purchase may be cost prohibitive for many small to medium businesses. You should carefully consider whether to invest in blade technology. If you forecast the need for several virtual server host machines and have a SAN, blade technology might be the best route to take for future expansion. However, if you will just be consolidating a few file servers and you do not expect tremendous processing growth in the future, you may be fine using virtualization technology on regular servers.

Blade server and virtualization confusion

SearchSystemsChannel.com
March 19, 2007

SearchSystemsChannel.com: Your company, [Focus Consulting](#), seems to provide a broad range of consulting services to vendors and channel professionals, from business strategy to product expertise. What's the most common request for help you get from the channel?

Barb Goldworm: The thing we see is that there is still a lot of confusion out there. This world has changed so much and so fast in the past five years; five years ago there were no blades and there essentially was no server virtualization software. There was virtualization software on mainframes, and there were blades in the networking world, but they were very different. Both technologies are fairly new and have changed dramatically. It has been very difficult for the channel and for users to stay current on either technology, let alone both, and to understand how they fit together. Mostly what I hear from the channel is

that they need help educating users—through webcasts, white papers, seminars, etc. Many folks within both channel organizations and IT shops may know one of the technologies, but not the other. Or they don't know about the interactions between the current versions and how to best implement them. We provide a lot of education to the channel and to their end users.

Blade server and server virtualization misconceptions

SearchSystemsChannel.com
March 19, 2007

SearchSystemsChannel.com: What misconceptions do people have about blades servers and virtualization?

Barb Goldworm: As with any technology, in early product releases there are horror stories, and they get stuck in peoples' minds. People heard the early stories of blade servers and virtualization and they still believe those issues exist today. They decided that they can't implement blades because they are low-power, specific-function servers that don't give them the capabilities that rack servers do. That used to be true; it's not anymore. The newer blades systems are now designed with all the capabilities available in rack systems, dual-core and quad-core processors with high memory capabilities, high-speed IO options and high-speed IO switches inside the chassis. When users say, 'Well, I can't look at blades because I need heavy horsepower and it's not available,' they are dealing with old information. These days, anything that the major systems vendors deliver in rack servers, they now deliver in blades. Hewlett-Packard (HP) calls it their Blade Everything strategy, IBM has the same concept.

In addition, today's blades are designed with high-speed interconnects within the chassis; and all of the blades systems support a much higher number of network interface cards than early blades. I've yet to run into a user who has encountered an IO bottle-neck, even implementing virtualization on blades.

In fact, one of the misconceptions has to do specifically with implementing server virtualizationon blades. For example some people have had concerns about VMware's Virtual Infrastructure 3, on blades. These concerns are based on the old data that blades don't have the high-end capabilities of rack servers—it's just not true today. I have talked with lots of users who have standardized on VI3, running on blades. Again, I have yet to run into anyone who has had an IO limitation. If you do a good job of workload plan-ning, as you do your virtual-server-implementation plan, you can create workloads that are balanced across different blades and blade chassis to fit within the IO capabilities and processor and memory capabilities; which by the way they are essentially the same limitations as those in a rack-mounted environment.

Blade server and virtualization resources

SearchSystemsChannel.com
March 19, 2007

SearchSystemsChannel.com: Do you have any other blade server and virtualization resources for the channel?

Barb Goldworm: Two more things: For users going through this process and trying to understand both technologies, we have a book called Blade Servers and Virtualization that just came out from Wiley. It's a soup-to-nuts discussion on both technologies; it will give you a basic overview of both as well as advance planning tips—it includes what these technologies are, what the architecture options are, who the venders are, the strengths and weaknesses of the various architectural approaches and the vendors in the mix and user case studies to help users understand what it means in the real world. There's also a section in the book that gives a matrix of all of the different features of both blades servers and virtualization solutions. It gives you a snapshot of all the products there today and a framework for all the features that people will need in RFIs and RFPs. From a channel perspective, it's a great starter.

