

IBM Spectrum Protect Plus
Version 10.1.0

IBM Spectrum Protect Integration

IBM

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Version 10.1.0

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Note:

Before you use this information and the product it supports, read the information in "Notices" at the end of this publication.

This edition applies to version 10, release 1, modification 0 of IBM Spectrum Protect Plus (product number 5737-F11) and to all subsequent releases and modifications until otherwise indicated in new editions.

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IBM Spectrum Protect and IBM Spectrum Protect Plus Integration

Introduction

IBM Spectrum Protect Plus™ is a high-performance data protection and recovery solution for virtual server environments. IBM Spectrum Protect Plus ensures that an organization’s virtual machines and their contents are protected quickly, completely, and safely.

For longer term protection or data archiving, IBM Spectrum Protect Plus is used in combination with other IBM Spectrum Protect products and components, specifically IBM Spectrum Protect and IBM Spectrum Protect for Virtual Environments. This paper discusses the interrelationships among some of those components.

Requirements and Connections

IBM Spectrum Protect Plus can be deployed as a stand-alone product on your enterprise.

Requirements for this mode of operation include at least one IBM Spectrum Protect Plus appliance and at least one vSnap server. The vSnap server can be located on the IBM Spectrum Protect Plus appliance or on its own appliance, or it can be a physical vSnap installation. Using a physical server for the vSnap repository is the most scalable and high-performance mode.

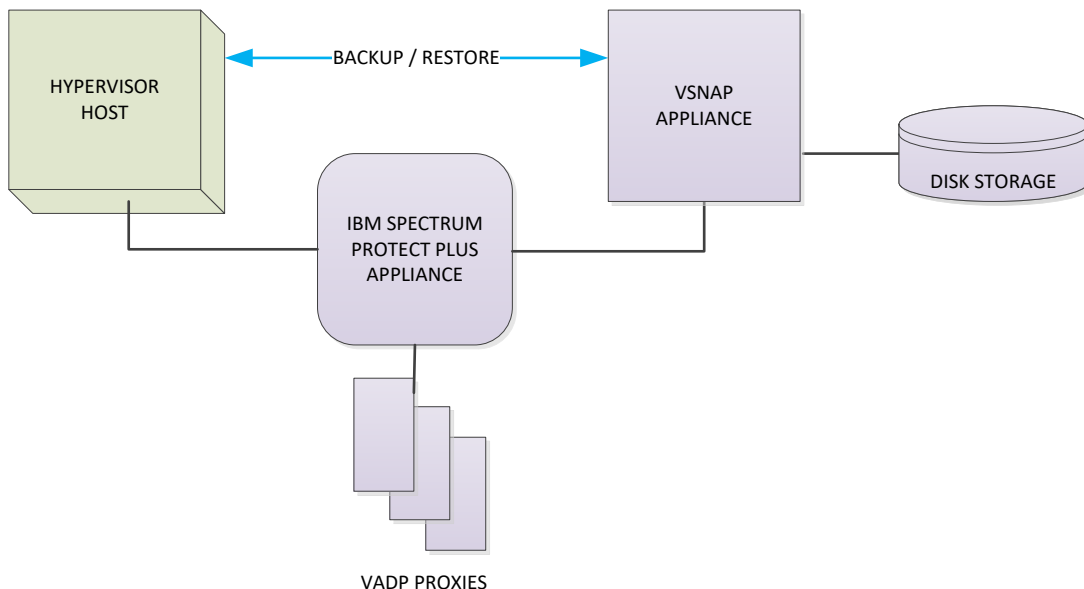


Figure 1: IBM Spectrum Protect Plus Connections

As illustrated in Figure 1, the IBM Spectrum Protect Plus server is connected to the hypervisor which contains the virtual machines, applications, and data you wish to back up. VADP proxy servers, which enable load sharing, are optionally connected to the IBM Spectrum Protect Plus server. Disk storage is connected to vSnap appliances.

