

HPE APOLLO SERVERS AND VEEAM AVAILABILITY SUITE

Simple, flexible, and affordable data protection for your virtualized workloads

The cost and risk of data loss can be catastrophic:

75%

of organizations surveyed recognize they have a protection gap.¹

\$21.8M

is the average financial cost of the availability protection gap.²

66%

of organizations admit that digital transformation is being constrained by unplanned downtime.³

THE DATA PROTECTION CHALLENGE

As the amount and types of data that your business owns continue to grow, and as more of your IT deployments include virtualized workloads, there is an immediate and critical need to protect this data reliably. At the same time, the risk of data loss and variety of threats are increasing. Network and power outages, component failure, human error, willful malevolence, data corruption, software bugs, site failures, and even natural disasters are just a few sources of application downtime and data loss.

Many businesses today do not have data protection mechanisms or even storage specialists on staff. A simple yet reliable data backup system is critical to keeping the business running, meeting ever-evolving user expectations, and remaining competitive.

Typically, businesses face a three-fold data protection challenge:

1. Can we find a data protection solution that fits our budget?
2. How easy is it for our IT staff to run backups and restores?
3. How reliable is our data protection solution in reducing downtime?

THE HPE AND VEEAM DATA PROTECTION SOLUTION

Hewlett Packard Enterprise and Veeam jointly offer a data protection solution Reference Architecture (RA) that includes the Veeam Availability Suite, Veeam

integration with [HPE 3PAR Storage](#) and [HPE Nimble Storage](#) snapshots, and [HPE Apollo servers](#). This RA is verified by HPE and Veeam and provides multiple configurations specifically built, tuned, and tested for Veeam with different performance and capacity.

The solution offers the following benefits to deliver a cost-effective data protection infrastructure for virtualized environments:

- **Rapid backups and restores:** This solution has the ability to write backup data to local storage in the HPE Apollo server, so backups and restores for critical applications and workloads require significantly less time compared to the time needed for transferring data to and from a separate storage resource using either a Fibre Channel or Ethernet based transfer medium.
- **Scalability and simplicity:** In addition to providing hundreds of terabytes of local storage capacity, the HPE Apollo server has the required compute resources for running the Windows operating system and Veeam Availability Suite software on the same server. This converged approach greatly simplifies the solution compared to designs based on compute-only and storage-only components.
- **Cost-efficiency:** No additional storage licenses are required to deploy the storage capacity of the HPE Apollo server.
- **Proven protection:** HPE and Veeam performed testing to reduce the complexity of the solution. The RA provides guidance on how to configure hardware and storage resources in order to efficiently and effectively implement the configuration with minimal additional tuning.

HPE AND VEEAM DATA PROTECTION SOLUTION CONFIGURATIONS

The following table summarizes the various configurations for the HPE and Veeam data protection solution based on HPE Apollo servers and the Veeam Availability Suite. In addition to these configurations, the HPE Apollo 4000 server family offers countless customization options such as using different disk sizes and types including SSD and SFF disks, doubling the number of installable disks. This flexibility makes this platform suitable for different workload profiles including those demanding the most random I/O.

SUMMARY

The HPE and Veeam solution comprises of Veeam Availability Suite, Veeam integration with HPE 3PAR Storage and HPE Nimble Storage snapshots, and HPE Apollo servers. The combination of HPE ProLiant-like compute ability and high-density storage in the same chassis makes the HPE Apollo storage server the clear choice for implementing a simple, affordable, and reliable data protection solution for virtualized environments. In addition, Veeam Availability Suite integrates with HPE 3PAR Storage and HPE Nimble Storage snapshots to significantly reduce the impact of data protection on production environments.

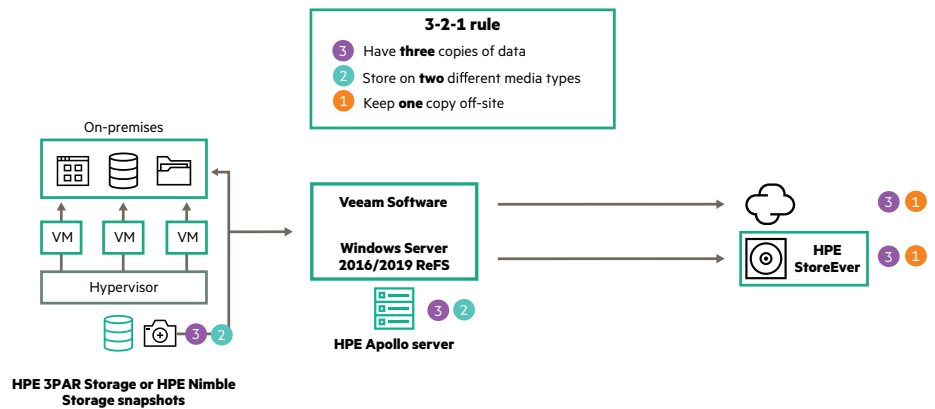


FIGURE 1. HPE Apollo server and Veeam

TABLE 1. HPE Apollo Gen10 server configurations

HPE Apollo server configuration	Small scalable	Medium	Medium scalable	Large
Model	HPE Apollo 4200 Gen10	HPE Apollo 4200 Gen10	HPE Apollo 4510 Gen10	HPE Apollo 4510 Gen10
Description	Half-capacity	Full-capacity	Half-capacity	Full-capacity
Number of 800 GB SSD (for OS and vPower NFS cache)	2 (RAID 1 mirror)	2 (RAID 1 mirror)	2 (RAID 1 mirror)	2 (RAID 1 mirror)
Number of 12 TB LFF hard disk drives (HDDs)⁴	12+1 spare	24+1 spare	28+1 spare	56+2 spare
Raw capacity excl. SSD	156 TB	300 TB	348 TB	696 TB
Usable capacity	120 TB (109 TiB)	240 TB (218 TiB)	288 TB (261 TiB)	576 TB (524 TiB)
Storage configuration	RAID 6 (10+2)	RAID 60 (10+2)x2	RAID 60 (12+2)x2	RAID 60 (12+2)x4
File system	ReFS single large volume	ReFS single large volume	ReFS single large volume	ReFS single large volume
RAID controller	P816i-a ⁵	P816i-a ⁶	P408i-a+ P408i-p ⁷	P408i-a+ P408i-p ⁸
CPU	1 socket, 12–16 cores.	1 socket, 16 cores	1 socket, 18–22 cores	1 socket, 22 cores
Memory	128 GB–192 GB	192 GB	192 GB–256 GB	256 GB
FC connectivity	2 x 16 Gb/s	2 x 16 Gb/s	2 x 32 Gb/s	2 x 32 Gb/s
Network connectivity	2 x 10/40GbE + 2 x 1GbE	2 x 10/40GbE + 2 x 1GbE	2 x 10/40GbE + 2 x 1GbE	2 x 10/40GbE + 2 x 1GbE
OS	Windows Server 2016–2019	Windows Server 2016–2019	Windows Server 2016–2019	Windows Server 2016–2019

⁴ After testing for this solution was completed, HPE released 14 TB LFF SATA disk drives. These drives have not been tested in this solution.

^{5,6,7,8} All RAID controllers are battery powered and support write back cache destaging to persistent flash memory.

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