For channel folks who are want tools to help users understand the reasons for implementing these technologies, as well as how to plan for them, the Server Blade Summit will have an ROI lab on the show floor. It will have tools from various venders available, which will help you understand the ROI/TCO issues related to consolidation and virtualization and blades - space and power and cooling savings, etc. And of course, it will be an opportunity to see the latest and greatest in these areas from the virtualization and blades vendors and partners. We hope to see you there.

Blade server advancements and virtualization

SearchSystemsChannel.com
March 19, 2007

SearchSystemsChannel.com: What kind of blade server advancements can channel professionals expect in the future?

Barb Goldworm: There are a couple of interesting areas. At the component level, there are improvements going on at the chip-level from Intel and AMD like quad-core and beyond. Virtualization assist is now happening at the hardware level, which is making the next level up—the server virtualization software—run substantially faster. We are also seeing continuing improvements in the power and cooling efficiencies and capabilities. When you start packing this much density into a smaller footprint, you have to address the heat output. The newer generations of blades systems have improved substantially, to the point where a blade server generates less heat and is more efficient from a power-utilization standpoint than its counterpart rack server. But when you pack them into a small footprint, the power and cooling requirements for

that footprint are greater. We've seen a tremendous improvement in both power utilization and cooling capabilities. And we continue to see significant enhancements.

There are interesting things going on with virtualization inside the blade chassis. There are a number of innovative vendors in the blade space that did this early on, like Egenera. Recently, HP announced a product called Virtual Connect, which is virtual IO inside a blade system. We are just seeing the beginnings of that in the channel. There are a lot of really interesting things happening in the virtualized IO space, coming from the chip and hardware platform vendors, and being utilized by the virtualization software vendors. We're going to talk about all of this at the conference.

There's another interesting place where server virtualization and blades intersect: People who want alternative ways to deliver desktops to their end users. If I'm running in a traditional environment, I have servers running on the backend and I have users running PCs in the front. They have old hardware. They are trying to figure out what to do next. They are looking at Windows Vista and saying, 'Do I need to do that; what kind of hardware will I need?' One of the interesting areas in which these things come together is the whole virtual desktop infrastructure. This allows someone to leverage the server virtualization software and a blade backend infrastructure, along with some of the things that Citrix and Microsoft have been doing with terminal services to create an architecture or an infrastructure that lets you deliver what the end user needs, whether it's a physical box, a virtual desktop, or a shared set of applications. At the conference, there will be a variety of sessions on virtual desktops and virtual infrastructure. We've got folks from IBM, VMware, Citrix and Microsoft talking about it.

From a channel perspective, it will be important to understand what these technologies are, how they fit together and what it means in terms of options to offer end users as they look at next-generation desktop delivery. It raises questions such as, should I be upgrading everybody to hardware that runs Vista, or does that apply to some portion of the user base? Maybe some of them should be on PC blades? Some of them should be running virtual clients that are running on some backend set of blade servers. Should some of them be running Citrix terminal services applications? How do I figure out which users should do what? It becomes a much more strategic view. The channel will have a lot of opportunity to look at this as they deliver out to the community and help users understand their options.

Server virtualization and blades server benefits

SearchSystemsChannel.com
March 18, 2007

SearchSystemsChannel.com: What are the main benefits of working with blade servers and virtualization technologies?

Barb Goldworm: Blades and server virtualization have become very hot topics within IT organizations and the data center as strong foundational building blocks to address issues that have been challenging IT for

years. A lot of users are out of, or running out of, space in their data centers. Many are maxed out on their power consumption. Both blades and virtualization address these challenges in different ways.

One of the top projects that a lot of users are dealing with is consolidation: For example, they have a large number of servers, many running only one application to create separation and isolation, so if they have a failure it doesn't affect other things. Each of those servers tends to have a very low-utilization rate, so they are running 5 or 10% CPU utilization. They have a lot of hardware, very poorly utilized, taking up a lot of space and using a lot of power.

IT organizations required to do more with less are saying why do I need this? Can't I consolidate into fewer servers, take up less space and use less power? When blades and virtualization are used together as part of a revamping implementation project, they deliver a lot of value, both for the effort required in the implementation and for the hardware and software dollars spent.

