

# dm-lc admin guide

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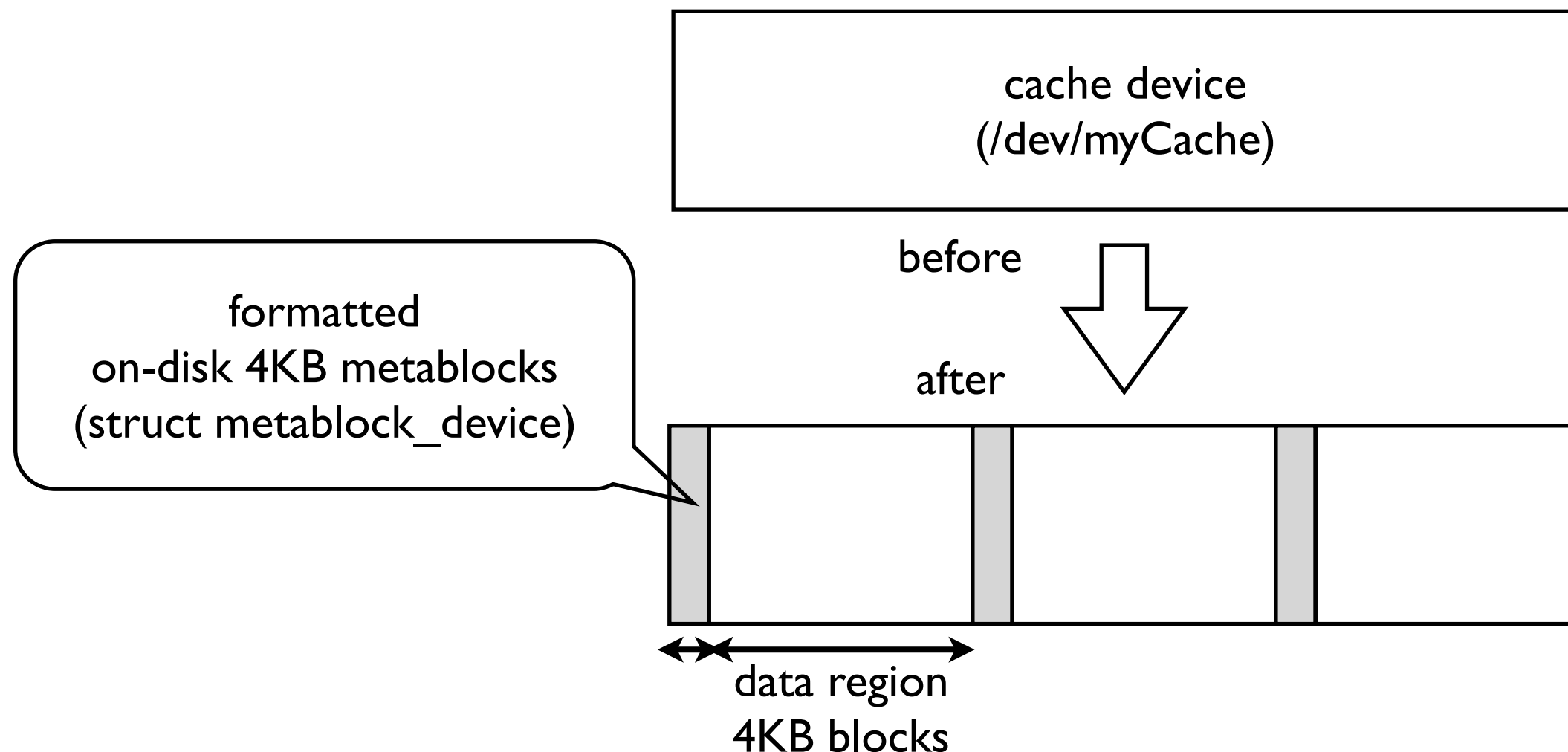
Development is real fun!

# lc-format-cache

Format the on-disk metadata regions.

