

Windows PowerShell  
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```
PS (5) > dir thumb\*\*\[*
```

```
Directory: Microsoft.PowerShell.Core\FileSystem::C:\Document  
brucepay\Local Settings\Temporary Internet Files\Content
```

Mode

# Attention IT Professionals!

```
-a-- 7/8/2006 7:58 PM 2066 thumb[1].jpg  
-a-- 7/11/2006 2:48 PM 11933 thumb[3].txt
```

## Don't turn off Windows Sidebar just yet!

```
PS (130) > Get-HexDump "$env:windir/Soap Bubbles.bmp" -
```

```
42 4d ba 01 01 00 00 00 00 00 00 ba 01 BM.....  
00 00 28 00 00 00 00 01 00 00 00 01 .....  
00 00 01 00 08 00 00 00 00 00 00 00 .....  
01 00 12 0b 00 00 12 0b 00 00 61 00 .....a.  
00 00 61 00 00 00 6b 10 10 00 73 10 ..a...k...s.  
10 00 73 18 18 00 7b 21 21 00 84 29 ..s.....  
29 00 84 31 31 00 6b 08 08 00 8c 39 ...11.k  
31 00 84 31 29 00 8c 31 31 00 7b 18 1..1  
18 00 8c 39 ...9
```

```
function Get-HexDump ($path = $(th  
{  
    $OFS=""  
    Get-Content -Encoding byte $path -  
    -totalcount $total | %{  
        $record = $_  
        if (($record -eq 0).count -ne $width)  
        {  
            $hex = $record | %{  
                " " + ("{:x}" -f $_).PadLeft(2,"0")  
            }  
            $char = $record | %{  
                if ([char]::IsLetterOrDigit($_))  
                { [char] $_ } else { "." }  
            }  
            Write-Host "$hex $char"  
        }  
    }  
}
```



# PowerGadgets\_

[www.powergadgets.com](http://www.powergadgets.com)

