PLATESPIN FORGE™

Workload Protection
Consolidated Recovery
Business Continuity
One-Click Failover
Disaster Recovery Testing


FORGE

"Plug In and Protect" Physical and Virtual Server Workloads

Disaster recovery is one of the greatest IT concerns for organizations. PlateSpin Forge revolutionizes the way disaster recovery solutions are deployed, tested and managed by offering an affordable and easy-to-use solution for protecting all workloads in the data center. Until now, data center managers had to choose between costly and complex clustering and high-end replication solutions or suboptimal lower-cost alternatives like tape backups that can be slow and cumbersome to test and restore.

PlateSpin Forge is a consolidated recovery hardware appliance that protects both physical and virtual server workloads using embedded virtualization technology. In the event of a production server outage or disaster, workloads can be rapidly powered on in the PlateSpin Forge recovery environment and continue to run as normal until the production environment is restored. Designed to protect between 10 and 25 workloads, PlateSpin Forge ships with all storage, applications and virtualization technology pre-packaged and ready to go, reducing implementation time and effort. Organizations can also opt to leverage existing SAN storage for the recovery environment. For larger implementations, multiple PlateSpin Forge appliances can be deployed and centrally managed through a "single pane of glass" management console.

By dramatically reducing the time and specialized technical resources required to plan, provision, deploy and test a recovery environment, PlateSpin Forge puts workload protection and recovery within reach for small and medium-sized enterprises as well as departments and branch offices within larger enterprises. With PlateSpin Forge, organizations can begin reliably protecting their physical and virtual workloads in a matter of hours as opposed to months.

Making Physical and Virtual Environments Work As One

Today's data centers employ a mix of different hardware platforms, operating systems and virtualization technologies that must be thoroughly protected in the event of downtime or a site disaster. PlateSpin Forge allows organizations to extend their use of virtualization to affordably protect all workloads in the data center using a purpose-built recovery hardware appliance. By providing a cost-effective and easy-to-use solution for protecting whole server workloads including data, applications and operating systems using embedded virtualization, PlateSpin Forge helps make physical and virtual environments work as one.

Are Your Data Center Workloads Underinsured?

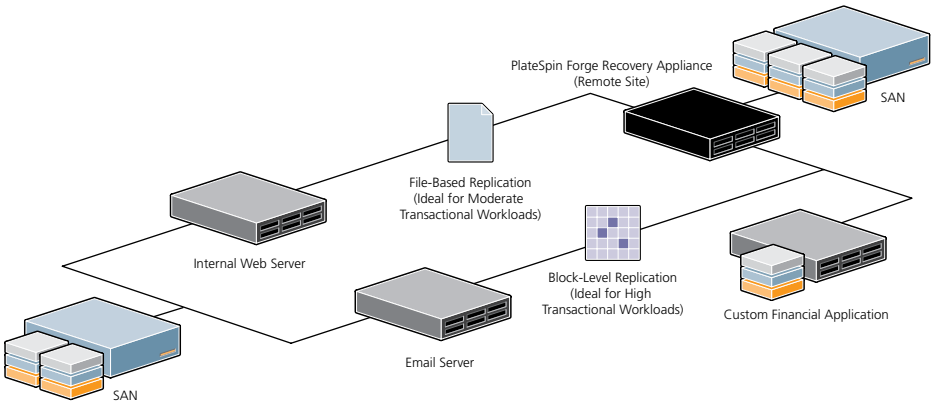
Organizations typically spend 80% of their disaster recovery budget to protect only their most mission-critical servers – as little as 15-20% of their server network. The gap between over-insured and under-insured workloads occurs because of the high cost of traditional high availability solutions like server clustering and high-end replication that require software redundancy and expensive duplicate hardware. PlateSpin Forge is the first recovery hardware appliance that leverages virtualization technology to provide a flexible and affordable solution for protecting production workloads. Multiple physical and virtual server workloads can be consolidated onto a single recovery appliance, allowing data centers to protect a greater percentage of their workloads while avoiding costly duplicate hardware and software investments. PlateSpin Forge protects the entire server workload including data, applications and operating systems, enabling organizations to rapidly recover with no need to manually rebuild systems. With PlateSpin Forge, organizations can better match their recovery investment with the criticality of workloads.

Consolidated Workload Protection and Recovery in Action
PlateSpin Forge is a ground-breaking recovery appliance that allows organizations to augment and extend their data center business continuity infrastructure. PlateSpin Forge makes it faster, easier and more economical than ever before to protect both physical and virtual workloads.

Protect more workloads in the data center with affordable consolidated recovery.

