Microsoft Debuts Enterprise App Virtualization

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IO for IT

Can infrastructure optimization cure IT complexity?  26

Gunnar Thaden, CIO for TUV NORD Group, built his company's success with Microsoft software and infrastructure optimization.

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Unified Communications

Services Options for a Successful Deployment

As businesses worldwide convert their traditional voice and data communications infrastructures to IP networks, they are eager to leverage the unique capabilities of this technology to improve their operational performance and market differentiation. Unified communications represents an extremely powerful set of converged network applications that can directly enhance a company’s market advantage.

Unified communications is the convergence of real-time and non-real-time business communication applications that enables users to work from anywhere, regardless of location, network or device. Unified Communications is driving the next major advancement in individual, team and organizational productivity in today’s 24X7, always-connected and increasingly mobile environment.

To realize the value of unified communications, most enterprises will have to integrate new communications solutions within existing infrastructures. Furthermore, it is common for enterprises to have communication infrastructures and applications from multiple vendors. Rather than replace these varied elements with a single-vendor solution or wait until every last TDM PBX has been retired, a more desirable approach is to integrate these mixed technology/mixed vendor environments to quickly take advantage of the extraordinary benefits that unified communications can provide.

When an enterprise decides that unified communications is right for their business, the open questions and tasks that need to be performed can seem daunting. Although they see the value that unified communications can bring, many companies are stuck in the “value gap” (Figure 1), uncertain how to ensure a successful deployment.

Closing the value gap has many facets including establishing a rigorous unified communications plan, conducting a thorough needs assessment, designing the unified communications solution and deployment plan and identifying a skilled project owner to create, coordinate, document and implement the plan.

Though some companies have the in-house skills required to design, deploy, and manage a unified communications strategy and implementation, many have discovered the hard way that implementing unified communications requires a specialized skill-set not generally available from the in-house IT team or even from most 3rd party vendors.

When deploying an Avaya unified communication solution for Microsoft environments, you can rest assured that experts are available who fully understand the complexities and benefits of this integrated solution. Avaya Global Services and HP Services are two global, world class organizations with the skills and track record to support a unified communications deployment for your business whether you need assistance with just a portion or the full scope of work.

FIGURE 1
Avaya Global Services can help you reduce the risk of introducing new technologies with highly trained experts, global presence and state-of-the-art tools. Our portfolio of services is completely flexible, allowing you to decide what you need—from initial planning or assessments, to project management, to connecting communications solutions with your business processes.

HP, an Avaya Global Alliance Partner and Microsoft Gold Certified Partner, has one of the world’s largest forces of consultants and support professionals for Microsoft environments, and the know-how to apply it to today’s enterprise reality. To help you make the most of your unified communication integration with Avaya and Microsoft, HP delivers end-to-end business technology services from analysis and strategy consulting to solution planning, design, and implementation to ongoing management and optimization.

Unified communications is a unique journey for every enterprise. You may already have many of the components of a unified communications solution in place, and simply need assistance integrating them, or you may be starting from scratch. Either way, our services’ teams are ready to help. We’re experts in every stage of the unified communications solution lifecycle, and we’ll leverage that expertise to help you find the perfect starting point; identify the correct solution to achieve your desired business results; and deploy, manage, and support that solution if needed.

Complete unified communications lifecycle solutions and services from Avaya and HP help deliver faster time to ROI, lower cost of ownership and superior risk mitigation.

For more detailed information on how to close the Value Gap and available support services from HP and Avaya, download the full article titled “Resources for a Successful Unified Communications Deployment” at Redmondmag.com/showcase/avaya/3.

About Avaya
Avaya delivers Intelligent Communications solutions that help companies transform their businesses to achieve marketplace advantage. More than 1 million businesses worldwide, including more than 90 percent of the FORTUNE 500®, use Avaya solutions for IP Telephony, Unified Communications, Contact Centers and Communications Enabled Business Processes. Avaya Global Services provides comprehensive service and support for companies, small to large. For more information about Avaya visit www.avaya.com.

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For the full Avaya article, go to Redmondmag.com/showcase/avaya/3
IO for IT

Infrastructure Optimization is Microsoft’s shot at an IT maturity model. It may not be a panacea, but it can help streamline IT operations.

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Check out our selections of products we believe you just can’t live without.

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Google’s Secret Weapon
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Microsoft and Oracle: Virtual Opposites

One can never tell if Oracle is trying to take the road less traveled or if it’s just trying to keep it simple. Witness the company throwing its support behind Xen’s hypervisor technology. What, no VMware support? By its own admission, the company said it “will only provide support for issues that either are known to occur on the native OS without virtualization, or can be demonstrated not to be as a result of running VMware.”

Microsoft, on the other hand, says support for VMware’s technology will be there if VMware, along with other virtualization heavy hitters, subjects its stuff to validation testing. Read Redmond Developer News Industry Editor Barbara Darrow’s full analysis. FindIT code: MSOracle

2007 Microsoft Partner Survey Online

Our sister publication, Redmond Channel Partner, now has its 2007 Microsoft Partner Survey available online. Even if you’re not a partner, knowing how the partner community is feeling overall about Microsoft’s current project line, competitors and upcoming strategy can give you insight into the market and where it may be going. Read it online now. FindIT code: 2007RCPS

Questions with ... Keith Ward

Is 2008 the year of virtualization? Keith Ward, editor of our upcoming Virtualization Review magazine, thinks so. Here’s what he had to say: FindIT code: VirtReview

Why is virtualization getting lots of traction lately?
Well, the availability of blade servers, multi-core servers, reasonably priced RAM and gigabyte storage for pennies has really driven the recent explosion.

Where do you see virtualization having the most impact in the short term?
Consolidation will continue to be the top reason to do it—it’s easy to understand and easy to see the ROI, which means management can be more easily persuaded to shell out the bucks for it.

What chance will Microsoft have to dominate this market?
Windows 2008’s Hyper-V might have some impact, but at this stage, Microsoft is simply another player and VMware is like NFL QB Tom Brady, getting all the glory.

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A new way to think smart

ESET
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Learning to Love IO

I first heard about IO on a trip some months back to Microsoft. They weren’t talking about I/O as in input/output. No, they were talking about infrastructure optimization (IO).

This IT model is how Microsoft now positions, sells and develops products. I reckoned I’d better learn what this thing was all about.

Coming to grips with IO was a long process. I read several hundred pages worth of white papers, case studies, briefs and press releases. That was a mistake, for as I tried to absorb the whole model—there are actually three of them—and all its implications and product ties, I scratched my head so much my co-workers got me a flea collar.

Here’s the short version of what I’ve learned. IO is an IT maturity model that first focuses on efficiency and driving down costs. As you move up the ladder the focus turns to technology that helps companies do new things, launching products and responding quickly to changing markets.

The first model is Core Infrastructure, meaning your basic server and PC architectures. Then comes Business Productivity Infrastructure and finally Application Platform Infrastructure.

Each model works the same way. IT goes through an elaborate questionnaire that leads to a set of goals for the shop. In the last part, Microsoft maps your business goals to products—yes, in most cases, Microsoft products.

When I first looked at IO I fixated on the product mapping and decided the model was just a way to sell more Microsoft products. I was biased against IO from the start. The first IT pros I spoke with bashed IO for the same reason—they just didn’t trust it.

I kept going, talking to more customers, analysts, partners and a few rather persuasive Microsoft execs. IO is a way to sell more Microsoft products, and the company is not ashamed of pitching its products to fit IT goals established by IO. Once IT has those goals, it’s free to seek out any product or vendor it cares to. I also found that in the first two stages of IO, the questionnaires and goal setting are almost entirely vendor neutral.

It took a lot of reading and talking and looking at other models, but now I’m convinced that IO is a good thing—a very good thing. But good isn’t perfect. Let me play analyst for a moment and humbly—and when have you ever seen me humble?—suggest some changes.

IO needs:

• An “IO for Dummies”-style introduction: A document that lays the model out so the basics can be understood in about five minutes.

• More work with third parties: When it comes to product mapping, I’d like to see as many third parties as possible represented.

• An upfront discussion of competitive technologies and multi-vendor shops.

• Better do-it-yourself tools for IT, such as a self-service portal so IT can do their own IO analysis.

• Microsoft really should work with IBM, which has been an expert in infrastructure optimization for years.

Give me your take on IO by writing to dbarney@redmondmag.com.
Introducing the revolutionary enterprise architecture that finally pays you back.

Legacy systems work fine for brute-force cooling the entire room, but skyrocketing energy costs make them fiscally irresponsible and their fundamentally oversized design makes them incapable of meeting today’s high-density challenges. Even worse, power and cooling waste may actually prevent you from purchasing much-needed new IT equipment. Simple problem, simple solution. Cut your power and cooling costs and use the savings to buy the IT equipment you need.

Gartner Research predicts that by 2008, 50% of today’s data centers will have insufficient power and cooling capacity to meet the demands of high-density equipment. Power and/or cooling issues are now the single largest problem facing data center managers.

There’s only so much power and money to go around
Your service panel limits the amount of power available. Your budget limits the amount of money. You have to stretch every bit of both as far as you can. What you need is the APC Efficient Enterprise™.

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Our system reimburses you
Whether you’re building a new data center or analyzing the efficiency of existing systems, your first step is knowing where you stand. Take the online Enterprise Efficiency Audit to see how you can reap the benefits of a smart, integrated, efficient system: more power, more control, more profits.
Where's Apple's x64?
The November 2007 feature article, “Unix: The 64-Bit Gold Standard,” includes a sidebar titled, “When Will 64-Bit Computing Arrive at the Desktop?” The answer is Oct. 26, 2007. That’s when the latest version of Mac OS X (Leopard) was released. Note that the Mac OS X is a certified, true Unix (see http://tinyurl.com/2zb58p). Or, check out http://tinyurl.com/25mzyl for a marketing-oriented summary. I found it strange that neither the article nor the sidebar mentioned Apple’s new OS.

James Vogas
Houston, Texas

Playing Monopoly
From the point of view of someone who wants Microsoft to make money by selling good products (i.e. Microsoft shareholders), what’s it doing makes no sense [in regard to the November 2007 Foley on Microsoft column, “Is Microsoft Spreading Itself Too Thin?”].

Microsoft, however, has never competed on merit in its core markets. Instead, it has competed by leveraging its monopoly, and using any means necessary to destroy potential competitors.

Company leaders must realize that the PC operating system market is no longer as relevant as it once was, and that it will become more irrelevant as time goes on. They’re scared by Google especially, the founders of which have built a company rivaling Microsoft on top of Redmond’s own operating system. Because they realize that Google is, in essence, the next Microsoft—just as Microsoft picked up where IBM left off—they’re trying their darndest to start up in any new field they can, not with the intent of making money but trying to create a new monopoly.

The problem is, Microsoft isn’t so good at competing on merit. Hence, the billions of dollars it continues to throw into sinkholes.

Jared Spurbeck
Georgia

Work in Progress
I may be in the minority, but I really like Windows Vista [in regard to the Nov. 15, 2007, Redmond Report e-mail newsletter, “Vista: A Dud or Just a Slow Achiever?”]. After a very short learning curve it has been quite enjoyable to work with. I would admit that sometimes I have to look something up that’s handled differently, but give Microsoft a break—this is a new operating system. I’m equally pleased with the look and feel of Office 2007. Yes, there’s much I have yet to learn, and, no, I’m not the expert with Vista that I am with XP, but that’s often how progress works.

Name Withheld By Request
Oklahoma

Sloppy Programming
I thoroughly enjoy Doug Barney’s editorial each month, and have come to look forward to each new issue. In the October 2007 issue, he wrote about his annoyances with computers [Barney’s Rubble, “Stop Bugging Me”]. To that, I say: “Hooah!” His comment about IE’s lack of printing finesse has been shared with many friends in an effort to convince them it’s time to move to Firefox. For me personally, one of my biggest gripes is the Uninstall that doesn’t fully uninstall. I’m sure others have encountered it: You remove the program only to find the folder and its contents are still in Program Files, or the Start Menu or—better yet—the Registry.

It seems that programming has gotten extremely sloppy over the years as a computer’s capacity increases. A direct ratio? Hmmm, dunno. But back in the “old days,” one would have to watch out for every single bit of data, as space was a precious commodity. Nowadays, instead of fixing bugs by removing the bad code, some are just being lazy and adding a “fix” after the bug, etc. Just like uninstalling a program: Leaving remnants doesn’t make much of a difference, right? Um, lemme think ... No. Thanks for the chance to vent.

Kristin Holiman
Mountain Home, Ark.

“[Microsoft] has competed by leveraging its monopoly, and using any means necessary to destroy potential competitors.”

