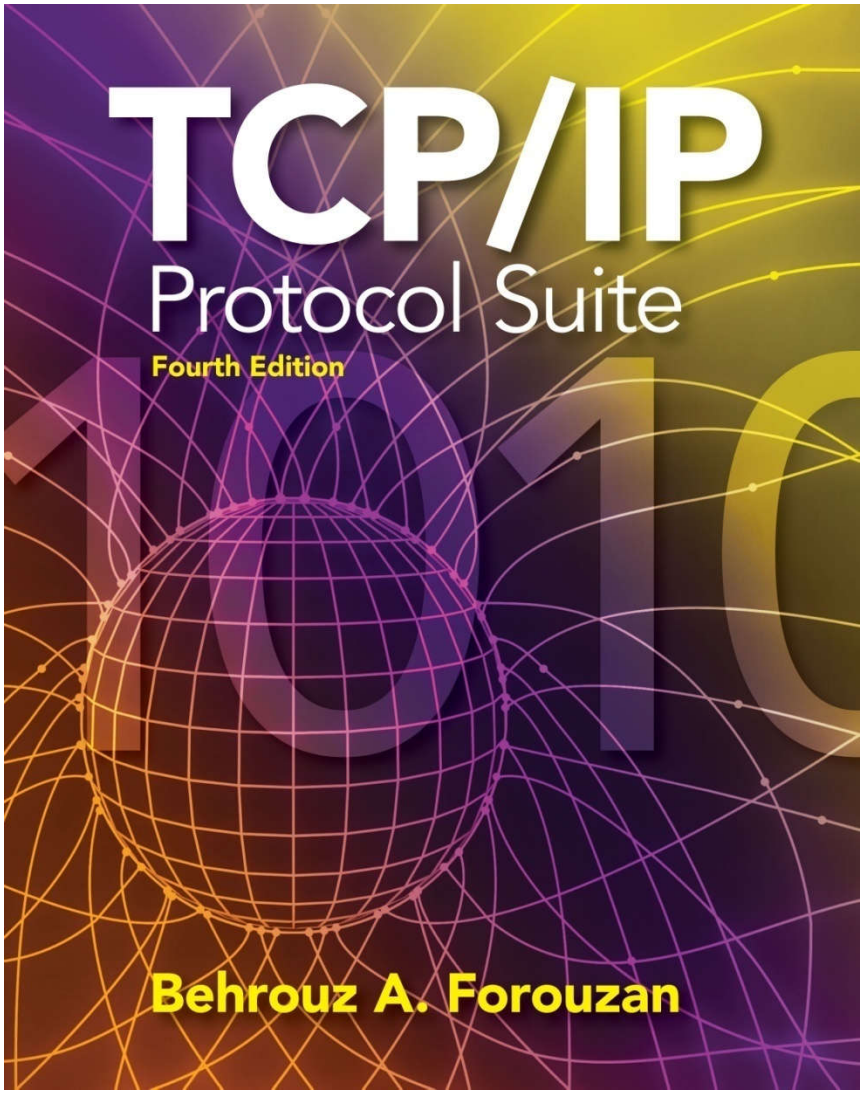
The OSI Model and the TCP/IP Protocol Suite



2-3 TCP/IP PROTOCOL SUITE

The TCP/IP protocol suite was developed prior to the OSI model.
Therefore, the layers in the TCP/IP protocol suite do not match exactly with those in the OSI model.
The original TCP/IP protocol suite was defined as four software layers built upon the hardware.
Today, however, TCP/IP is thought of as a five-layer model with the layers named similarly to the ones in the OSI model.
Figure 2.7 shows both configurations.

