



NSI Software, Inc. – Information Brief

# Introducing Microsoft® DPM Data Protection Manager

By Q4 of 2005, Microsoft will have released version 1.0 of Data Protection Manager. NSI® Software has had a strong collaborative relationship with the Microsoft Storage team and we are happy to support the launch of Data Protection Manager as a loyal Microsoft Gold partner.

Data Protection Manager (DPM) extends the snapshot capabilities provided by Microsoft VSS to centralize previous versions of data and in part facilitate consolidated backups. Specifically, DPM requires an agent technology to install on local file servers whereby a periodic copy of the flat and closed user files is sent to a centralized server.

Routinely, on a schedule configured by the local administrator and typically encompassing hours, the DPM agent sends copy of the file changes to the DPM server. From here, a few potential benefits may result:

1. Redundancy of Past Data – Using an updated version of the Previous Versions Client (PVC), which originally shipped with VSS or Volume Shadow Services, DPM allows for users to request previous versions of data not only from their original production server but also from the secondary copy on the DPM platform. This benefit is extremely compelling and might be considered in combination with traditional tape (long term archiving) and real replication solutions (business continuity).
2. Centralized Backup – Once the data changes from other local file servers have been copied to the DPM server, a tape technology attached to the DPM platform can provide for backup of the file server data. Because of limitations in DPM 1.0, this approach for has some notable deficits, but may fit some situations.

## **When to use DPM or Double-Take for protecting servers**

There are constraints within the DPM architecture, however, which warrant a combined or alternative solution leveraging Double-Take® by NSI Software.

- Because of the manner in which Microsoft acquires its copies of the data changes, DPM supports only closed user files. Files that are maintained opened, including shared data directories and all traditional applications (e.g. Microsoft SQL Server™, Exchange, Sharepoint, etc.) are not supported.
- DPM agent (production) servers must be member servers and not active domain controllers (DC). If a machine is a DC, perhaps in the data center, or even as the only server at a branch office, DPM cannot be used to protect the files. Double-Take supports this configuration.
- Similarly, DPM's core architecture lends itself to a LAN only environment. Due to the nature of WAN traffic, one typically needs true real-time to avoid the large surges of changed data. In addition, WAN implementations require intelligent compression, bandwidth management, and resiliency to avoid sporadic WAN outages; all of which necessitate Double-Take.
- Finally, the DPM server itself is not resilient, meaning that one requires a replication and failover technology (like Double-Take) to protect the DPM data in much the same way that Double-Take is the choice for protecting Exchange, Microsoft SQL Server, and other service-based applications.

For more information on Data Protection Manager 1.0, please visit [www.microsoft.com/dpm](http://www.microsoft.com/dpm)

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### Combining DPM and NSI Double-Take

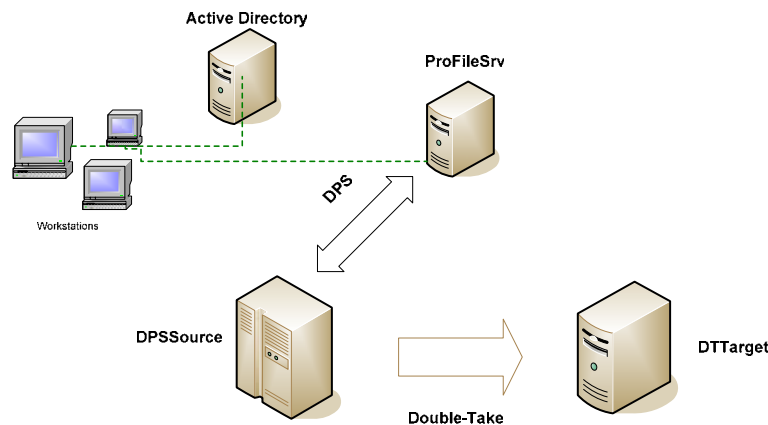
The next section of this document will discuss how to integrate DPM and Double-Take for a robust combined solution. It should be noted that the concepts and technologies discussed are based in principle and make no assumptions or warranties for success, particularly because the DPM 1.0 application is not yet shipping and subject to change.

