

Dynamic Infrastructures

Taking Business Continuity to the Next Level

By **Brace Rennels**

Business continuity infrastructure is typically thought of as a means to get data offsite, but it can provide much more. A well thought through deployment can provide the ability to move information technology systems anytime, anywhere, for whatever purpose, without interfering with ongoing operations.

Whether recovering from a disaster, simplifying routine server maintenance or even migrating whole data centers, a good deployment can provide a dynamic infrastructure that ensures effective business continuity planning, as well as making the data center manager's life a whole lot easier.

To state the obvious, data center managers don't spend their working lives exclusively worrying about large-scale disasters. Their day-to-day experience is more likely to include managing smaller business continuity and infrastructure issues. How can they maintain full service when they know a shared disk is starting to malfunction and needs to be swapped out? How can they replace a physical server when it is no longer performing optimally? What happens when entire clusters of servers need to be moved because the nodes lack disk or processing ability? What happens if the entire data center needs

to be moved to a different location?

Building a dynamic infrastructure

Data replication solutions, which copy data in real time from one server to another to create a complete duplicate on a live backup system, provide high levels of data protection and availability. However, data replication is just that: it only protects an application's data, not the application itself.

In the event of a disaster, system administrators will have to hope that all of the application backups are valid and can be restored. If not, they'll have no choice but to find the installation disks (sometimes even that isn't an option). To overcome this, the more sophisticated data replication solutions provide byte-level replication for application system states so that administrators have the ability to provision an entire server at the touch of a



Brace Rennels

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button and keep business-critical applications up and running.

Another tool used to reduce hardware costs and manage infrastructure more flexibly is virtualization, which provides data center managers with the ability to move servers “dynamically” to a different virtual machine where more processing power or disk space may be available.

The process of moving virtual machines, however, is limited to the virtual infrastructure and sometimes only the same physical server where the technology is hosted. By combining data replication that moves data and the application system state – virtualization, WAN accelerators, operational monitoring and security tools – you now have the ability to protect and dynamically manage your entire data center, regardless of the situation.

Utilizing the infrastructure in operation

Using host-based replication allows you to replicate data and operating systems, independent of hardware and in real time, while systems are still in production. Administrators are able to replicate from a physical to a virtual environment or vice versa, physical-to-physical or virtual-to-virtual, all while the end users are accessing the data.

Data center managers are using dynamic infrastructures to move entire data centers without end users even being aware, easing

operational management as well as meeting the most stringent business continuity requirements. If a server is in need of maintenance, the data center manager isn't committed to a 2 a.m. Sunday morning change control window just to tweak a configuration setting or perform a reboot. The operation of that server is dynamically moved to another without interruption, allowing the technician to take as long as needed to perform maintenance or repair that server.

If you have the ability to move systems anywhere, anytime, for whatever reason, without interruption to users, you have just exceeded a rather large piece of your company's business continuity requirements and, more importantly, maximized data center uptime.

Dynamic infrastructures are providing the ability to restore business operations after a disaster not only to a functional level but also to the level of service that your end users expect, as well as providing the ability to seamlessly manage data center operations.

INFORMATION LINK

Author: Brace Rennels is a certified business continuity professional and professional services project manager at Double-Take® Software. He has been involved with more than 1,600 disaster recovery installations. Learn more at www.doubletake.com or contact Rennels at brennels@doubletake.com