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MUUGlines

The Manitoba UNIX User Group Newsletter

April 11, 2006: FUSE Implementation

FUSE, or Filesystems in USErspace, is a great new method for regular users to create filesystem-like device drivers in user-space, without the need for all those messy kernel compiles. FUSE is now included in the stock Linux kernel as of 2.6.14, and is rapidly being deployed by a large number of people to create device drivers for specialty hardware, or improved filesystem support.

Scott Balneaves will outline what little you need to do to start writing your own filesystem, and some of the cool things you can do with FUSE.

May 9, 2006: A MythTV Implementation

MythTV is a popular open-source TV-recording package. Combined with the right hardware and configured correctly, it can take the stress out of keeping up with your favourite shows, despite frequent schedule changes and re-runs.

Kevin McGregor will talk about his experiences setting up MythTV on Ubuntu Linux.

Where to find the Meeting

Meetings are held at the IBM offices at 400 Ellice Ave. (between Edmonton and Kennedy). When you arrive, you will have to sign in at the reception desk, then wait for someone to take you up (in groups) to the meeting room. Please try to arrive by about 7:15pm, so the meetings can start promptly at 7:30pm. Don't be late or you may not get in.

Limited parking is available for free on the street or in a lot across Ellice Ave. from IBM, for $1.00 for the evening. Indoor parking is also available nearby, at Portage Place, for $3.00 for the evening.

samba4WINS: Co-operation Creates Free Software Innovation

Initiated by SerNet and sponsored by Computacenter, Fujitsu Siemens Computers (FSC) and LiSoG e.V., free software needed by many users has been developed: the replicating WINS server - samba4WINS. With this solution, WINS servers running with Windows in many environments can be migrated to Linux.

The urgent need to solve customer problems at the project partners Computacenter and FSC in October 2005 hastened the plan to develop the WINS server within the Samba4-project. Until now Samba3 offered a WINS server but could not synchronize in a ring with other WINS servers, an ability that is requested in many complex networks. Even after complete migration to Linux/Unix/Samba, Windows servers are still required in those networks. This cost will be removed with samba4WINS.

SerNet staff member Stefan Metzmacher coded the solution as a stand-alone server process within the Samba4 framework. This WINS server will seam-

lessly evolve during future Samba4 development. It can also be installed with Samba3 servers, version 3.0.21 and higher.

samba4WINS will be published with sources and binary packages for SLES9 (Suse Linux Enterprise Server), RHEL4 (Red Hat Enterprise Linux) and Debian SARGE the beginning of February 2006. Please see **EnterpriseSamba.org**.

Samba 4.0.0TP2 Available for Download

Samba 4 is the ambitious next version of the Samba suite that is being developed in parallel to the stable 3.0 series. The main emphasis in this branch is support for the Active Directory logon protocols used by Windows 2000 and above.

Samba 4 is currently **not** yet in a state where it is usable in production environments. Note the STATUS file, which aims to document what should and should not work. With 3 years of development under our belt since Tridge first proposed a new Virtual File System (VFS) layer for Samba3 (a project which eventually lead to our Active Directory efforts), it was felt that we should create something we could 'show off' to our users. This is the second Technology Preview (TP), aimed at allowing users, managers and developers to see how we have progressed, and to invite feedback and support.

Microsoft starts supporting, er, Linux

By Ashlee Vance

Published Monday 3rd April 2006 19:11 GMT

in The Register (**www.theregister.co.uk**)

Microsoft today lobbed three massive bombs into the server virtualization market. First off, it will now support - wait for it - Linux, when the OS is running on top of its Virtual Server product. Secondly, Microsoft has made Virtual Server free. And, in a move few thought possible, Microsoft has teamed with the developers of the open source Xen product to gang up on server slicing leader VMware.

Up until now, you've been able to run Linux on top of Virtual Server, but Microsoft refused to help out with any problems a customer might have with the combination. Not anymore.

Microsoft will offer 24-hour support to customers running enterprise and standard versions of Red Hat and Novell Linux in conjunction with Virtual Server 2005 R2. Beyond that, Microsoft plans to distribute "virtual machine add-ins" that make Linux guest operating systems work better with its product. The add-ins will help out with mouse and display driver functions, SCSI disk emulation and guest and host synchronization.

Microsoft will release even more add-ins with an update to Virtual Server 2005 R2 due out early next year.

"Customers who have questions regarding the interoperability with Linux guest operating systems and the virtual machine add-ins will be able to access the standard Microsoft support process," Microsoft said.