Recover multiple physical and virtual workloads using a single PlateSpin Forge appliance.

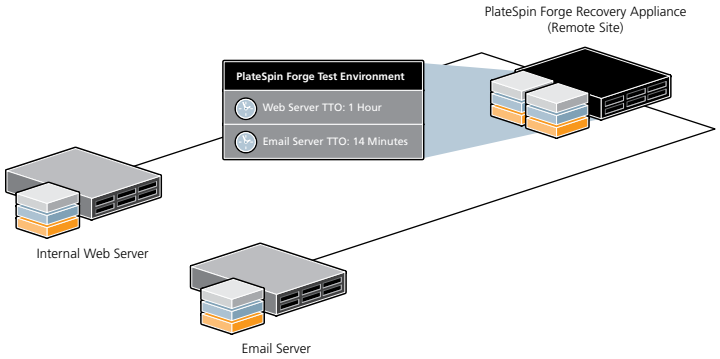
With PlateSpin Forge, organizations can protect workloads across geographically-dispersed sites and rapidly recover in the event of server downtime or a site disaster. By using PlateSpin Forge as a consolidated recovery platform, organizations can better protect a larger percentage of workloads without having to invest in costly duplicate hardware or redundant operating system licenses. In addition to standard file-based replication, high-speed block-level replication options allow enterprise customers to protect high transactional workloads, such as email and database servers. Efficient incremental transfers ensure that only changes to source data files are replicated to the PlateSpin Forge remote recovery environment, minimizing WAN usage and enabling organizations to efficiently meet recovery point objectives (RPO) with minimal data loss. PlateSpin Forge also integrates with existing storage area networks, allowing enterprises to seamlessly protect a greater share of workloads across the SAN.



Quickly and easily test the integrity of disaster recovery plans and processes.

Gain peace-of-mind that the recovery plan is sound before a disaster occurs.

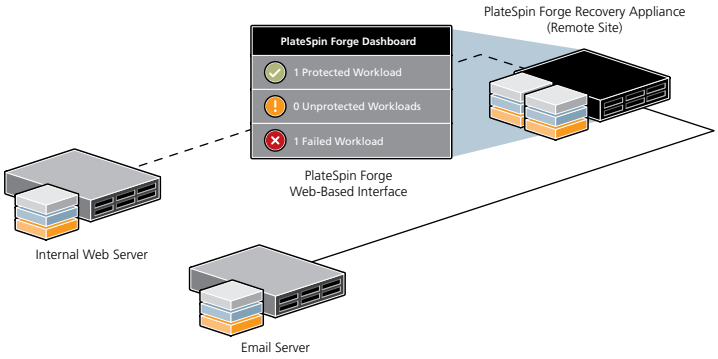
Experts recommend that recovery solutions should be tested at least every six to twelve months. Despite its importance, regular testing is often overlooked because the complexity of traditional recovery infrastructures makes testing onerous. Test Time Objective (TTO), or the speed and ease with which a recovery plan can be tested, is emerging as a key measure of recovery effectiveness. PlateSpin Forge enables one-click test recovery, allowing users to easily and rapidly test the integrity of the replication and recovery plan. To perform a test failover, PlateSpin Forge takes a snapshot of the recovery workload and powers it on within a "fenced off" private internal network. This allows the user to quickly validate the recovery plan and related business services with no disruption to the production workload. Once the disaster recovery plan has been validated, PlateSpin Forge drops any changes that have occurred on the recovery workload snapshot during the testing process and resumes workload replication.



Take control with rich monitoring, reporting and actionable alerts.

Easily monitor and report on key workload replication and recovery functions.

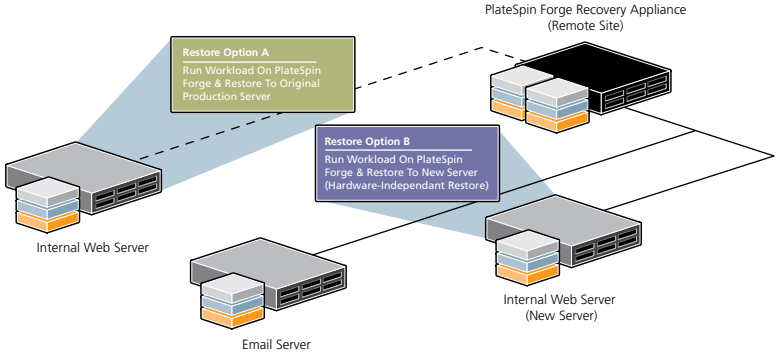
The PlateSpin Forge Web-based interface provides an ever-present dashboard that enables IT operations specialists to view the status of their protection plans at all times and manage, monitor and report on all aspects of workload protection. In the event of production server downtime or a disaster, administrators are automatically alerted via email. Notification messages enable context-sensitive actions that can be performed simply by clicking a link within the email from a PC, Blackberry® or other mobile device. Rich reporting features enable administrators and business owners to gain a clear picture of how protection resources are being used. Users can report on actual versus target recovery time and recovery point objectives (RTO and RPO), replication windows and data transfer rates. Protection logs demonstrate successful replication and recovery tests, providing the audit capabilities required to meet defined service level agreements or regulatory compliance.



