

# HPE NONSTOP STORAGE I/O ADAPTER, STORAGE CLIM

Boost storage capacity with high availability and efficiency

HPE NonStop systems deploy a storage subsystem based upon I/O controllers called Cluster I/O Modules (CLIMs) for access to disk and tape storage. The Storage CLIM is at the heart of the NonStop storage subsystem for HPE NonStop systems. Standard Serial Attached SCSI (SAS) provides the technology and interconnect across the NonStop storage subsystem. The Storage CLIM also supports HPE XP storage arrays, and virtual and physical tape drives via Fibre Channel interconnect. In addition, Storage CLIM can connect to the HPE NonStop Virtualized BackBox over Internet Small Computer Systems Interface (iSCSI).

The NonStop storage subsystem consists of two or more Storage CLIMs with, SAS and Fibre Channel Host Bus Adapters (HBAs), two or more SAS disk enclosures, SAS small form factor (SFF) hard disk drives, SAS SFF solid state drives (SSDs), and associated cables. Each SAS disk enclosure can support up to 25 SFF drives in a combination of HDDs and SSDs.

The NonStop storage subsystem, which is based upon the Storage CLIM, is compatible with previous generations of NonStop storage solutions in that there is no change to applications. Applications do not need to change from previous versions. The NonStop Operating System software routes I/O calls, communicates across the system interconnect, and links to the storage devices that are connected to the Storage CLIM.

## KEY FEATURES AND BENEFITS

- Provides storage capacity at a lower cost per gigabyte
  - Supports HPE SAS HDDs and SSDs
  - Provides a variety of storage options
  - Supports HPE XP storage arrays
  - Supports FC and SAS attached virtual and physical tape drives
- Delivers higher performance for your I/O
  - Supports InfiniBand for the system interconnection
- Delivers higher availability
  - With dual RAID 1 OS boot disks, the Storage CLIM continues to run if one fails; the failed disk can be replaced online.
- Keeps your business-critical applications running
  - Designed for fault tolerance
- Protects your NonStop investments
  - Requires no change to applications
- Reduces your operations costs and improves operations control
  - Supported by Open System Management (OSM)

## ENCRYPTION

The Storage CLIM supports encryption of drives via the Volume Level Encryption (VLE) software option. All storage devices connected through the Storage CLIM can make use of VLE including HDDs, SSDs, and HPE XP storage arrays.<sup>1</sup>

## CONFIGURATION AND PACKAGING

The number of Storage CLIMs that can be supported on different NonStop platforms depends on the particular system and sometimes how many other CLIMs are also on that system. Consult with your local NonStop field representative for exact configuration guidelines for the NonStop platform that you are interested in.

## DISK PARTITIONING

The Storage CLIM supports a feature known as disk partitioning. This is where a physical drive can be divided into multiple logical volumes (aka partitions). An SSD can be partitioned into eight partitions (an HDD into four partitions). Each drive partition also gets its own DP2 cache. So that in the case of an SSD, a physical drive can now have up to eight DP2 caches associated with it. Depending on your particular requirements, an SSD with disk partitioning could provide many benefits including performance and a smaller footprint to ensure fault tolerance; drives with partitioning should be mirrored the same as drives without partitioning.

## MANAGEABILITY

OSM provides the management command and control similar to prior NonStop systems. With OSM, the NonStop software seamlessly interfaces to the Storage CLIM subsystem enabling you to manage Storage CLIMs.

**In today's world, businesses rely upon dependable, secure storage, and real-time retrieval of information, especially for business-critical applications. That is why the fault-tolerant NonStop systems use standard SAS storage to improve response time and provide transactional integrity.**

<sup>1</sup> An optional license is required for HPE NonStop BackBox Virtual Tape Controller (VTC)



## Data sheet

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## TECHNICAL SPECIFICATIONS

Specifications	Description
Hardware	HPE ProLiant DL380 Gen10 with one Intel® Xeon® processor
Form factor	2U
Weight	33 lb (15 kg)
Maximum watts RMS	AC power: 197W
Power factor (maximum is 1.0)	0.98
Dimensions (h x w x d)	3.44 x 17.54 x 26.75 in.
Number of power plugs	2
Power supply plug type	AC power: IEC-320-C14
NonStop system types supported	HPE NonStop NS8 and NS4 systems
Software requirements	HPE NonStop L20.10 RVU and the appropriate CLIM installation software

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