

Hosting.com Finds R1Soft CDP Enterprise Edition a Virtual Match

Overview

Backup Operations Manager, Cliff Pankonien, knew Hosting.com's virtual server environment was exploding. What he did not know was how well his current R1Soft Continuous Data Protection® (CDP) Enterprise Edition software could easily and economically scale without application disruption so he could keep up with the growth. What he found was that R1Soft CDP enabled him to non-disruptively protect his emerging virtual environment while simultaneously increasing the number of virtual machines (VMs) that a single R1Soft CDP Server could protect and reducing his costs to build each one.

Hosting.com Profile

Hosting.com provides enterprise colocation, cloud computing, dedicated hosting, managed hosting, disaster recovery, and business continuance services to a global customer base. Its custom solutions allow companies to easily migrate across platform and solution type. Its network of geographically-dispersed data centers and expertise in managed and cloud hosting allow its clients to combine infrastructure solutions to meet their business needs.

The Impact of Server Virtualization on Hosting.com

Server virtualization is changing how every organization does business. However Hosting.com is particularly affected by this transformation in computing that is occurring since it does web hosting for thousands of companies.

Reduced datacenter footprints, increased power savings and the flexibility to move virtual machines (VMs) between hosts are just some of the reasons that Hosting.com cites for deploying all new applications on VMs. Further, it is in the process of virtualizing many of its existing physical servers.

Already 1200 of the approximately 5000 servers that Hosting.com manages are virtualized. Of that number, 500 of them are new virtual servers that have come online in the last few months. Pankonien describes the growth of VMs as "exploding" which is forcing him to scale out his data protection solution.

Protecting Hosting.com's Client Data

Pankonien's team is responsible for protecting all of Hosting.com's client data. To do so, Hosting.com uses R1Soft CDP Enterprise Edition on both its Linux and Windows servers. The R1Soft CDP software does backups by taking daily snapshots of each application server and then copying the data contained in the snapshot to an R1Soft CDP Server.

Each R1Soft CDP Server is either a 2U SuperMicro 6025 or 6026 with a 3WARE 9650 8-port disk drive bay. Each bay has two 80GB drives in a RAID 1 configuration for the CDP Server operating system and six 2 TB 5400K RPM drives in a RAID 10 configuration that are used for storing backup data. This gives each CDP server 5.4 TBs of useable space. Further, the R1Soft Control Servers that are used to manage the CDP Servers are hosted on 1U Supermicro 811Ts with two 80 GBs drives configured as RAID 1.

Hosting.com also uses software utilities available within the SuperMicro hardware to set policies and verify that the CDP Servers are operational. These policies check to make sure that the directories that store the backups are mounted and that the disk space used is less than 95%. If one of these levels is breached an alarm goes off at which point Hosting.com's support staff are notified to investigate the problem.



Company: [Hosting.com](http://www.hosting.com)
 Website: <http://www.hosting.com>
 Location: 650 Pencader Drive, Newark,
 Delaware, 19702
 Phone: 1-888-894-4678
 Industry: Web Hosting
 Founded: 1997

Challenges:

Protect applications on both virtual and physical servers

Explosive growth of virtual servers in datacenter

Data protection solution that economically and easily scales

Minimal or no disruption to applications while backup occurs

Solution:
R1Soft Continuous Data Protection®
– Enterprise Edition

Benefits:

Same backup solution for both virtual and physical servers

Single CDP Server scales to protect 100 or more VMs

More R1Soft Control and/or CDP Servers can be added on the fly

R1Soft Control and CDP Servers use inexpensive hardware

Uses minimal server hardware resources while backup occurs

5000+ Linux, Windows and VMware servers protected

"As Hosting.com continues to grow, we build another R1Soft CDP Control Server and start putting CDP servers under its management. We can continue scaling out in this manner regardless if we are protecting virtual or physical application servers."

**- Cliff Pankonien, Hosting.com
 Backup Operations Manager**

Backup – It's a Success!

