Data Mobility Group

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Research Note

Protecting Servers, Workstations, and Laptops with LiveState Recovery

Corporations cannot run without data. They have customer databases, which include billing and shipping addresses. They have data about current orders being processed and previous orders that have shipped. They have the salary histories, work histories, and home addresses of their employees. All of this data must be protected and, if a hardware or software failure occurs, it must be restored.

All these types of data—whether structured or unstructured, stored in databases or in flat files—have one thing in common. You need servers, workstations, and laptops running the appropriate applications to access them. Without computers and applications, your data is just magnetic strings of ones and zeros.

There are two ways to recover servers, workstations, and laptops—the hard way and the easy way. The hard way requires you to piece together the operating system and applications. The easy way allows you to recover the server to any previous state with one command.

Although the example below applies to the recovery of end-user laptops, most LiveState Recovery customers are currently using the software to protect *server* applications such as SQL Server, Exchange, Active Directory, Oracle, and Lotus Notes Domino. These servers are typically located in both data centers and remote facilities. Symantec reports that adoption of LiveState Recovery for workstations and laptops is just beginning to take off, as more and more enterprises realize that end-user systems are just as much a part of their mission-critical infrastructures.

Every Road Warrior's Nightmare

You finally arrive at your hotel and plug in your laptop to review the presentation that you are giving at noon tomorrow, only to find that your laptop has not survived the journey. So you retrieve an overpriced drink and a bag of peanuts from the minibar and work on Plan B: Find the nearest computer store, buy a new laptop, and restore your presentation from a service provider that backs up your laptop every time you are plugged into a network. Simple, right?

So you buy the laptop and you are in luck—the operating system is already installed. Then you install PowerPoint—not a big deal here. But now you need access to Outlook to get to your contact database and calendar. Outlook is not hard to configure if you know the name of your email server and network settings, but not too many of us memorize that information. Bottom line—after lots of time and some frantic phone calls, you have a new laptop that is now properly configured (you think).

Isn't there a better way? Bare metal restore products are designed to restore the computer's total contents—operating system, applications, and data—to the point when the bare metal restore was taken. But not all of these products are road-warrior-friendly. Some require you to restore from a CD or require you to restore to a laptop with the same configuration.

And what happens when a remote office, with dozens (or hundreds) of servers, is destroyed by fire, flood, or some other natural disaster? Replacing and restoring the various kinds of servers to their previous operating states can be a tedious manual process.

But it doesn't have to be that bad. There are products, such as LiveState Recovery from Symantec, that allow you to restore from many different devices to servers, workstations, and laptops with many different configurations.

LiveState Recovery

Previous versions of LiveState Recovery allowed customers to restore servers, workstations, and laptops to their previous states with one important restriction—you could only restore to hardware with the same configuration as the hardware which had been backed up. So customers were required to maintain duplicate hardware, which is a costly requirement. Version 6.0 of LiveState Recovery eliminates that restriction. As a result, customers can now recover from an HP server to a Dell or IBM server, for example, including restoring to machines with entirely different motherboards, mass storage devices, network interface cards, video adapters, etc.

How Does It Work?

First, agents must be installed on the computers that are to be protected. A volume recovery point (system image) is created periodically, based on user-defined policies, and stored on NAS, SAN, iSCSI disks, USB devices, CDs, or even memory sticks. When the computer needs to be restored, the last recovery point—or any previously stored image—can be used.

If ten servers are destroyed, then you usually need to purchase ten new servers to replace them. But Symantec has partnered with VMware to develop a function, offered with LiveState Recovery (via the Restore Anyware option), that can "virtualize" the system image and allow it to be restored to a virtual server partition. This physical-to-virtual (P2V) capability allows customers to keep one large server that can be partitioned into ten logical servers at a remote site for disaster recovery.

After operating on a logical server in a disaster recovery site for several days until the main data center is back up and running, the system image can be captured again and converted back from a virtual to a physical image (V2P) so it can be restored on a standalone server.

What if the server is on the East Coast and the technician is on the West Coast? This is not a problem, since LiveState Recovery supports remote unattended recovery, provided the server supports standard remote access controllers (e.g., Dell DRAC, HP iLO, IBM BMC) allowing the administrator to configure remote server re-boots.

It's More Than Disaster Recovery

LiveState Recovery allows IT administrators to recover servers, workstations, and laptops in local and remote locations. But it can also be used to simplify daily operations. For example, one bootable copy can be used to provision any number of new computers. Or, LiveState Recovery can be used to set up a new system image to install and test new operating system changes and patches. It can also be used to set up an environment to test new versions of databases or applications.

LiveState Recovery is also now integrated with BackupExec for the first time, so customers can create snapshots on a network device and then copy these images to tape, with BackupExec managing the backup process. Backup Exec is now being offered by Symantec as a result of its recent acquisition of VERITAS[1].

LiveState Recovery brings critical systems back online faster and makes the IT administrator's job easier -- and it reduces the road warrior's nightmare to an inconvenience.■

[1] LiveState Recovery 6.0 is being introduced simultaneously with Backup Exec 10d for Windows Servers. The new release of Backup Exec provides continuous data protection (CDP) with web-based end user file retrieval and disk-to-disk-to-tape functionality.

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