New Spin on Workloads
Novell Open Enterprise Server 2 Workload Protection and Migration with PlateSpin
by Ken Baker

Optimal workload execution and asset use requires the ability to easily move your different workloads as needed—whether from physical to physical, or physical to virtual environments. And to ensure continuous operation and the safety of your valuable data, you also need to provide the proper levels of protection for those workloads. To enhance your capabilities in these areas, PlateSpin Migrate, PlateSpin Protect and PlateSpin Forge from Novell will soon extend their migration and protection capabilities (currently supported on Windows, SUSE Linux, and RedHat Linux) to include workloads running Novell Open Enterprise Server 2.

> Migrate Novell Open Enterprise Server Workloads

In the past, if you wanted to move a Novell Open Enterprise Server workload to a virtual environment, you would essentially have to rebuild that workload from scratch. The new platform support in PlateSpin Migrate eliminates that rebuild work, giving you an industry-proven tool for testing, migrating and rebalancing all your workloads on your different host environments.

As a workload portability solution, PlateSpin Migrate automates the movement of your Novell Open Enterprise Server workloads between physical servers, and virtual hosts. The major strength of PlateSpin Migrate is its ability to completely decouple a workload from its underlying server hardware. This enables seamless movement from physical to virtual hosts—as well as between physical hosts with different hardware, even to new, bare metal servers.

PlateSpin Migrate delivers hardware-independent migrations by automatically configuring a server’s workload on the fly with driver, kernel and other necessary changes that allow it to operate properly on its target environment. It leverages a driver database of over 55,000 hardware drivers and also gives you the ability to add your own custom drivers. This wide array of hardware and platform support, combined with the addition of Novell Open Enterprise Server 2 to its broad multi-OS support, ensures you can perform workload migrations from anywhere to anywhere, whether for physical to virtual server consolidations, virtual to virtual workload migrations, virtual to physical workload de-virtualizations, or physical to physical hardware migrations.

To migrate a Novell Open Enterprise Server workload, you must first discover the source and target of your migration from within the Novell PlateSpin Migrate console. This requires that you provide either a host name or IP address for your source and target hosts. Once discovered, you simply click Move Workload, and the migration wizard will guide you through the process of migrating your workloads. This process includes the following core steps:

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1. Select your source and target servers and click Start Wizard. (See Figure 1.)

2. Provide administrator-level account credentials for both the source and target servers. If desired, you can click the Test button to make sure the credentials you supply work.

3. Mark the appropriate transfer method. For Novell Open Enterprise Server workload migrations, the method should be Take Control, which is a cold migration process.

4. If cloning a workload for a provisioning operation rather than simply migrating a workload, you can next select the Host Name option and change the host name of your workload to be cloned.

5. Next, you’ll be presented with the Networking configuration page, which lets you examine the workload’s existing network settings, such IP address and DNS.

6. For virtual targets, pre-configure the virtual machine on the VM Configuration page with the name of your target virtual machine as well as its CPU, storage and memory settings.

7. Select which drives will be part of your migration on the Volume page. You also have the option on this page to increase or decrease the drive size the workload will use on the target host after being migrated.
8. If desired, on the Post Conversion page you can add a script to perform an action you want included as part of the migration process.

9. For more granular control of your migration job, click the Advanced button. From the Advanced Job Configuration dialog you can select the Schedule tab to configure a job in advance and then schedule it to run at a later time. (See Figure 2.) From the Notifications tab you can configure it to e-mail you regarding the status or progress of a migration. With notifications turned on, it will also alert you to migration failures or completions. From the Advanced dialog you can also configure settings for your license keys and temporary network settings that you might want to use during the transfer.

10. Click Start to initiate the migration.

> Protect Novell Open Enterprise Server Workloads

With the upcoming update to PlateSpin Protect and PlateSpin Forge, you’ll also gain the ability to safeguard your Novell Open Enterprise Server workloads—along with your Windows, and Linux workloads—all from a single point of control. PlateSpin Protect and PlateSpin Forge both replicate your server workloads in to warm standby virtual machines, so you can easily recover their data, applications and operating systems in the event of an outage or some other disaster. In minutes, the replicated workloads can temporarily be powered on in a virtual environment, allowing the workloads to provide their normal services and operations until your production environment is restored.
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PlateSpin Protect and PlateSpin Forge leverage the same underlying code, allowing them to provide the same capabilities, use the same administration console and be managed in the same manner. Essentially, they are like two versions of the same product. However, PlateSpin Forge is packaged as an all-in-one hardware appliance that can protect up to 25 workloads with built-in storage, replication software, remote management capabilities and a hypervisor. It can be easily plugged into your data center and is ideal for mid-size enterprises and branch offices.

