Official White Paper

The Replicator Solution **Published: December 7, 2009**

How to Use The Replicator Solution to Enhance Your Business Continuity Program

This document will explain how *The Replicator* functions in more detail, specifically in the areas of data backup, restoration and data protection. It will also help you determine the key benefits this solution provides and the requirements for implementation within your organization.

Background

There are three key areas of business continuity/disaster recovery from an IT perspective: data backup, restoration and protection. *The Replicator* utilizes multiple technologies to deliver a simple solution that addresses all three of these areas.

Data Backup

Today, most mid-sized organizations still use some level of tape backups. This is typically a manual process, which requires tapes to be transported off-site and can significantly lengthen your Recovery Time Objective (RTO) and Recovery Point Objective (RPO). Clearly, all organizations are looking for ways to replace tape backup with backup to disk or vault solutions.

The Replicator offers the following to accomplish your backup objectives:

- Block Level Backup for efficient, reliable backups.
- 15-minute incremental backups throughout the day.
- Total server backup. Preserves OS and Data
- Exchange granular recovery. Backup at the message level.
- No Windows or other backups needed.

Data Restoration

Data restoration from removable devices (tapes or remote drives) requires data migration to a new machine. This can also be a time consuming, inefficient process.
The Replicator restores to a virtual environment and offers the following:

- Boot directly from backup image
- Full failover instantly
- Hardware independent (can restore to dissimilar hardware)
- Live or sandbox modes for testing
- Backups continue while running on failover server
- Restore from local or remote

Data Protection

Traditionally, the only way to protect data was to manually transport it offsite. Today, data vaulting has grown in popularity due to lower data communications costs and the availability of dedicated internet connections to transport data.

The Replicator offers the following to optimize your data protection:

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- Offsite data replication
- Supports 15 concurrent connections for multiple replication scenarios
- Restore multiple servers offsite for remote testing
- Bandwidth throttling
- Adjustable offsite schedule

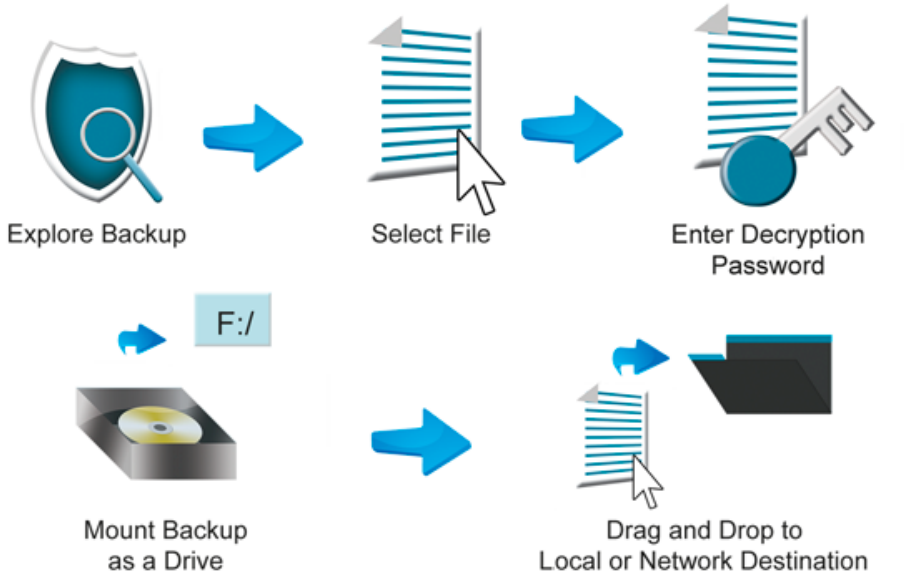
The Replicator is a simple, all-in-one solution that can address your three core business continuity/disaster recovery needs. For security purposes, your data is fully encrypted. *The Replicator* employs the 256-bit Advanced Encryption Standard (AES) algorithm as it has never been broken and renders transmitted data immune to theft.