For example: I take this large number of underutilized servers, I consolidate them using server virtualization—so now I can run four to 20 virtual servers on one physical server. I can implement those on blades, which gives me very high density for the physical servers that I do have, plus the sharing of all of the components that blade servers offer. I am now providing the same, or more horse power to run my business applications, in less space, with less power, less cooling, shared, modular components, providing high availability, and a flexible and agile infrastructure. Now if I need to move things around for availability, maintenance or load balancing, I have strong management tools offered both by blade server systems and virtualization software. And I have modular hardware components with a lot of hot swap, redundant, high availability capabilities built into them.

Blade server and virtualization: Deployment

SearchSystemsChannel.com
March 19, 2007

SearchSystemsChannel.com: Can you briefly describe the steps involved with preparing for a blade server and/or virtualization deployment? Or, how should channel professionals prepare to take on such a project?

Barb Goldworm: If your users have already made a decision on a hardware vendor then they don't have to go through a bake-off process. However, a lot of users are reexamining those relationships and looking at alternatives—and then doing a bake-off is a good idea. We have talked to a number of users who have brought in blade servers from multiple vendors and run them through a bake-off process. I highly suggest that if you are considering server virtualization, that you run your tests using server virtualization software. It essentially becomes the operating system level functionality—the kernel that's running on the hardware. I suggest to people if you are running a bake-off, and you know you are going to be running VMware with guest operating systems underneath it, then do it running VMware with those guests.

As you do that, it's important to consider things like power efficiencies and power and cooling savings over rack servers, and power and cooling issues comparing vendors. Modularity and architectural specifics between different blades systems should also be considered.

One of the interesting trends is that a lot of folks are starting to implement blade servers with no local storage. There is a very high attach rate of blades servers to storage area networks (SANs)—70 to 75%— higher than the attach rates for rack servers to SANs. Because of the way the blades are architected, you have the option of going diskless (not using local storage). You can also have storage blades within the chassis. You can attach to SANs, you can attach to network-attached storage (NAS). You have a variety of options and there are different reasons to look at diskless or stateless blade implementation and/or storage blades. The reasons to go diskless have to do with provisioning capabilities, flexibility and manageability. If I have no disk on that blade, it becomes more replaceable. If that blade fails I can very easily go to another blade and I don't have to worry about having access to the right storage. People should consider what things the blade architecture offers users in their shop; see what advantages blades might give me in each user environment. HP just released a storage blade that allows you to have local storage, but a lot more of it. All blades have the ability to connect to SANs and NAS and have the ability to boot from the SAN and completely eliminate local storage.

For people who are deploying a blade-server environment as a consolidation project, it's very clear that virtualization and blades together are very strong components for any consolidation project. When you are consolidating and virtualizing, the first question is which workloads should be virtualized and which should not. Secondly, which ones should be virtualized together; it's important to understand the workload mix. There are a number of vendors who are working with channel partners to deliver services to help users through this planning. There are opportunities for channel partners who want to deliver those services, and channel partners who are working with their vendor partners to fill services that those vendors are providing directly. The benefits of consolidating with both technologies across the data center are significant. The ROI and TCO numbers and savings potential are phenomenal. The channel has a tremendous opportunity here.

Blades servers and virtualization channel opportunities: Q&A with Barb Goldworm

SearchSystemsChannel.com
March 14, 2007

Virtualization and blade servers can offer channel professionals like yourself both space and power-saving business opportunities. Consider these technology options for your customers. Industry analyst and author of the book Blade Servers and Virtualization*,* Barb Goldworm *discusses the options and implications.*

What are the main benefits of working with blade servers and virtualization technologies?

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IT organizations required to do more with less are saying why do I need this? Can't I consolidate into fewer servers, take up less space and use less power? When blades and virtualization are used together as part of a revamping implementation project, they deliver a lot of value, both for the effort required in the implementation and for the hardware and software dollars spent.