For use cases that require long term retention and archiving, IBM Spectrum Protect Plus seamlessly integrates with IBM Spectrum Protect for Virtual Environments, leveraging the CLI capabilities of that product. IBM Spectrum Protect Plus, IBM Spectrum Protect, and IBM Spectrum Protect for Virtual Environments must all be installed. In this operating mode, selected backup snapshots are “offloaded” to IBM Spectrum Protect storage for long term retention and archiving.

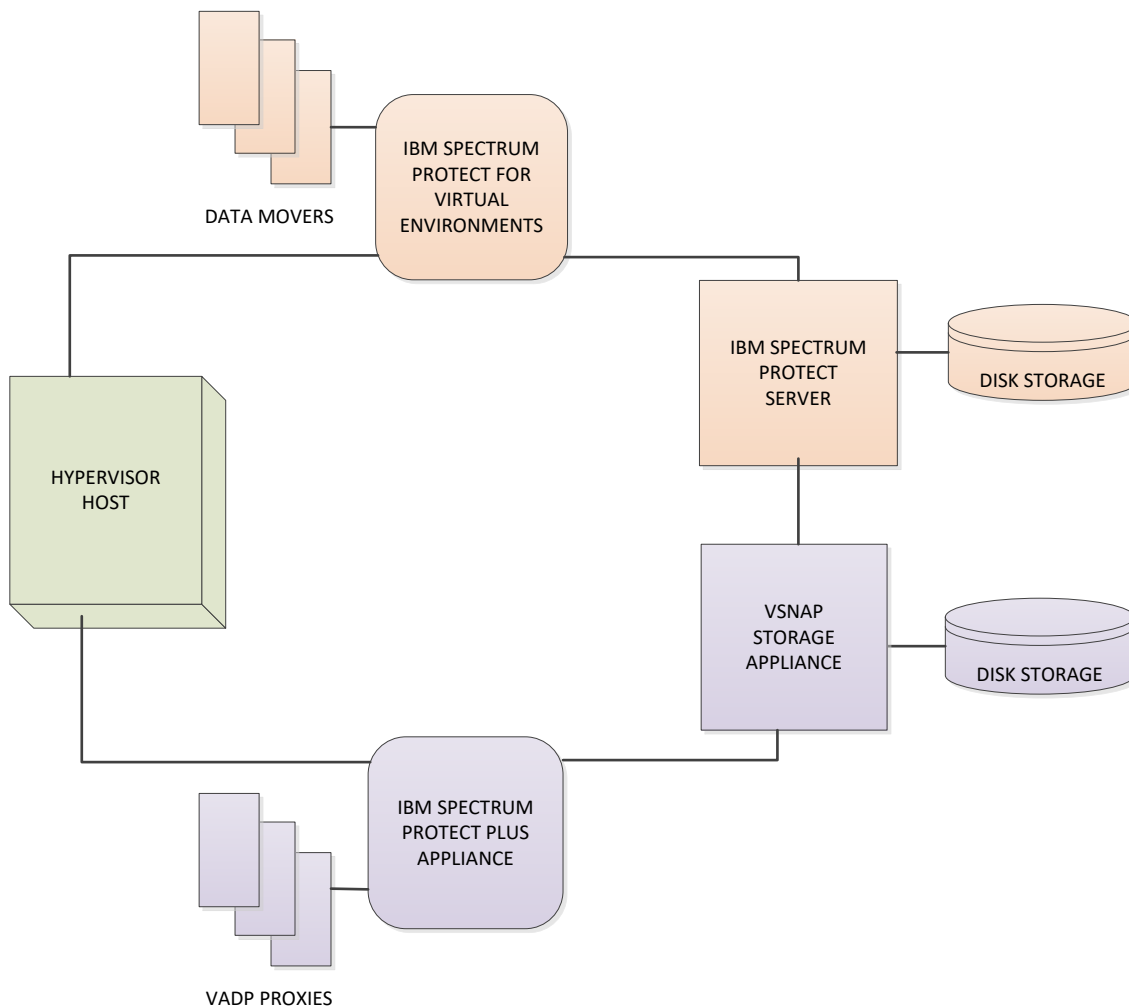


Figure 2: IBM Spectrum Protect Plus connections with IBM Spectrum Protect and IBM Spectrum Protect for Virtual Environments.

