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VIRTUALIZATION: Technology Solution, Legal Challenge

By John M. Toth

Virtualization is an information technology solution whereby multiple instances of software, operating systems, storage and memory, for example, are run on a single underlying computer hardware platform, sometimes even without the end-user's knowledge. Fewer physical resources are required to do an increased amount of work as virtualization allows for work to be accomplished in parallel, simulated environments. This allows greater productivity, capacity utilization and flexibility to handle growing and unpredictable workloads—but it also significantly changes the basis by which IT products and services are bought and used. Because of its growing popularity and tremendous legal impact, Stephen Gold, technology transactions partner with McGuireWoods LLP, believes virtualization requires a new attention to best practices for in-house counsel: “At the top of your list,” he urges, “should be developing a collaborative relationship with purchasing and technology managers so that their decisions to pursue virtualization do not create contract or licensing problems.”

Michael T. Hepburn, also a McGuireWoods technology transactions partner, adds that for purchasing and technology personnel, “credibility depends on getting the job done, but the focus on improved efficiency and reduced cost should not come at the expense of legal propriety or undue burden in-house counsel.”

Licensing Impact

Hepburn believes in-house counsel's first priority when turning to virtualization is to increase awareness of licensing issues.

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“Traditional software agreements are not likely to have specific provisions addressing virtualization,” he warns. Many software applications are traditionally licensed on a per-machine or per-CPU basis, such that an end-user is permitted to use copies of the software only to the extent it is designated for use on a particular piece of hardware or in connection with a designated number of CPUs. Under such a licensing model, virtualization, by consolidating the operating systems and software applications from multiple physical servers onto a single physical server with multiple virtual environments, can expose a company to risk of violating its software license agreements.

“At that point,” Gold adds, “if your organization receives a notice from an infringement watchdog organization that you are violating your licensing agreement, there are huge risks under the agreement and the copyright laws. You could be assessed penalties and additional fees.” A licensing agreement for software that might be used in a virtualized environment should be certain to account for each virtual server (for example,

measured by running operating system copies) as opposed to simply counting the number of physical servers.

Modifying Terms

Under these circumstances, IT contracts and fee schedules will have to address the potential for virtualization, and IT vendors are likely to revise their fee models to prevent their customers from circumventing their traditional licensing fee structure. IT procurement and legal teams can address this issue by what Gold calls “the single most effective tool to obtain the best terms, conditions and pricing—a proactive purchasing program that anticipates the need to address technology trends such as virtualization.” Gold recommends obtaining competitive bids from several software vendors to get the best contract terms. The challenge in doing this will be easier if technology managers are part of the competitive bidding assessment. “Among the IT people there frequently is a following for a particular technology solution, and adding IT managers to the negotiating team will make the legal issues more understandable to them—and lead to technical decisions that are better informed.”

Maintenance Models

The third-party maintenance of IT products can also be significantly affected. For example, some vendors are placing restrictions in their contracts that limit the support that they will provide for products being used in a virtual environment, often requiring that the customer be at a more expensive “premier” or “platinum” premium level of support. Hepburn also cautions that “even with such support levels, most vendors require that performance problems can be duplicated in a physical environment apart from your use of the product through virtualization.” IT managers should thus have full documentation of any problem to facilitate replication and analysis. The good news is that, from an internal IT perspective, virtualization can also make end-user support much easier with a “one-to-many” approach that consolidates the required

The Virtualization Concept

Virtualization was developed decades ago in connection with mainframe computers in order to prevent the waste of available processing capacity and to extend the capability of limited resources. The approach creates the appearance of a complete computer and software network while uncoupling the physical hardware from the operating system for greater resource use and flexibility. Multiple virtual machines are encapsulated into files with various operating systems. The files run in isolation, side by side on the same physical machine. Each virtual machine has its own set of virtual hardware upon which an operating system and applications are loaded. The operating system sees a consistent, standard set of hardware regardless of the actual physical hardware components, and end-users see only their own monitors and keyboards. Some published estimates say that the total number of virtual machines deployed worldwide will increase from 540,000 in 2006 to more than 4 million by 2009.



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support at the virtualization level but still extends the benefit to all users.

The same combination of challenges and benefits also affects outsourcing of IT functions. Traditional outsourcing models are also commonly based on the type and volume of equipment being serviced. Outsourcing project teams should account for each virtual (as opposed to physical) server in an outsourced environment, typically measured by running operating system copies, so that maintenance support and pricing reflect the true volume of work being done virtually.

Cooperative Efforts

“Being prepared for new technologies, such as virtualization, software-as-a-service or other Web 2.0 trends, requires advance thought,” Gold asserts. “Trying to accommodate a yet-unknown trend while negotiating a software agreement may well create organizational resistance that can only be overcome through cooperative efforts that create a team involving all parties in the process—technology, purchasing and legal.” Because of the large number of variables involved in the process, the focus of successful licensing and support has to extend beyond cost and technology issues. “You should not negotiate your technology agreements in a vacuum,” Hepburn

concludes. “In-house counsel are best positioned to foster the collaborative viewpoint that will allow virtualization strategies to be successful—and prevent otherwise unanticipated problems.”

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