

Network Layer (I)

Network-layer Functions, Data Plane and Control Plane

- Forwarding:

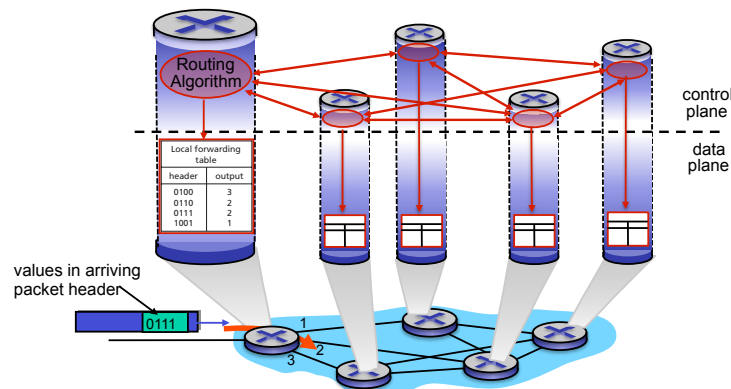
- Task of the **data plane**
 - Data plane: **move** packets **from router's input to** appropriate router **output**

- Routing:

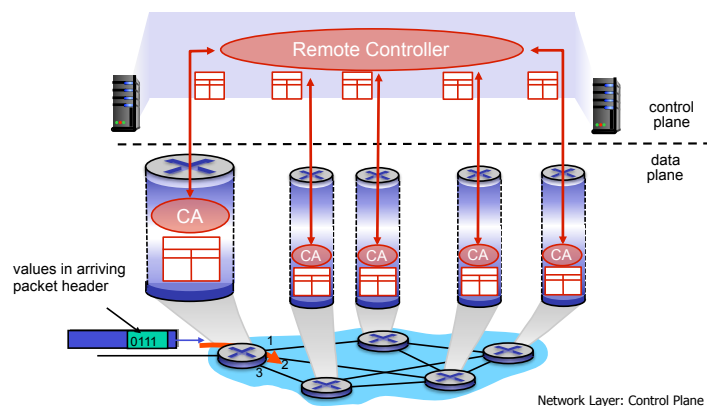
- Task of the **control plane**
 - Control plane: **determine route** taken by packets from source to destination

- Two approaches to structuring network control plane:

- per-router control** (traditional)
 - Individual routing algorithm components in **each and every router** interact in the control plane



- logically centralized control** (software defined networking)
 - A distinct (typically remote) controller interacts with local control agents (CAs)
 - The routing path is computed by the remote controller



Disclaimer: Notes adapted from the textbook and online resources.