In these use cases, the IBM Spectrum Protect Plus server is connected to the hypervisor source, the vSnap appliance(s), and optionally VADP proxy servers which enable load sharing. Additionally, the

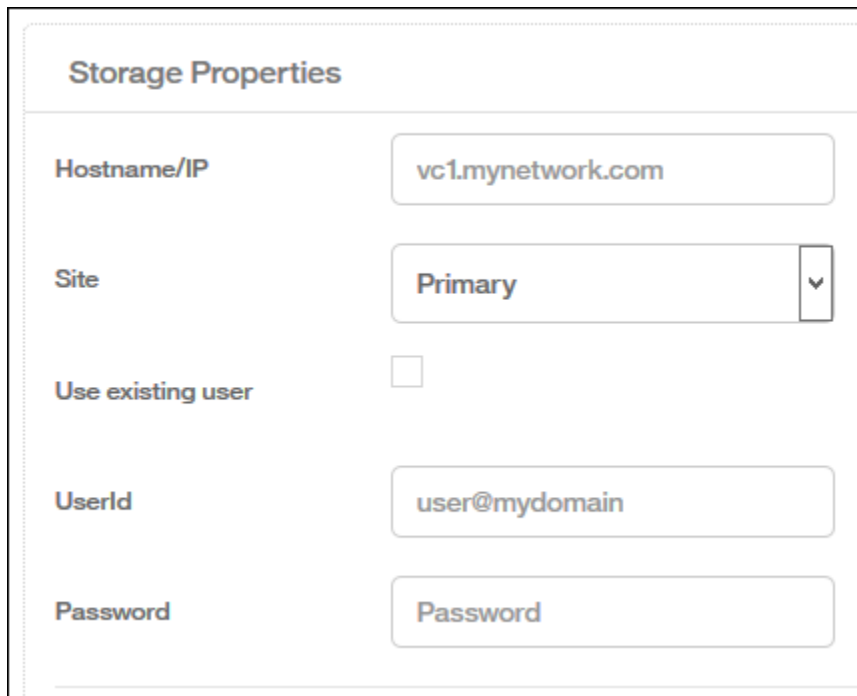
hypervisor source is connected to the IBM Spectrum Protect for Virtual Environments application (see Figure 2). Once appropriate pools are set up in IBM Spectrum Protect for Virtual Environments, IBM Spectrum Protect storage is used for offloaded backup snapshots. The offloading process is described later in this paper.

Resource Registration and Snapshot Cataloging in IBM Spectrum Protect Plus

Resources that IBM Spectrum Protect Plus needs to recognize are registered in the IBM Spectrum Protect Plus user interface with a one-time operation when defining a backup job. Items that are registered include:

- The hypervisor(s) that contain the components to be backed up. VMware vCenters and MicroSoft Hyper-V servers are both supported hypervisors. Hyper-V is not currently supported for offload.
- The vSnap Storage Appliance(s) that serve as the primary target for the backup.
- The IBM Spectrum Protect server, which serves as the secondary target for the backup.

A sample Registration dialog is shown here:



The screenshot shows a 'Storage Properties' dialog box with the following fields:

- Hostname/IP:** vc1.mynetwork.com
- Site:** Primary (dropdown menu)
- Use existing user:**
- UserId:** user@mydomain
- Password:** Password

Related features of IBM Spectrum Protect Plus include auto-discovery and the product's catalog. Auto-discovery recognizes when new virtual machines on a registered hypervisor are added to the environment. The feature ensures that all data in your virtualized environment is protected.

The IBM Spectrum Protect Plus catalog, which inventories and indexes all virtual machine snapshots, enables an administrator to easily see what is and is not protected. When the need to recover arises,

this global catalog allows the administrator to quickly search and identify what objects they want to recover, and from which recovery point.