Send your rants and raves to Letters@redmondmag.com. Please include your first and last name, city and state. If we use it, you’ll be entered into a drawing for a Redmond t-shirt!
Anyone who has given birth to an Exchange network knows it can get sick and needs some nursing to stay healthy. In fact, 72% of Exchange Administrators surveyed* have “experienced” an Exchange disaster (feels like the flu)—usually from improper feeding and care.

Like many databases, constant adding and deleting can corrupt an Exchange data file so it eventually turns sour. Replicating, archiving and backing up the data doesn’t stop the stink—it just stores it. You've got to...

Fix the Problem
You may have tried the free utilities to fix Exchange. While they help, they are too tedious, time consuming and lightweight to keep your Exchange baby healthy. You’ve tried the milk, now try some meat!

Pamper Yourself with GOexchange
It’s time to try GOexchange, from Lucid8, the #1 best-selling automated disaster prevention and optimization software for Microsoft Exchange 5.5, 2000, 2003 and 2007. As the mother of all Exchange tools, GOexchange helps prevent disasters, repair problems, improves performance, and saves you a lot of time.

Prevent Hiccups
GOexchange removes errors, warnings and inconsistencies within the database—before major corruption makes the database fail.

“GOexchange corrected 2,264 errors and 26 warnings.”
Paul Ramos, Director IT

Run, Don’t Crawl
In addition to fixing the database, GOexchange removes sluggishness and improves performance by re-indexing and defragmenting the database to permanently remove white space and deleted items. The end result is increased performance and stability with a compact efficient database that’s 31 to 55% smaller! Combine this with archiving and the database is up to 91% smaller—making it much quicker to backup.

“...our information stores were reduced by 45-50%.”
Dale Huitt, Systems Lead

Automated Babysitter
First, GOexchange is easy to setup and use. Twenty minutes—that’s all it takes to get your server up and running. Just schedule it, and walk away!

The software notifies the users, validates the database, runs the backup, conducts a comprehensive system analysis and diagnostics, logs the errors, and notifies you if it discovers a “stop” error—then it repairs and defragments the database, generates a thorough report and schedules the next event.

You can do some of this work yourself, but why waste time doing repetitive maintenance, when GOexchange can do it for you—faster and more effectively than doing it by hand.

Without routine maintenance, decreasing performance, increased warnings and errors accumulate and database fragmentation transpires, leading to Exchange disasters.”

Gartner

Life before GOexchange...was an absolute nightmare, late nights, long weekends and upset users.”
Marty Grogan, CTO

Stop The Crying
Why not call now, or visit our resource site and learn how to reduce the risk, and avoid the pain. Protect your exchange data, maximize performance, and spend a weekend at home—instead of babysitting Exchange.
Introducing Sunbelt Exchange Archiver. Sunbelt Exchange Archiver (SEA) is a robust new product which delivers real enterprise-class email archiving, at a price that won’t break your budget. Get comprehensive legal and regulatory compliance. Reduce your Exchange storage by up to 80%. Securely store emails on your choice of media, using the built-in Hierarchical Storage Management. And, find archived emails rapidly with full-text search for e-discovery or compliance.

Compliance, e-Discovery, and legal readiness. If you need to archive emails for regulatory or legal reasons, SEA has you fully covered. Emails are stored in their original form, in whatever secure media you prefer, with complete flexibility on retention. Need to find an archived email? Simply use SEA’s powerful integrated full-text search of emails and attachments, and you’ll be ready at a moment’s notice for e-discovery or legal requests.

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Up to 80% smaller message store. With SEA, you’ll dramatically reduce your Exchange storage. The benefits are clear: faster backup times, better Exchange performance, and faster recovery.

Journaling not required. It’s a fact that using the Exchange Journaling mailbox for archiving dramatically affects server performance. With SEA, Journaling is an option – the program’s breakthrough Direct Archiving feature stores all emails immediately after they are received, keeping load off the Exchange server.

No more PST headaches! SEA gets rid of pesky PST files that are a major admin headache. SEA automatically finds them, imports them, and makes them part of your user’s archive.

Great for disaster recovery. No matter where you email is stored, business continuity is assured with SEA. Using the included web client, users can continue to see and use their email even if Exchange is down.

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Vista’s Success Is Inevitable

Despite slow acceptance, some say it’s still too soon to write off the new Windows operating system as a failure.

By Ed Scannell

As the one-year anniversary of Windows Vista approaches, more than a few industry analysts and pundits are ready to write the beleaguered operating system off as a crashing disappointment. Some have even wondered if Vista is on the same path as that of Windows/ME, widely considered to be one of Microsoft’s rare failures in the operating systems business.

These observers, who assume Vista will fail given its current course, have proposed a wide range of solutions Microsoft might pursue in order to save face. They range from the very simple to the impossibly complex: lowering all upgrade pricing to $99 or dumping the thing entirely in favor of creating a whole new OS.

Back in the real world there’s mounting evidence that Vista’s shorter-term success is hardly guaranteed. In a fairly recent study conducted by Kace Systems Management among 961 IT professionals and users, some 90 percent of the respondents reported they have concerns about migrating to Vista.

Uphill Battle

In response to one question about trying to avoid unwanted complexity in their heterogeneous environments, 44 percent of Windows users said they’d seriously consider going to alternative OSes—most notably the Mac OS and Linux—just to avoid migrating to Vista. In the same survey some 53 percent said they have no plans to deploy Vista at all, with only 13 percent expecting they’ll eventually be fully deployed on Vista.

Adding to the less-than-rosy outlook is that no one seems to be overly excited about the impact the first service pack for Vista will have.

While Microsoft officials would no more call Vista a major disappointment than the Red Sox would call Alex Rodriguez a franchise savior, they’ve made a few moves that indicate Vista’s acceptance so far has been much slower than anticipated—certainly among corporate accounts. For one, Redmond extended the cutoff date for when PC manufacturers had to stop bundling Windows XP with their systems in favor of Vista from year-end 2007 to mid-2008.

Potential for Success

Still, there are reasons to believe Microsoft officials when they say Vista will yet become their most successful operating system to date. First is that, despite taking more than five years to deliver Vista (minus a number of promised fundamental features), precious few IT shops have followed through on threats to migrate off Windows to Linux or the Mac. Despite all of Microsoft’s travails with Vista, Apple’s share of the desktop market has zoomed all the way from around 3 percent to 4 percent in the past year, and could rocket all the way to 5 percent in 2008. Linux desktop share still hasn’t budged past 2 percent.

“There’s some hesitancy to move to [Vista], no question. But we’ve predicted all along that Vista would get off to a pretty slow start among corporate users in the first year and that, in fact, is what’s happening. But I wouldn’t write it off as dead yet,” says Al Gillen, research VP of system software with IDC.

IDC’s collected data on the intentions of users in large IT shops to deploy Vista shows that almost half say they’re either currently testing or are planning to evaluate Vista.

“The plans [for deployment] are there, but the actual adoption and deployment isn’t happening quickly,” Gillen says.

However, Gillen adds that he was expecting about 90 million paid copies of Vista to be installed by the end of 2007, with 55 million going to consumers and 35 million to business users. He’s projecting another 154 million paid copies to be sold by the end of 2008, with 66 million going to consumers and 88 million to businesses. This would bring the total to 245 million copies of Vista sold in the first 23 months of availability, representing approximately 35 percent of the total Windows installed base.

Another factor that figures to significantly boost Vista’s installed numbers—one often overlooked by Vista critics—is that industry observers expect Microsoft to extend support of Windows XP in the first half of 2009. Many large IT shops with thousands of copies of Windows XP on desktop systems will—like it or not—have to begin the staged process of replacing this software in late 2008 if they hope to avoid a chaotic transition. With many of these large shops having already paid for hundreds and even thousands of copies of Vista through their respective licensing plans, Vista’s financial success is an inevitability.

Ed Scannell (escannell@1105media.com) is editor of Redmond.
Getting Manageable
Microsoft delivers a better, more administrator-friendly firewall with Windows Server 2008.

By Greg Shields

This is the fourth installment of a five-part series by contributing editor Greg Shields, which has been taking a hard look at Microsoft’s upcoming Windows Server 2008 operating system, also commonly known as “Longhorn.” The series has been evaluating the product’s new technical features in order to weigh their usefulness to IT admins, as well as how it might affect a range of other core Microsoft server and desktop products. This month takes a look at the advantages of Longhorn’s updated firewall technology.—Ed.

There’s a lot to be excited about with the Windows Firewall with Advanced Security in Windows Server 2008. While much of the technology’s core functionality is actually part of the Windows Vista release, Server 2008 adds some much-needed new features that improve its centralized management. Specifically, Server 2008’s upgrades to Group Policy add new skins and more wizards that make the process of configuring host firewalls all around your network easier.

Not Exactly New

Let’s take a look at what’s not exactly new. Server 2008’s firewall includes all of Vista’s functionality for enhancing a system’s security posture, but now it has the same for servers in the data center.

First up is the addition of outbound filtering to the types of traffic the firewall can manage. This additional capability allows for the management of traffic both in and out of the firewall. It’s designed to help prevent the local computer from connecting to others over particular ports or protocols. If you’re concerned about a particular application or service communicating with other computers, such as BitTorrent or peer-to-peer file-sharing apps, outbound filtering lets you specifically prevent that traffic from exiting your servers.

Another feature Server 2008 shares with Windows Vista is the addition of a third firewall profile. Windows XP provided only two firewall profiles: the Domain profile when connected to an Active Directory domain, and the Standard profile when not. Vista and Server 2008 rename one of the profiles, while adding a third one to the mix. The Domain profile stays the same, while the Standard profile is renamed to the Public profile.

The Private profile is new. This profile is intended to provide a configuration for situations that aren’t within the protected domain and yet aren’t fully unprotected, either. If you think of the Public profile as for unprotected “coffee shop” environments, think of the Private profile for semi-protected environments like in partner company networks or home networks.

Because most servers rarely move between network environments, these new profiles will likely be of limited use. However, their configuration is the same between Vista and Server 2008. So setting up the firewall for the desktops can also protect servers at the same time.

Great Group Policy

Where all of this truly shines is in Server 2008’s new configuration screens for Group Policy. With earlier operating systems, the Group Policy configurations for configuring the Windows Firewall were difficult to understand and use. Configured as Administrative Templates, individual program and port exceptions were entered into the Group Policy Object by hand using a complicated syntax that could easily cause errors. Due to this steep learning curve, many admins elected to simply disable the firewall rather than learn its complexities.

Server 2008 streamlines the learning curve by moving the firewall’s Group Policy configuration out of Administrative Tasks and into Security Settings. There, under its own node, Firewall settings are configured through a convenient graphical interface. Each of the three profiles, as well as connection security rules and firewall rules, get their own wizard. When creating new inbound or outbound rules, the wizard also includes a set of predefined rules that quickly secure common needs like File and Printer Sharing or Remote Administration.

Special Configurations

Combining Windows Vista with Server 2008 also improves the configuration and management of server and domain isolation environments. These special configurations are designed to help protect the insides of a business network from infiltration by outside computers. They can also be used to add network rules that further protect data within highly sensitive computers from access by unauthorized personnel.

[This article is based on pre-release information, which may change prior to the full release—Ed.]

The Green’s the Reason to Go Green
‘Green’ data centers are budget- and earth-friendly, study finds.

While almost 75 percent of data center managers say they have an interest in adopting a strategic green center initiative, only one in seven have successfully done so, according to a study released by Symantec Corp.

It seems that what’s driving the few green deployments has less to do with saving the environment than with cost savings, the ever-present business pressure to maintain performance and the need to meet aggressive service-level agreements. In other words, it’s the other green that’s inspiring them.

“Data center managers are running out of space and energy costs are skyrocketing, so they’re motivated to ‘green’ the data center for cost reduction and efficiency purposes,” says Mark Bergman, executive VP and CTO at Symantec.

“For them, it’s beyond environmental concerns—it’s about meeting business goals and reducing costs,” he says. But it’s not all about hard, cold cash. Many respondents made it clear that saving energy is an important consideration but must be carefully balanced by business needs. They noted that the growing emphasis on gaining greater energy efficiencies has added another layer of complexity to managing data centers.

So, as a way to better manage and reduce costs, the study clearly indicates that most data center professionals are turning to software-oriented solutions. Most of these software solutions are designed to manage server consolidations and virtualized environments as part of implementing a green initiative. Of the respondents, 51 percent and 47 percent said they plan to consolidate and virtualize servers, respectively. In fact, 68 percent said reducing energy played a role in their decision to implement virtualization and server consolidation.

However, survey results show that hardware is still an important consideration in green initiatives. Energy efficient CPUs were the second most popular technology for data center power reduction, with some 28 percent of respondents choosing them as one of the two technologies that can best reduce power consumption.