As with any product in this class, Virtual Server allows you to run multiple operating systems and applications on a single server and to move these "virtual servers" from physical server to physical server.

Now to the pricing front: Above, we mentioned the upcoming update to Virtual Server. Microsoft had hoped to bring out this update in 2006 but, like all of its products of late, let it slip to next year. That's a particularly damaging delay given that it means Microsoft will fall behind rivals VMware and XenSource with regard to tapping into new virtualization-friendly hardware in server chips from Intel and AMD. The chips deliver serious performance and management gains by making it easier to set up virtual operating systems.

Microsoft's second product delivery problem comes in the form of its next-generation server virtualization software. Microsoft is the only major player not to use a hypervisor that sits directly on the server hardware at this point, preferring instead to run Virtual Server on top of Windows. That changes in 2008 or 2009 when Microsoft will bundle a hypervisor into "Longhorn" Server via a service pack.

Up to this point, Microsoft sold Virtual Server for $100 or $200, depending on the number of processors in a server. Now, it's throwing out the price, preparing for the bundling scenario a bit early. Customers can pick up Virtual Server 2005 R2 as a free download. Microsoft product marketing man Zane Adam made it rather clear that this move was intended as a blow against VMware.

"In light of this and other market trends, I believe customers will think twice before spending thousands of dollars for other virtualization products that very well could be at no charge in a couple of years," he said.

To be fair, VMware has a free version of its mid-market product in beta (**http://www.theregister.co.uk/2006/02/03/vmware_goes_free/**) and this software stacks up well against Virtual Server.

One thing to keep in mind is that Microsoft does not really have an answer to VMware's high-end ESX Server product at this time. It won't until the hypervisor-based product comes out near the end of the decade. So, er, VMware has a big cushion.

However, Microsoft's moves and the increasing traction of the free, open source Xen hypervisor are going to make life more difficult on VMware, particularly in the large Windows market.

"With so many free, near-free, and built-in product out there, it's going to be increasingly tough for a standalone virtualization company to make money - especially if you look out 18 months or so," Illuminata analyst Gordon Haff told us.

And that brings us to the third bit of the puzzle.

Microsoft uses something called the Virtual Hard Disk file format to capture virtual server images and pass them around physical boxes. It happens to have licensed this technology to open source specialist XenSource - the leading user of Xen.

Microsoft has not granted a similar license to VMware for rather obvious reasons, and VMware is not too happy with the direction things are taking.

So, VMware announced today that it has opened up its own virtual machine disk format and made it free of charge. "The virtual machine disk format specification describes and documents the virtual machine environment and how it is stored," the company said. "Patch, provisioning, security, management, backup and other infrastructure solutions for virtual machine environments all heavily depend on the virtual machine disk format. Based on this dependency, having an open and unrestricted virtual machine disk format is critical to the broad-based development of new solutions and value-add for virtual environments."

VMware's chief Diane Greene went so far as to start a new blog just to have a go (**http://www.vmware.com/vmtn/blog/diane/**) at Microsoft's maneuvering on the file format front.

Today's moves show quite clearly that Microsoft knows it has an inferior product at the moment and needs to stop customers from defecting to VMware and Xen and to stop potential customers from experimenting with the rival virtualization packages. Without a hypervisor-based product, Microsoft can't come close to matching Xen on performance and it is years behind VMware from a product maturity standpoint. Microsoft can really only cater to mid-market customers, which happen to be a huge market in the Windows arena.

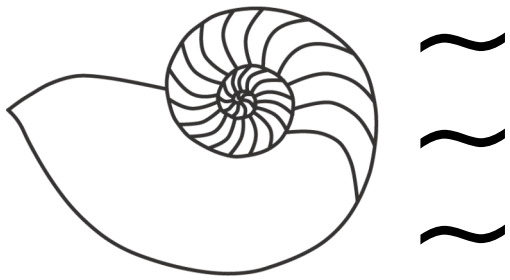
With all the delays around its server virtualization products, Microsoft had to do something drastic. And, in fact, its move to free is the biggest blow against VMware's lucrative model to date - at least from a marketing standpoint.

VMware, however, still brings in more than $100m per quarter from its products, while Microsoft and XenSource bring in a few bucks here and there.

You can tell that VMware has become a major target for Microsoft and Xen and one that they're willing to go after together.

If you weren't paying attention to server virtualization, today's announcements should wake you up. Another battle for your operating system is on in a massive, massive way. And it's getting ugly quick.

You can find out more about Microsoft's moves here:
http://www.microsoft.com/windowsserversystem/virtualserver/evaluation/news/bulletins/vs05pricing.mspx.



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