SHAREPOINT

PRACTICAL IT STRATEGIES FOR ENTERPRISE COLLABORATION /// NOVEMBER 2009

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Virtualization Proliferation

BY CHRISTINE CASATELLI

OPERATING SHAREPOINT WITHIN a virtual environment? Then it's time to make some critical changes to your SharePoint governance plan. A well conceived plan can set forth rules for deploying virtual machines (VMs) in a controlled manner that prevents virtualization sprawl.

In "Adding Virtualization to SharePoint Governance," Microsoft MVP Brien M. Posey describes how to craft directives that specify when additional virtual SharePoint servers are necessary. Follow his advice to avoid unexpected costs and growing pains associated with VM proliferation.

Here's another business tip: Microsoft Office SharePoint Server 2007 has business intelligence (BI) functionality that helps users collect various types of business information and use it in ways that can give them a competitive edge. The problem is that not many folks know to make the best use of SharePoint's BI capabilities. Read Paul West's "How to Tap into SharePoint's BI" for some helpful tips on using familiar tools to make better business decisions.

You might like SharePoint's BI tool, but maybe you're not a fan of its user interface. The dilemma is that configuration offers limited customization, while SharePoint Designer makes the process too cumbersome.

Take a look at jQuery as a way to make needed user interface changes. A public domain JavaScript library, jQuery has a set of simplified functions that work in a range of vendor browsers. SharePoint MVP Paul Galvin gets you started with jQuery in "Middle Ground with SharePoint User Interface Enhancements."

What do you love about SharePoint? What drives you crazy? Send me an email at ccasatelli@techtarget.com, and tell me all about it. ∎

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Adding Virtualization to SharePoint Governance

Prepare a governance plan of attack to prevent virtualization sprawl in your SharePoint deployment. **BY BRIEN M. POSEY**

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IT IS EASY to think of a SharePoint governance plan as a set of rules that users must follow. But many organizations are finding that a well conceived governance plan can also help prevent virtual machines (VMs) from being deployed in a haphazard manner.

This is especially true when it comes to server virtualization. When the concept of virtualization was first introduced, it was portrayed as a strategy that would reduce the number of physical servers that organizations have to maintain, thereby reduc-

WHAT IS... Virtualization Sprawl?

VIRTUALIZATION SPRAWL OCCURS when the number of virtual machines (VMs) on a network reaches a point where the administrator can no longer manage them effectively.

Although VMs are easily created, they have the same support, security and compliance issues that physical machines do. SharePoint administrators should know how many VMs are running on their networks, which physical machines are hosting them, where their storage is located, what software or operating system licenses are associated with them, why they were originally created and who created them.

To prevent virtualization sprawl, administrators should define and enforce a process for the deployment of VMs and create a library of standardized VM image files. VMs that are being underutilized should be archived.

—WHATIS.COM

ing hardware and licensing costs in the process. As server virtualization technologies have matured, though, organizations are finding that the opposite is often true.

Virtualization technologies such as Microsoft's Hyper-V and VMware's ESX make it so easy to deploy VMs that virtualization sprawl has quickly become a major issue.

Growth is not necessarily a bad thing, but it's critical that you carefully control VM deployments during expansion in an effort to prevent chaos. This is where your SharePoint governance plan comes into play. Although your governance plan may not currently address virtualization, it should be extended in a way that allows you to set some ground rules for virtualized SharePoint deployments.

When building out SharePoint, the idea of deploying extra VMs on an as-needed basis probably sounds like a reasonable approach. After all, virtualization exists so that we can have that kind of flexibility, right? The problem is that organizations often fail to realize that there are very real costs associated with VM deployments.

Many organizations look at VMs as something they can deploy for free because there are no direct hardware costs associated with them. Depending on the version of Windows Server that you are using, there may not be

any costs associated with licensing the VM's operating system. But that's where the freebies end. You are still obligated to pay for SharePoint licenses, as well as licenses for anything

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else that is running on the server, such as backup software agents and antivirus software.

Indirect hardware costs are another expense. Every host server has a finite capacity. If you deploy a VM, then you have consumed some of the host server's overall capacity. You have to consider whether or not that server's resources could have been better used for some other purpose. This is especially important when you consider that eventually you have to justify the cost of purchasing another host server when the resources on your current server are finally depleted.