In the context of the Symantec study, a green data center is defined as one that has increased efficiencies in energy use, power consumption and space utilization, and measurably reduced polluting energy sources.

—Ed Scannell

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Applications on Demand
Once you have everything set up, Application Virtualization works reasonably well. On the server, you create an envelope and install an application into that envelope. It’s then available through System Center, so you can provide that application to a user when required. Application Virtualization creates a virtual Registry for each application. It also handles the input and output requests applications make to files in specific directories by redirecting the requests. Apps redirect those communication requests to other components and apps through services like COM/DCOM or IPC methods like named pipes, just as they would if they were physically installed on the machine.

I’ve used similar technologies from Altiris and Thinstall/LANDesk, and the Microsoft approach has a very different usage case in mind. Altiris distributes a free personal version and targets personal use as a way to get into the enterprise. Microsoft, on the other hand, is strictly going after the enterprise IT operation and aims to ease application management.

From an admin’s perspective, the concept may prove hard to resist. You provide each desktop and notebook PC with a lowest common denominator image. You don’t install any user-specific applications. Instead, users will request specific apps. You’ll then check on licenses and authorization before granting such requests.

Microsoft has also set up a way to stream apps “on demand,” so your users can select a link on the desktop and have the app download and run. This only takes a few seconds longer than it would if it were installed locally. When the user is done with it, it goes away without a potentially messy un-install process.

To get the apps from the server to a desktop, laptop or terminal server, Microsoft uses a streaming protocol for just-in-time delivery. Depending on the application, it requires perhaps 5 percent to 40 percent of the download time in order to launch the application. It will then deliver additional components when the application requests them.

Microsoft Application Virtualization requires Windows XP or Windows Vista operating systems in at least their minimum configuration settings.

Microsoft has a winning technology here, despite the fact that it abstracts the application away from the underlying Windows OS. The ability to shield the OS from changes brought on by individual applications will go a long way toward getting rid of application errors and incompatibilities.
_INFRASTRUCTURE LOG

_DAY 89: Our power and cooling costs are out of control. We spend the bulk of our IT budget just keeping the data center cool. I told Gil we need to go green in a big way.

_DAY 91: Gil took us green...kelly green, to be exact.

_DAY 93: You don't go green with paint. You go green with IBM Cool Blue™ technology and energy management services. Advanced server and storage virtualization can help consolidate our boxes to lower energy usage. And the new IBM POWER6™ systems help us use less energy doing the same amount of work.

Our data center will be green now. And painted white.

Learn how to make your data center more efficient:
IBM.COM/TAKEBACKCONTROL/GREEN

1. Requires Advanced Power Virtualization, which is optional and available at an additional charge. IBM, the IBM logo, Cool Blue, POWER6 and Take Back Control are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. ©2007 IBM Corporation. All Rights reserved.
“Citrix is slow today!” Have you ever heard that complaint before? You probably have if you’re a Citrix administrator. Citrix often gets the blame in many environments, but often the real problem lies elsewhere.

Other components, like an overloaded server processor or network connection, are sometimes the culprit. How do you tell the user that the problem lies on their end? Without the right monitoring tools and reports to back it up, you can’t.

You can with the Citrix EdgeSight client-side monitoring tool. When Citrix Systems Inc. acquired Reflectent Software, it added edge-of-the-network client monitoring software to its product suite. The two offerings, Citrix EdgeSight for Presentation Server and Citrix EdgeSight for Endpoints, give you a performance and availability-monitoring solution that can see all the way down to your user’s client.

Citrix EdgeSight monitors performance across all applications delivered by the Citrix Presentation Server. You can monitor user activity independent of connection method, device and network in real time. You can generate detailed historical reports from a central data repository, as well. This end-point monitoring gives you the vision into client performance you’ve been craving.

Now You Know

The EdgeSight architecture is made up of several components: The EdgeSight Server itself, a Web server, database server, license server and reporting server. It uses two agents, one for Presentation Server and another for the client end-point.

There are several key monitoring capabilities that separate it from the competition, including its ability to drill down into user session data and provide real-time monitoring and alerts on client and server-side performance, application usage and network connections. Along with other Citrix-specific metrics, this data can help you track down the real cause of connection problems.

Summary reports are one of EdgeSight’s more exciting features. There are several helpful summary reports available right out of the box, and you can create custom reports using SQL Reporting Services in conjunction with Visual Studio .NET.
_INFRASTRUCTURE LOG

_DAY 69: All we need is one specific piece of info. Gil almost had it, but his hand cramped. How are we supposed to find trusted business information when these massive volumes of conflicting info keep pouring in?

_Gil just grabbed a stuffed panda.

_DAY 71: The answer: IBM solutions for leveraging information. Now we can cleanse info and standardize source data fields for consistency and accuracy. I can create a single, accurate and unified record of info across our source systems. Everyone can make better decisions.

_Just in time—I think we ran out of quarters.
Integrated with the Microsoft Reporting System, the EdgeSight reporting interface is easy to use. Simply choose the type of report that represents the problem or its associated real-time alert. What stands out here is that you don’t need to choose the exact report if you’re uncertain. All reports are hyper-linked with interactive content that lets you drill down to more specific information and reports. Choose a single date or date range and EdgeSight will generate a report summary page.

This reporting information is critical for identifying and resolving problems with user slowdowns and reduced user experience. For example, on the Device Summary report, there are four graphs that display CPU and memory usage by device or group, longest delay per day, reboots by day and error, hangs and faults by day. Being able to drill down through these reports helps you narrow down the data and get to the issue causing the bad user experience.

**Real-Time Alerts**

Depending on the type of problem, a real-time alert may be the preferred approach to troubleshooting. From applications with memory leaks to processes that are hung or running out of control, real-time alerts notify you about mission-critical events that need your attention as problems occur.

There are two types of alerts: event-driven and polled. When a system event happens, event-driven alerts notify designated personnel that a pre-configured event has occurred. Polled alerts are based on regular queries of the Agent database. Event-driven alerts include application errors, new processes or hung processes. Polled alerts can show high application-resource usage, system-disk bottlenecks or device reboots.

Application Usage is another feature that makes EdgeSight well worth the price. You can use this to report on actual application usage on the server and at the client. This report shows the amount of time an application or process was running and actively being used.

You can also expand the report to find process name, file name and the version of the file being accessed. The file vendor, the running time and the number of devices that are using it are displayed further down. This information helps you make more informed purchase decisions for application licenses. Being able to harvest unused licenses is worth the price of admission.

**Knowing Is Half the Battle**

Having all this information isn’t all that useful unless you can easily share and act on it, so Citrix EdgeSight gives you the flexibility to delegate tasks. You can set up users, groups and roles in the EdgeSight Server console, and assign those contacts for report and alert administration.

The agents are easy to install, non-intrusive and send a plethora of information to the database for building detailed reports. The agents collect information at regular intervals and store the data locally, until it’s time for them to upload the data to the central database.

As EdgeSight is part of the Citrix suite of products, you can break out the components onto different hardware or keep them together. You could move some of the more robust features, like Reporting Services, to separate hardware to increase performance.

Speaking of hardware, the hardware requirements for EdgeSight are fairly standard. For the Web server, you’ll need a dual processor server with 512MB of memory. The database server is a bit hungrier, requiring a dual processor and 1GB of memory, although 2GB is recommended.

**Sore Spots**

The product is impressive, but not without a few minor sore spots. Licensing is not a part of the centralized console used for Citrix’s other products, and you’ll have to install the licensing console on the EdgeSight server itself. Another potentially huge requirement is that the Web server certificate must be issued from a commercial Certificate Authority. Microsoft Certificates need not apply.

Also, there are a number of prerequisites you must fulfill prior to installing the software. Don’t take the installation guide and readme files lightly. Taking the time in the beginning will save lots of time and canceled installations.

Citrix EdgeSight for Presentation Server and EdgeSight for Endpoints are much-needed performance and availability management solutions for your Citrix environment all the way down to your Citrix clients. If you’re tired of those “Citrix is slow today” complaints, consider adding this powerful monitoring tool to your management quiver.

Greg Shields (gshiels@redmondmag.com), MCSE: Security, CCEA, is a contributing editor to Redmond and a popular speaker at TechMentor events. He’s also the resident editor for Realtime Publishers’ Windows Server Community, www.realtime-server.com, providing daily commentary and expert advice for readers. Brian Casselman is a principal consultant for 3t Systems (www.3tsystems.com) in Denver, Colo., where he leads a consulting team that specializes in secure remote-access architecture and deployment utilizing Microsoft and Citrix technologies.
_INFRASTRUCTURE LOG

_DAY 62: Everyone’s completely overwhelmed by their desktops. People keep flipping between browser windows. The in-boxes are overflowing. So many applications. All the user interfaces are different. How is anyone supposed to collaborate when they’re flooded with all this stuff? This is so frustrating. We need to get our heads above water.

_Gil has grown gills just so he can stay on e-mail longer. Help.
PowerPoint 2007 Wins Fans
SmartArt and other new features clinch its spot as the must-have presentation tool.

By Joanne Cummings

PowerPoint certainly wins the popularity contest out of all the new Office 2007 applications. Of the four that readers have recently reviewed (Word, Excel and Outlook, for those stories, see the October, November and December 2007 issues of Redmond), PowerPoint 2007 earns the lion’s share of praise.

While much of the criticism of Word and Excel 2007 centered on the ribbon interface, readers say the new interface in PowerPoint 2007 is easy to decipher and actually makes building presentations far more straightforward than in 2003.

“I love the ribbon in PowerPoint 2007,” says Susan Hanley, an independent consultant based in Bethesda, Md. “For me, it’s more intuitive than with the other Office 2007 products. I found features right away, whereas with Word and Excel it took me a little bit longer.”

Hanley cautions, however, that she’s more of an expert in Word and Excel than she is in PowerPoint. “I think power users tend to have trouble with the ribbon,” she says. “Because I wasn’t very good at PowerPoint before, now I feel like I’m much better at it because the ribbon makes things so much easier to find.” This echoes other readers’ sentiments regarding the ribbon interface being easier for beginners to grasp.

Steve Hohman, director of IT at Lightning Technology Group Inc. in Oldsmar, Fla., agrees. “I haven’t come across anything that was easier in 2003 than in 2007,” he says. “In most cases, I’ve found 2007 more intuitive.”

SmartArt Seals the Deal

The main reason most readers give for upgrading to PowerPoint 2007 is SmartArt, which is PowerPoint’s new designer-quality graphics tool with built-in professional-looking layouts, templates, themes and color palettes.

“The ideal PowerPoint is minimal words. It’s finding a concept to keep the audience’s attention instead of having them read the slides,” Hohman says. “PowerPoint 2007 really does a great job because it makes building those images and concepts a lot easier, and it looks better, too.”

Hohman says there’s more variety to the templates that come with PowerPoint 2007 and they’re easy to customize. For example, users can base a typical organizational chart on a hierarchy, matrix, an open format or a completely customized look.

“I just put in my concepts and adjust my bullet levels,” Hohman says. “So if my primary concept is backups, and my next three bullet levels are daily, weekly and monthly, that’s how I structure it—just like if I were doing an outline in Word. That automatically translates over to my SmartArt.”

Users no longer have to retype bullet lists or fuss with layout changes. “It’s actually faster than in 2003, even though it has all these new features,” Hohman says. “In 2003, you might have said this graphic template has five sub-concepts, but I only need four. So you would cut out the extra one and rearrange everything. In 2007, all you do is remove a bullet in the list. It removes the extra one and reorganizes it automatically. It’s a lot easier.”

Hanley says PowerPoint is on par with Microsoft’s Visio diagramming tool, but its results are more visually appealing. “You can do the same kind of thing in Visio, but it’s boring and two-dimensional,” she says. “In PowerPoint 2007, there are pre-defined color codes and themes. You can easily make it three-dimensional, beveled, gradient-shaded or whatever.”

Preview the Point

PowerPoint 2007, like the other tools in the Office 2007 suite, also lets users preview changes before making them. Because of all the design choices available in PowerPoint 2007, readers say the new preview feature is essential.

“The preview feature is important because before you commit to a style, it shows you exactly what it will look like,” Hanley says. “You hover over it, see what it’s going to look like and...”
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then you click to commit. That’s a huge advantage.”

Another key new feature in PowerPoint 2007 is the presenter view. Using two monitors, presenters can now run their PowerPoint presentation from one monitor (on a laptop at a podium, for example) while the audience views it on the second monitor. “I used to have to print out my notes and flip pages while I used the clicker to step through the presentation,” Hanley says. “So this is a cool feature, especially for someone like me who doesn’t tend to write a lot of words on their PowerPoint.”