It should be noted that these principles and Double-Take for that matter have been tested as true for nearly 10 years, three generations of Windows Server, and 50,000 licenses in production - including half of the Fortune 500.

As a combined solution, one might choose to deploy DPM in order to provide data protection for the file servers within the environment and use Double-Take replication to protect the various application servers on the same network.

- For file servers, one could install the DPM agents on each production fileserver and then point those servers to the DPM (target) server.
- For the application servers, one should install Double-Take on each production platform and replicate their data directories to the Double-Take target server.
- But because the DPM server cannot protect itself (or it's own SQL databases), use Double-Take to protect the DPM platform, since it would be the front line for guarding one's data long-term in this configuration. Like any other Microsoft server application, one simply installs Double-Take on the DPM server, which would then act as a "source" to the Double-Take target server (for HA/DR), but also as a "target" to the DPM agents.

This provides for protection of the file data, as well as protection (and availability) of the core applications.



*Important note: If one were to require high availability or "fail over" of file services, this would warrant Double-Take in lieu of DPM for the production file servers, as well. DPM does not provide this function.*

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In considering the DPM platform as an augmentation of VSS and previous versions, the Double-Take target server provides an additional layer of protection.

- The production server might have the current state of the data, plus perhaps previous iterations at two per day (e.g. snapping at 7 a.m. and noon).
- The DPM server might have the data as it existed up to four hours ago (when the last synchronization occurred) as well as perhaps daily or bi-daily snapshots covering up to one month.
- The Double-Take target server by providing real-time replication will always have a near exact copy of the data to the same consistency as the DPM server. In addition, as the Double-Take target server is presumably a Windows 2003 platform, one might snap the redundant data on an even more extended schedule, perhaps every three days resulting in a 90 or 120-day retention policy. This would effectively provide a user-driven, three-tiered data retention system all with restorative capabilities from disk; without ever accessing a tape or other "long term" media pool.

### **Which to choose?**

Customers can be confident in selecting Double-Take over DPM for the following reasons:

- First and most important, files on a DPM source must routinely be closed, which negates all application servers (e.g. Exchange or Microsoft SQL Server) as well as shared document areas and even user files that are shared in an open state.
- An additional deciding factor is latency. DPM, while satisfactory for a certain percentage of file servers, should be recognized as a periodic copy. This implies that instead of the production server immediately sending the data changes to a redundant platform, the data will be latent (usually between 1 to 12 hours) until the next scheduled DPM synchronization. For less active truly small businesses, four hours of data loss may be acceptable and DPM might be a valid solution. In most other environments, the value of the data exceeds the margin between a DPM server license and a Double-Take server license; so Double-Take, as a real-time replication engine, would be chosen.
- Finally, DPM, while providing data protection for file servers, does not offer high availability. For those customers wanting their file servers to be available again within minutes of a crisis, Double-Take would be used instead.

### **Closing Comment**

NSI Software, makers of Double-Take and GeoCluster<sup>®</sup>, has been a launch partner of every Windows server storage product since its original release of Windows Powered NAS (aka Storage Server). As a Microsoft Gold partner, whose products are consistently logo certified to the highest standard (Windows 2003 Server, Enterprise, and DataCenter), NSI will continue to have a long and healthy partnership in supporting the Microsoft Windows server platform, critical business applications like Microsoft SQL Server and Exchange, and advances in Storage.

NSI has over 50,000 licenses in production, including 12,000 on Exchange, 15,000 on Microsoft SQL Server, and nearly 10 years of protecting Windows servers since 1996. This makes NSI the undisputed leader in protecting Microsoft environments through replication.

We hope that you have found this information useful and please let your NSI representative know if you have further questions on this or other replication topics – or contact [MicrosoftTeam@nsisoftware.com](mailto:MicrosoftTeam@nsisoftware.com).

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