

1. Receive a packet (i.e., read the packet from the network device and transfer the bytes into a buffer in memory)
2. Verify packet integrity (e.g., use a checksum to verify that no changes occurred between transmission and reception)
3. Check for forwarding loops (i.e., decrement a value in the header, and reform the header with the new value)
4. Select a path (i.e., use the destination address field in the packet to select one of the possible output networks and a destination on that network)
5. Prepare for transmission (i.e., compute information that will be sent with the packet and used by the receiver to verify integrity)
6. Transmit the packet (i.e., transfer the packet to the output device)

Figure 19.3 An example series of steps that hardware in an Internet router performs to forward a packet.