Hanley prefers to use PowerPoint slides to provide an image for people to view or a visual reminder of what she’s trying to convey. “I want people to have something interesting to look at, but I don’t want them to be reading slides because it’s incredibly boring,” she says. “And I don’t want to read what the slides say, because that’s even more boring.”

By keeping her script separate, she can ensure that she stays on message and keeps the actual slide presentation crisp and clear. “I can see what I want to say on my screen, which I have to look at to click anyway, as opposed to shuffling through paper notes, which seems ridiculous.”

Secure Sharing
PowerPoint 2007 also has several new features that make sharing presentations easier and more secure, including the new Document Inspector feature, the ability to save as a PDF and improved integration with SharePoint.

When he finished a presentation in PowerPoint 2007, Hohman says it prompted him to run the Document Inspector wizard. The new Document Inspector checks presentations for hidden data, personal information and other sensitive content stored within the presentation. It also checks comments, document properties, off-slide content and presentation notes.

“It pulled out my name and some other information,” Hohman says. “It’s a neat feature. It’s kind of a check and balance to make sure that you don’t send all your info across the planet.”

Hanley says that she actually had used a third-party tool to handle similar inspection and removal functions in 2003, something she won’t need with 2007. She also likes the ability to save a presentation in PDF format. This feature is common to all Office 2007 apps with a free download from Microsoft. “I often share PowerPoint presentations on my Web site, so I like the idea that I can save them easily as a PDF,” she says. “I had been using PDF converter software, but this saves me a step. It makes me feel like I’m protecting my own intellectual property, at least a little bit.”

Hohman agrees, noting that it’s especially useful since many of the people with whom he collaborates don’t have Office 2007. “I save almost any Office document now as a PDF.
because then I don’t care what versions [of Office] other people have,” he says. “They just need an Acrobat viewer, so it makes it easier.”

The only downside to PowerPoint 2007, say readers, is its lack of collaborative features. For example, editing tools like spell check have been revamped, but there’s still no good way to track changes when multiple people work on a single presentation. Your only choice is to insert comments in the presentation, which is a difficult way to track changes.

“The spell check is much better, and it’s more context-aware,” Hohman says. “If I needed to write the word ‘for’ but I typed ‘from,’ previously that would’ve been shown as a correct spelling. But in the new version, it’s actually flagged as a misusage of the word, along with some suggestions. It looks at the context of how you’re using the word and gives you the suggestions based on that.”

Hanley agrees, and also wishes that PowerPoint had a better way to track revisions.

“That’s the one thing I don’t like about PowerPoint in general,” she says. “It would be really nice if there was a track-changes feature like there is in Word, where you could highlight what you want to change and another person could see what you did. So 2007 is no easier when it comes to collaboration.”

Another caveat with 2007 is that users can easily get carried away with all the graphic possibilities to the detriment of their overall presentation.

“People think they have to use all features,” Hanley says. “When a tool is this easy to make changes, add colors and add graphics, you can tend to lose focus on the main point. You have to be careful about having too much of a good thing.”

**More Plus than Minus**

Overall, readers say PowerPoint 2007 is a must-have upgrade. “Upgrading to Office 2007 is a no-brainer,” Hanley says, noting that her key reasons are the revamped calendars in Outlook and PowerPoint’s SmartArt.

She particularly appreciates PowerPoint 2007 now that she’s an independent consultant. “My secretary used to do all of my PowerPoints. I’d tell her what I wanted to say and she’d turn it into something pretty,” she says. “I’m doing this by myself now. I can easily do things my secretary used to do, only faster.”

Joanne Cummings (jocummings@redmondmag.com) is a freelance technology journalist based in Massachusetts.
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Presented By

Redmond Media Group
### Agenda - At-a-Glance

#### Sunday, March 30, 2008: Pre-Conference Workshops

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<th>Time</th>
<th>Session</th>
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<td>9:00 a.m.</td>
<td>Windows PowerShell Speed-Start &amp; Scripting – Don Jones</td>
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<tr>
<td>9:00 a.m.</td>
<td>Introducing Windows Server 2008: What’s New/What’s Changed – Don Jones</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Windows Deployment Tools – Rhonda Layfield</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Domain and Rule your World Using Group Policy - The Basics – Derek Melber</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Your Network from the Wire Up - How It Works, How to Spot Problems – Don Jones</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Advanced Windows Server 2008: What’s New/What’s Changed – Greg Shields</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Windows 2008/Vista Security – Mark Minasi</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Domain and Rule your World Using Group Policy - Implementation – Derek Melber</td>
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#### Monday, March 31, 2008: Conference Day 1

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<td>Windows PowerShell &amp; Windows Automation</td>
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<tr>
<td>10:15 - 11:30 a.m.</td>
<td>Managing with Windows PowerShell – Don Jones</td>
</tr>
<tr>
<td>10:15 - 11:30 a.m.</td>
<td>Windows PowerShell Fundamentals – Don Jones</td>
</tr>
<tr>
<td>11:45 a.m. - 1:15 p.m.</td>
<td>Creating Killer Management Reports in Windows PowerShell – Don Jones</td>
</tr>
<tr>
<td>11:45 a.m. - 1:15 p.m.</td>
<td>Fundamentals of Failover &amp; Load Balancing Clusters – Bruce Mackenzie-Low</td>
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<tr>
<td>12:30 - 3:00 p.m.</td>
<td>Lunch</td>
</tr>
<tr>
<td>3:00 - 4:15 p.m.</td>
<td>Building a GUI in Windows PowerShell – Marco Shaw</td>
</tr>
<tr>
<td>3:00 - 4:15 p.m.</td>
<td>Active Directory Fundamentals – Bruce Mackenzie-Low</td>
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<tr>
<td>4:30 - 5:45 p.m.</td>
<td>Remote Systems Management the Power Shell v2 Way – Marco Shaw</td>
</tr>
<tr>
<td>4:30 - 5:45 p.m.</td>
<td>Active Directory: Group Policy Fundamentals – Derek Melber</td>
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<tr>
<td>5:30 - 7:30 p.m.</td>
<td>Exhibitor Reception</td>
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#### Tuesday, April 1, 2008: Conference Day 2

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<td>9:00 a.m.</td>
<td>Windows PowerShell &amp; Windows Automation</td>
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<tr>
<td>10:15 - 11:30 a.m.</td>
<td>Automating Windows PowerShell – Brandon Shell</td>
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<tr>
<td>10:15 - 11:30 a.m.</td>
<td>Terminal Services Fundamentals – Bruce Mackenzie-Low</td>
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<tr>
<td>11:45 a.m. - 1:15 p.m.</td>
<td>Creating Remote Systems Inventory and Management with Windows PowerShell and WMI – Jeff Hicks</td>
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<tr>
<td>11:45 a.m. - 1:15 p.m.</td>
<td>System Recovery: The Good, the Bad, the Lifesaving – Bruce Mackenzie-Low</td>
</tr>
<tr>
<td>12:30 - 3:00 p.m.</td>
<td>Lunch</td>
</tr>
<tr>
<td>2:00 - 4:15 p.m.</td>
<td>Automating Citrix Server Administration with Windows PowerShell – Brandon Shell</td>
</tr>
<tr>
<td>2:00 - 4:15 p.m.</td>
<td>IS 7.0 Fundamentals – Bruce Mackenzie-Low</td>
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<tr>
<td>3:00 - 5:45 p.m.</td>
<td>Automated Server Configuration, The Easy Way – Mark Minasi</td>
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<tr>
<td>3:00 - 5:45 p.m.</td>
<td>Learn to Subnet in your head in 60 Minutes – Todd Lammle</td>
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<tr>
<td>5:30 - 7:30 p.m.</td>
<td>Exhibitor Reception</td>
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#### Wednesday, April 2, 2008: Conference Day 3

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<td>9:00 a.m.</td>
<td>Windows PowerShell &amp; Windows Automation</td>
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<td>9:00 a.m.</td>
<td>Windows Server Backups: New Tricks for an Old Need – James Conrad</td>
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<tr>
<td>9:00 a.m.</td>
<td>Windows Deployment Tools – Rhonda Layfield</td>
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<tr>
<td>9:00 a.m.</td>
<td>Protecting and Securing your Group Policy Assets – Derek Melber</td>
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<tr>
<td>10:30 - 11:45 a.m.</td>
<td>Advanced String Parsing and Regular Expressions in Windows PowerShell – Don Jones</td>
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<tr>
<td>10:30 - 11:45 a.m.</td>
<td>Group Policy Preferences - Vista’s LUA Fix and Logon Script Eliminator – Derek Melber</td>
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<tr>
<td>12:00 - 1:30 p.m.</td>
<td>Automated Your Vista Installations – Rhonda Layfield</td>
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<tr>
<td>12:00 - 1:30 p.m.</td>
<td>Logon Scripting Fundamentals – Jeff Hicks</td>
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<tr>
<td>1:00 - 2:15 p.m.</td>
<td>Lunch</td>
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<tr>
<td>3:00 - 4:15 p.m.</td>
<td>Automating Exchange Server 2007 Management – Jeff Hicks</td>
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<td>3:00 - 4:15 p.m.</td>
<td>Kerberos Fundamentals: How Windows Logon Works – Don Jones</td>
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<tr>
<td>3:00 - 4:15 p.m.</td>
<td>Is7 Deep Dive: Protecting Against Spyware, Phishing, &amp; Bad Employees – Greg Shields</td>
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<tr>
<td>4:30 - 5:45 p.m.</td>
<td>Automating Performance Management and Collection – Greg Shields</td>
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<tr>
<td>4:30 - 5:45 p.m.</td>
<td>What’s New in Vista/Server 2008 Administration – Mark Minasi</td>
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<tr>
<td>4:30 - 5:45 p.m.</td>
<td>Top Tips for Exchange 2007 – J. Peter Bruzzone</td>
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<tr>
<td>4:30 - 5:45 p.m.</td>
<td>SharePoint Security – Rick Taylor</td>
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<tr>
<td>4:30 - 5:45 p.m.</td>
<td>Managing and Monitoring Windows and Active Directory Performance – Rhonda Layfield</td>
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#### Thursday, April 3, 2008: Post-Conference Workshops

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<td>Automating Active Directory Management with Windows PowerShell – Jeff Hicks</td>
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<tr>
<td>9:00 a.m.</td>
<td>Getting to Know Virtualization with VMware Virtual Infrastructure – Greg Shields</td>
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<tr>
<td>9:00 a.m.</td>
<td>Empowering the Mobile Workforce with Exchange 2007, Windows Mobile 6, and Windows SharePoint Services – Chris McCain</td>
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<tr>
<td>2:00 - 6:00 p.m.</td>
<td>Transitioning Exchange from 2000/2003 to 2007 – J. Peter Bruzzone</td>
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<tr>
<td>2:00 - 6:00 p.m.</td>
<td>Network Monitor: What’s on Your Wire – Rhonda Layfield</td>
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<tr>
<td>2:00 - 6:00 p.m.</td>
<td>Moving at Hyper-V Speed: The Microsoft Virtualization Strategy – Chris McCain</td>
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Agenda is subject to change. In the event of a cancellation, all efforts will be made to replace the session or speaker with one of comparable value.

www.TechMentorEvents.com
Infrastructure Optimization is Microsoft’s shot at an IT maturity model. It may not be a panacea, but it can help streamline IT operations.

By Doug Barney
For many, IT is a game of chasing and fixing problems. Run out of storage? Buy a new disk. Apps too big? Get more servers. The result is often too much hardware and software from too many vendors with too many configurations. Infrastructure optimization aims to alleviate those headaches.

For years, vendors like IBM Corp. and integrators like Electronic Data Systems Corp. have gone into large shops and holistically examined their IT systems. They would offer a plan to simplify, create efficiencies and make them more productive. In the last two or three years, Microsoft has also entered the game with its infrastructure optimization (IO) model, a system for analyzing the state of your shop, devising plans to make it more efficient and to better support business goals.

The IO model encompasses Core Infrastructure, Business Productivity Infrastructure and Applications Platform Infrastructure (which also covers application development). The most mature model is Core IO, which also looks at identity management, device (desktop and servers) management, security and networking, data protection, and IT and security processes.

IO isn’t just about technology meeting business goals. It’s also IT processes. Part of this is going back through concepts like Information Technology Infrastructure Library (ITIL). Microsoft embraces this idea through the Microsoft Operations Framework (MOF), which is part of the IO message. “It’s not that you get some product and magically you’re there. It’s a combination of people, processes and technology,” says Samm Distasio, director, worldwide IO strategy, enterprise priorities for Microsoft.

What Exactly Is IO?

