

Red Hat CTO: RHEL5 will drive virtualization costs down

By Jan Stafford, Editor

Server virtualization and cost reduction are Red Hat customers' top wants today, says Red Hat CTO Brian Stevens. His team plans to deliver both by delivering commoditized virtualization in Red Hat Enterprise Linux 5.0 (RHEL5), the company's upcoming new Linux distribution release.

What close-to-release technologies does Red Hat have in the works?

Brian Stevens: We're in the middle of our development cycle for our next major release. When you build a major release, you have the opportunity to write to do more compelling technology solutions.

What's driving IT is right now is getting ready for the commoditization of virtualization solutions. So, everything we're doing around [Red Hat] Enterprise Linux 5.0 -- planned for release later this year -- relates to providing seamless native support for virtualization, something that can be used in a mainstream fashion for business customers.

The capabilities of virtualization can be used everywhere. Right now, virtualization's been sort of left on the edge, in the testing and development environments. There has been a fairly large hurdle customers have to go through to implement server virtualization.

So, the job for Linux is to commoditize it for people. For us, that means retooling everything about Linux and our operating system, in particular the entire IT infrastructure needed to be virtualization-ready. Now, we actually have the technology base to shape virtualization along the path that solves problems users want solved.

Now that you're at the helm, what's changing about Red Hat technology development?

Stevens: We just reorganized our emerging technology team five-to-six months ago. We've been about one-to-two years ahead of the technology curve, but we're aiming to get to two-to-five years ahead of the curve in the emerging technologies we're focused on.

Virtualization is the emphasis of the team now. There's a lot of room for freedom on how we should deliver and structured it for IT.

We've spent a lot of time talking to IT groups and customers, and virtualization -- particularly its capabilities and availability on RHEL -- is the second thing they most often ask about.

So, what's the first thing they ask?

Stevens: How do we drive costs down?

Virtualization is part of that equation, but the other one that we're focused on is really all around giving IT the ability to manage any of the configuration data they need in a centralized place...in an on-demand fashion. We're looking at that from the client end up. Managing desktops has been untenable because they've been managed independently. That's true, too, but a bit less so on the server side, as well.

We're looking at a redefinition of what it means to manage a data center. Right now, the [data center] manager's responsibilities are complex. We're looking at this the same way that Linux developers looked at Unix, looking at a more scalable, simplistic fashion to manage IT environments.

So, we're taking a fresh look at things like how you provision and manage software. We've started working on the introduction of a new, more simplistic manager model that IT can embrace quickly and that is commoditized.

What virtualization capabilities were built into Red Hat Enterprise 4.0?

Stevens: In the last three years, we've focused completely on storage virtualization, [enabling businesses] to manage storage centrally and then to provision it in a way that was independent of the servers that would be able to utilize the act of that storage.

What is Red Hat's approach to server virtualization?

Stevens: Server virtualization is the ability to take a single piece of hardware and run simultaneously different operating systems in parallel. So, that actually gives IT the ability to drive their utilization up and to consolidate servers.

There's a great need for server virtualization now. Businesses are finding as they continue to deploy x86 systems, they end up with a system for every application. Rather than deploying a new application on a new server every time, they want to consolidate multiple operating systems and applications on a single CPU.

If you don't want to dedicate a server for a single application, server virtualization lets you carve up a physical system.

Besides virtualization and management, what other emerging technologies are you jazzed about?

Stevens: It's funny that virtualization sucks so much oxygen out of the room that it hasn't left much room for anything else for IT. I'm pretty excited about the hardware capabilities coming in. The hardware platform that you and I knew in the recent past was one CPU and slow has turned into mainframe-level capacity and speed inside a small chassis.

What's compelling now is how to develop software for these systems. The software development environment hasn't advanced at the same level as hardware has.

Can the open source development bridge the gap between software and hardware advancements?

Stevens: Open source development tools and procedures can accelerate development.

You want to be able to develop software that out of the box is optimized for maximizing your hardware. You want to compress the time to deploy,

The traditional model is build, debug, test and soak, certify and rebuild. It takes about six months after they've written the software to get it into production.

The corporate world is starting to get an understanding of how the open source community develops software. They've watched the rapid pace of development, the fostering of communities of users, the vast participation of developers -- even when they're not sitting in the same office -- and the quality that comes out the back end.

So, we've seen that [businesses] that may not have as much desire to get behind open source software as the open source tools and procedures they can use to write software that their community uses. We're looking at how to help them get to those best practices.