```
PS (4) > select-string -list wildcard $psHOME  
about_Comparison_operators.help.txt:28: -li  
supperabout_Globbing_help.txt:5: See Wildc
```



# Don't Turn Off Windows Sidebar Just Yet.

by PowerGadgets

Microsoft expects to sell between 80 and 120 million copies of Windows Vista in its first year alone. Even if these estimates are way off, it's clear that millions of users will stare at a few Gadgets in the Windows Sidebar, which is enabled by default.

While Vista advocates and critics have polarized around the user interface (UI) improvements, IT professionals are just thinking how hard it will be for them to deploy and manage costs associated with this new Microsoft OS. During this process, the Windows Sidebar may very well be their first victim. The real question is whether they are aiming at the right target?

Having been subjected to public scrutiny, there is a perception that Sidebar and its Gadgets are only consumer toys with no business justification, so why would an IT Professional sacrifice system performance and resources with something so whimsical? After all, the last thing you need is another fancy platform for users to display a clock, weather and traffic forecasts or even worse: play poker!

If you are considering disabling Windows Sidebar, read how you can take advantage of this wonderful platform to benefit your business and give users access to visualize data in innovative and powerful ways, yet with minimal development efforts.

With Windows Vista, Microsoft made significant investments in connecting people to information so they could work in smarter ways. This is essential for the enterprise and Windows Sidebar is a crucial tool to materialize this vision.

Gadgets are one of the hot new features of Windows Vista, and enterprise users are just the right people to start using them. We will introduce you to the real issues of authoring enterprise gadgets and deploying them across your organization easily and affordably, while making Windows Sidebar the ultimate business dashboard!

If you are interested in learning how you can improve your organization's competitive advantage and save millions of dollars in software licenses for business intelligence and data visualization tools in the process, read on...

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“Windows Sidebar can benefit your business by giving users access to visualize data.”

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## Sidebar & Gadgets: Are they clearly positioned for the enterprise user?

Today, it's difficult for IT Professionals to understand how Sidebar and its Gadgets can help them solve real business problems. Microsoft has articulated its Sidebar (Gadgets) conceptual model around the notion of Vista users searching, downloading and installing pre-built gadgets from Microsoft and other third party web sites.

However, as Windows Vista is adopted into the enterprise, Microsoft will articulate a better business value for Sidebar. There will be a shift from pre-built consumer gadgets to an authoring or development model where gadgets are created using powerful development tools and environments rather than being downloaded.

Those who are in doubt of Microsoft's abilities to leverage their vast arrangement of synergistic technologies and partners must take a closer look at markets like Visual Studio, SharePoint, BizTalk and their respective partner ecosystems. While Google and Yahoo can drive consumer attention, none of them can show the vast goodwill and expertise that Microsoft and its partners possess. This is a huge advantage for Microsoft and Windows Sidebar.

Some initial partner efforts to create Windows Sidebar-related technologies have started to flourish — such is the case of PowerGadgets ([www.powergadgets.com](http://www.powergadgets.com)), a Boca Raton, FL based company. With roots as a leading vendor in the Visual Studio market, the company has recently adapted its data visualization technology to fully support Windows Sidebar and enabling IT/DB Professionals to author enterprise gadgets with minimal coding efforts.

What's so exciting about this product is its ability to simplify the process of authoring gadgets based on a truly robust .NET data visualization foundation, a flexible UI and how it leverages Microsoft's most important and innovative enterprise technologies such as Windows PowerShell, ADO.NET and the .NET Framework 2.0, not to mention Windows Vista and Sidebar.

PowerGadgets exemplifies how Sidebar can be used effectively in an enterprise environment. The following pages will describe in detail how it effectively overcomes some of the major limitations in the gadget authoring process to empower IT/DB Professionals to quickly and effectively use Sidebar as an enterprise data visualization platform.

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“PowerGadgets exemplifies how Windows Sidebar can be used effectively in an enterprise environment.”

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About the company: PowerGadgets, LLC, is a privately funded corporation, headquartered in Boca Raton, Florida, USA is the leading supplier of data visualization components for IT and database professionals working within the Windows XP, Windows Vista, Windows Server 2003 and Windows Server codename “Longhorn” operating systems.

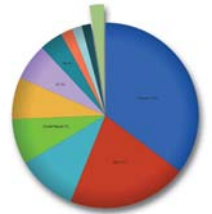
## Sidebar Gadgets: A lot more than simple HTML and Javascript!

In the context of business, Gadgets are like mini-applications. Even when gadgets display a single variable or a limited set of data – such information may require access to one or more business domains and expertise in technologies such as database, XML, web services and PowerShell scripts, among others. This means, enterprise gadgets have the same set of needs as their client server or web-based counterparts. In summary, to author gadgets you need a technology that encompasses more than just HTML and JavaScript.

PowerGadgets not only supports the Sidebar gadget infrastructure transparently, but it also encompasses other technologies that simplify the creation of enterprise gadgets.

PowerGadgets provides:

1. Support for a Data Visualization foundation that features vector-based .NET objects that are capable of displaying true enterprise data visualization objects like charts, gauges and maps.
2. Support for .NET Framework intrinsic technologies like database and web service accessibility and a powerful security framework. This means PowerGadgets makes use of the Windows Vista .NET foundation to populate gadgets with no additional software or complex development environments (i.e. Visual Studio) requirements, making PowerGadgets easier to use and deploy.
3. Support for scripting technologies that are familiar to IT and DB professionals (Windows PowerShell). This means you can populate gadgets from virtually any source where scripting is available and effectively broadening the Sidebar's reach and availability.



For example, consider the case of an IT administrator who wants to have a gadget that shows the current processes running on its IIS server infrastructure, right on their desktop and where they are in their normal Windows view so they can see what is going on with different servers and really stay connected with the information they need to so they can do their job in the most effective way. This can be easily achieved with PowerGadgets and a one-line PowerShell script, as follows:

```
Get-process | out-chart -sidebar gadget1 -refresh 0:0:5
```

This simple, yet powerful, script will render a Sidebar gadget as a fully interactive chart with system process information that updates at real-time every 5 seconds. Like this, PowerGadgets lets scripters easily retrieve information from data sources like databases, web services, WMI and other enterprise data sources.

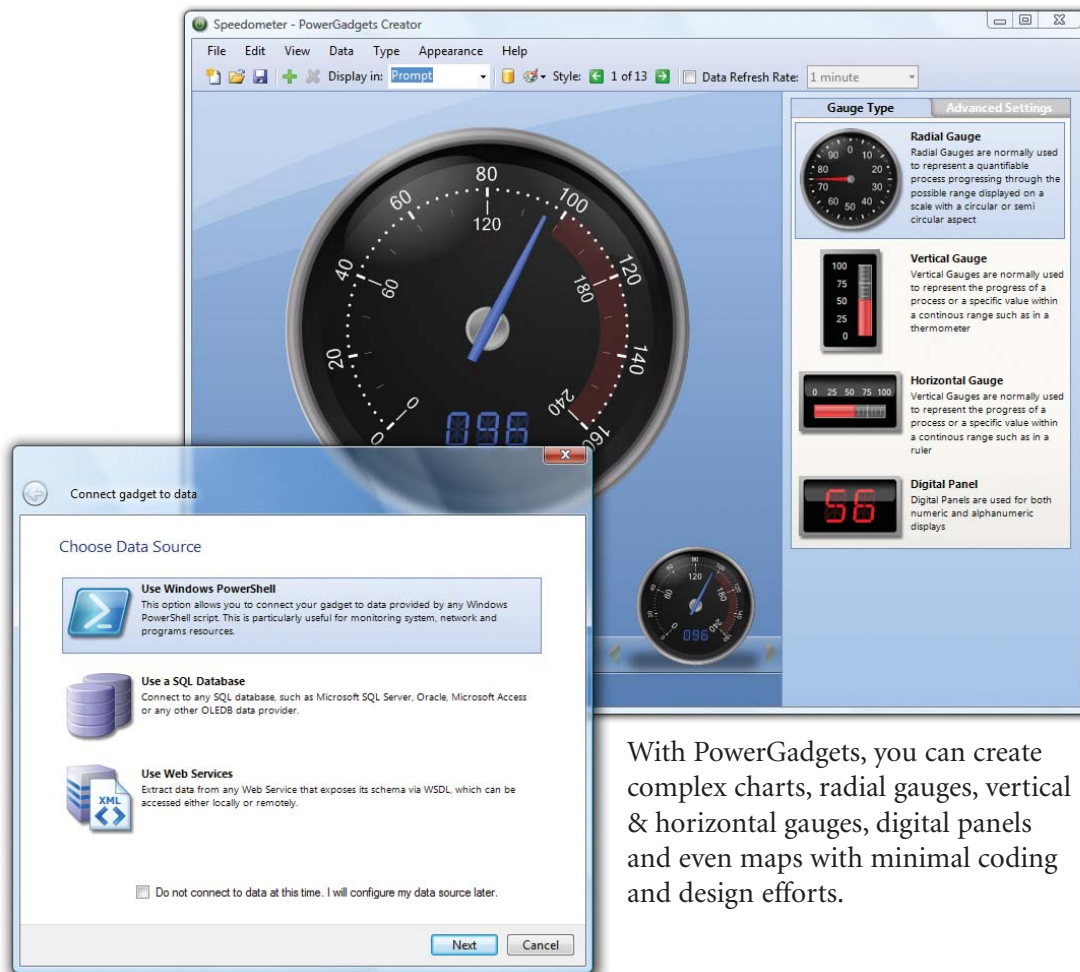
Needless to say, this doesn't even begin to scratch the surface of what PowerGadgets can do, but it does give you a better sense for the range of capabilities and technologies that can be included in a single gadget.

## Designing Gadgets is like writing on a grain of rice!

At first, it almost seems easy to duplicate the sample gadgets that ship with Windows Vista. However, designing gadgets for the Windows Sidebar which is approximately 130 pixels wide may very well be an insurmountable task for IT/DB Professionals lacking suitable time or artistic talent. As you devote time to create more sophisticated gadgets for your business you will find yourself dealing with masks, transparencies, graphics files, settings files, and other design elements that require vector elements and complex resizing algorithms to properly address the screen limitations that the Sidebar presents.

Let's be honest: it may just be easier for an IT Professional to write "Supercalifragilisticexpialidocious" on a grain of rice than using HTML and PNG graphics to write a truly functional enterprise Sidebar gadget.

Rather than working with generic images, PowerGadgets provides a powerful vector based data visualization foundation, where you manipulate properties to configure the aesthetical and functional aspects of a gadget. As you interact with the UI, PowerGadgets will apply complex painting (minimizing ink) and resize algorithms that will make your gadget look aesthetical pleasing, even if it's displayed in the reduced screen space provided by Sidebar. The PowerGadgets Creator featuring a fairly complex gadget is depicted in the following figure:



With PowerGadgets, you can create complex charts, radial gauges, vertical & horizontal gauges, digital panels and even maps with minimal coding and design efforts.

## PowerGadgets: the perfect tool for IT/DB Professionals

What makes PowerGadgets really interesting is that this new technology has been designed for people who write scripts. PowerShell scripts to be more precise. Don't get us wrong: gadgets are cool, and gadgets can display very sophisticated enterprise data but this may just be a dream if IT Pros just simply disable Sidebar. Our bet is that by putting IT Professionals at the top of the list of people who can consume this technology then Sidebar usage may not only be spared but actually encouraged in the enterprise.

With PowerGadgets and Windows PowerShell scripts there is undoubtedly a case that gadgets will earn their keep in large part by serving as monitoring devices, dutifully keeping tabs on anything and everything from free disk space to network connectivity to available memory. Sidebar and its Gadgets are perfect for these tasks: they are small and unobtrusive, yet gadgets can still display visual cues that provide information to IT Professionals at a glance. By combining small size and graphical capabilities with custom script code, you can create incredibly useful tools for monitoring the health and well-being of your network.

In addition, with PowerGadgets and PowerShell scripts, IT Administrators can have the highest level of control and improve the manageability of the Windows Server family of products by creating real-time graphical objects like charts, gauges and maps that can track software applications, hardware components, and networks with minimal coding efforts and without being limited to events or indicators that are predefined by other server manageability and monitoring applications. Similarly, Database Professionals can quickly leverage their SQL Server knowledge to produce visual units of enterprise information that can easily be deployed across the enterprise without writing a single line of code.

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“With PowerGadgets, Windows Sidebar may actually be encouraged in the enterprise.”