Infrastructure optimization seeks to define the maturity of an IT organization. By mature, Microsoft means modern, advanced and effective. Microsoft isn’t the first to come up with this concept. In his report “Optimization Model Structures Sales Efforts,” Directions on Microsoft analyst Paul DeGroot describes how Carnegie-Mellon University devised such a model in 2002. Massachusetts Institute of Technology (MIT) has a four-stage maturity model of its own, and Gartner Inc. has embarked on a similar effort.

“The general concept of software maturity behind Microsoft’s version of IO is reasonably mature. I traced it back to work done at Carnegie-Mellon in the early ’90s or late ’80s (when it was called the Capacity Maturity Model), although Microsoft attributes IO to a different origin. Just shows that great minds were thinking alike around that time,” says DeGroot. He goes on to explain that the Carnegie-Mellon model focuses largely on the processes of planning and development while Microsoft emphasizes using software.

Microsoft didn’t develop its IO model in a vacuum, and fully credits its predecessors. Besides working with Gartner Inc. and MIT, Microsoft polled more than 10,000 customers to build the model. According to “Infrastructure Optimization at Microsoft,” the company’s white paper on the topic, “61 percent [of companies] are in a manual, reactive state of IT management and maintenance, and 36 percent have limited automation and minimal process and knowledge capture of the environment (still very reactive). Only 3 percent can be characterized as being driven by a well-managed, high-security infrastructure managed by a set of
policies and operations with a current state of technology deployment and implementation.”

IO is neither a product nor a panacea. “It’s only a model, and a very theoretical one at that,” says DeGroot. “An organization needs to build its own infrastructure model and then fill it with data, so coming up with a really optimum model that tracks the right inputs and collects the right data will probably take years and a lot of ongoing maintenance. Although I think it’s a useful concept for customers, I wouldn’t trust any particular vendor to nail it down.”

For some, it takes a while to get their arms around the IO concept. “Microsoft can so quickly overdo something that you lose sight of the useful principles behind it. It took me at least a year, including some fairly intensive research, to cut through it,” DeGroot says.

Others find the model clear and straightforward, even if it’s a tough sell initially.

“I’m skeptical of these theoretical models, but this [IO] was the first time I said to myself, “This is the way I think IT is doing their business today,” says Gunnar Thaden, CIO of TUV NORD Group.

The difference is the rigor and concreteness of the IO model—particularly the extensive questionnaires that form the basis of any IO analysis, Thaden says. “IT people are very fact based. [With IO] you had a lot of questions you had to answer very concretely,” he explains.

The Four Stages of IO

The four levels of IO are Basic, Standardized, Rationalized and Dynamic. A company moves up a level when they’ve installed and use the technologies that support the functions and business objectives the model calls for in each level.

Here’s how it works: Often working with a partner or a Microsoft rep, IT goes through an elaborate questionnaire. The answers help drive the goals. Microsoft then maps the objectives to its own products, and offers an array of choices to help reach those goals. In Security and Networking (part of the Core IO model), for example, there are five Microsoft products a Standardized company might use. There are nine for a Dynamic company.

Even if you don’t invite Microsoft or a partner in for an IO consultation, you still can tackle the fundamentals. Here’s an approach suggested by analyst firm IDC in a paper published by Microsoft:

“Minimize the number of configurations, such as locked down for temp workers and more open for top execs, and only create additional PC images when absolutely necessary. Related to this, IDC in general recommends locking down PCs so end users can’t make changes, and centralizing system updates and changes. Further, these PCs...”

—D.B.
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should be managed by a directory; in Microsoft’s case, let’s make that Active Directory, not just for authentication, but to also use Group Policy for desktop and software configurations."

IDC also advises reducing the use of directories from third-party app companies, and using one systems management tool. Microsoft naturally promotes its own tools, Systems Management Server and Microsoft Operations Manager—now System Center Operations Center 2007—as leading to higher levels of maturity.

The ROI of IO

There are two ways IO can produce a positive return on investment (ROI). One is the classic approach of saving money by building efficiency. In the Microsoft white paper, IDC claims that a PC costs $1,320 to support in a Basic IT shop, $580 in a Standardized shop, and $230 in a Rationalized shop. It doesn’t offer figures for Dynamic shops. IDC maintains that overall IT costs will fall 15 percent as shops move from Basic to Standardized, and 10 percent as they move from Standardized to Rationalized.

The Four Stages of IO

You can judge the maturity of an IO initiative by looking at it in four stages: Basic, Standardized, Rationalized and Dynamic.

**Basic:** Where most IT organizations start and, unfortunately, where many remain. A Basic-level IT shop adopts technology on an as-needed and ad hoc basis. When a Basic shop runs out of processing power or storage space, it tosses in a new server from the lowest-priced vendor of the week. A Basic shop will often buy software based on price and features, and not consider how applications integrate with its infrastructure or fit in with a long term architectural vision. Any management is done manually. Microsoft calls a Basic IT shop a “cost center.” Some are better termed “sink holes.”

**Standardized:** Although only one level above Basic, Standardized is a huge step up. As the name indicates, thought goes into buying products that adhere to industry standards and fit into an overall vision of how things ought to work together. Standardized shops are managed, but they lack the automation of higher-level shops. While a standarded IT shop is still a cost center, Microsoft labels it a “more efficient” cost center.

**Rationalized:** Here IT systems are managed, well-automated and the company has gone through the process of consolidating key pieces like servers and storage. IT is considered a strategic asset and a “business enabler.”

**Dynamic:** In this upper-level stage, IT is a “strategic enabler” and management is “fully automated.”

The hierarchy of these levels isn’t meant to suggest that all companies should strive to hit the Dynamic level. It’s too expensive for some smaller companies, and not worth going beyond Standardized. In short, IO makes IT more efficient, more productive and able to generate real business value.
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IO for IT

The real goal of IO, however, isn’t reducing costs. As you move up the ladder, there’s less focus on spending and more on IT creating business value. There’s good news here—IT is already contributing to the business. IDC surveyed business managers at 413 companies and found 70 percent believe that IT has spurred innovation. Unfortunately, only one in five business managers find the IT folks themselves to be “initiators in business strategies.”

Reader Response

Redmond solicited opinions about IO from our readers. We found that most IT pros weren’t aware of the model, but there was more than a bit of skepticism.

“It seems to me that many companies bought into [Software Assurance] only to find release after release delayed or not released at all, giving Microsoft a lot of money for not delivering,” says Les Newport, an application developer and Redmond reader. “Now Microsoft wants us to trust them to take an objective and holistic view of our shop? Are you kidding me?”

Other IT pros question the objectivity. “I would feel much more comfortable with IO if an independent lab performed the service. Or at least [evaluated] the IO service for conflict of interest issues,” says Redmond reader Dan Dionne.

Another anonymous reader echoed Dionne’s thoughts: “I can really see Microsoft coming in and saying, ‘Yup, you need an Oracle database, running on Sun boxes under Linux, with SAP as your enterprise software.”

DeGroot understands these concerns, but also sees Microsoft’s point of view.

“There’s a terribly important psychological reality here—if you get to ask the questions, you can control the customer’s agenda,” DeGroot continues. “I think customers need to fill in the blanks themselves. I wouldn’t count on Microsoft or any other vendor to deliver a completely optimized infrastructure, or to assess competitor capabilities accurately, even if they tried.”

Some IT professionals, like TUV NORD’s Thaden, heartily embrace the IO concept. In looking through Microsoft’s case studies, it’s clear that IO doesn’t have to entail sweeping, immediate changes. Much of the IO work—like standardizing and automating desktop image rollout—is done piecemeal. This was the case with Austar, an Australian TV company with more than 800 employees.

For the National Water Commission in Mexico, the problem was a mix of IT infrastructures, each built by local offices. The infrastructure optimization answer was to centralize and standardize around Windows Server 2003 and Microsoft server applications such as Exchange and ISA. The Water Commission now expects to reduce infrastructure maintenance costs by more than 70 percent.

Third-Party Play

Microsoft takes great pains to make sure the IO model is as vendor-neutral as possible. All of the up-front questions are about general technologies, not specific products. After setting goals, they’re mapped to actual products, most often from Microsoft.

“Never do you get to the point of ‘this is the right or wrong product.’ You look at the capability that the infrastructure or platform could provide. Of course, at some stage we’ll talk to you about what Microsoft has, but that isn’t the point up until that stage,” says Simon Witts, corporate vice president of Microsoft’s enterprise and partner group.

ISVs can be part of the plan. Although there’s no formal program, Microsoft works with key software vendors and guides them on how to make their products part of the IO ecosystem. There are specific categories that third parties fit into, as well.

Microsoft’s Own Dog Food

Microsoft is also recruiting VARs, resellers and systems integrators. Microsoft works with its own partners, as well as large systems integrators such as Hewlett-Packard Co. and EDS, which each have IO-style models. Using more than one advisor leads to a fuller, more-impartial view of the overall infrastructure.

Microsoft uses IO itself to drive both product and IT strategy. Using IO to examine its product line, says DeGroot in his IO report, Microsoft saw some holes and filled them by acquiring companies like DesktopStandard for Active Directory management, AssetMetrix for asset management and Softricity for application virtualization.

Microsoft also applies IO to its own IT organization that supports some 80,000 employees scattered from Redmond to Europe, China and beyond. Much of Microsoft’s own IO work centers around imaging.

“Microsoft IT has built a number of tools to apply to all images at once, regardless of hardware, enabling it to apply software updates to images whenever necessary. Microsoft IT recognizes that there may be cost savings by reducing to one image, but it maintains that smart use of its five images saves costs,” says the company in its IO white paper. IO is a rich and detailed model, and well worth the time it takes to fully understand it. Don’t go with a single source for any maturity model, say the experts, and don’t automatically believe every positive ROI model thrown your way. Be realistic about what you can achieve.

Doug Barney (dbarney@1105media.com) is the editorial director of Redmond Media Group.
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Craftsmen often define themselves by the tools of their trade. They see these tools not only as a means to an end, but as a reflection of themselves as masters of their respective domain. With that in mind, we pulled together a select group of our contributing writers and editors to compile a list of the products they’ve come to rely on most to produce quality work that’s delivered on time. These are tools that help IT admins keep the lights on, streamline operations, save money and time, and help identify new business opportunities.

For this Editors’ Choice, we chose not to group the tools and technologies by feature or function. There are no categories like best firewall or best network-management tool. Instead, we established categories based on what these tools mean to our expert editors and writers and how they help them get their jobs done.

Let us know how our experts’ picks match up with your preferred tools and what you use in your everyday life as an IT professional.

**Most Reliable**

This is the “accidentally built a wall around it and forgot it was there” kind of reliable:

1. VMware ESX: The least stable part of ESX is usually the administrator. The code is virtually bomb-proof.

2. IBM mainframes: They’ve been running for more than 50 years, and probably will for another 50.

3. DOS 6.2: One company had a DOS machine with a terminal emulator connected to a remote customer. It downloaded thousands of invoices per month and delivered them to a file share. The box was never rebooted and was found behind a filing cabinet when the company moved.

**Best Breakout Technology**

The products that changed the way you play the game:

1. VMware: Solidified virtualization’s place in the mainstream as well as giving it access to new markets and applications.

2. Windows Networking: Novell trained 50,000 Certified Netware Engineers, and Microsoft essentially put them out of work.

3. PerformancePoint 2007: Although it carries a hefty price tag, this new server from Microsoft is considered “cheap” when compared to others that provide similar business analytics.

4. Exchange Server: If you’ve never worked on Banyan Vines or Novell Netware’s e-mail products, don’t complain about Exchange.

5. Symantec Ghost: Set the standard for imaging and backup, and keeps getting better.
**Best Product that Never Was**

A product or technology that was promised, but never actually delivered:

1. SQL database for Exchange: Exchange administrators hate the eight hours of rebuild time every time Exchange’s database decides to puke.
2. WinFS: Sounded like the next great thing, but if it sounds too good to be true ...
3. Windows Vista: After five years of promising to deliver a breakthrough version of Windows containing things like the long-talked-about WinFS file system and the Indigo Web Services engine, it arrived minus those key technologies. What did we actually get? An expensive, slow, graphically enhanced version of XP.

**Best Product You Wish a Vendor Would Make**

Great idea, but no one has had the vision to step up and make it happen:

1. A batch download tool for Internet Explorer: Something similar to FlashGet, but with a subtle user interface.

**Works with Everything**

The most interoperable tool with the fewest problems:

2. Mozilla: Runs on any OS, doesn’t complain and gets the job done.

**Best New Version**

Best improvements to an existing version:

1. Microsoft Windows XP SP2: Still the gold standard.
2. Internet Explorer 7.0: This has the best set of improvements seen in a long time, especially tabbed browsing and enhanced security.
3. SWsoft Virtuozzo: Not version after version of the same product, but a new virtualization architecture that may offset what we’ve come to think of as “virtualization.”
4. SQL Server 2005: A whole new query engine, a whole new toolset and an interface that makes much more sense, particularly for DBAs doing both admin and development work.

