

Logical Volume Management structures

Physical Volume Header - PV label header - PV header - List of data areas - List of metadata areas	1 st 4 sectors of physical volume, generally in 2 nd sector Label, sector location, data location UUID for PV List of offsets for data List of offsets for metadata
Metadata area - Header - Raw location descriptor	Location of LVM metadata Version, metadata offset from PV start and size Offset to metadata from start of metadata area
Metadata	ASCII details of LVM structure

Physical Volume Label Header and Physical Volume Header

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	L	A	B	E	L	O	N	E	Sector of this header from start of PV							
10	CRC32 0x20 to head end				Offset to PV Header				L	V	M	2		0	0	1
20	GUID/UUID of PV ID stored as 32 byte ASCII string with no '-' separators															
30																
40	Device size								List of data area descriptors (16byte							
...	blocks) terminating descriptor is all 0x00								00	00	00	00	00	00	00	00
...	00	00	00	00	00	00	00	00	List of metadata area descriptors (16byte							
...	blocks) terminating descriptor is all 0x00								00	00	00	00	00	00	00	00
	00	00	00	00	00	00	00	00								

Data area & Metadata area descriptor

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	Data area offset, in bytes from start of PV								Data area size in bytes							

Metadata area header

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	CRC32 0x4 to head end					L	V	M	2		X	[5	A	%	r
10	0	N	*	>	Version (0x01)				Metadata area offset from start of PV, bytes							
20	Metadata area size, bytes								List of raw location descriptors...							
30	Raw location descriptors 24 bytes long, list terminated with 24* 0x00															

Raw location descriptor

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	Data area offset								Data area size							
10	CRC32				Flags											

Metadata

JSON type ASCII structure.

= comment

<Volume group name> {

id = volume GUID

seqno= the version of Metadata (multiple copies of metadata are stored in the metadata area. However not necessarily in sequence.

The raw location descriptor data area offset points to the active record.

format = "lvm2"

status = ["RESIZEABLE", "READ", "WRITE"]

extent_size = size of allocatable blocks for the volume (in units of sectors)

max_lv = maximum number of logical volumes (0 = unlimited)

max_pv = maximum number of physical volumes (0 = unlimited)

References:

[https://github.com/libyal/libvslvm/blob/master/documentation/Logical%20Volume%20Manager%20\(LVM\)%20format.asciidoc](https://github.com/libyal/libvslvm/blob/master/documentation/Logical%20Volume%20Manager%20(LVM)%20format.asciidoc)

<http://talk.manageiq.org/t/lvm-internals-structures-disk-layout/1328>

<http://www.tldp.org/HOWTO/LVM-HOWTO/> (note last update 2006-11-27)

https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/logical_volume_manager_administration/lvm_overview