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At the time of this writing, PowerGadgets was working on a powerful SNMP set of gadgets for network monitoring with Microsoft and other leading vendors, for more information please visit the PowerGadgets web site at [www.powergadgets.com](http://www.powergadgets.com).

## But wait, there's more...

There are many other PowerGadgets features that, although not directly related to Sidebar integration, will still bring data visualization for enterprise users to a whole new level in Windows Vista. We will briefly mention them. However, we strongly encourage you to investigate other PowerGadgets resources to learn more. These features are:

### Real-time Monitoring:

PowerGadgets not only is able to retrieve data automatically, without requiring user interaction of any kind, but it provides a powerful real-time engine that periodically updates gadgets allowing PowerGadgets to act as a full-featured monitoring solution. For example, a gadget that monitors available memory on a computer can't just retrieve available memory at the time it loads and then remain static. Instead, it needs to periodically take an up-to-date memory status reading.

### Ease of Deployment and Persistence:

PowerGadgets files are self-contained and can be easily redistributed to other users in the enterprise. The PowerGadgets client software is very light and when used in Windows Vista uses core OS software so there are no additional software requirements, making PowerGadgets the simple and powerful data visualization and monitoring solution.

You can email or store PowerGadgets files on a network drive; users simply need to select the sidebar gadget to use. Later, these gadgets will persist in the Sidebar, even if you boot Windows Vista, log in or out, or restart the computer.

As persistent objects, PowerGadgets remember where the data came from and the visual attributes that users have chosen for them. This means if you close Sidebar or boot Vista, gadgets will reappear in the same location and with the same attributes they had when the Sidebar was halted. This is possible because the Sidebar gadgets platform provides methods for PowerGadgets authors to automatically store and associate settings with the correct instance of each gadget.

### Security:

Last but not least, Security plays a critical role in the enterprise. Because gadgets have a similar download and installation experience as other executable code, it is appropriate to provide them with a similar set of deployment and security capabilities when they run. PowerGadgets provides a security platform much like Windows Forms applications where Certificates are used to allow IT administrators to properly control security when deploying gadgets across the enterprise. This is in addition to other security mechanisms that the .NET Framework and Windows PowerShell provides.

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## Summary

Many critics have portrayed the Windows Sidebar as a system resource goblin and a semi-useless strip of screen real estate-stealing UI. Nothing could be farther from the truth!

When it comes to system resources, the Windows Sidebar is designed to manage visibility state changes for large volumes of gadgets and provide ways to boost the overall system performance. Furthermore, PowerGadgets takes advantage of such infrastructure to ensure well-behaved gadgets that perform no work unless the user is actively interested in them. When it comes to positioning, gadgets are neatly docked to the side where dragging them within the sidebar will neatly reorder them evenly spaced.

The bottom line is that if you are considering Windows Vista, then your IT infrastructure is ready and you should not be concerned with these issues. If you are really looking to boost productivity and put information at your users' fingertips, you can't go wrong with Windows Sidebar and PowerGadgets.

Windows Vista and PowerGadgets will dramatically improve how your organization uses its essential knowledge and resources. In addition, PowerGadgets helps people find and use information quickly, easily, and more securely... actually consuming less system resources and connecting people with information without the need for a browser or complex client-server application.



**About the author:** Rene Garcia is the president and co-founder of PowerGadgets, LLC. with over 13 years of experience in bringing data visualization solutions to different segments of the enterprise technology market.

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