**Works Right out of the Box**

The tool that requires the least customization to be useful:

1. Ipswitch WhatsUp Gold: Complete and easy network monitoring.
2. Groove 2007: Re-released with very few changes, Groove lets you collaborate anytime, with anyone, anywhere. All you need is an Internet connection and Groove gives you the tools to collaborate with team members smoothly.
3. TechSmith’s SnagIt: This is indispensable, not only to writers/document creators but to anyone who has had to send a screen shot to a technician. It’s cheap, plugs into almost every Windows app and works with any flavor of Windows (even Vista).

**You Can’t Live Without It**

The one tool you just gotta have:

1. BeyondTrust Privilege Manager: Security settings at a much more granular level.
2. ViceVersa Pro: Bi-directional file synchronization with a separate database that tracks changes.
3. Camtasia Studio 5.0: Webcasts with transitions, zooming, recording and other production options, plus TechSmith support is incredibly responsive with help or advice.
4. MWSnap: Essential freeware for taking screenshots of anything.
5. NGSSQLCrack: When you absolutely, positively must know those SQL log-in passwords.

**Low-Maintenance Magic**

The tool that requires the least amount of ongoing attention:

1. Exploit Prevention Labs’ LinkScanner Pro: Just set it and forget it.
2. Sunbelt’s Messaging Ninja: Stealthily keeps your e-mail clean and healthy.
3. Microsoft’s WSUS: Plug it in, attach clients to it and they’re patched. The best part is it’s free.
2008 Editors' Choice Awards

Your First Love
The first tool that saved your butt and made your life much easier:

1. SMS Installer: If only there were more tools like this.
2. TrendMicro HouseCall: This tool does a good job of performing an online scan of your system, looking for all the latest virus and spyware crud.
3. Exchange Server: This baby is rock-solid. It has been hosting billions of e-mail accounts for years and gets the job done.

They Don't Make Them Like this Anymore
You haven't found anything to replace it since it was discontinued or the vendor went out of business:

1. The original SMS installer: The one that came with SMS 2.0, because with SMS 2003, they moved to a more complex model. You can still use that tool today to create .EXE packages.

Most Like Magic Dust
Tools that make you look like a magician to your superiors and users:

1. Symantec Ghost: Seamless imaging that helped start the virtualization revolution.
2. Norton Utilities (now a part of Symantec): Data recovery, disk repair and about anything else you need in a maintenance utility.
3. VBScript: PowerShell is great, but our old love is still the fun of VBScript scripting.
4. Standard User Analyzer: This is part of Vista's Application Compatibility Toolkit—hidden deep within the kit so you barely know it exists—that lets you loosen the ACLs of User Account Control for a Standard user so they can use hardware or software that would ordinarily require an Administrators account. And, it's free.

Slickest Time-Saving Tool
Tools that take years off your time in the office:

1. Tabs in IE7: Tabbed browsing is the best development in browsing since, well, the browser.
2. BeyondTrust Privilege Manager: Setting fine-grained security policies across an enterprise has never been easier.
3. PowerShell: You can do a lot with one line of script.
4. Diskeeper: An easy way to keep hard drives healthy.
5. MSConfig: Get that computer to boot faster.

Best Value in Software
The most capability for the lowest price:

1. LogMeIn Free: If you forget a file or need to check on an e-mail, this service lets you easily grab it from your home machine.
2. Google: Any of it—Google gmail, docs, portal, you name it—it's all good.
3. Firefox: A better browser—by many benchmarks—than IE.
4. Apache Web Server: Running on more than 60 percent of Web sites operating today, as well as most enterprises with an external Web presence, Apache continues to be the most reliable and interoperable Web server today.
5. OpenOffice: Remains the most viable open-source alternative to Microsoft Office among desktop productivity suites.

Best Value in Hardware
You can't believe it does everything for the price:

1. Hewlett-Packard DL series server line: All that firepower in a 1U and/or 2U form factor.
2. cMachines computers: Low-cost machines from a real (not white-box) company.
4. The XO $100 laptop: Oops, we mean $200 laptop. Still a bargain, though.
5. inVion GPS: It has mapping software, an MP3 and AVI player, and an FM transmitter.

Easiest to Use/Manage
You could use it in your sleep, and often do:

1. VMware Workstation: Virtually anyone can use it.
2. SurfControl: It has software, appliances and services. Pick the one that's easiest for you—it's hard to go wrong.
3. KACE Kbox: Turn it on, give it an IP address on your network, and off you go.
4. MySQL: It's easy to learn and configure, and lightning fast.
5. Microsoft's System Center Configuration Manager: With a name like that, it had better be easy to manage.
6. Kaseya Platform: An easy to use and highly scalable configuration-management tool for Managed Service Providers and enterprises alike.
7. EqualLogic PS series iSCSI storage: Plug it in and go.
9. OpenSpan: Helps integrate and run existing applications together without having to know a thing about Web services.
10. Quest Group Policy Manager: Keeps those pesky policy updates in line.

**Biggest “Wow” in an IT Product**

Your jaw dropped the first time you used this:
1. VMware Fusion: This is a must-have for the Mac-ophiles in any organization.
2. Vista’s Instant Search: Our reaction is simply, “Wow.”
3. Ubuntu 7.04: The “be afraid—be very afraid” moment for Microsoft may be nearing.
4. VMware ESX 3i: You mean I can get VMware ESX in a slim 32MB package on a piece of firmware now?
5. RapidMind’s RapidMind Platform: It adjusts an application to take advantage of all CPU cores in a system.

**Still Useful After All These Years**

Your grandparents passed this tool down to you:
1. Symantec Ghost: An indispensable tool for more than 10 years.
3. WinZIP: Because file sizes are growing almost as fast as storage sizes.
4. Microsoft Outlook: Outlook has been a workhorse in the industry for 15 years. Even with IM and text messaging, e-mail still rules.
5. Windows XP: Every day with Vista makes the six-year-old operating system look better.

**Favorite Free Software**

These tools are free, but worth a whole lot more:
1. Firefox: The best browser for the best price.
2. Virtual PC 2007: Most prefer VMware, but you can’t beat free.
3. PKZip: You still need to compress files, and you always will.
4. Microsoft Virtual Earth: It’s easy to program and easy to use.
5. VideoLAN’s VLC Player: Media without corporate-driven integration—seems like freedom to me.

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The following Redmond editors and writers contributed to this article: Ed Scannell, Lafe Low, Peter Varhol, Doug Barney, Keith Ward, Michael Desmond, Guy Wright, Greg Shields, Josh Jones, J. Peter Bruzzese and Bill Heldman.
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What is the greatest threat to Microsoft’s dominance: Google Inc. or open source? The answer is both, especially when they’re working together.

“Open source is a software capitalist’s supreme tool,” says Matt Asay, vice president of business development with Alfresco Software Inc., an open source enterprise content management company. “It enables vendors to align closely with their customers and prospects while simultaneously undermining competitors’ efforts to charge license fees for their own products. It’s one that Google has been using to good effect in toppling 20th-century software businesses.”

While it soft pedals direct competition with Microsoft, the search giant quietly keeps working on open source projects designed to undermine its archrival.

By Glyn Moody

Google’s Secret Weapon
SECRET WEAPON

The search giant is always careful to squelch speculation of any looming clash of the titans. When Google added a presentation app to its online office suite, for example, CEO Eric Schmidt adamantly stated it was not a rival to Microsoft Office.

Others—like Raven Zachary, research director of open source with The 451 Group—beg to differ. “There’s a need by Google to displace Microsoft Office’s dominance to support Google’s [Software as a Service] office suite offering,” he says. “This is straight-up competition.”

As much as Google works to downplay that competition in public, in private it is well aware that Microsoft has spent $6 billion acquiring the digital advertising company aQuantive Inc. to spearhead its attack on Google in its home market. History shows that Microsoft doesn’t rest until it owns any sector it enters, so peaceful cohabitation is hardly an option.

Against this complex background, Google’s bevy of Ph.D.s came up with the perfect solution: a way to fight Microsoft without appearing to do so. Open source lies at the heart of that strategy.

OPEN FOR BUSINESS

Most people know Google runs its vast server farms—rumored to be hundreds of thousands of machines—on customized versions of GNU/Linux. Fewer are aware that it also makes extensive use of the leading open source database, MySQL.

“[Google is] an example of a company that literally couldn’t have existed in the same form pre-Linux or pre-open source,” says Jim Zemlin, executive director of The Linux Foundation—the organization that pays Linus Torvalds to work on the Linux kernel. “If they had to rely on Microsoft or Sun, not only would it have been too expensive, they could not have done the modifications necessary to create their services.”

The last point is confirmed by Google’s Open Source Programs Manager Chris DiBona, who joined the company in August 2004 to oversee and coordinate its open source activities: “The thing about open source [is], it’s kind of like it’s yours. Considering that Google does an insane amount of software development, if we had to have some of the restrictions that heavily proprietary [code] would present us, we couldn’t develop at the speed that we do.”

One way Google supports the open source ecosystem is by employing some of its top coders.

“We do that because having those people on staff, those projects can continue to move forward, and that’s good for us,” DiBona notes, “and also our use of the projects informs the directions, sometimes, where these projects can go.”

High-profile hires include Andrew Morton, No. 2 in the Linux world; Greg Stein, a director of The Apache Software Foundation; and Jeremy Allison, one of the leaders of the Samba project, which provides open source file and print services to SMB/CIFS clients, including Windows.

Another senior open source hacker who has joined the Google fold is Ben Goodger, lead engineer on Firefox. Google’s links with this increasingly serious rival to Internet Explorer go much deeper, however. Google is the main search engine for Firefox, both in the dedicated search box and on the default homepage when Firefox is first installed.

In October 2007, it was revealed that the organization behind Firefox, namely the Mozilla Foundation, had earned around $66 million in 2006 from its business relationships with search engines. That’s up from about $50 million the previous year. That means that Google, by far the most important of those paying for search queries, is effectively underwriting the development of Firefox and Thunderbird, Mozilla’s rival to Microsoft Outlook, and hence quietly chipping away at Microsoft’s position in the browser and e-mail markets.

Google has also started hosting high-level meetings where key free software individuals from a project can come together to meet face-to-face—something that otherwise happens quite rarely.

For example, in November 2006, senior coders working on the Ubuntu distribution (the one used by Dell Inc. for its consumer PCs running GNU/Linux) gathered on Google’s campus; the Linux Foundation Collaboration Summit was held there in June 2007; and in September 2007, leading Python developers met up to work on version 3 of that language. Python is one of the three programming languages used extensively by Google (the other two are Java and C++), and its creator, Guido van Rossum, also works for Google.

“Open source is a software capitalist’s supreme tool. It enables vendors to align closely with their customers and prospects while simultaneously undermining competitors’ efforts to charge license fees for their own products.”

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SECRET WEAPON

A SUMMER ROMANCE
It’s not just open source superstars who get care and attention from Google. In 2005, the search giant instituted its “Summer of Code” scheme whereby computer students are financed by Google to work with an open source project during their summer holidays. This helps move those projects forward and it increases their sustainability by bringing in new blood.

“The thing about open source [is], it’s kind of like it’s yours. Considering that Google does an insane amount of software development, if we had to have some of the restrictions that heavily proprietary [code] would present us, we couldn’t develop at the speed that we do.”

Chris DiBona, Open Source Programs Manager, Google Inc.

As Sebastian Kügler from the KDE desktop environment project (currently being ported to Windows) comments: “This is what [Summer of Code] is really about: infecting students with the free software spirit, giving them the opportunity to grow into a community like ours.”

There’s another more subtle benefit, as DiBona explains. Thanks to the Summer of Code, “Google now knows all the people working on all these software projects, on which it depends,” he says. “That’s incredibly useful to us. Every once in a while we’ll come out with a new API and there’ll be some projects in the open source world that might be useful in either using that API or being a customer. You can just call them up and say, ‘hey guys, it’s Google, we’re your pal,’ and let them just check it out.”

The other important way in which Google bolsters free software is by offering its own code under open source licenses (usually the Apache license, as with Google’s new Android mobile phone platform). Perhaps the most significant release so far is Google Gears. “Gears is an open source browser extension that enables developers to build Web applications that can work offline,” DiBona explains.

“We knew that we could just release a plug-in and make it good for our apps, but with open source other people can use it and feel safe to use it, and know that people can’t just abandon the technology, because they have it, too.”