The catalog is stored and maintained on the IBM Spectrum Protect Plus appliance. Periodic maintenance jobs are run to cleanse the catalog of metadata for snapshots that have passed the retention period or are otherwise expired.

Offloading to IBM Spectrum Protect by using IBM Spectrum Protect Plus

IBM Spectrum Protect contains built-in capabilities surrounding long term retention. The protection policies of IBM Spectrum Protect Plus leverage those capabilities.

IBM Spectrum Protect Plus enables users to easily create protection policies that address scheduling, RPO's, retention, and other parameters. When defining a protection policy in IBM Spectrum Protect Plus, the user has the option to offload the snapshots to IBM Spectrum Protect, essentially creating two backups of the data – one on the vSnap server, and one on the IBM Spectrum Protect server for longer term protection.

Two methods for offloading are available.

1. With the default method (method 1), the offload happens from the hypervisor directly. Incremental backups are supported.
2. With the alternative method (method 2), the offload happens from the vSnap server. Incremental backups are not supported.

The decision regarding which offload method to choose is based upon use case and environment. Factors to consider include speed, impact on production hypervisor servers, and storage needs. Note that Microsoft Hyper-V is not currently supported for offload for either method.

Consider using method 1 (hypervisor) if you are frequently creating long-term recovery points (for example, daily). Conversely, consider using method 2 (vSnap) if you are periodically creating long-term recovery points (for example, monthly).

Note that Microsoft Hyper-V is not currently supported for offload for either method.

To indicate that a backup snapshot is to be offloaded, simply select the “Offload to Spectrum Protect” method on the IBM Spectrum Protect Plus SLA Policy screen. A dialog requesting details about the offload method, the offload backup schedule, and retention parameters opens.

New SLA Policy

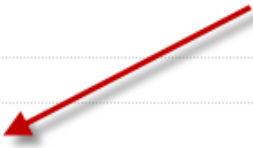
Name

Backup Storage

Retention

Frequency: Every at

Target Site

IBM Spectrum Protect Offload 

Offload to IBM Spectrum Protect

Frequency: Every at

Leverage most recent backup

The following concepts summarize the salient points about the IBM Spectrum Protect Plus offload operation:

Backup

- The vSnap server is the primary target for IBM Spectrum Protect Plus backups.
- An IBM Spectrum Protect server is the target for offloaded Spectrum Protect Plus backups.
- IBM Spectrum Protect Plus triggers the offload operation. If you select offload method 1, the offload happens from the hypervisor directly. If you select offload method 2, the offload happens from the vSnap server. Method 1 is the default.
- The offload operation uses data movers from IBM Spectrum Protect for Virtual Environments configured nodes, not VADP proxies.
- IBM Spectrum Protect Plus records the offloaded backup in its catalog.
- For primary backups and for backups using offload method 1, block level incremental backups are supported. For offloaded backups using method 2, all backups are full backups.

Restore

- Both restores from vSnap and recoveries of offloaded data are triggered from IBM Spectrum Protect Plus.
- IBM Spectrum Protect Plus is used to restore the snapshots from vSnap to the original or alternate hypervisor.
- IBM Spectrum Protect for Virtual Environments is used to recover the snapshots from IBM Spectrum Protect server to the original or alternate hypervisor.

Figure 3 illustrates the data flows for primary and offloaded backups and recoveries. All of these data flows are triggered by IBM Spectrum Protect Plus.