One of the major reasons that Hosting.com initially chose R1Soft CDP Enterprise Edition was that it needed to complete backups successfully regardless of the type of environment that Hosting.com needed to protect, physical or virtual.

Hosting.com nightly achieves a 99% or greater backup success rate on both its physical and virtual machines using R1Soft. Even among those few servers that do have errors, rarely is Pankonien able to attribute any of these problems to R1Soft.

Rather he finds that errors are due to factors outside of R1Soft's control such as problems with Microsoft's Volume Shadow Copy (VSS) or Hosting.com clients accessing their application servers during backup periods at which they take such actions as rebooting them or changing administrative passwords. These errors are typically detected by members of his team when they arrive to work in the morning. At that time, his team simply re-runs the backup job which fixes the problem.

Physical or Virtual – R1Soft CDP Scales

Pankonien cites R1Soft's scalability as one of its most desirable features. Hosting.com went from an initial implementation of two Control Servers and less than 30 CDP Servers to seven Control Servers with over 100 CDP Servers across three data centers.

He says, "As Hosting.com continues to grow, we build another Control Server and start putting CDP servers under its management. Once the Control Server is managing 15 CDP Servers (which is what R1Soft recommends), we simply build another Control Server and continue scaling out. We can continue in this manner regardless if we are protecting virtual or physical application servers."

A single CDP Server can typically protect about 70 to 125 application servers regardless if the application resides on a physical or virtual server. However Pankonien finds that the amount of internal storage that a single CDP server needs drops substantially when the application servers to be protected are virtualized.

He found that he needed to change the configuration of the CDP Servers that are used to protect VMs. When he started doing VMware backups, he built these CDP Servers like the others that had 5.4 TBs of available storage capacity.

The problem was that the sizes of the VM backups were so small that a single CDP Server theoretically had enough storage capacity to backup 190 VMs. However there were so many VMs to backup that the CDP Server could not complete all of the backups in 24 hours.

Now he configures new CDP Servers intended for VM backups to have only two 2 TB disk drives in a RAID 1 configuration with 1.9 TBs of available storage capacity. This is sufficient capacity for a CDP Server to backup about 100 VMs while enabling Hosting.com to lower the storage costs associated with building each CDP Server.

R1Soft CDP Causes Minimal to No Impact to Applications

Pankonien also finds that R1Soft CDP gives him significant control over the performance impact on his physical and virtual servers by giving him the ability to dial performance up or down. When he first assumed his role, some of his backup jobs ran long but he noticed that the number of concurrent data streams was set to '7' as was the compression level.

By reducing the number of concurrent backup streams to '4' and the compression level to '1' (R1Soft's recommended settings), backup performance increased substantially. It also gave him a reasonable level of compression since much of his clients' data did not compress well anyway.

He says, "Hosting.com has clients who assume that because a backup is running that it must be killing their server because backups usually do. In this case, R1Soft's backups are not really noticeable as I have logged into Linux servers, done a "top" command and then started the backup. While application processes may slow slightly, it is not significant."

Hosting.com and R1Soft Virtually Go Together

Every organization is moving towards server virtualization adoption but as they make that move, navigating the transitioning from the protection of physical to virtual servers can become dicey. Trying to protect applications on both physical and virtual servers while keeping costs down, backup success rates high and customers happy is tough under the best of circumstances. However with Hosting.com and its 100% customer satisfaction guarantee, it is essential.

By using R1Soft CDP Enterprise Edition, Hosting.com's Pankonien has found that he has been able to help Hosting.com make this transition. Not only can he successfully protect both his physical and virtual servers, he can do so non-disruptively and easily while lowering Hosting.com's hardware costs in the process.

About R1Soft

R1Soft is the developer of Continuous Data Protection® (CDP) software. Their products offer scalable and high-performance backup software for Windows, Linux, and virtualization. CDP is recognized as the leading commercial backup software in hosted services and the Cloud. R1Soft CDP currently protects more than 185,000 servers worldwide. R1Soft is a division of BBS Technologies, Inc.