Rapidly recover workloads with one-click failover and flexible restore options.

Power on recovery workloads with a single click and restore to the same or different hardware.

In the event of a production server outage or disaster, protected workloads can be rapidly recovered on a per-workload basis with single-click failover – just reconnect sessions and PlateSpin Forge takes over the workload. The workload can continue to run as normal on the PlateSpin Forge recovery appliance while the production environment is restored. Once the production environment is brought back online, PlateSpin Forge offers flexible options for restoring workloads. If the original production server is repaired and the hardware is intact, users can move the workload from the virtual recovery environment back to the original platform by performing a virtual-to-physical (V2P) workload transfer. If the original hardware cannot be repaired, users can restore the workload with a V2P transfer onto new hardware. Workloads can also be easily moved to a production virtual environment. Flexible, hardware-independent restore means that new hardware may be of a dissimilar make, model or configuration. Organizations have the flexibility to select multiple recovery points so that workloads can be rolled back to any of a number of available recovery states.



Workload Protection

Whole Workload Replication
PlateSpin Forge enables data centers to protect the entire server workload including data, applications and operating systems within a single bootable recovery environment. In contrast to data-centric recovery approaches, whole workload protection provides a context for recovered data and allows organizations to avoid the common hassles of manual system rebuilding and disjointed system and data restore. Organizations can affordably protect physical and virtual workloads with a single technology investment. Workloads can be protected locally or remotely across a wide area network (WAN).

Block, File and Snapshot Replication
High-speed block-level replication protects transactional workloads such as email servers and database servers. With block-level transfer, only the portion of a file that has changed is replicated, making it ideal for incrementally synchronizing large database workloads without application interruption. Block-level replication also enables efficient offsite data transfers. File-based replication provides a simple, noninvasive solution for moving or copying less critical workloads while maintaining server uptime. Replication snapshots that combine file-based replication with Volume Shadow Copy Service on Windows Server 2003 enable point-in-time replication with no application interference.

Rapid One-Click Failover
In the event of a disaster, recovery time is just a matter of powering on PlateSpin Forge's virtual standby workload. Upon receiving a failure alert by email, Blackberry or within the Web-based user interface, the administrator can rapidly recover workloads with a single mouse click.

Failback Flexibility
Leveraging PlateSpin's multiplatform Workload Portability™ technology, PlateSpin Forge provides flexible restore options. Workload failback can be rapidly executed to any physical or virtual host regardless of manufacturer, make or model.

Multiple Recovery Points
Platespin Forge supports multiple recovery points which allow enterprises to roll back to the last known good state of a protected workload. This feature enhances business continuity by eliminating the risk of recovering a corrupted workload. Administrators can customize the number of recovery points to achieve an optimal balance between storage allocation and protection requirements.

SAN Integration
PlateSpin Forge integrates with existing storage area networks to easily accommodate current and future recovery requirements. Enterprises can benefit from PlateSpin Forge's unique workload protection capabilities while taking advantage of existing storage within their SAN environment. Powerful dashboard and management capabilities allow enterprises to seamlessly protect a greater share of workloads across the SAN. PlateSpin Forge supports both iSCSI and fiber channel SANs.

Efficient Workload Protection Over the WAN
For enterprises that maintain a geographically-dispersed recovery site, PlateSpin Forge provides highly efficient workload transfer over the WAN. PlateSpin Forge's Server Sync feature enables incremental synchronization for migrating large workloads with no need for a full refresh, optimizing bandwidth efficiency.

Protection for 64-bit Windows Workloads
PlateSpin Forge provides file-based protection for critical 64-bit Windows workloads such as Microsoft Exchange 2007. As enterprises increasingly adopt 64-bit Windows servers, PlateSpin Forge provides a future-proof disaster recovery investment for protecting new and existing workloads.

