

Clovis Object

a single top-level “Object” in Mero

Clovis block (IO) size is LCM of unit sizes in layout

FID



FIDs are 120b globally unique

Composite Layout

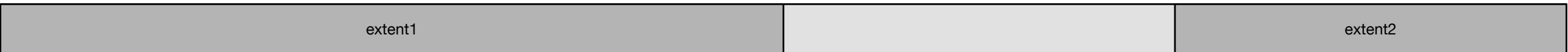
layered set of individual layouts

any layer may itself be complex, thus layouts are hierarchical

FID<sub>0</sub>



FID<sub>1</sub>



...

Writes go to top layer in the composite layout. Reads fall through. Or layers can be read/written directly using FID<sub>sub</sub>

PDClust Layout

{layout type, layout function f(), parameters, mapped read & write extents}  
stored as object MD

8+2+2 parity, unit size 4K-32M

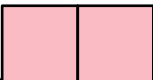
FID<sub>GOB</sub>



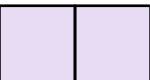
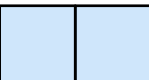
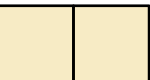
parity



Unit



spares



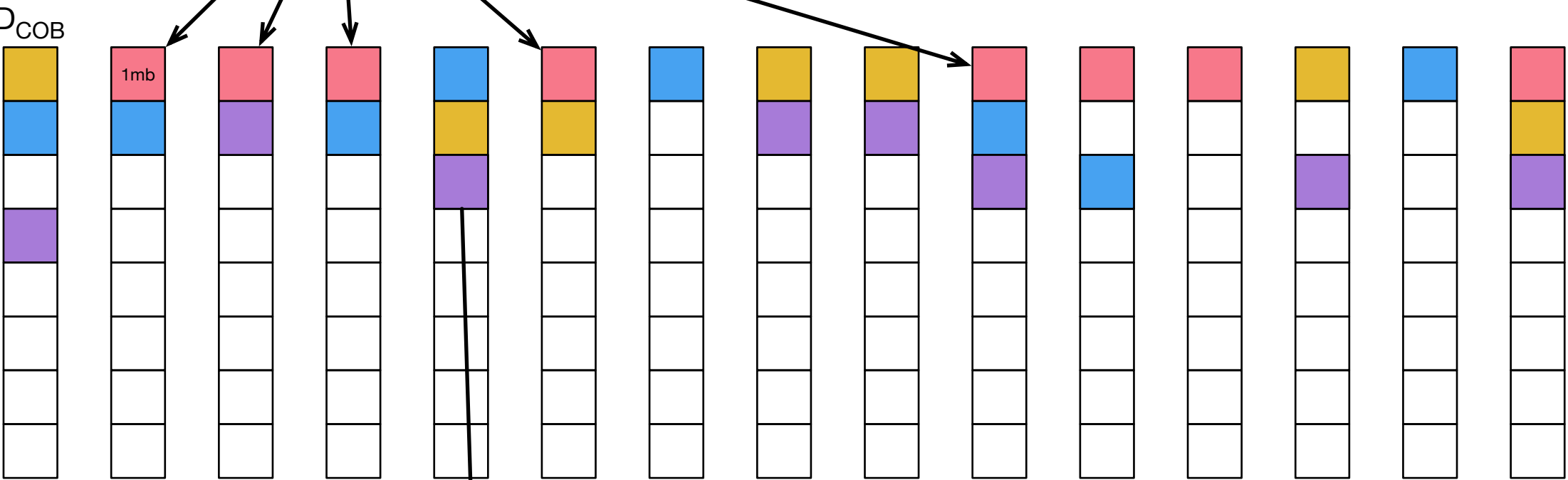
f(FID<sub>GOB</sub>, params)

layout function maps a global object onto a set of component objects  
offset-in-file → cob-id, offset-in-cob

Component Objects on each device in pool

Each GOB is (eventually) spread over the entire pool.

{size, checksum, attributes, AD} stored in COB MD



Allocation Data

AD maps offset-in-COB to actual data location on device, e.g. LBAs on block device. Blocks are not allocated until written; COBs are sparse. There are multiple COBs on each device, 1 per GOB.

Storage Object (STOB)

