

**Important**

If COR is disabled on an RBD clone, every read operation that the clone cannot satisfy results in an I/O request to the parent of the clone.

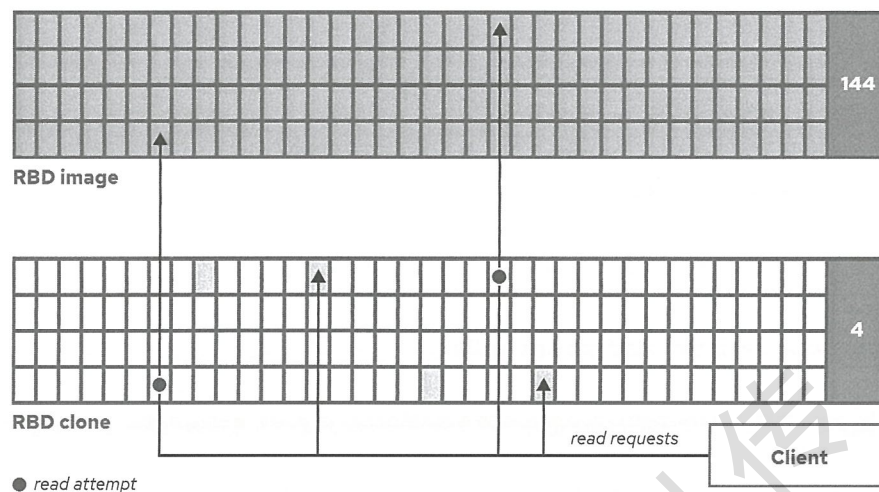


Figure 6.7: RBD clone read operation

The clone COW and COR procedures operate at the *object* level, regardless of the I/O request size. To read or write a single byte of the RBD clone, Ceph copies the entire object from the parent image or snapshot into the clone.

Use the `rbd` command to manage RBD clones.

RBD commands for clone management	
<code>rbd children [pool-name/]image-name@snapshot-name</code>	List clones
<code>rbd clone [pool-name/]parent-image@snap-name [pool-name/]child-image-name</code>	Create clone
<code>rbd flatten [pool-name/]child-image-name</code>	Flatten clone

When flattening a clone, Ceph copies all missing data from the parent into the clone and then removes the reference to the parent. The clone becomes an independent RBD image and is no longer the child of a protected snapshot.

**Note**

You cannot delete RBD images directly from a pool. Instead, use the `rbd trash mv` command to move an image from a pool to the trash. Delete objects from the trash with the `rbd trash rm` command. You are allowed to move active images that are in use by clones to the trash for later deletion.