For example: I take this large number of underutilized servers, I consolidate them using server virtualization—so now I can run four to 20 virtual servers on one physical server. I can implement those on blades, which gives me very high density for the physical servers that I do have, plus the sharing of all of the components that blade servers offer. I am now providing the same, or more horse power to run my business applications, in less space, with less power, less cooling, shared, modular components, providing high availability, and a flexible and agile infrastructure. Now if I need to move things around for availability, maintenance or load balancing, I have strong management tools offered both by blade server systems and virtualization software. And I have modular hardware components with a lot of hot swap, redundant, high availability capabilities built into them.

Where are blade servers a good fit?

Goldworm: If you have a geographic location that has one physical server, blades are not a good candidate. Blades by their design go into a chassis and to implement blades you first need to buy the chassis. You then populate the chassis with some number of blades. If all I have is one server, it costs more to deliver the chassis and put one blade in because I have to spread out the cost of that chassis across multiple blades. In general if you are running less than five servers in one location, it is probably not cost effective to go to a blade architecture.

If you have more than five servers in a location, it's worth taking a look at blades for the high density and modularity benefits we've already discussed. In addition to enterprise data centers, there are some nice things about blades in an SMB environment, particularly if you have similar remote offices. I can configure a chassis to have some number of blades in it, running a variety of servers: Web servers, application servers, email servers and database servers, for example. I can put all of those inside my blade chassis and have it as a preconfigured mix. I might have that in different branch offices and make them identical. IBM sells these types of offerings as "retail center in a box," or "data center in a box," or "branch banking in a box."

Also, remote locations with no IT staff can be a good fit for blades because of their strength in remote lights-out management capabilities. Blade manageability was designed from the outset to be a part of

Blade servers and virtualization channel opportunities: Q&A with Barb Goldworm

blade server systems. There are redundant management modules designed as a part of the blade chassis, for out-of-band management: Let's say I'm running a number of blades and my operating system crashes on one blade. I can still get to that blade, even though the OS is down. I can do everything to that blade system remotely that I can locally, except for physically popping out the blade. I can power them on and off; I can reconfigure them; I can do my operating system-level maintenance on top of that. They are well suited for remote management: disaster recovery, availability, failover and anything else that could go wrong. Because of the modularity, someone who is not an IT professional can look at the lights that are flashing or not flashing on the display, pop out a blade, pop in another blade, stick the broken blade in a Fed-Ex box and ship it off.

What misconceptions do people have about blades servers and virtualization?

Goldworm: As with any technology, in early product releases there are horror stories, and they get stuck in peoples' minds. People heard the early stories of blades and virtualization and they still believe those issues exist today. They decided that they can't implement blades because they are low-power, specific-function servers that don't give them the capabilities that rack servers do. That used to be true; it's not anymore. The newer blades systems are now designed with all the capabilities available in rack systems, dual-core and quad-core processors with high memory capabilities, high-speed IO options and high-speed IO switches inside the chassis. When users say, 'Well, I can't look at blades because I need heavy horse-power and it's not available,' they are dealing with old information. These days, anything that the major systems vendors deliver in rack servers, they now deliver in blades. Hewlett-Packard (HP) calls it their Blade Everything strategy, IBM has the same concept.

In addition, today's blades are designed with high-speed interconnects within the chassis; and all of the blades systems support a much higher number of network interface cards than early blades. I've yet to run into a user who has encountered an IO bottle-neck, even implementing virtualization on blades.

In fact, one of the misconceptions has to do specifically with implementing server virtualization on blades. For example some people have had concerns about VMware's Virtual Infrastructure 3, on blades. These concerns are based on the old data that blades don't have the high-end capabilities of rack servers—it's just not true today. I have talked with lots of users who have standardized on VI3, running on blades. Again, I have yet to run into anyone who has had an IO limitation. If you do a good job of workload plan-ning, as you do your virtual-server-implementation plan, you can create workloads that are balanced across different blades and blade chassis to fit within the IO capabilities and processor and memory capabilities; which by the way they are essentially the same limitations as those in a rack-mounted environment.

How can channel pros encourage end customers to adopt blade servers and virtualization tech-nologies? Can you discuss the main selling points?