When you take into account the actual costs of deploying additional

SharePoint servers on VMs, you'll see that your governance document could potentially act as a cost-control mechanism. To take advantage of that benefit, you don't need to add a clause to your governance document that says "Thou shalt not add virtual SharePoint servers." You should, how-

How to Manage VM Sprawl

HOW DO MOST IT organizations manage virtual machine (VM) sprawl? Not surprisingly, they tend to turn to tools and processes they're familiar with. Most administrators, for example, use traditional spreadsheets to track and manage virtual servers. Administrators log information such as the VM owner, the allocated resources, approved usage and the lease period to keep track of an organization's total number of VMs and their workloads.

Although a traditional spreadsheet is a temporary management solution, most administrators can't keep up with VM additions and changes in a growing virtualization deployment. What happens when a developer creates a new VM for testing purposes and then moves it to a test environment? What happens when the same developer moves the test VM back to the general population?

When VM migration tools, like VMware VMotion, enter the mix, manual tracking can become even more difficult. As an organization expands its virtual infrastructure, a manual approach to tracking and managing VMs suffers from errors and inefficiency. Even when spreadsheet data is current, it's usually only accessible to one or two administrators. Even faithfully executed manual processes are often doomed to fail in a rapidly growing virtualized environment. As a result, management and operational costs soar because of highly inefficient administrative processes and the suboptimal allocation of system resources.

Fortunately, new products are poised to enter the market to help virtual server administrators better cope with the growing pains of virtual infrastructure deployments. Marketed as virtual infrastructure management, life-cycle management, policy-based management or orchestration applications, these products go beyond the capabilities of hypervisor element managers to solve many of the problems associated with fast-growing virtualization environments. —SEARCHSERVERVIRTUALIZATION.COM

ever, specifically state the circum-
stances that warrant the addition
of new virtual servers.

As you create your list that de-
fines the circumstances for adding
machines, keep in mind that exhaust-
ing the capacity of an existing VM
may not be a good reason for creating
additional VMs. After all, VMs are
flexible, and it is relatively easy to
allocate additional resources to a VM
or to move one to a more powerful
host server. In fact, it is almost always
more cost-effective to allocate more
resources to an existing VM than it is
to create a new one because licensing
and support costs increase every time
you add a VM.

If you decide to operate SharePoint
within a virtual environment, there
will inevitably be circumstances that
justify the creation of additional virtu-
al SharePoint servers. But decide

ahead of time what those circum-
stances are and include that informa-
tion in your virtualization plan within

*If you decide to operate
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SharePoint servers.*

your SharePoint governance docu-
ment. Doing so will help protect you
against unexpected costs and against
the growing pains associated with
VM sprawl. ∎

ABOUT THE AUTHOR

Brien M. Posey has received Microsoft's Most Valuable Professional award six times for his
work with Windows Server, IIS, file systems/storage and Exchange Server. He has served as
CIO for a nationwide chain of hospitals and healthcare facilities and was once a network
administrator for Fort Knox.

How to Tap into SharePoint's BI

Use Microsoft's integrated tools to pull together data that will help SharePoint users make better business decisions. BY PAUL WEST

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HAVING THE RELEVANT information that is easily accessible is absolutely imperative to business success. The need to grow and innovate in today's business landscape requires a new approach to gather business information and use it in ways that offer a competitive advantage.

Traditionally, a number of technical people in a single company would have to work together to compile pertinent business information. Microsoft Office SharePoint Server (MOSS) 2007 has business intelligence functionality that can help streamline the data-gathering process to create a single, integrated reporting platform for displaying information from multiple lines of business applications including accounting, project management, HR, payroll data and more.

This approach can enhance business performance by driving better decision making across the entire organization. The problem is that not many people know how to unleash SharePoint's BI functionality.

In Microsoft's integrated BI platform, MOSS 2007 is at the top of the stack and acts as the hub through which information workers can collaboratively access and analyze data (see FIGURE 1, page 8). The SharePoint BI architecture features help users take tools that are already familiar to them and develop scorecards, reports and other information needed for business decision-making without IT intervention. The BI tool is cost-effective and easy to use so that just about anyone in the organization can drill down for useful business information.