`lc-format-cache /dev/myCache`

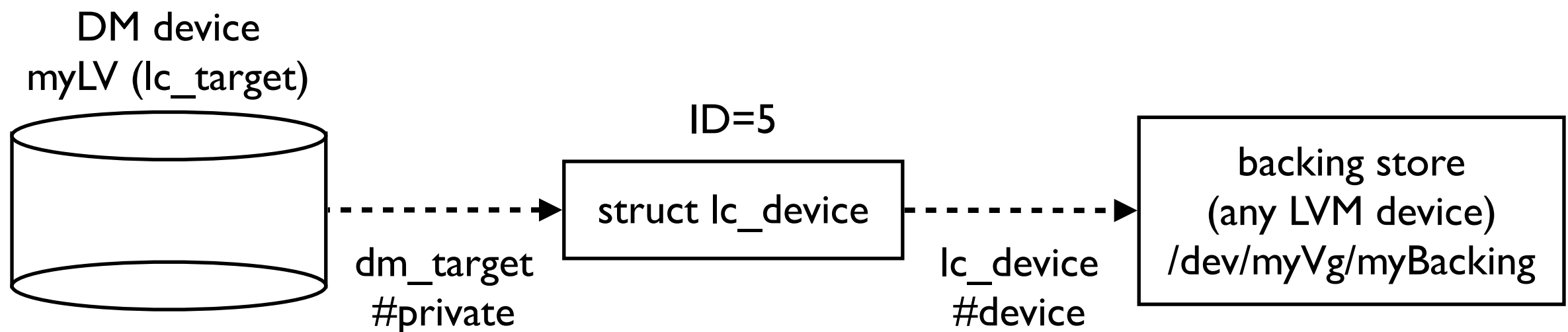
--> `dmsetup message lc-mgr 0 format_cache_device /dev/myCache`



# lc-create

Create a DM device with no cache.

```
lc-create myLV 5 /dev/myVg/myBacking  
--> dmsetup create myLV --table "0 $size lc 5 /dev/myVg/myBacking"
```