Events, Tasks and Actionable Alerts
PlateSpin Forge creates, distributes and logs events to facilitate better management of the disaster recovery plan. Users can be notified of events through email so they don't have to actively monitor systems to stay on top of the disaster recovery plan. When an event occurs that requires user interaction such as executing a workload failover, for example, a task is created with actions associated with it so users know exactly what needs to be done to quickly rectify the issue. Finally, event logging provides a comprehensive audit trail to validate, review and report on the disaster recovery plan.

Protection Tiers
PlateSpin Forge provides the ability to logically group workloads by RTO, RPO and level of criticality. Protection tiers help to elevate recovery planning from the technical level to the business service level.

Recovery Resource Pooling
Because a single PlateSpin Forge appliance can recover up to 25 workloads, organizations can share a pool of recovery resources. Recovery resource sharing brings dramatic cost savings since organizations do not need to invest in dedicated duplicate hardware and operating system licenses.

Workload Protection Metrics
Through purpose-built, preconfigured reporting, users can quickly access all the pertinent metrics needed to report on the health of their recovery and protection plans such as actual versus target recovery objectives, replication window sizing and protection logs for auditing purposes. All reports can be exported into Microsoft Excel for further analysis or raw report data can be queried through a simple ODBC connection.

Centralized Management Console
PlateSpin Forge provides "single pane of glass" visibility across multiple PlateSpin Forge appliances, allowing enterprises to cost-effectively scale their recovery environment to match current and future needs simply by plugging in additional appliances. The centralized management console reduces administrative efforts and brings peace-of-mind that all server workloads are protected in the event of an outage.

Ease-of-Use

"Plug In and Protect" Workloads
PlateSpin Forge provides complete protection for up to 25 physical or virtual workloads straight out of the box. All necessary hardware, storage, consolidated recovery software and virtualization technology are prepackaged, preconfigured and ready to go, significantly reducing the time and effort required to deploy a disaster recovery solution.

Simple Web-Based Management
PlateSpin Forge includes an intuitive Web-based interface for managing, monitoring and reporting on all aspects of workload protection and recovery. An ever-present dashboard enables users to view the status of their protection plan at all times. The Web-based interface is extremely easy to use, dramatically reducing the time, effort and training required to ramp-up and remotely administer the recovery solution.

Easy Test Failover
Unprecedented one-click test failover allows the data center user to rapidly test the integrity of workload replication. With a mouse click, the user can take a virtual snapshot of the recovery workload, power it on within a private internal network and quickly validate the recovery plan. Because the failover test is fenced off from the production network, the user can work freely without having to be concerned with conflicts or the integrity of the production environment. Since tests are performed on a disposable snapshot that can simply be removed when testing is complete, there is no need to run a full replication as with most other replication solutions.

Failover Preparation
In the event of a possible production failure, users are able to power up the recovery workload in a fenced off network while the failure is confirmed. Users can then go live with the workload and rapidly "drop the fence" to bring the recovery workload online to failover for the production system or simply shutdown the recovery workload if the failure is a false alarm.

Remote Control
With no boot CDs or physical contact with the primary or recovery workloads required, PlateSpin Forge provides a single control point, saving time and costs associated with having to interact directly with production hardware at production or remote recovery sites. This can be particularly valuable in branch office scenarios where central control of a multi-site environment is critical. Additionally, replication agents are automatically deployed and updated.

Flexible, Out-of-the-Box Workload Protection
PlateSpin Forge is available in a range of hardware configurations that allow enterprises to cost-effectively match their recovery investment with the size of their data center. Customers have the flexibility to choose a 10 or 25 workload protection model with built-in storage or optional external storage to leverage existing SAN environments.

Model Number	310	325	510	525
Workloads				
Number of workloads	10	25	10	25
Expandable workloads[1]	yes	–	yes	–
Storage				
Base	–	–	2.5 TB	2.5 TB
Expandable (iSCSI or fiber channel)	yes	yes	yes	yes
Hot swap disks	yes	yes	yes	yes
Memory				
Base RAM	16 GB	16 GB	16 GB	16 GB
Expandable memory	32 GB	32 GB	32 GB	32 GB
Processor				
CPUs	2	2	2	2
Total cores	8	8	8	8
Networking				
Replication bandwidth	6 Gbit/s	6 Gbit/s	6 Gbit/s	6 Gbit/s
Number of gigE ports	6	6	6	6
Physical				
Rack units	1U	1U	2U	2U

[1] For the 10-workload appliance only, customers are able to purchase 5-workload add-on packages up to a maximum of 25 workloads.

