FIGURE 5.3   This diagram shows the structure of a memory hierarchy: as the distance from the processor increases, so does the size. This structure, with the appropriate operating mechanisms, allows the processor to have an access time that is determined primarily by level 1 of the hierarchy and yet have a memory as large as level *n*. Maintaining this illusion is the subject of this chapter. Although a local disk or flash memory is normally the bottom of the hierarchy, some systems use tape or a file server over a local area network as the next levels of the hierarchy.