Goldworm: The selling points for blades start with significant value from high-density. The number of servers that you can fit in the same footprint in your data center is substantially higher. If I'm in a tight space, implementing blades is going to allow me to pack more servers in the same footprint. But the important selling points have to do with bottom-line dollar amounts: It may cost more upfront to move to a blade architecture because you have to purchase the chassis, but the benefits include more efficient

power-utilization, more efficient cooling capabilities and components sharing. From a simplicity standpoint, blades offer significant benefits because everything is prewired inside the chassis. We have a picture in our book of a server room with wires running all over the place, and then we show a picture of a populated blade system and the wiring is perfect looking and not just because of a good IT guy. Prewiring and modularity also translates into less time to provision new servers. If I—as an IT professional—need to deploy a new server out to my end users, both blades and virtualization can make that provisioning very simple; all I have to do is pop in a blade (if I even need to do that) provision it and bring it up live. If I'm using VMware or a server virtualization tool, then I can provision it virtually. I might not even need to add a new piece of hardware.

What we hear from users is that with blades and virtualization, the time to provision—the time from when they get a request until they can bring the users up—has been dramatically reduced, sometimes from weeks down to hours.

How has the adoption of server virtualization technologies impacted the channel?

Goldworm: Server virtualization is changing the business model for hardware vendors. It's changed some of the compensation strategies of what they are doing through the channel. If you are selling servers, and the user is now looking at server virtualization, suddenly they can run 10 virtual servers on one physical server and you are no longer selling 10 servers. It changes the revenue model to one based on selling software versus hardware.

The licensing aspects of server virtualization also make it interesting. Now software might be licensed for virtual environments as individual instances, by CPU or by core. Staying current on all of this information and understanding the implications within the channel can be challenging.

My sense is that over the next two years, server virtualization is going to become almost ubiquitous, certainly in the enterprise and to some extent moving down to the SMB space. Hypervisors (the underlying piece of server virtualization software) will be everywhere. It's very important for the channel to understand what that will do to the industry. Some hardware platforms are now coming with hypervisors directly on them (i.e. bootable from the firmware). From a channel perspective, in order to survive the business and move into the next decade of technology implementation, it is imperative to understand server virtualization technology and the impact it will have on the industry as a whole.

Your company, Focus Consulting, seems to provide a broad range of consulting services to vendors and channel professionals, from business strategy to product expertise. What's the most common request for help you get from the channel?

Goldworm: The thing we see is that there is still a lot of confusion out there. This world has changed so much and so fast in the past five years; five years ago there were no blades and there essentially was no server virtualization software. There was virtualization software on mainframes, and there were blades in the networking world, but they were very different. Both technologies are fairly new and have changed dramatically. It has been very difficult for the channel and for users to stay current on either technology,

let alone both, and to understand how they fit together. Mostly what I hear from the channel is that they need help educating users—through webcasts, white papers, seminars, etc. Many folks within both channel organizations and IT shops may know one of the technologies, but not the other. Or they don't know about the interactions between the current versions and how to best implement them. We provide a lot of education to the channel and to their end users.

You're also charged with heading up plans for the [Server Blade Summit](). What are the must-attend sessions for channel professionals interested in working with blades and virtualization?

Goldworm: If you are new to either one of these technologies, there are tutorial sessions called "essentials"—one for blades and one for virtualization—that are designed for people to start at the ground level; if you've never had anything to do with blade servers, the Blade Essentials tutorial will take you from knowing nothing to having a pretty good sense of what blades do, why they are important, what value they deliver, the [ROI]() implications, how to select a vendor, and so forth. If you are dealing with blades but haven't dealt with server virtualization, there's a server Virtualization Essentials tutorial that does the same thing: What is virtualization, what are the different options and why should anyone care?

If you are a channel professional who doesn't want the technical details of the technologies, but wants to understand the ROI and [TCO]() implications, there is a Business/Strategy track that speaks to these issues. So if you're selling to IT management and need to know the points where these technologies are going to hit that IT manager in ROI and TCO, than you'll want to focus on that track.