What's in the Box

Software
- PlateSpin Forge consolidated recovery software
- Embedded virtualization technology

Documentation
- PlateSpin Forge Get Started Guide
- Hardware documentation

Workload Operating Systems Support
- Windows 2000 Server
- Windows 2000 Advanced Server
- Windows 2003 Server
- Windows 2003 Server R2
- Windows XP Professional (SP2)

PlateSpin Forge Web-Based Interface
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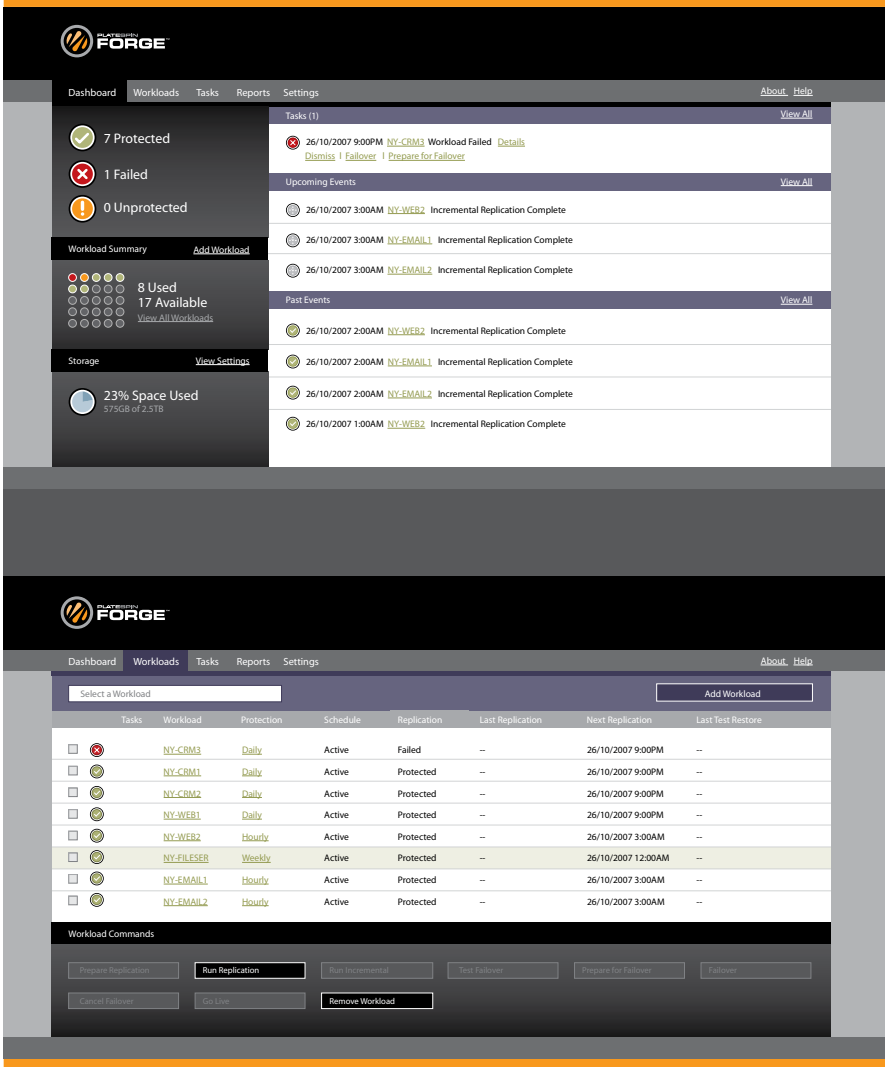

PLATESPIN®

PlateSpin is a Novell Company

PlateSpin, a Novell company, provides a unified suite of solutions to make physical and virtual environments work as one. PlateSpin's Workload Portability™ technology liberates workloads from hardware platforms, allowing data, applications and operating systems to be streamed over the network between any physical or virtual host. The ability to migrate, protect, provision and optimize server workloads across physical and virtual environments helps enterprises reduce cost, complexity and risk. With integrated workload profiling and planning, PlateSpin solutions improve the speed and quality of data center initiatives and ease the burden of managing mixed IT environments.

Backed by Novell's global network, infrastructure software expertise and ecosystem of partners, PlateSpin solutions empower enterprises to solve today's most critical data center initiatives including server consolidation, hardware lease migration, data center relocation and disaster recovery. Together, PlateSpin and Novell are helping customers around the world build more flexible, interoperable and cost-effective IT environments from desktop to data center. For more information please visit www.platespin.com.

PlateSpin ULC
200 – 340 King Street East
Toronto, Ontario
Canada M5A 1K8

Phone: 416 203 6565
Toll Free: 1 877 528 3774
Fax: 416 593 5557
www.platespin.com