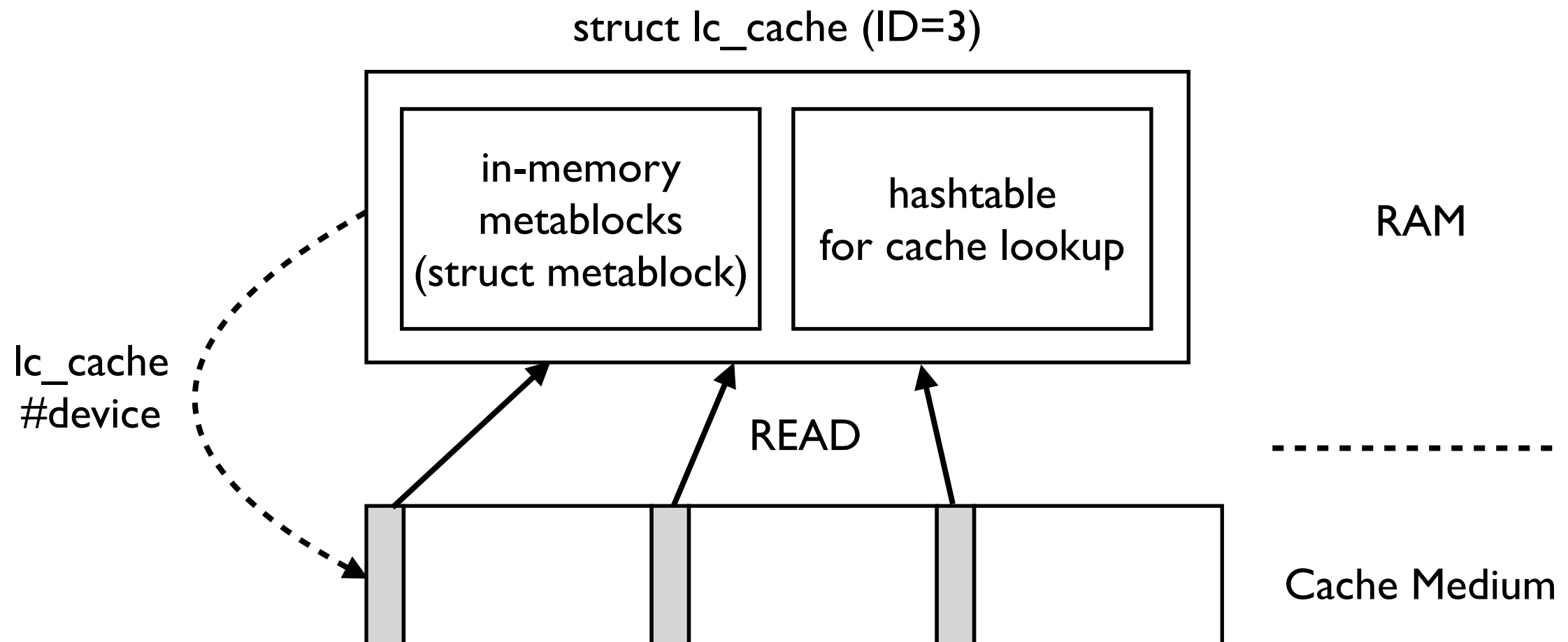


# lc-resume-cache

Build up in-memory structures from on-disk metablocks.

lc-resume-cache 3 /dev/myCache

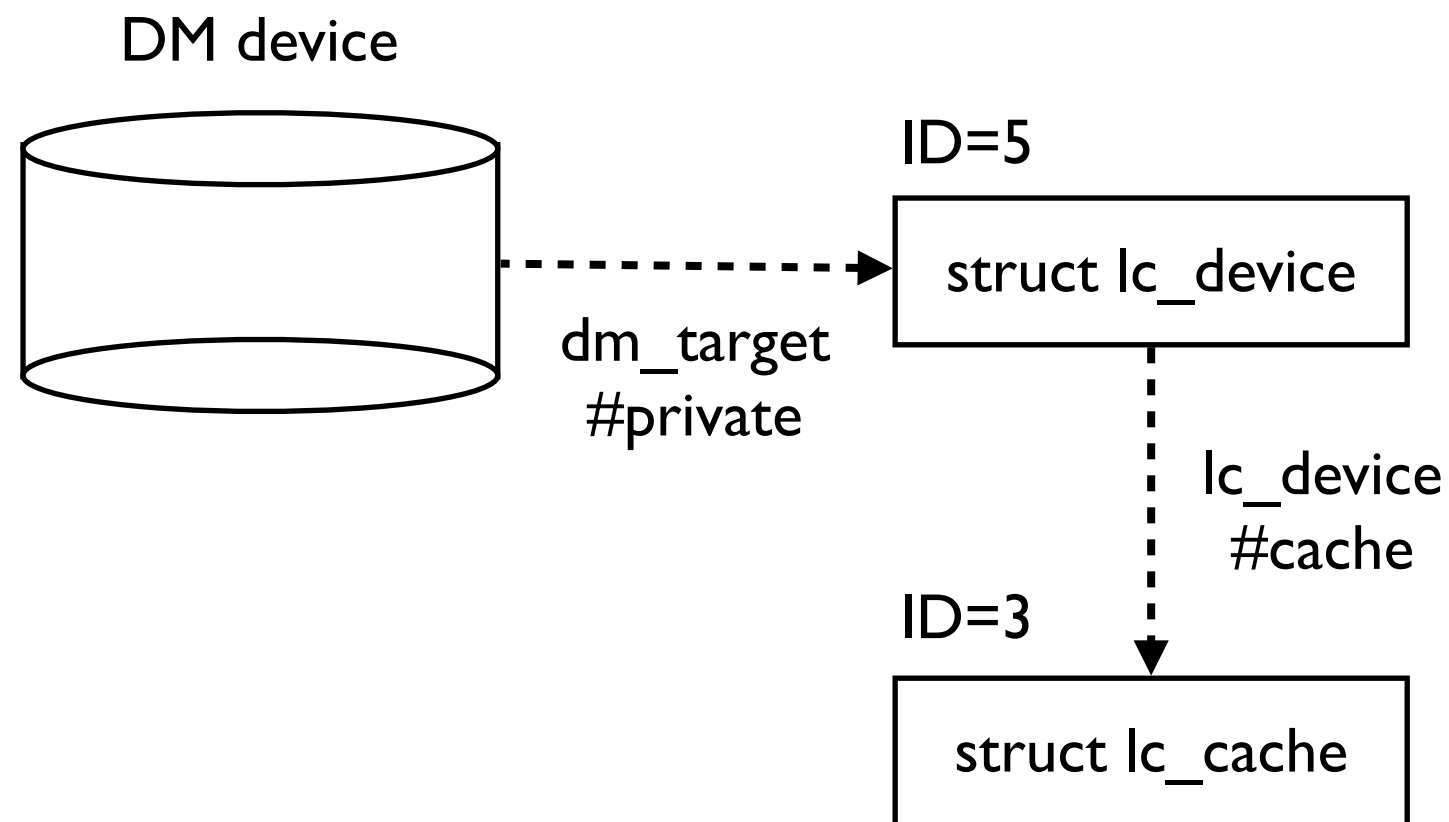
--> dmsetup message lc-mgr 0 resume\_cache /dev/myCache