Releasing Gears as open source encourages a wider adoption in the free software community and beyond. If Gears takes off, and people are able to use Web-based apps offline through their browser, then the underlying OS becomes less important—and Microsoft’s hold on the desktop weakens.

FIGHTING ON TWO FRONTS
The net result of all these separate, low-profile initiatives by Google to support open source is that Microsoft now finds itself facing not one serious challenger, but two, which are tightly intertwined.

“I think it has put Microsoft under a kind of pressure that they were certainly expecting, but sooner and more severely than they were expecting,” says Eric Raymond, author of the seminal analysis of free software “The Cathedral and the Bazaar.”

“They probably thought they had time to cope while Linux was getting its desktop act together, a process that was bound to be messy and protracted,” he says. “No such luxury; their lock-in is now under attack from two directions, and Google will remain a pretty formidable threat even if desktop Linux stalls out.”

Moreover, things are likely to get worse as other companies realize that one way of weakening Microsoft is to strengthen open source. This has been an important element in IBM Corp.’s strategy for nearly a decade, ever since it dumped its own Web server and adopted the free Apache software, back in 1998.

Since then it has ported GNU/Linux to its entire line of hardware and donated more than $40 million of its code to set up the Eclipse project as a counterbalance to Microsoft’s Visual Studio. More recently, Microsoft’s other main rival in the online space, Yahoo! Inc., has joined the club of open source supporters—opening APIs for its services; running Open Hack Days in the United States, United Kingdom and India; and buying the open source messaging and collaboration company Zimbra Inc. for a reported $350 million.

Like Google, Yahoo has also signed up some key open source coders, including MySQL expert Jeremy Zawodny and Doug Cutting, a leader in the field of search engine technologies. Cutting will work full-time on his open source Hadoop framework, which on his blog he calls “a file system modeled after [the Google File System] and a distributed computing system modeled after Google’s MapReduce.”

Just as Google has managed the trick of directing open source power against Microsoft, Yahoo hopes it can do the same with Hadoop. Of course, Yahoo’s volley has the added bonus of targeting Google as well.

Glyn Moody writes about open source at opendotdotdot.blogspot.com.
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First Things Should Never Be Done Second

A few years ago I was given the responsibility of managing a very small but important network, which had a mix of a few Windows and Unix servers. At around the one-year anniversary of managing this system, I was preparing for my first security inspection.

It was a Thursday morning and my inspector was arriving in less than 24 hours. I was a bit worried and I wanted everything to go well. I had recently implemented a new tape backup device and software that was pretty difficult to administer. I named my backup tapes the same so the software could easily read and overwrite them each night.

Fear of Embarrassment
On this day I remembered that one of my tapes was named incorrectly and had been giving me problems so I renamed (and reformatted) all six of my backup tapes. I did this just in case I had to load them for my inspector. Why? Because I would rather have blank tapes, than tapes that failed to load up.

Soon afterward, I was thinking about the Primary Windows Domain Controller. I knew that the domain security policies were weak so I feared the inspector’s security posture testing would produce embarrassing results.

I decided to take matters into my own hands. On the Primary Domain Controller, I installed one of his reporting tools that evaluated more than 100 patches, domain security settings, file permissions and so on. As you’ve probably guessed, my results were bleak, so I decided to modify some of the settings. After making the changes, I remembered to make a current backup. It took three hours, but at least I had one on hand.

Unfortunately, when I rebooted the server, it didn’t start up. After I finagled it for a few hours it booted, but didn’t recognize the domain. I restored it, but the tape had some of the modified settings and was still useless.

By mid-evening I had to face the music. I had crippled the Windows PKI and KRE systems on the Domain Controller. What happened was it had pushed out the settings to the backup Domain Controller, too. Ultimately, I destroyed the Active Directory and the domain security policies, and I couldn’t restore or rejoin the domain. Even worse, I needed this system back up the next day.

I ended up spending weeks rejoining workstations, rebuilding domains and restructuring profiles. Eventually, things became normal again. I didn’t lose my job, but I lost some credibility.

Lesson Learned
Doing a post mortem, I realized I had spent the prior weeks doing non-critical tasks for management when I knew my backup situation was hanging on by a thread. Now I know that an SA should tend to the most critical tasks first, and ensure that management understands why.

I realized that I never should have reformatted those tapes.

Well, wouldn’t you know, that after this horrible experience and spending all night trying to restore the system, my inspector showed up that Friday. We logged into the backup server and ran his report, found the three or four items that he was interested in, and corrected them on the spot.

When I mentioned the fiasco (later) he laughed and told me that he wanted to assess the system and determine what would be a problem—he didn’t want me to fix the problem. I should have found out what the inspector wanted from me—a typical newbie mistake. 

Name withheld by request.

What’s Your Worst IT Nightmare?
Write up your story in 300-600 words and e-mail it to Editor Ed Scannell at escannell@redmondmag.com. Use “Never Again” as the subject line and be sure to include your contact information for story verification.

ILLUSTRATION BY MARK COLLINS

NEVER AGAIN

ILLUSTRATION BY MARK COLLINS

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As Clint Eastwood once said as Dirty Harry in the movie “Magnum Force”: “A man’s got to know his limitations.” I’ve realized the graphical tool I gave you last month for reviewing group membership on local computers or domains has its own limitations.

For one, you could only report on one group at a time or check one server at a time. What if you wanted to check all groups or a list of servers? What if you wanted a report on all domain groups? A query like this could take a while, so you would have had to schedule it for non-production hours. The original HTA couldn’t meet those needs.

**Take Command**

With that in mind, I developed a command-line version of Mr. Roboto’s Group Reporter HTA. The file is a Windows Script File designed to run from a command line using CSCRIPT. For syntax help and a brief usage guide, run:

```
Cscript groupreportercli.wsf /?
```

You can use this tool to enumerate all groups and their members on a specified domain, a list of computers or all groups within a given Active Directory container. If you specify a computer name or a list of computers, it will enumerate all the local groups. Use this syntax to query all local groups on a specific computer:

```
Cscript /s:myserver23
```

If you prefer, you can also run through a list of computer names:

```
Cscript /L:servers.txt
```

There isn’t any provision to grab a list of servers from an organizational unit (OU), but you can easily export such a list to a text file and use it here. When you specify a container or OU, it will enumerate all groups within that container. By default, the search won’t enumerate any nested containers or OUs, but you can specify or recurse to find all groups in any child containers. If you want to search your entire domain, use this type of syntax:

```
Cscript
/dn:DC=MyDomain,dc=local
/recurse
```

You’ll also be able to enumerate certain types of groups. Valid options are Security, Distribution or ". The default is " for all groups. Use the /expand parameter to expand any nested group membership. The default setting is to not expand nested groups. Use this option with caution, especially in large domains:

```
Cscript /dn:dc=mydomain,dc=local
/recurse /expand /t:security
```

This command will search the mydomain.local domain for all security groups and expand any nested groups. Use the /E parameter if you want to save the results to a text file. There won’t be anything displayed on the screen while the script runs, and it will overwrite any existing files with the same name. Needless to say, the account executing the script must have administrator rights for the computer, the OU or the domain being queried.

Local group membership doesn’t support nested groups, nor is recursion so necessary. If you specify these parameters for a local computer, the HTA will ignore them. For that matter, there’s no such thing as a local distribution group.

Remember to put any parameter values containing spaces in quotes—and remember that these are all one-line commands (even though they may wrap here):

```
Cscript /s:allservers /e:servergroups.txt
Cscript /dn:OU=Employees,DC=MyDomain,DC=local /expand /recurse /e:Employee Groups.txt
Cscript /dn:"OU=Lists, DC=Company, DC=local" /recurse /t:distribution /e:"d:\reports\Company Distribution Lists.txt"
```

The output of this script is essentially the same as the Group Auditor HTA. For domain groups, you’ll be able to determine not only members, but when the group was created and last modified, its type, manager, mail address and description, as well as the names of any groups to which it may belong. Now your help desk tech has a graphical tool to check group membership and a powerful command-line tool for organizational-level reporting.

**Roboto on Demand**

Download Mr. Roboto’s Group Reporter HTA at:

```
www.jdhitsolutions.com/scripts
```

Extract the script to any directory you want and open a command prompt.

What Windows admin task would you like Mr. Roboto to automate next? Send your suggestions to jhicks@redmondmag.com.

Jeffery Hicks (jhicks@redmondmag.com), MCSE, MCSA and Microsoft PowerShell MVP, is a scripting guru for Sapien Technologies. Jeffery is a 16-year IT veteran, and has co-authored and authored several books, coursework and training videos on administrative scripting and automation. His latest book is “WSH and VBScript Core: TFM” (Sapien Press, 2007).
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Au Revoir, MCSE

The Microsoft Certified Systems Engineer (MCSE) is dead. Long live the MCSE. Well, sort of. When Windows Server 2008 rides into town, the MCSE certification—like the good guy in an old black-and-white Western—will ride off into the sunset.

From Windows Server 2008 onward, credentialed IT workers will find themselves seeking their certifications through two new avenues: the Microsoft Certified Technology Specialist (MCTS) and the Microsoft Certified IT Professional (MCITP).

Why the change? Prior to Server 2008, the Microsoft Certified Professional (MCP) program had a few flaws inherent to its processes. First of all, in the previous program, an MCP was just that—an MCP. There wasn’t an association noting the discipline in which you were an MCP. So getting your MCP for Windows XP was the same as getting your MCP on Systems Management Server.

The old MCSE titles were also problematic. Many countries formally protect the title of “engineer.” One can be called an engineer only after they’ve passed the Order of Engineers’ Professional Engineer’s Examination. Reports of Microsoft enduring numerous lawsuits by countries with special protection for this title made it operationally challenging to keep around. True, MCITP just doesn’t have the same ring as MCSE, but it’s in much safer legal territory.

New Frameworks, New certs

Here’s the framework for what Microsoft calls “the new generation of certification.” At the bottom of the stack is the MCTS. Exams here are focused on specific products and show proof that the test taker has proven their skills on particular Microsoft technologies. MCTS exams do not require recertification. An MCTS certification will, however, evaporate when Microsoft discontinues the specified product.

One step above the MCTS is the MCITP. This is intended to show proof of skills related to a job function. There are two MCITP credentials specifically geared to Server 2008: MCITP: Server Administrator and MCITP: Enterprise Administrator. The former credential is intended to prove IT operational skills, while the latter credential adds design skills to the requirements.

At this point, you’re probably wondering, “How do I obtain these certifications?” or “How do I upgrade my current MCSE?” As you may expect, obtaining the higher-level MCITP: Enterprise Administrator credential will require more work than the Server Administrator credential.

To earn the MCITP: Server Administrator credential, you’ll need to pass two MCTS exams, as well as the Server Administrator exam for the MCITP itself. Those exams are:

- 70-642: Windows Server 2008 Network Infrastructure, Configuring
- 70-640: Windows Server 2008 Active Directory, Configuring
- 70-646: Windows Server 2008 Administrator

Passing the 70-642 and 70-640 both bestow an MCTS credential. Once you’ve completed all three exams here, you’ll actually have three credentials: two for MCTS and one for the MCITP.

If you’re interested in going all out for the MCITP: Enterprise Administrator, you’ll have a bit more work ahead of you. You’ll need to pass the two MCTS exams, and three more as well. In all, obtaining the Enterprise credential requires one of the following:

- 70-620: Configuring Microsoft Windows Vista Client
- 70-624: Deploying and Maintaining Windows Vista Client and 2007 Microsoft Office System Desktops
- 70-643: Windows Server 2008 Applications Platform, Configuring
- 70-642: Windows Server 2008 Network Infrastructure, Configuring
- 70-640: Windows Server 2008 Active Directory, Configuring
- 70-647: Windows Server 2008 Enterprise Administrator

Getting to this point, you’ll actually end up with four MCTS credentials in addition to your MCITP. It’s a long road, but one worth traveling.

There are other things to consider. First, the MCITP proves job role functions. It doesn’t have a technology like “Server 2008” assigned to it. That being said, you’ll need to recertify every three years.
years to keep it current. Also, there are no more “elective” exams. According to Microsoft, most people were using the same electives to get their MCSE. In some ways, this made the electives moot, so they’re no longer part of the MCITP.

Making the Upgrades
There is an upgrade path if you currently hold either a Microsoft Certified Systems Administrator (MCSA) or MCSE status in Windows Server 2003. That path is different depending on whether you have the MCSA or MCSE, and you should only take one path. Completing the upgrade exam doesn’t directly earn you MCITP status, but instead replaces a few exams. Once you’ve finished the upgrade, you’ll then have to take the other exams necessary to get the MCITP.