Oh the flip side, if you're a technical person who will go out and help people implement, there's a technical track for you. For example, there's a half-day tutorial on consolidating with VMware VI3 on blades. That will start from the beginning with questions like, how do I lay out an implementation plan? What does that mean in terms of the virtualization software? What does that mean in terms of the blade hardware? The tutorial will show how to bring up a VI3 system from scratch in a blade environment.

Drawing on the experience of TechTarget experts, there is also an Ask the Experts session with site editors Jan Stafford from [SearchServerVirtualization.com]() and Matt Stansberry from [SearchDataCenter.com](), as well as experts Andrew Kutz, Anne Skamarock and me. It will include a presentation of recent research survey results on blades and virtualization. Then participants will be invited to ask questions of the expert panelists. That will be interesting for people who follow TechTarget sites because it will give them a chance to ask us questions and for us to interact and give a broad perspective answer.

The focus of the Server Blade Summit is "Blades and Virtualization: The Perfect Marriage." IBM's keynote presentation will be a joint talk from the VP of BladeCenter and the director of virtualization strategy. You will hear about what IBM is doing and where they see these technologies going as enabling building blocks, taking IT to the next generation of data centers. VMware and [Microsoft]() are also doing keynotes. In addition, we have a major user—[Countrywide Financial]()—who has gone through a very successful implementation virtualizing on their blade infrastructure; they will talk about what it has meant to them in the real world. We also have a CIO panel talking about their experiences from a business perspective and a user technical panel talking about their technical successes and difficulties.

Blade servers and virtualization channel opportunities: Q&A with Barb Goldworm

What can channel professionals expect from blades servers and virtualization in the future?

Goldworm: There are a couple of interesting areas. At the component level, there are improvements going on at the chip-level from Intel and AMD like quad-core and beyond. Virtualization assist is now happening at the hardware level, which is making the next level up—the server virtualization software—run substantially faster. We are also seeing continuing improvements in the power and cooling efficiencies and capabilities. When you start packing this much density into a smaller footprint, you have to address the heat output. The newer generations of blades systems have improved substantially, to the point where a blade server generates less heat and is more efficient from a power-utilization standpoint than its counterpart rack server. But when you pack them into a small footprint, the power and cooling requirements for that footprint are greater. We've seen a tremendous improvement in both power utilization and cooling capabilities. And we continue to see significant enhancements.

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Blade servers and virtualization channel opportunities: Q&A with Barb Goldworm

Can you briefly describe the steps involved with preparing for a blade server and/or virtualization deployment? Or, how should channel professionals prepare to take on such a project?

Goldworm: If your users have already made a decision on a hardware vendor then they don't have to go through a bake-off process. However, a lot of users are reexamining those relationships and looking at alternatives - and then doing a bake-off is a good idea. We have talked to a number of users who have brought in blades from multiple vendors and run them through a bake-off process. I highly suggest that if you are considering server virtualization, that you run your tests using server virtualization software. It essentially becomes the operating system level functionality—the kernel that's running on the hardware. I suggest to people if you are running a bake-off, and you know you are going to be running VMware with guest operating systems underneath it, then do it running VMware with those guests.

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One of the interesting trends in blades is that a lot of folks are starting to implement blade servers with no local storage. There is a very high attach rate of blades servers to SANs—70 to 75%—higher than the attach rates for rack servers to SANs. Because of the way the blades are architected, you have the option of going diskless (not using local storage). You can also have storage blades within the chassis. You can attach to SANs, you can attach to NAS. You have a variety of options and there are different reasons to look at diskless or stateless blade implementation and/or storage blades. The reasons to go diskless have to do with provisioning capabilities, flexibility and manageability. If I have no disk on that blade, it becomes more replaceable. If that blade fails I can very easily go to another blade and I don't have to worry about having access to the right storage.

People should consider what things the blade architecture offers users in their shop; see what advantages blades might give me in each user environment. HP just released a storage blade that allows you to have local storage, but a lot more of it. All blades have the ability to connect to SANs and NAS and have the ability to boot from the SAN and completely eliminate local storage.