# lc-attach

Attach a DM device to a cache.  
Caching is put into operation.

lc-attach 5 3  
(lc-attach <device id> <cache id>)



# Pseudo Code

lc\_map(ti, bio):

lc = ti->private;

if not lc->cache:

send bio to lc->device

return

ctx = lc->cache

hit? = lookup(ctx, bio)

if hit?:

...

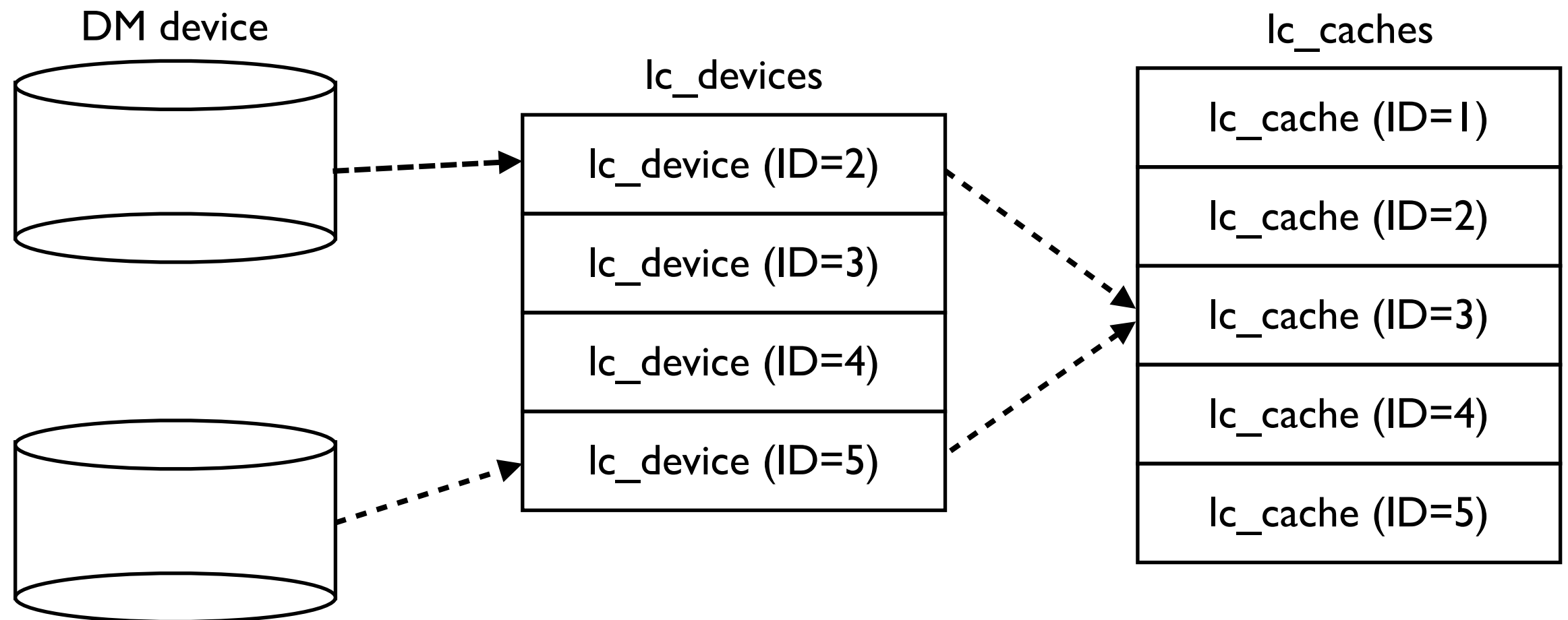
else:

...