HOW TO GET STARTED
And how do you put your plan in motion? Just remember these steps: Assess infrastructure, prepare data, design/plan and develop.
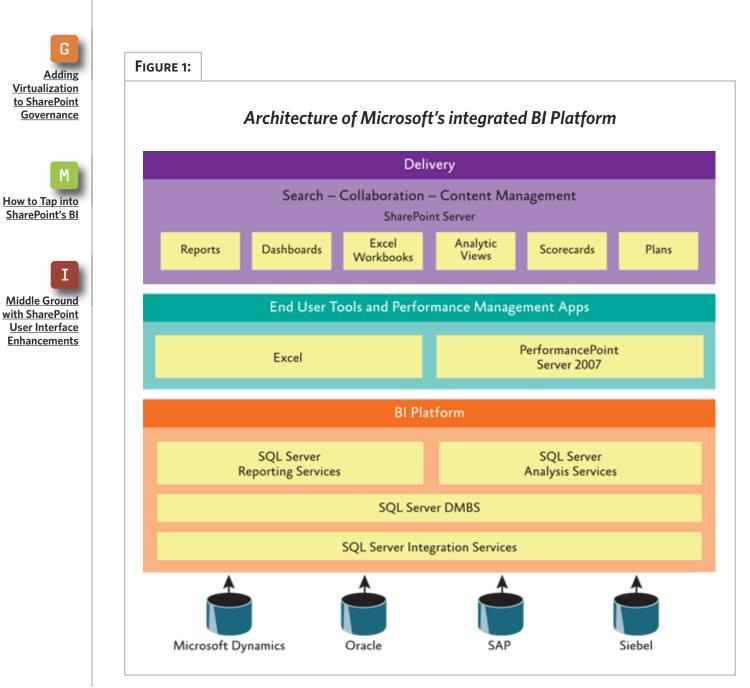
1. Assess infrastructure: Business intelligence is made up of SQL Server 2008 and Microsoft Office. System requirements for BI depend on which

programs within the solution you choose to deploy.

2. Prepare data: The best way to learn about Microsoft's BI stack is to build a simple tool. As you put together your BI tool, plan to spend most of your time performing data-preparation tasks, such as restructuring and cleansing data. In BI terms, this set of tasks is called the extract, transform and load (ETL) process.

FIGURE 1:

Architecture of Microsoft's integrated BI Platform

SOURCE: MICROSOFT

3. Design/plan: Before you start ETL development, carefully plan the design of your BI tool. The development of the tool goes more smoothly when you have a specific business problem to solve. Approach the design by first considering how people need to interact with information. By taking a user-centric approach, you can work your way backward through the applicable business processes to design a tool that properly retrieves and structures the data to support your business need.

4. Develop: After you come up with the initial design, you're ready to start developing. If your BI tool uses SSIS, SSAS and SSRS, begin by creating and populating the tool's data structures using SSIS. Once the data is in place, continue to the next step by building a cube. After your development is complete, process the cube to load it with data. You then use SSRS to develop a report that queries the cube and displays the query results in a report. You should approach this process incrementally to make sure the results of one step will work well in subsequent steps.

To complete the entire BI process, you need to install SQL Server 2008, including SSIS, SSAS and SSRS. If you have access to SQL Server, an SSAS server and a report server on your network, you need only install the

development tools on your computer.

SharePoint's BI tool supports a wide range of needs. Strategic planning and information management are easier in a centralized, fully integrated BI environment. Excel, Excel Services, SharePoint Report Center and the Business Data Catalog are the default BI features within the Office suite of products. SQL Server 2005 Reporting Services, Analysis Services, and PerformancePoint Server 2007 extend the core BI functionality by offering enhanced reporting capabilities, data warehousing, in-depth data analysis and real-time monitoring. Lists within SharePoint sites can be exported to Excel. Updates to the SharePoint list will be synced to the external Excel spreadsheet. This is a one-way sync—updates to the exported Excel spreadsheet will not replicate to the original SharePoint list.

Users can choose to maintain a link between the exported data and the original SharePoint list. By using the platform backed by Microsoft SQL Server 2008, SharePoint's BI tool delivers ETL functionality, online analytical processing, data mining, predictive analysis and reporting all in one. The tool is fully scalable and includes enhanced security.

Scorecard functionality—supported by reports, charts, graphs and analysis—means that employees can track key performance indicators (KPIs) against key business goals. Under-

standing and analyzing the relationships between KPIs and your corporate objectives means you can better understand how your business is performing today—not at the end of the month, quarter or year when it's too late to have an impact.

SharePoint's BI tool offers a way to access, analyze and share crucial information for better decision-making. It can help an organization's employees make better decisions by giving them the ability to collect data and transform it in a meaningful way.

