



Stratus Avance Protects Workloads via Virtualization

By Cameron Sturdevant

Stratus' Avance ably protects key applications from run-of-the-mill hardware problems such as disk and power supply failures.

Stratus Technologies' Avance Software provides enterprises with a low-overhead solution for bringing high availability to applications hosted in branch offices and extends the benefits of HA to more modestly sized organizations.

Avance, which began shipping in June, is Stratus' first software-only offering. Administrators pair the \$2,500 per server product with commodity x86 hardware to create failover clusters that don't require shared storage to function.

Stratus Avance relies on a Xen-based hypervisor to support a mix of Windows and Linux guest systems. The current version of Avance supports a wide range of Windows operating systems but currently only supports RHEL (Red Hat Enterprise Linux) and CentOS on the Linux side.

Based on my tests of the product, I recommend that IT managers in branch offices and mid-sized organizations consider Avance as a means of protecting their key applications from run-of-the-mill hardware problems such as disk and power supply failures.

Avance provides high availability, but not continuous operation. A complete hardware failure in an active node comes with a short period of downtime. Stratus does market higher-end continuous availability solutions, such as the Stratus 6200 ftServer that eWEEK Labs reviewed in

November of last year.

With that said, however, Avance can ably handle typical hardware problems, turning, for instance, a single failed power supply into a nuisance instead of a 3 a.m. pager call.

Avance competes with Marathon Technologies' everRun VM, which uses Citrix's XenServer enterprise edition to provide virtualization, along with clustering technology from VMware, Microsoft and others. Marathon's everRun costs \$2,000 per physical machine but also requires a \$2,500 XenServer license.

Avance in the Lab

I was impressed by the speed with which I was able to get Avance up and running—the installation process took about 15 minutes. I tested Avance on two Dell PowerEdge 920 servers (Dell is a Stratus partner) equipped with 8GB of RAM, two 146GB hard drives and two quad-core Intel Xeon processors.

I created a Windows VM and installed several guest systems on my Avance system. I then installed Microsoft Exchange Server 2003. I found the tools in Avance for installing Linux guests less helpful than those for Windows. Where I was able to deploy Windows guests from regular installation media, Linux setup on Avance required that I first configure a separate networked installation source.

I put the product's high availability chops to the test by pulling a power cord from one of my two test systems. A second power cord remained, but Avance almost immediately noted the compromised machine condition and moved the VM to the other physical system.

By using a continuous ping and by observing application behavior I could see a 1-2 second gap in application availability, but nothing catastrophic. Avance accomplishes the move by first copying what was in the system memory over a physical network connection made directly between the two systems. Next it copies any changes that occurred while the VM was in motion and then the physical machine, which had been the active node, is demoted to passive mode.

When I simulated a complete power failure to one physical machine by pulling both power cords from the dual power supplies, the Avance software noted the error within 2 seconds and the restart process took approximately 100 seconds. My Windows test VM then booted up on the other physical machine, and the services I'd configured to start up automatically duly started up as well.

In this case of total hardware failure, the memory state of my failed node, however, was lost, leading to a short downtime while the second node took over. Therein lies the difference between the high availability that Avance offers, and the fault tolerance that more costly systems can provide.