# Shared Cache

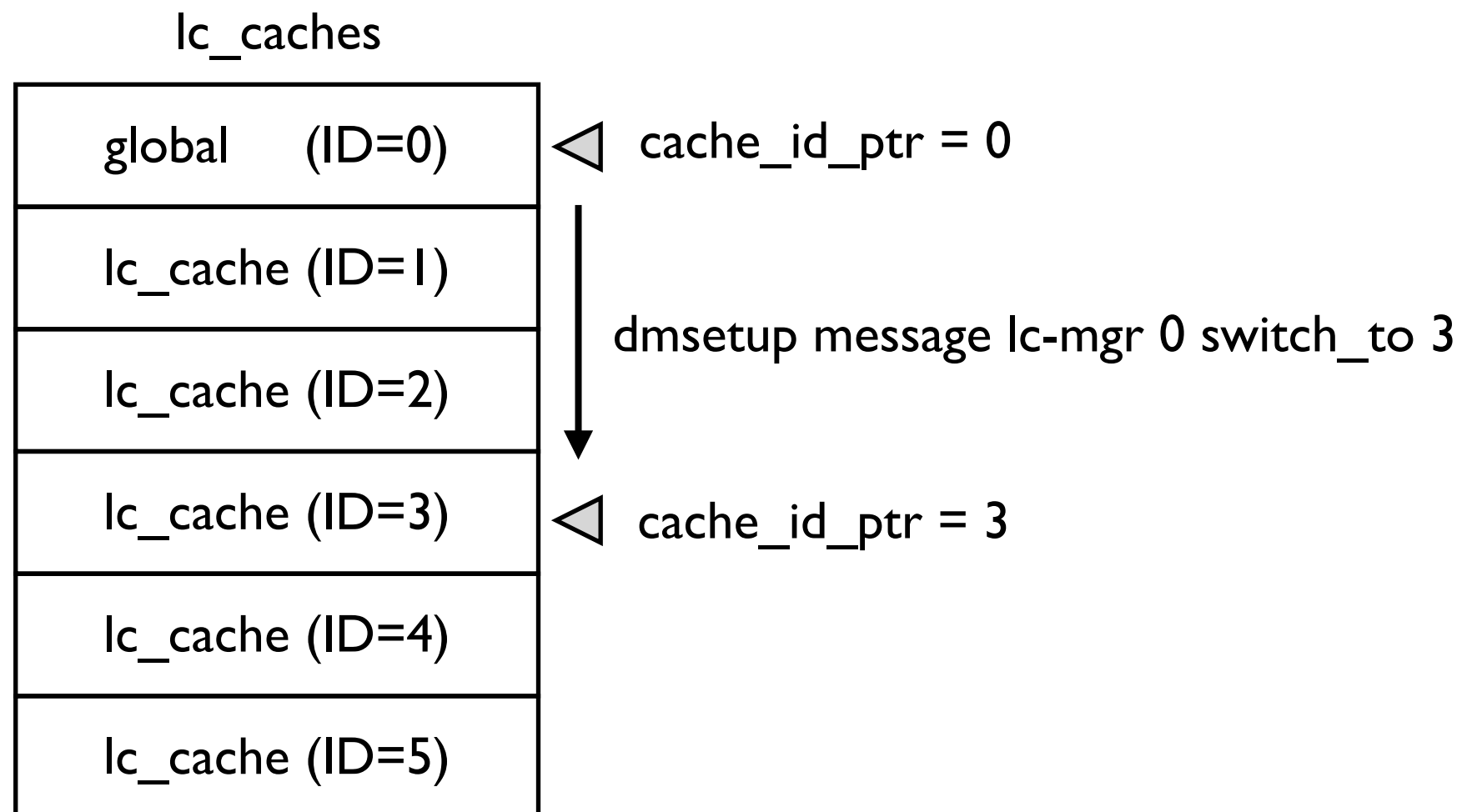
Single cache can be shared  
by multiple DM devices.

lc-attach 2 3  
lc-attach 5 3



# lc-mgr? (I)

All caches are managed by lc-mgr.  
lc-mgr points to a particular cache to configure.