TRAINING IS KEY TO SUCCESS

Using MOSS 2007 as the platform, Microsoft is trying to address what most people are using in their day-to-day business processes. The more employees there are who have access to business data, the greater the company's ability to anticipate changes and make adjustments that will benefit the business.

To increase adoption of SharePoint's BI tool, be sure to train employees—and not only on how to use the tool and how to create dashboards but also on what they can gain by using it. BI presents easy-to-use information directly to people where they work, collaborate and make decisions. It can shift the way people work for the better but not unless employees are properly trained.

Another key to getting started is to have a visionary in your organization with a big-picture roadmap that includes realistic phased releases. Also make sure you have a small pilot project that you can quickly roll out within 60 to 90 days. The involvement of users is vital to the success of your pilot project.

BI benefits can be difficult to quantify, so it's critical to demonstrate how they can affect long-term business survival and strategy. What is the value of a report or metric that gives a company important insight to initiate a strategic decision? It depends. More often than not, the value of BI can be best understood by imagining the risks of doing business without it. ∎

ABOUT THE AUTHOR

Paul West is principal and co-founder of SharePoint360 LLC, a SharePoint consulting and hosting provider. West has extensive experience with SharePoint architecture and implementations. He has been working with SharePoint technologies since the Microsoft SharePoint release in 2001.

Middle Ground with SharePoint User Interface Enhancements

JQuery is a reasonable compromise between limited out-of-the-box configuration options and heavy-handed SharePoint Designer.

BY PAUL GALVIN

MANY SHAREPOINT USERS, administrators and even developers have seethed with frustration over SharePoint's user interface. It's not that it's a bad interface, but if you don't like what SharePoint provides out of the box, you don't have too many good options.

Although it's simple to create a default data entry screen in SharePoint by defining a content type or adding a few columns to a custom list, it's altogether a different story when you're trying to change that default data entry screen. SharePoint has two main solutions for creating custom screens: limited configuration options and SharePoint Designer.

Through configuration, SharePoint allows the ability to reorder columns, hide some columns, specify whether they are mandatory and give them a label, along with a few other rudimentary controls. SharePoint Designer allows much more power and flexibility. These approaches have their pluses and minuses (see **TABLE 1**, page 12):

What's apparent is that there is no good middle ground when it comes

SharePoint has two main solutions for creating custom screens: limited configuration options and SharePoint Designer.

to changing SharePoint data entry screens. On the one hand, configuration provides limited customization capability. On the other hand, SharePoint Designer is often too complex and difficult to use.

As always, the SharePoint community has risen to the occasion to find that middle ground. It has borrowed technology from outside the SharePoint world and made it fit within SharePoint's model by doing some interesting things. That borrowed technology is jQuery.

JQuery is a public domain JavaScript library that has a cross-browser set of simplified and normalized functions that work correctly in a wide array of vendor browsers, such as Internet Explorer, Safari and Opera. It even works across different versions of browsers from the same vendor, such as IE 7 versus IE 6. JQuery supports browsers that don't work well with SharePoint in the first place, so it's well suited for SharePoint work.

Why jQuery in SharePoint? We've

TABLE 1

CONFIGURATION VS. SHAREPOINT DESIGNER			
Configuration		**SharePoint Designer**	
PROS	**CONS**	**PROS**	**CONS**
▪ Web browser interface—no desktop software or licenses are required ▪ Clear upgrade path	▪ No ability to incorporate business logic, such as cascading drop-downs ▪ No dynamic screen updates	▪ Can create powerful, highly customized screen layouts	▪ Poorly documented and difficult to learn. Need to go to class for training, buy a book or both ▪ Can cause upgrade and performance problems ▪ Cannot be used with a proper software development lifecycle ▪ Powerful tool that IT hesitates to make available to users and administrators because they could destroy a SharePoint environment by using it improperly

always had the ability to add Java-Script to a SharePoint Web page and use it to jazz up the user interface. JQuery allows us to do this faster and more reliably. The SharePoint community has adopted this proven technology. In addition, Microsoft generally supports jQuery—it provides

Getting Started with jQuery

IT LITERALLY TAKES just a few minutes to get started with jQuery in SharePoint. The steps are simple:

1. Create a sandbox environment site.
2. Add a content editor Web part.
3. Add your jQuery.

That's all it takes. There's no need to install code on the server and no need to muck about with web.config or install features. If you can add a content editor Web part to a page, you can start using jQuery.

