



Backup You Can TrustSM

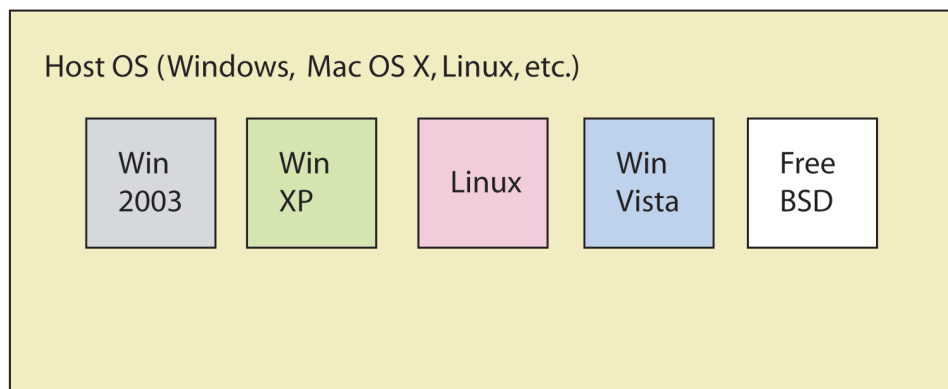
BRU Server and Virtual Machines

With system virtualization becoming more and more prevalent in the corporate IT world, it's important to understand how your virtual machines and your backup process work together. When you are managing a virtual host environment, you actually have two different backup situations to manage - the host system and the virtual machines themselves. Your backup application should offer you a mechanism to backup both the virtual machine images and the files within the filesystems of the virtual machines.

When you create and populate a virtual machine on the host system, you are actually creating a file on the host system's filesystem that contains the contents of the virtual machine - the operating system and its files. Therefore, performing a backup of the host OS does not provide a backup of the separate files within the virtual machine image. However, backup of these image files does allow for rapid recovery of a damaged virtual machine image.

How do you then perform backups for single file recovery of your virtual systems? With BRU Server, virtual machine backup for file level recovery is easy. Because we offer agents for most major x86-based operating systems, file level backup of an x86 or EM64T virtual machine is attainable by simply installing the appropriate BRU Server agent within the running VM environments.

As an example, we are working with a host system running VMWare or Parallels under Mac OS X with five virtual machines installed - Windows Server 2003, Windows XP Professional, Windows Vista, Linux, and FreeBSD.



Host System with Virtual Machine Images

To properly backup this environment, simply install, configure and authorize the proper BRU Server agent within the host OS - this will allow you to backup the host OS and the virtual machine image files for disaster recovery. Next, install configure and authorize the appropriate BRU Server agent within each running virtual machine OS - this will allow you to properly backup each of the virtual machine filesystems in file by file mode for single file recovery. In the image above, this operation would require a BRU Server license for 6 systems - the host OS and the 5 virtual machines. Within the BRU Server management console, each system would appear as a separate client and would be managed as if they were separate, distinct systems.

This configuration gives you the best of both worlds - easy disaster recovery of a VM in the event of corruption by restoring that VM image from the host system backup, and easy recovery of a single accidentally deleted file directly to the appropriate virtual machine. Additionally, adding the Windows open file manager (OFM) module will even allow you to properly manage the open file environments of Windows including Exchange, SQL Server, Oracle, Filemaker, Active Directory, and even the file that was simply left open in a user's folder in Excel or Word.