PlateSpin Protect has provided the added flexibility and scalability needed for larger and more complex enterprise networks. It includes the replication software and management interface, which you install in your own virtual infrastructure connected to your own storage system. And for maximum flexibility, you can purchase as many workload licenses as you need.

A potential use case for PlateSpin Forge might consist of you running a variety of Novell business services (i.e., Novell GroupWise and Novell iFolder) across eight different physical servers running on top of Novell Open Enterprise Server. PlateSpin Forge can create a disaster recovery duplicate of all eight servers, but by leveraging virtualization they can all reside on and be launched from a single PlateSpin Forge appliance. PlateSpin Protect can do the same thing, but it gives you the flexibility to customize that virtual infrastructure the way you see fit.

Not only do PlateSpin Protect and PlateSpin Forge create virtual machine copies of all your Novell Open Enterprise Server workloads, but they keep them constantly up to date. So, when disaster strikes, rather than having to go through the pain and stress of traditional backup and recovery processes, you simply identify the workload to be failed over and click Run Failover. Then, once you repair or replace your server hardware, you can easily migrate the workload back to the production server. And since PlateSpin Protect and PlateSpin Forge use the same workload migration technology as PlateSpin Migrate, you can restore a workload to completely new production hardware to complete the trip back to business as usual.

With the upcoming update to PlateSpin Protect and PlateSpin Forge, you’ll also gain the ability to safeguard your Novell Open Enterprise Server workloads.
Once you have either PlateSpin Protect or PlateSpin Forge installed and running, the first thing you’ll see is its dashboard, which gives you an overall view of the workloads that are being protected. (See Figure 3.) The left side of the dashboard gives you a graphical representation of your protected workloads, such as how many workloads are protected, whether any have failed and how many workloads are not protected. The right-hand side of the dashboard gives you a view of past, present and upcoming events.

The console also provides tabs for configuring protection and replication settings, tasks and reports. The Reports tab gives you reports on how well your workloads have been protected, workload replication history, current protection status and more.

To configure a workload to be protected, you simply do the following:

1. Click the Add Workload button on the dashboard.

2. Provide the host name or IP address of the workload to be protected. (See Figure 4.)

3. Enter the administrator-level credentials to allow the product to interact with the workload as needed.

4. Configure the workload replication method you want. You can choose between full replication and incremental replication, depending on how often the workload’s data changes and how much network bandwidth you want to use for replication.

5. Configure additional workload protection details, including SMTP and e-mail notification methods when a workload failure is detected.
Once a workload has been added to be protected, it will be displayed on the Workloads tab. This tab is the control center for PlateSpin Protect and PlateSpin Forge. It provides a full inventory of the workloads being protected, including their protection status, replication status, replication schedule, date and time of last replication, and more.

If a workload or server fails, you can choose to have it immediately fail over to its virtual replica or prepare it for a failover. If you immediately fail over, the virtual machine will boot up, load the workload replica based on the latest snapshot and start providing services to the applicable users. If you think the workload failure might be a false alarm caused by temporary interruption to network communications or some other event, you might want to prepare for a failover instead. This allows PlateSpin Protect or PlateSpin Forge to stage the failover by readying the virtual machine to take over for the failed workload. However, it doesn’t actually fail over until you give it the final failover command. If you determine that it is, indeed, a false alarm, you can easily cancel the failover.

As mentioned before, in the event that you do failover, PlateSpin Protect and PlateSpin Forge make it easy to restore your workload to a repaired server, a new bare metal server, or even into a new virtual server environment. However, before you ever encounter a workload failure, it’s best to test your disaster recovery setup. Both of these PlateSpin disaster recovery products give you the ability to test your configured failover functionality and the integrity of the recovery workload. If you click the Test Failover button, the products will boot the recovery workload in a restricted network environment and apply the Test Failover Settings that you configured in the workload’s protection details.

> **Simplify Workload Migration and Protection**

Extending the PlateSpin workload protection and migration capabilities to Novell Open Enterprise Server not only enhances your ability to manage your Novell Open Enterprise Server environment, but it simplifies the management of your entire workload infrastructure. With PlateSpin, now you have a unified workload management solution for protecting and migrating all your workloads regardless if they’re running on Windows, Linux, or Open Enterprise Server.
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