How it Works

The Replicator delivers these services through a unique combination of best of breed solutions for backup, virtualization, and data vaulting. *The Replicator* will install an agent on each windows server you wish to protect. After the initial backup *The Replicator* will continue to take incremental snapshots every 15 minutes. These incremental backups are kept for 48 hours and then collapsed into dailies then weeklies and ultimately monthlies, which are kept forever. NOTE: The backup schedule for collapsing is configurable.

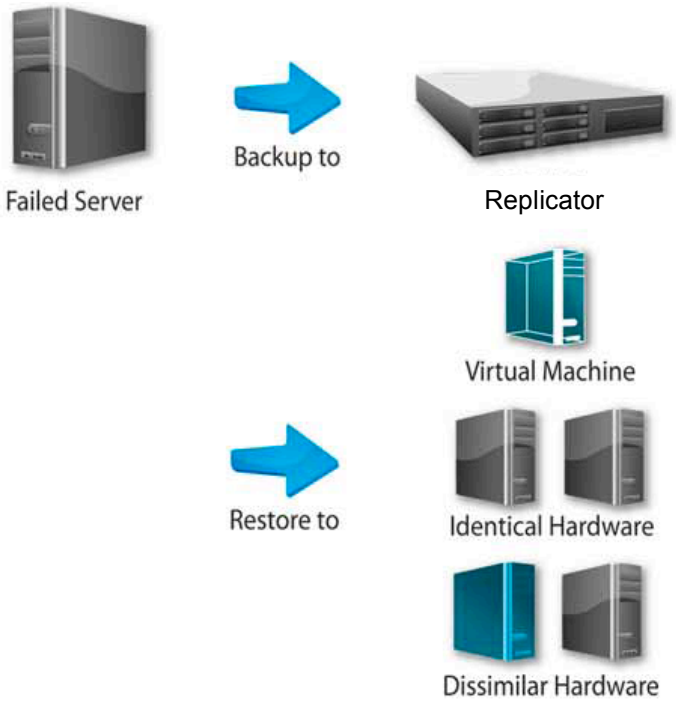
Data restoration can be performed in multiple ways. Data can be restored to the original target in the same location or a new location. Backup data can also be accessed directly from the appliance. This is useful when only a single file needs to be quickly verified or restored.

The diagram below shows how simple application recovery can be – just connect to one of your point-in-time snapshots, find your database and transaction log files, and restore using drag and drop functionality.



In addition to data restores, complete server restores can also be performed. Full server restores can be performed directly on the appliance. This is accomplished through the appliance's virtualization component. During restoration, a physical to virtual conversion is performed real time and the server will boot directly on the network.

When the time comes to restore your server to new hardware (identical, dissimilar or even virtual), boot your server with our included bare metal restore CD. The new server boots to *The Replicator* and pulls the latest backup image. Once the image is copied to the new server, *The Replicator* manipulates the hardware abstraction layer and inserts the necessary device drivers for the new hardware.



Finally, the appliance offers a robust data vaulting component. This allows for the same restore activities to be performed off site. Data can be replicated off site as frequently as every 15 minutes. This allows for both on site and off site Recovery Point Objectives as low as 15 minutes.

The diagram below shows one replication scenario to an offsite vault. *Replicator* to vault replication enables automated delivery of backup image files to a remote vault. This can be done in a one-to-one or a one-to-many replication scenario. Configure shares and replicate from *Replicator* to a *Replicator* vault and vice versa. Multiple connections are supported.

Failed Replicator and Server at Primary Site

Virtualize Failed Server on Vault at Remote Site

Perform Bare Metal Restore from Vault to Replacement Server

Implementation Requirements

The Replicator is designed for servers running windows 2000 and later. *The Replicator* is offered as a managed solution. The Ongoing Operations Team will work directly with the local implementation team to install and support *The Replicator* product. Ongoing Operations will review logs and respond to alerts ensuring backup operations are constantly running without any issues.

By default, *The Replicator* will perform 1 VSS backup per day. If the application is not VSS aware a custom script should be developed to halt services and obtain full backup every evening

Sufficient bandwidth must be available for data vaulting. *The Replicator* does provide tools for bandwidth management.

A precautions sheet will be reviewed (and is available upon request by emailing support@ongoingoperations.com) identifying any conflicting software or hardware limiting *The Replicator* from performing properly.