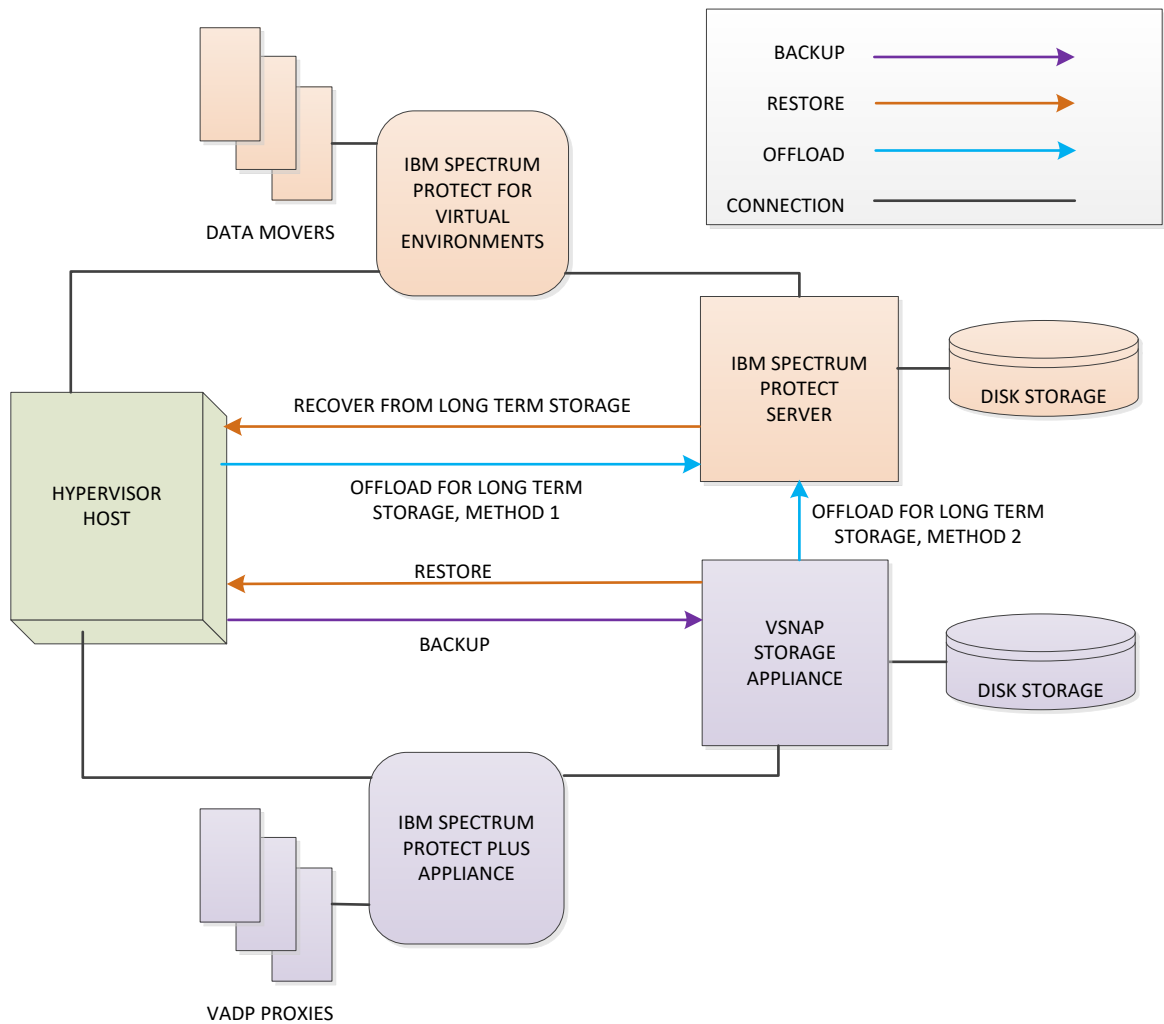


Figure 3: IBM Spectrum Protect Plus data flows with vSnap and IBM Spectrum Protect backup targets

VADP Proxies

In IBM Spectrum Protect Plus, running virtual machine backup jobs through VADP can be taxing on system resources. By creating VADP backup job proxies, you enable load sharing and load balancing for your IBM Spectrum Protect Plus backup jobs. If proxies exist, the entire processing load is shifted off the IBM Spectrum Protect Plus appliance and onto the proxies.

To create a VADP proxy in supported VMware environments, simply log in to a physical or virtual machine that meets the proxy requirements, run the proxy installer, which is provided with IBM Spectrum Protect Plus, and follow the setup wizard.

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Product Number: 5737-F11

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