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Understanding The Rules Software Licensing In A Virtualized Environment

In the days before virtualization became so common in data centers, software licensing was fairly straightforward: Software could only be used on one physical computer. When you needed to install software on another computer, you had to buy another license.

With virtualized servers, software licensing became much more complex. Software vendors don't always have clear rules governing how many times an application can be installed on a server that might be used for multiple instances of the same server OS (say, one for quality assurance and one for production) and, in some cases, do not distinguish well between the physical computer license and the "instances" of an OS.

Sue Raisty-Egami, an analyst with Sure Product Consulting (www.sureproductconsulting.com), says the issue is compounded even further when it comes to licensing "per-CPU" (on a server that might have multiple CPUs) or when a virtualized server is deployed as a mirror, say to a hosting provider or to a branch office. She says many IT managers get confused about licensing because there is a tendency to think the company has purchased multiple licenses of a product, so there should be freedom in deciding how those licenses are used on which servers and also for VM mirroring.

"Vendors are not exactly excited to let purchasers lower costs this way, especially if they predominately licensed on a per-CPU basis," says Raisty-Egami. "So some now license on a combination of per-instance and per-CPU, and some have built license enforcement code into their software that prevents multiple instances from running on a single physical machine."

Raisty-Egami advises companies to read software licensing agreements carefully and request the opportunity to test software in their virtual environment before making final purchases.

"Purchasers should not assume that the software license will just work in multiple instances, where each instance runs within its own virtual machine," she says. "Some software packages have license enforcement built in that would prevent it from running on two virtual machines on the same physical server. The software might only be installable once on a machine with a particular MAC address."

■ Compliance Issues

One of the reasons there is some consternation over the issue of software licensing is that in an

Key Points

- Software licensing in a virtual environment is still evolving.
- Some vendors use per-processor and per-instance licensing.
- Compliance is a major issue in case software licenses are audited.

audit, a company might be exposed for using software illegally without even knowing it had made the mistake. For example, with VMware, a company might have several instances of an SQL server on one physical box, thinking that—at least for that software—it is safe to run multiple instances, when in reality, the vendor has strict rules about virtualization licensing.

“You don’t really get a benefit from a licensing perspective, whether it’s virtualized or a physical box,” says Scott Gondesén, a director of client services at RSA (www.rsa.com). “The biggest pitfall is that some companies don’t have a good understanding of the licensing mechanisms, and so what they’ll do is they’ll create a virtual server with several guest operating systems and think that they can get by with just a single processor license.

“So that can put them at risk from a compliance standpoint. An auditing type situation would certainly uncover that, and there can be some financial ramifications for them, especially if they knowingly did that.”

Another issue to be aware of is that in some cases, you may have the software licensing well established in a virtual environment, but because server virtualization provides such an easy path for customization and making changes to configurations in a data center, you can quickly become noncompliant in regard to software licensing. To prevent this, it’s important to keep records of exactly how software is used on virtual servers and track any changes to licensing on those servers.

■ Other Approaches

Of course, because the IT industry has learned to be flexible and can approach licensing using a variety of solutions, there are creative ways to deal with licensing issues. Preston Lee, CEO of OpenRain (www.openrain.com), says the approach it uses—even though it deployed Mac computers for end users—is to use Linux as part of the equation. With Linux and open-source software on the back-end, he says they have avoided the typical pitfalls of licensing in a virtual environment. Another approach it uses is to offload some applications and services to the cloud, which admittedly does have its own set of licensing challenges, but they are usually handled by the cloud provider and help companies avoid the typical compliance issues that arise.

Wayne Federico, CIO of Miro Consulting (www.miroconsulting.com), says the best approach to software licensing is to have a specific design in place for how to handle licensing, one that addresses the specific licensing requirements for each virtual server vendor.

“Many companies configure their environments first, then ask questions,” says Federico. “Strategies differ for each particular software vendor more than they do the different virtual server technology options. Each software manufacturer will address their licensing requirements within server-virtualized environments based upon their expectations of use. The difficulty for software manufacturers today is that server-virtualized technologies and solutions are [constantly] changing and evolving, and they must constantly adjust their own licensing requirements to address technological changes.”

Federico says IT managers must become “virtual licensing experts” in the sense that they know how the technology itself is changing and how the licensing is adapting, and they keep tabs on such subtleties as per-processor licensing as the industry evolves and approaches the issue differently. He says this is a particularly challenging issue because there are so many benefits of a virtualized environment that licensing is often overlooked as a problem. And, it is often difficult enough to manage the licenses themselves, tweak performance, and meet business needs for applications. The key, he says, is to have a matrix of all software licenses and how they are used in the virtual environment.

In the end, virtualization does bring major benefits to IT. Licensing is one of the stickier issues for managing the environment, but having a plan in place will offset any potential pitfalls. ■

by John Brandon

Virtual Server Cloning

Sure Product Consulting (www.sureproductconsulting.com) analyst Sue Raisty-Egami says virtual server cloning is another issue to be aware of in a virtual server environment, due to how easy it is to lose track of which licenses are being used on which servers.

“One big feature of virtualization software is the ability to clone virtual machines,” she says. “If the VM you are cloning contains software that is licensed per-instance with a unique serial key, you are very likely to violate the license because all of your clones would use the same serial key. You might find the software doesn’t work at all as a result.”

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