• If you have a current MCSA 2003, take exam 70-648: Upgrading Your MCSA on Windows Server 2003 to Windows Server 2008. This meets the 70-642 and 70-640 exam requirements.

• If you have a current MCSE 2003, take exam 70-649: Upgrading Your MCSE on Windows Server 2003 to Windows Server 2008. This will meet the 70-643, 70-642 and 70-640 exam requirements.

There’s not always a direct path, though. If you have an MCSE in Windows Server 2000, you’ll have to upgrade to Windows Server 2003 before attempting the upgrade to MCITP, as there’s no direct upgrade path from the MCSE 2000.

The upgrade examinations are available now, but the other exams won’t be available until the release to manufacturing (RTM) of Server 2008. The MCTS exams will arrive about 30 days after the RTM. The MCITP exams will run about 60 days after the RTM. The training kits will be available anywhere from one to three months after exam release.

I know—I hate to see it go, too. The MCSE holds a special place in my heart. I have three of them: one for NT, one for 2000 and one for 2003. Times change and certifications change. It’s up to us to keep up.

[This article is based on pre-release information, which may change prior to the full release.—Ed.]

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...UPGRADE ABORTED!
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WE'RE COMPLETELY OFFLINE!

SOMEBODY'S GOING TO loose HIS
JOB IF I DON'T GET UPDATED
NUMBERS FOR EVERY REGION!

IF I DON'T GET MY EMAIL
FIXED, I'M NOT GOING TO
BE ABLE TO DO LUNCH.

BUT I DON'T LIKE WHEN
THE DEVIL RUINS RECESS.

SO I GO TO WORK.

MY HANDS MOVE AT
A BUNNED SPEED.

BECAUSE, NOBODY
MESSES WITH LUNCH.

AND I MAKE THE
IMPOSSIBLE POSSIBLE.

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As you find your users storing enterprise data in more and more places, including cell phones and Pocket PCs, you need to come up with ways to secure this data. Fortunately, there are several strategies and technologies you can use to help keep your mobile data from falling into the wrong hands.

BlackBerry devices, Windows Mobile-based smartphones and Pocket PCs and other mobile computing devices give your users constant access to e-mail and other data. This is a productivity boost and convenience for them and a management and security nightmare for you. Even if you try to keep your users tethered to their PCs for simplicity’s and security’s sake, you’ll invariably have enterprising co-workers who can’t live without access to their work. They’ll use their own mobile devices to get at their data. They may end up storing confidential e-mail and other sensitive documents on a number of devices of which you may or may not be aware.

**Know What You’ve Got**

Before you can develop and execute a plan for securing this data, you need an accurate and up-to-date inventory of all devices that have even occasional access to your network. Letting your users decide where and how they store corporate data is really not a good idea, so after the inventory process, follow up by taking steps to prevent any unmanaged devices from connecting to your network or mail servers.

Offering a carrot is almost always more effective than threatening with a stick, so you should consider helping to transition users who have created their own data access solutions over to a centrally managed platform. Once you know what devices are being used, how they’re being used and have a plan for controlling those devices, only then can you effectively secure the data on those devices.

**When It’s Gone, It’s Gone**

Most of the security risk associated with mobile devices arises when a device is lost or stolen. Sure, replacing a smartphone or Pocket PC can be expensive, but the cost of the hardware is nothing compared to the potential cost of the disclosure of data on the device or having to replace that data. Highly publicized cases of data theft, like the massive theft of customer data from retailer TJX, can severely erode customer confidence and lead to loss of business.

Even if a lost smartphone, for example, didn’t have any confidential documents or corporate secrets, there might be other sensitive data stored on the device. Any saved e-mail messages frequently contain contact information or other bits of data that neither the sender nor the recipient would want to become public knowledge.

There’s always the possibility that a lost device will be returned by an honest finder. You could even tape a notice on any mobile device offering a reward for its safe return, but relying on this alone for data security is foolish.

Once a device is lost or stolen, someone with malicious intent will most likely try to access any data. Your primary focus should be on the value of the data and not on the value of the
SecurityAdvisor

device. Once a device is gone, you should operate on the assumption that someone will attempt to access the data. It's a good idea to have policies and utilities that wipe a mobile device clean after a certain number of unauthorized access attempts.

Passwords and Encryption
It should go without saying that you should protect any mobile device with a password. Depending on the implementation, a password can either prevent access to the device and its data altogether or at least prevent someone from getting to the data before you have a chance to take other actions.

As with any other password protection you have to balance password strength and usability. This can be challenging with some mobile devices. Typing a long complex password on a telephone keypad may simply not be possible. Also, not all password protection is created equal. Unless there's an effective lockout mechanism that kicks in after a number of unsuccessful password entries or the password is combined with encryption, this type of protection will only slow down a determined attacker.

Encryption is the most effective method for making data useless in the event of unauthorized access. If you’re using a centrally managed BlackBerry, you already have the ability to encrypt e-mail and contact information. Unfortunately, Windows Mobile does not yet have this feature built in.

There are third-party solutions available for this, however, like the offerings from Bluefire Mobile Security. No matter what encryption technology or tool you use, make sure that it automatically encrypts all data on the device, including files stored on memory cards.

Reach Out and Wipe It
If you can’t sufficiently encrypt data on your mobile devices, you should have processes in place to have all data wiped clean from a lost or stolen device. Even if you do have an encryption strategy, a data-wiping option is an excellent additional layer of protection against data theft or misuse.

While it’s unlikely that you’ll be able to connect over the Internet to do this, you can take advantage of the fact that many of these devices automatically connect to your mail server to synchronize data.

Recent versions of Exchange Server let you send a command to the device that instructs it to delete any data instead of downloading the latest changes.

At the next synchronization interval, the device will receive this command and erase the data before someone has a chance to read it. Even better, with Exchange 2007 you can let your users perform this action themselves using Outlook Web Access (see Figure 1, p. 53). This self-service option can help ensure speedy data erasure, even without IT intervention.

The Windows Mobile method of erasing data from the device does have some limitations, though. First, it does not erase all data. While Outlook data is deleted, some files copied to the device—including files on storage cards—may remain intact. Also, the data is only erased if the device initiates synchronization.

Viruses Are Mobile, Too
It’s difficult to find a personal computer in a corporate environment that doesn’t have some sort of anti-virus software installed. However, many administrators forget that Pocket PCs and smartphones can also contract and spread viruses.

Viruses written for these platforms are still relatively rare, but that’s no excuse to ignore the threat. When allowing any of these devices to connect to your network, make sure that they’re running anti-virus software. Many vendors of anti-virus software offer versions developed specifically for mobile platforms.

Keep It Manageable
The biggest challenge in keeping your mobile devices secure is managing the various security settings. This becomes more difficult when you have to manage multiple platforms, such as Windows Mobile, Symbian and BlackBerry. There are vendors that promise to help you enforce policies across all of them using a single administration tool, but in reality, central management of more than one platform ends up being tedious. This alone is a compelling reason to standardize on a single mobile platform.

If your platform is Windows Mobile, keep your eyes open for news about Microsoft’s System Center Mobile Device Manager (MDM) 2008, which is currently in beta. MDM promises to ease the burdens of central management, security enforcement and access to corporate data. It’s currently in the early beta stage, with an expected release in the second quarter of 2008. To take full advantage of it, you’ll need devices running the next version of Windows Mobile. It’s too early to say whether MDM will deliver on its promises, but if you need to manage devices running Windows Mobile you should definitely take a look.

Joern Wettern (jwettern@redmondmag.com), Ph.D., MCSE, MCT, Security+ is the owner of Wettern Network Solutions, a consulting and training firm. He’s written books and developed training courses on a number of networking and security topics, in addition to regularly teaching seminars and speaking at conferences worldwide.
Northwest
Bruce Halldorson
Western Regional Sales Manager
CA, OR, WA
203-532-1418 (phone), 508-875-6622 fax
bhalldorson@1105media.com

So Cal/Central
Amy Winchell
So Cal/Central Regional Sales Manager
CA, OR, WA
203-532-1418 (phone), 508-875-6622 fax
bhalldorson@1105media.com

Danna Vedder
Microsoft Account Manager
253-514-0350 fax
253-595-1976 (phone)
dvedder@1105media.com

Tanya Egenolf
Advertising Sales Associate
760-722-5494 fax
760-722-5495 tel
tegenolf@1105media.com

PRODUCTION
Mary Ann Paniccia
VP, Print & Online Production
818-734-1520 ext. 190 tel
818-734-1528 fax
mmpaniccia@1105media.com

East
JD Holzgrefe
Director of Advertising, East
818-734-1520 ext. 190 tel
818-734-1529 fax
jholzgrefe@1105media.com

Matt Morollo
VP, Publishing
508-532-1418 (phone), 508-875-6622 fax
mmorollo@1105media.com

IT CERTIFICATION & TRAINING: USA, EUROPE
Al Tiano
Advertising Sales Manager
818-734-1520 ext. 190 tel
818-734-1529 fax
atiano@1105media.com

PRODUCTION
Serena Barnes
Production Coordinator
818-734-1520 ext. 164 tel
818-734-1528 fax
redmondadproduction@1105media.com

SALES STAFF
Tanya Egenolf
Advertising Sales Associate
760-722-5495 fax
760-722-5494 tel
tegenolf@1105media.com

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10 Apples to Tempt Microsoft

The annual Macworld show happens later this month—the time when pundits inevitably pit Microsoft against Apple in their various analyses.

The formulas are quite predictable, as are the results. Typical findings: “Microsoft should learn these lessons from Apple” or “Microsoft should take a page from Apple’s book.”

Sure, there are some areas where Apple is ahead of Microsoft, especially in the areas of design and packaging. But not everything Apple does is worthy of emulation by the Redmondians. In fact, some of the strategic moves Apple has made in the past couple of years are ones Microsoft should avoid. Here are my Top 10.

Microsoft should not:

1. Pooh-pooh the power of third-party developers. While many in the open source community love the Mac OS, the reality is Apple makes its living from proprietary systems. There could be a change coming, given that Apple is belatedly releasing an iPhone SDK.

2. Believe no one else can “think different.” Starting from the top, Apple is arrogant. 'Softies can be just as proud—if not more so—ask anyone in the tech industry. But the Microsoft arrogance is tempered by a sense of self-questioning and willingness to reflect on “how we suck.”

3. Assume your inner circle of press “friends” will protect you in perpetuity. Apple seemingly hand-selects which press/reviewers get its products based on how favorable their coverage is. If Microsoft tried to operate this way, the company probably would be sued.

4. Attempt to ban use of the “M” word. Apple PR recently was caught on tape unceremoniously ending an interview when a journalist asked whether iTunes might be considered an illegal monopoly. As much as Microsoft might hate the “M” word, monopoly allegations and questions are going to plague the company for the rest of its days.

5. Ding your existing customers and expect them to stay loyal. Can you imagine the outrage if Microsoft had customers queuing for days before rolling out a new product (iPhone), only to slash hundreds of dollars off its price a couple of months after the rollout?

6. Sue bloggers. While on the topic of lawsuits, what the heck was Apple thinking when it sued bloggers a few years back for publishing alleged Apple trade secrets passed on to them by sources? Microsoft has rattled some cages to dissuade the press from making public information obtained fairly from leakers, but it has respected the freedom of the press.

7. Think that no comments (and black turtlenecks) will make everything OK. I’ve been on the receiving side of plenty of Microsoft “no comments” when trying to report/confirm a story. But at least I get no comments. Queries to Apple—by press, developers and users—often go unanswered or are answered in doublespeak. Being cool doesn’t mean being unresponsive.

8. Throw stones at a time when everyone in the transparent tech world lives in glass houses. 'Softies must be loving reports of Mac OS Leopard crashes and iPhone brick, especially after Apple’s campaign to disparage Vista with the “I’m a Mac/I’m a PC” commercials.

9. Expect an “RDF” to be an everlasting force field. An RDF is a Reality Distortion Field (i.e. the combination of charm, charisma and belief perpetrated by Apple and its followers that Apple is the center of the universe). Microsoft doesn’t have a fan-boy army anything like the instantly excitable Mac zealots, but then blind loyalists can quickly become an angry mob.

10. Bank on consumer sales leading to enterprise sales. Apple has done little to reach out to business users. The underlying message: If business users are smart, hip and cool enough, they’ll understand why Apple products are superior. Now that Microsoft officials have taken to justifying Redmond’s growing consumer investments by claiming tech innovation is coming from consumers, not business users, Microsoft could go the same route.

Got any other advice for the 'Softies about what they should copy or avoid copying from the Cupertino crew?

Mary Jo Foley (mjfoley@redmondmag.com) is editor of the ZDnet “All About Microsoft” blog and has been covering Microsoft for about two decades. 
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