Chapter 5.1   Introduction

5.1.1   Network-Layer Functions

- The network-layer has two functions:

    - **Forwarding**: to move packets from the router's input to the appropriate router output. It is in the *data plane*.

    - **Routing**: to determine the route taken by packets from source to destination. It is in the *control plane*.

- There are two approaches to structuring the network control plane:

    - Per-router control. This is the traditionally used method.

    - Logically centralized control, which is software defined networking.

- In the **per-router control plane**, individual routing algorithm components in every router interact with each other in the control plane to compute forwarding tables.

- In the **logically centralized control plane**, a distinct controller interacts with the local control agents in routers to compute forwarding tables. This controller is usually remotely located.