For people who are deploying a blade-server environment as a consolidation project, it's very clear that virtualization and blades together are very strong components for any consolidation project. When you are consolidating and virtualizing, the first question is which workloads should be virtualized and which should not. Secondly, which ones should be virtualized together; it's important to understand the workload mix. There are a number of vendors who are working with channel partners to deliver services to help users through this planning. There are opportunities for channel partners who want to deliver those services, and channel partners who are working with their vendor partners to fill services that those vendors are providing directly. The benefits of consolidating with both technologies across the data center are significant. The ROI and TCO numbers and savings potential are phenomenal. The channel has a tremendous opportunity here.

Do you have any other advice for the channel?

Goldworm: Two more things—For users going through this process and trying to understand both technologies, we have a book called *Blade Servers and Virtualization* that just came out from Wiley. It's a soup-to-nuts discussion on both technologies; it will give you a basic overview of both as well as advance planning tips—it includes what these technologies are, what the architecture options are, who the venders are, the strengths and weaknesses of the various architectural approaches and the vendors in the mix and user case studies to help users understand what it means in the real world. There's also a section in the book that gives a matrix of all of the different features of both blades servers and virtualization solutions. It gives you a snapshot of all the products there today and a framework for all the features that people will need in RFIs and RFPs. From a channel perspective, it's a great starter.

For channel folks who are want tools to help users understand the reasons for implementing these technologies, as well as how to plan for them, the Server Blade and Virtualization Summit will have an ROI lab on the show floor. It will have tools from various venders available, which will help you understand the ROI/TCO issues related to consolidation and virtualization and blades - space and power and cooling savings, etc. And of course, it will be an opportunity to see the latest and greatest in these areas from the virtualization and blades vendors and partners. We hope to see you there.

Server Blade Summit must-attend sessions

SearchSystemsChannel.com
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SearchSystemsChannel.com: You're also charged with heading up plans for the Server Blade Summit. What are the must-attend sessions for channel professionals interested in working with blades and virtualization?

Barb Goldworm: If you are new to either one of these technologies, there are tutorial sessions called "essentials"—one for blades and one for virtualization—that are designed for people to start at the ground level; if you've never had anything to do with blade servers, the Blade Essentials will take you from knowing nothing to having a pretty good sense of what blades do, why they are important, what value they deliver, the ROI implications, how to select a vendor, and so forth. If you are dealing with blades but haven't dealt with server virtualization, there's a Virtualization Essentials tutorial that does the same thing: What is virtualization, what are the different options and why should anyone care?

If you are a channel professional who doesn't want the technical details of the technologies, but wants to understand the ROI and TCO implications, there is a business and strategy track that speaks to these issues. So if you're selling to IT management and need to know the points where these technologies are going to hit that IT manager in ROI and TCO, than you'll want to focus on that track.

On the flip side, if you're a technical person who will go out and help people implement, there's a technical track for you. For example, there's a half-day tutorial on consolidating with VMware VI3 on blades. That will start from the beginning with questions like, how do I lay out an implementation plan? What does that mean in terms of the virtualization software? What does that mean in terms of the blade hardware? The tutorial will show how to bring up a VI3 system from scratch in a blade environment.

Drawing on the experience of TechTarget experts, there is also an Ask the Experts session with site editors Jan Stafford from SearchServerVirtualization.com and Matt Stansberry from SearchDataCenter.com, as well as experts Andrew Kutz, Anne Skamarock and me. It will include a presentation of recent research survey results on blades and virtualization. Then participants will be invited to ask questions of the expert panelists. That will be interesting for people who follow TechTarget sites because it will give them a chance to ask us questions and for us to interact and give a broad perspective answer.

The focus of the Server Blade Summit is "Blades and virtualization: The perfect marriage." IBM's keynote presentation will be a joint talk from the VP of BladeCenter and the director of virtualization strategy. You will hear about what IBM is doing and where they see these technologies going as enabling building blocks, taking IT to the next generation of data centers. VMware and Microsoft are also doing keynotes. In addition, we have a major user—Countrywide Financial—who has gone through a very successful implementation virtualizing on their blade infrastructure; they will talk about what it has meant to them in the real world. We also have a CIO panel talking about their experiences from a business perspective and a user technical panel talking about their technical successes and difficulties.