JQuery uses a library of functions hosted by Google to manipulate the data or structure—such as cascading style sheets (CSS)—on your page. Use jQuery for these main categories of action on your SharePoint site. Here are some examples from the Web:

■ **CHANGING FUNCTIONALITY:** In this example, it allows you to scroll through a list while keeping the column headings static. The normal functionality in SharePoint is when you load a large list and scroll down, the column headers are hidden. This script places a scrollbar in the list so the column heading stays put.

■ **CHANGING APPEARANCE:** This example shows how to use jQuery to change the appearance of the Quick Launch menu. It does this by making changes to the CSS classes that SharePoint uses for the quick launch and adding extra code to them.

■ **ACCESSING DATA:** This final example is the most complex. It accesses the Microsoft Office SharePoint Server 2007 Search Web Service to find individual results and displays them in the page. JQuery also adds some clever code that begins the search as soon as the user starts typing the query.

—SEARCHWINIT.COM

IntelliSense in Visual Studio 2008, and it supports jQuery in SharePoint 2010. So jQuery works with today's SharePoint and will work with the next release too.

SOLVING COMMON USER INTERFACE DESIGN PROBLEMS
Every SharePoint veteran hits a wall with certain user interface design problems. JQuery solves them. Here are two problems and solutions:

■ **Conditionally hide or disable a field:** SharePoint's standard user interface does not allow the capability to hide or disable a field at run-time. Consider a classic question: "How did you hear about us?" A proper user interface would offer the user several choices, such as "colleague," "direct mailer" and the catch-all, "other," for those times when none of the pre-defined choices are adequate. When selecting "other," we would want the UI to dynamically change and prompt the user for additional detail. JQuery makes this simple.

■ **Show additional context information after selecting a value from a lookup:** We often design forms that prompt the user for an entity like "customer." In SharePoint, we typically define a lookup site column that pulls its data from a custom list that stores customer data. Because the

column can pull information from only one column, the lookup doesn't provide much more than a name or a code.

JQuery allows us to enhance this simplistic interface in two key ways. First, we can actually modify the lookup values themselves. Instead of showing a drop-down that just shows company names, we could modify the drop-down to show company name and city or any combination that we want.

Second, we can take immediate action when the user selects a value from the drop-down and show as much context as we want. For instance, after the user selects a company from the drop-down, we can show the company name, our main contact at that company, phone number and address. How does it do that? By invoking out-of-the-box Share-Point Web services via Ajax.

It's important to realize that jQuery is JavaScript code running in the user's Web browser and that that code has access to everything on the page. Those two examples describe some specific problems that jQuery allows us to solve quickly and easily for data entry forms. But jQuery goes further than that. It can be used to modify anything in the system, including views on lists, menus and other Web parts. If we can see it, we can affect its operation with jQuery.

WHAT jQUERY IS NOT

JQuery is not a security solution. It's possible to write some jQuery code that hides or disables fields based on the current user's role or that addresses one of the classic questions—securing a view on a document library or custom list so that only a specific group of users is allowed to see that view. We can use jQuery to dynamically remove a "secured" view from the drop-down list of available views. But users can still type the URL of that view directly into their Web browsers.

"No problem," you say. "I'll just add some jQuery to the view itself and disable it if users type the URL into their browsers." This, too, is possible. But because the content was already downloaded from Sharepoint to the Web browser, users can still see the supposedly secured data by simply using the "view source" function in the Web browser. It won't be pretty, but a determined user will piece it together. So, the bottom line is that jQuery can't solve all of your problems, but it can go a long way toward minimizing most of them.

JQuery is freely available, well supported by Microsoft and has become a beloved tool of the Share-Point community. It doesn't require

JQuery is freely available, well supported by Microsoft and has become a beloved tool of the SharePoint community.

difficult server-side configuration and even works in a hosted Share-Point environment.

JQuery offers a compromise between the limited user interfaces we can build via out-of-the-box configuration versus the heavy-handed SharePoint Designer. It can solve a wide variety of problems, but it's important to understand its limitations. JQuery is here to stay. Now is as good a time as any to investigate it, learn it and take advantage of it. ∎

ABOUT THE AUTHOR

Paul Galvin is a SharePoint MVP and co-founder of Arcovis, a SharePoint consulting organization providing services to clients in the New York metro area. Galvin has worked in the IT industry for more than 15 years in areas such as software development, consulting and SharePoint solutions design, where he works with clients to create business solutions using the SharePoint platform. He contributes to the SharePoint community through MSDN forums and his blog at http://paulgalvin.spaces.live.com.