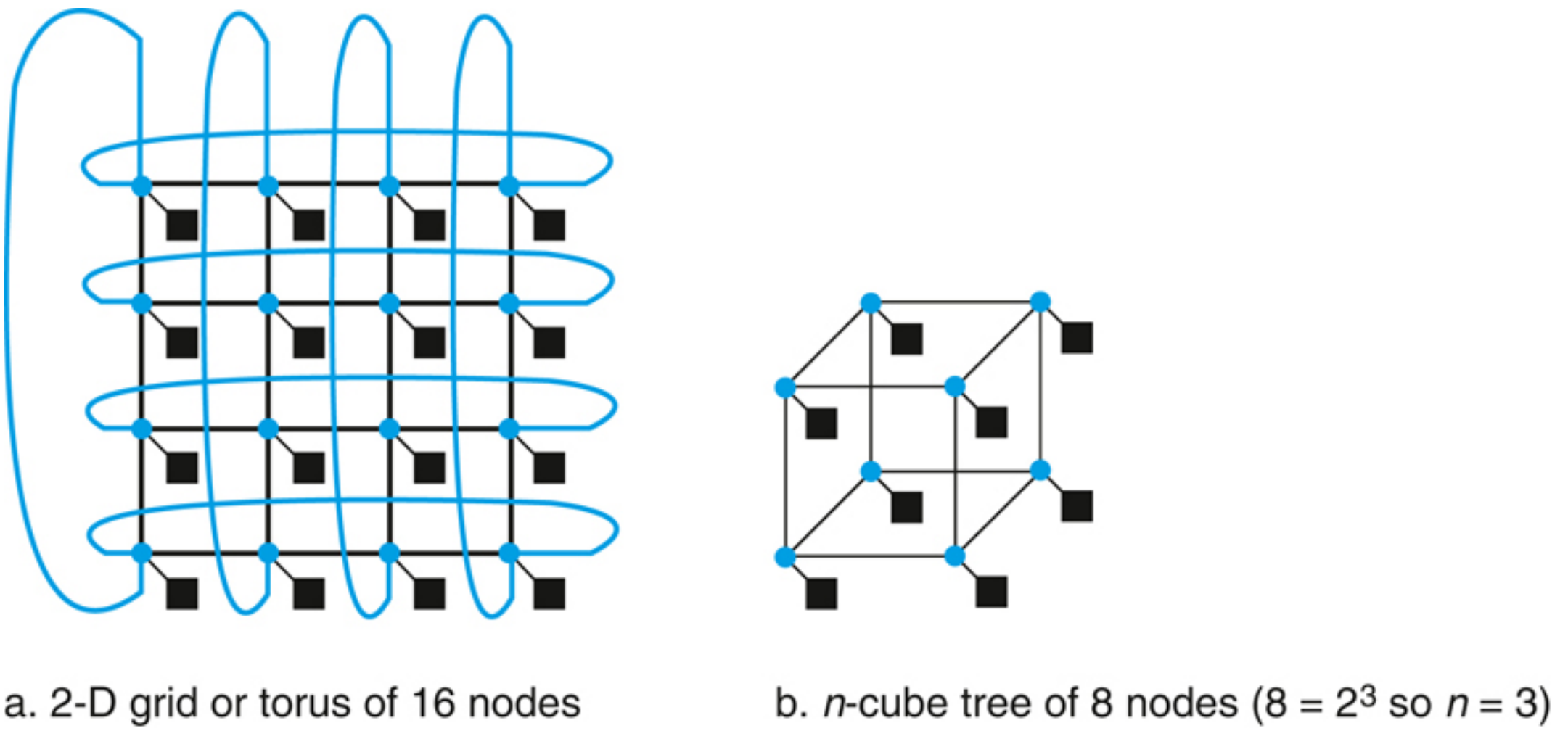

a. 2-D grid or torus of 16 nodes

b. *n*-cube tree of 8 nodes ($8 = 2^3$ so $n = 3$)

FIGURE 6.15 Network topologies that have appeared in commercial parallel processors. The colored circles represent switches and the black squares represent processor-memory nodes. Even though a switch has many links, generally only one goes to the processor. The Boolean n-cube topology is an n-dimensional interconnect with 2^n nodes, requiring n links per switch (plus one for the processor) and thus n nearest-neighbor nodes. Frequently, these basic topologies have been supplemented with extra arcs to improve performance and reliability.