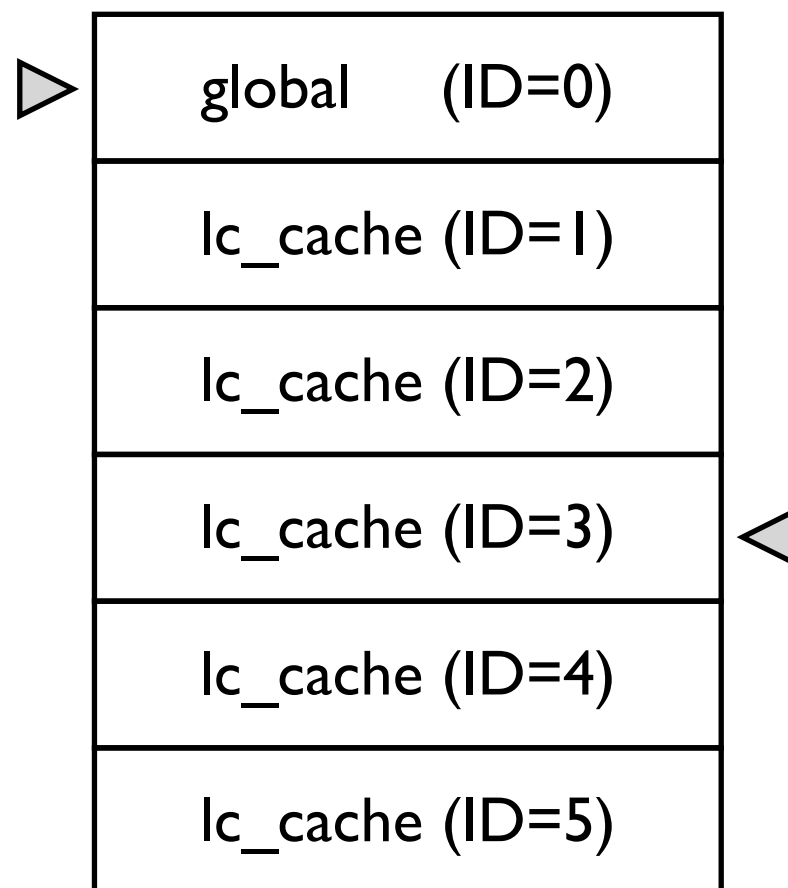
# lc-mgr? (2)

lc-mgr changes its behavior  
according to the current `cache_id_ptr`.

## GLOBAL

```
root@Hercules:~/dm-lc# dmsetup
status lc-mgr
0 | lc-mgr
current cache_id_ptr: 0
sizeof(struct metablock): 40
sizeof(struct metablock_device): 14
sizeof(struct segment_header): 10312
sizeof(struct
segment_header_device): 3583 (<=
4096)
```

## lc\_caches



## OF A CACHE

```
root@Hercules:~/dm-lc# dmsetup
status lc-mgr
0 | lc-mgr
current cache_id_ptr: 3
static RAM(approx.): 37056 (byte)
allow_migrate: 1
nr_segments: 3
last_migrated_segment_id: 76
last_flushed_segment_id: 76
current segment id: 77
cursor: 255
```

```
write? hit? on_buffer? fullsize?
0 0 0 0 0
1 0 0 0 0
0 1 0 0 0
1 1 0 0 0
0 0 1 0 0
...
```



We continue  
developing dm-lc

Thank you for reading!



Any question or discussion is  
welcome either on dm-devel or via  
personal e-mails.