looks like it will be a heavy duty 3d Model thing
the basic question is in fact: do the upper layers really really need to have the exactly same point references, because the points maybe are crucial for the model parametrisation, and you modify the points and expect the whole model to be able to recalculate on top of this or are the higher primitives like lines independant from the point instances after creation?

i would do a mix of both:

storing Points not as refs or pointers but as-is copies in Lines etc.. but then, from there, use Pointers to Lines and the like in the upper layers. i think here you will be able to achieve both, easy use and good overall performance.

it's not quite easy to determine the right approach, but again, like a friend of mine used to say: 90% percent of programming is choosing the right approach, which is 90% based on choosing the right data structures