Cloud computing and delivery of content stored on a cloud are feasible only due to the interconnectivity

supported by a continually evolving Internet and by the access to remote resources provided by theWorld

WideWeb. A cloud is built around a high-performance interconnect; the servers in a cloud communicate

through high-bandwidth and low-latency specialized networks. It is thus obvious why networking will

continue to play a crucial role in the evolution of cloud computing and a content-centric world.

This chapter starts with a review of basic concepts related to packet switching and the Internet in

Sections 7.1 and 7.2. The need to accommodate a very large address space is discussed in Section 7.3;

then the transformational changes suffered by the Internet under the pressure of applications are surveyed

in Section 7.4. Section 7.5 covers statistics regarding Web metrics and the arguments for increasing

the initial congestion control window in TCP. Models for network resource management are analyzed

in Section 7.6. Efficient topologies for computer clouds and storage area networks are discussed in

Sections 7.7 and 7.8, respectively. Overlay networks, small-world networks, and scale-free networks

are presented in Sections 7.10 and 7.11. Finally, Section 7.12 is devoted to a discussion of epidemic

algorithms.