



VTR R5 for HPE NonStop

Entry-level backup and restore

What is VTR?

VTR contains all the necessary components to provide the customer with a tape drive replacement solution. Tailored to small data centers, it supports one or two HPE NonStop systems and can replicate virtual tape images between VTR units in the same or different data centers.

The VTR emulates tape devices to the HPE NonStop system, encapsulates virtual tape volume contents as files, and then writes those files in a compressed format to its internal disk storage — or reads them back in case of a restore. It does this fully automatically and transparently, helping eliminate the need for operator actions.

Virtual Tape Repository (VTR) R5 for HPE NonStop provides a simple and affordable physical tape replacement for HPE NonStop backups, reducing and simplifying operations.

In a world that never stops, failure — for even a minute — is not an option. With HPE NonStop fault-tolerant computing, you can deliver unbroken access to information and services with an integrated solution stack that has been uniquely designed for continuous availability. The fully virtualized, integrated stack of hardware, operating system, database, software, and applications provides the foundation that HPE NonStop customers rely on for their mission-critical applications.

HPE NonStop customers can enhance their backup and Transaction Management Facility (TMF) protection coverage using virtual tape instead of physical tape handling. Fully automated and transparent backups mean that they can be done more easily and often — improving protection coverage. With this automation, operations staff can be freed up for more valuable tasks.

Note: For larger data centers, with more complex requirements and environments that wish to implement higher levels of redundancy, security, and support cloud storage, Hewlett Packard Enterprise offers the BackBox Virtual Tape Controller (VTC) for HPE NonStop with optional QoreStor® for HPE NonStop software-defined storage software.

VTR R5 for HPE NonStop architecture

VTR R5 for HPE NonStop unit is managed as a single domain that controls access to a set of virtual tapes across one or two local HPE NonStop systems. VTR Domain Manager software is installed on the HPE NonStop system designated to control the domain, along with its associated media catalog. VTR Extractor software is installed on each HPE NonStop system in the domain.

The VTRs connect through FC to each HPE NonStop system and provide emulation of up to eight tape drives per domain (four on each of two systems or eight on a single system).

Virtual tape storage is protected by the VTR's RAID 6 internal disk storage and can be further protected using its data copy capability to maintain copies on a corresponding local or remote VTR.

Where disaster recovery capabilities are required, a second VTR can be located in a remote data center and the contents of the primary data center VTR are replicated to it. The remote VTR storage is treated as read-only until a production system failure requires it to become the primary.

Fault tolerance

Deploying VTR R5 for HPE NonStop in redundant pairs offers significant benefits, such as:

- During normal operation, the VTR Domain Manager load balances jobs across both VTRs, giving twice the throughput from each HPE NonStop system.
- Upon a single VTR failure, restarted jobs are rerouted through the remaining VTR.
- Continuous operation is possible through maintenance or software updates to each VTR.

Virtual tape storage features

HPE NonStop system connections

HPE NonStop systems running the HPE NonStop L- and J-series operating systems are supported by VTR R5 for HPE NonStop. Connection to all HPE NonStop systems is through FC at the highest speed supported by the system model.

Designed for reliability and availability

Utilizing SSDs as system disks, alongside redundant power connections and flash-based write cache (FBWC)–based storage controller cache, helps ensure the reliability of the VTR R5 for HPE NonStop.

Internal disk storage

VTR R5 for HPE NonStop comes with 16 TB usable disk capacity. The VTR uses RAID 6 technology to be tolerant of up to two disk drive failures without endangering virtual tape data. For a further level of protection, one of the following is also recommended:

- Copy of virtual tape images to a VTR at a disaster recovery site
- Bidirectional copy of virtual tape images between two VTRs in the same site

Efficient storage management

The resident VTR R5 for HPE NonStop software cleans up unnecessary virtual tape image storage by deleting the associated VTR-resident files after the volumes expire in HPE NonStop Distributed Systems Management / Tape Catalog (DSM/TC) or TMF catalogs, helping ensure storage capacity for new backups is increased.

One-step tape creation

Using the VTR R5 for HPE NonStop user interface, multiple virtual tape volumes can be created, labeled, and cataloged with a single, simple action.

Physical tape support options

Current model physical tape drive attachment

Current industry-standard model tape drives, including the latest HPE StoreEver Linear Tape-Open (LTO) Ultrium generation, can be connected to the VTR R5 for HPE NonStop through an optional Serial Attached SCSI (SAS) interface. This permits the import of physical tape content to virtual tape storage or the export of virtual tapes to HPE NonStop readable physical media.

Migration from physical tape

Contents of existing physical tape cartridges can be easily migrated to VTR, either through an existing industry-standard tape drive attached to an HPE NonStop system or through a current model tape drive directly attached to a VTR. Existing volume contents can also be copied to VTR through the HPE NonStop system without disturbing catalog contents. The VTR user interface can be used to initiate direct virtualization of tapes from a VTR-attached drive.

Migration from HPE Virtual Tape Server (VTS)

Contents of existing tape volumes on an HPE VTS unit can also be migrated to VTR through an HPE NonStop system using the included feature.



Technical specification



| | |
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| Server | HPE ProLiant DL380 Gen10 Server |
| Processor | 1x Intel® Xeon® processor |
| Memory | 16 GB |
| Storage controller | HPE Smart Array P408i-a SR |
| System disk drives | 2x2 TB SAS 12G Midline 7.2K LFF SC |
| Internal data storage | Usable capacity of 16 TB |
| External data storage | None |
| Enterprise backup subsystem products supported | None |
| Network interfaces | 4x 1GbE ports |
| HPE NonStop host models supported | HPE NonStop systems running the HPE NonStop L- and J-series operating systems |
| Number of HPE NonStop hosts connectable | One or two |
| Maximum number of VTR domains | One |
| Number of virtual tape drives | Up to 8 total (4 per HPE NonStop system if 2 systems are connected) |
| Operating system | Windows Server 2022 Standard |
| Server management | HPE iLO 5 Advanced |
| Power requirements (at 115 VAC) | 371 W, 154 W idle 382 VA at 115 VAC |



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