Topics Discussed in the Section

- ✓ **Comparison between OSI and TCP/IP**
- ✓ **Layers in the TCP/IP Suite**

Figure 2.7 *Layers in the TCP/IP Protocol Suite*

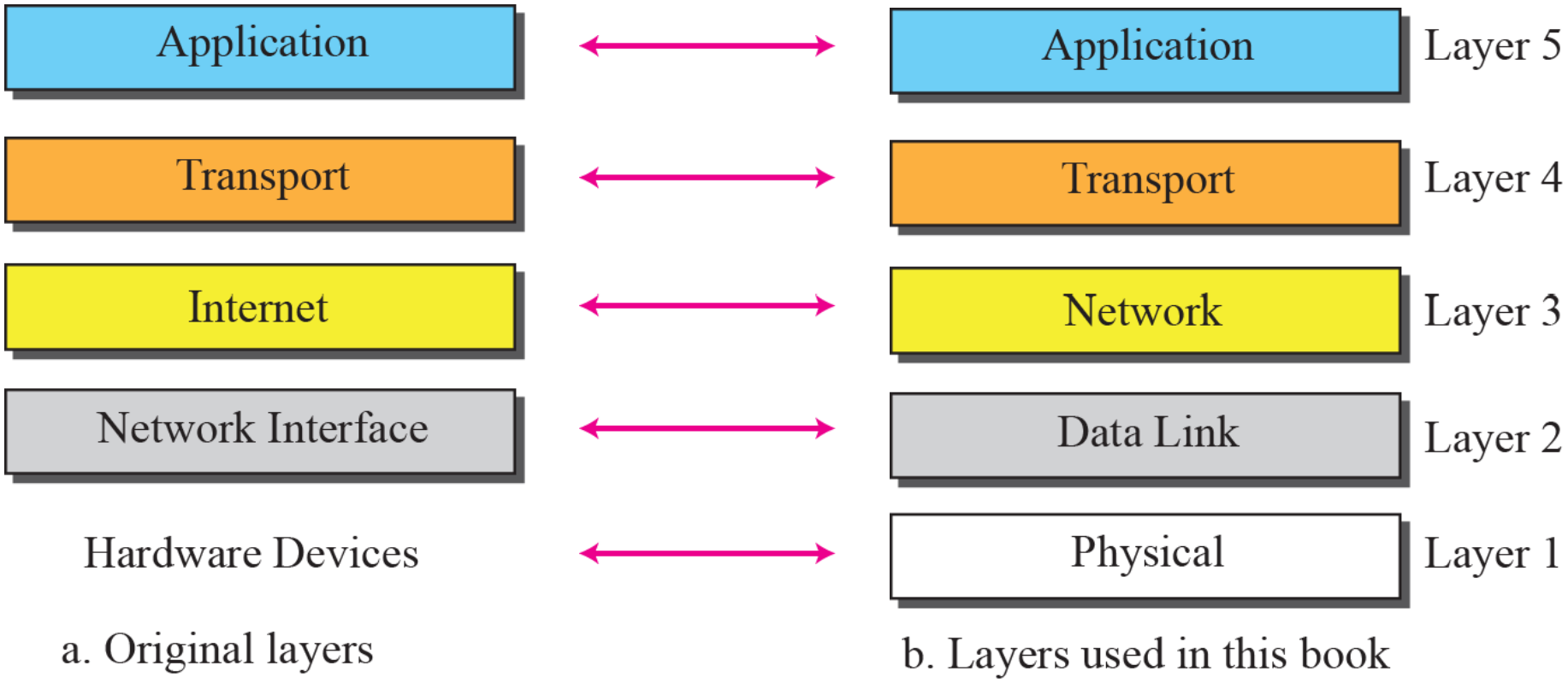


Figure 2.8 *TCP/IP and OSI model*

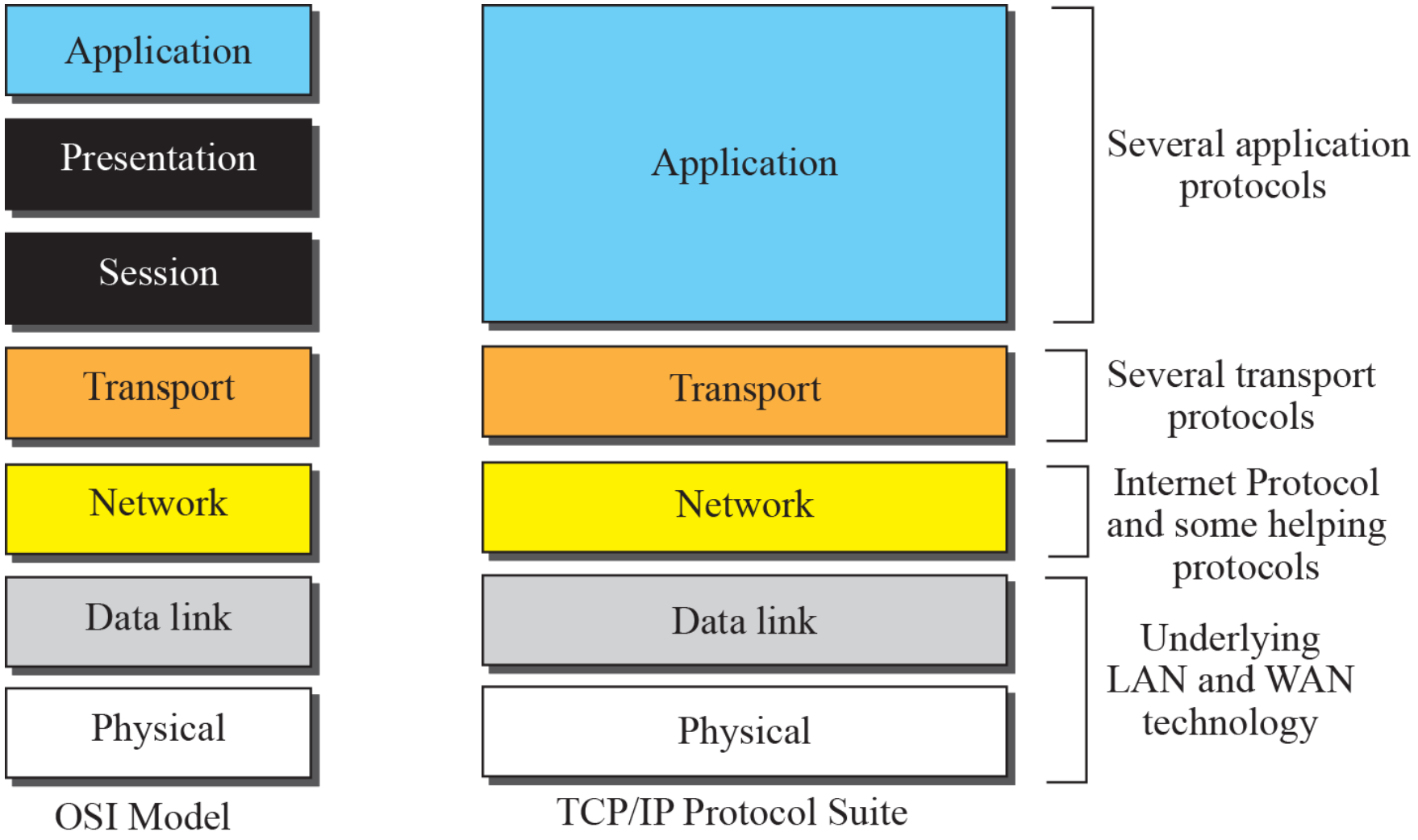


Figure 2.9 *A private internet*

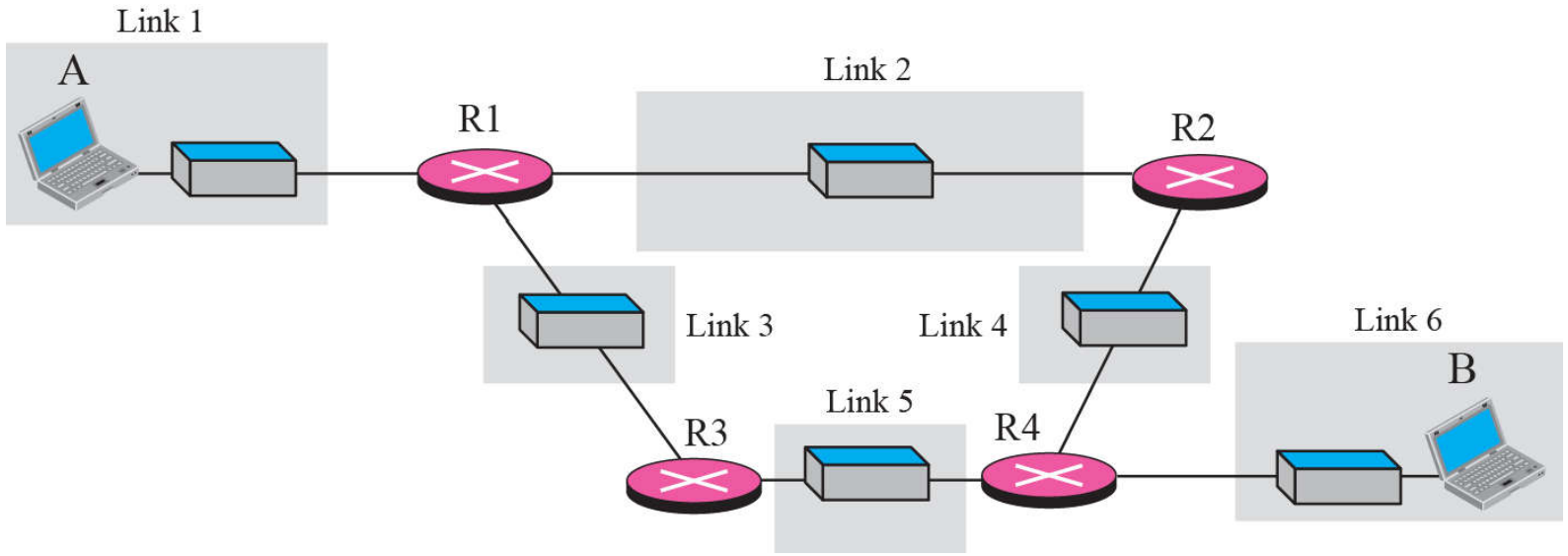
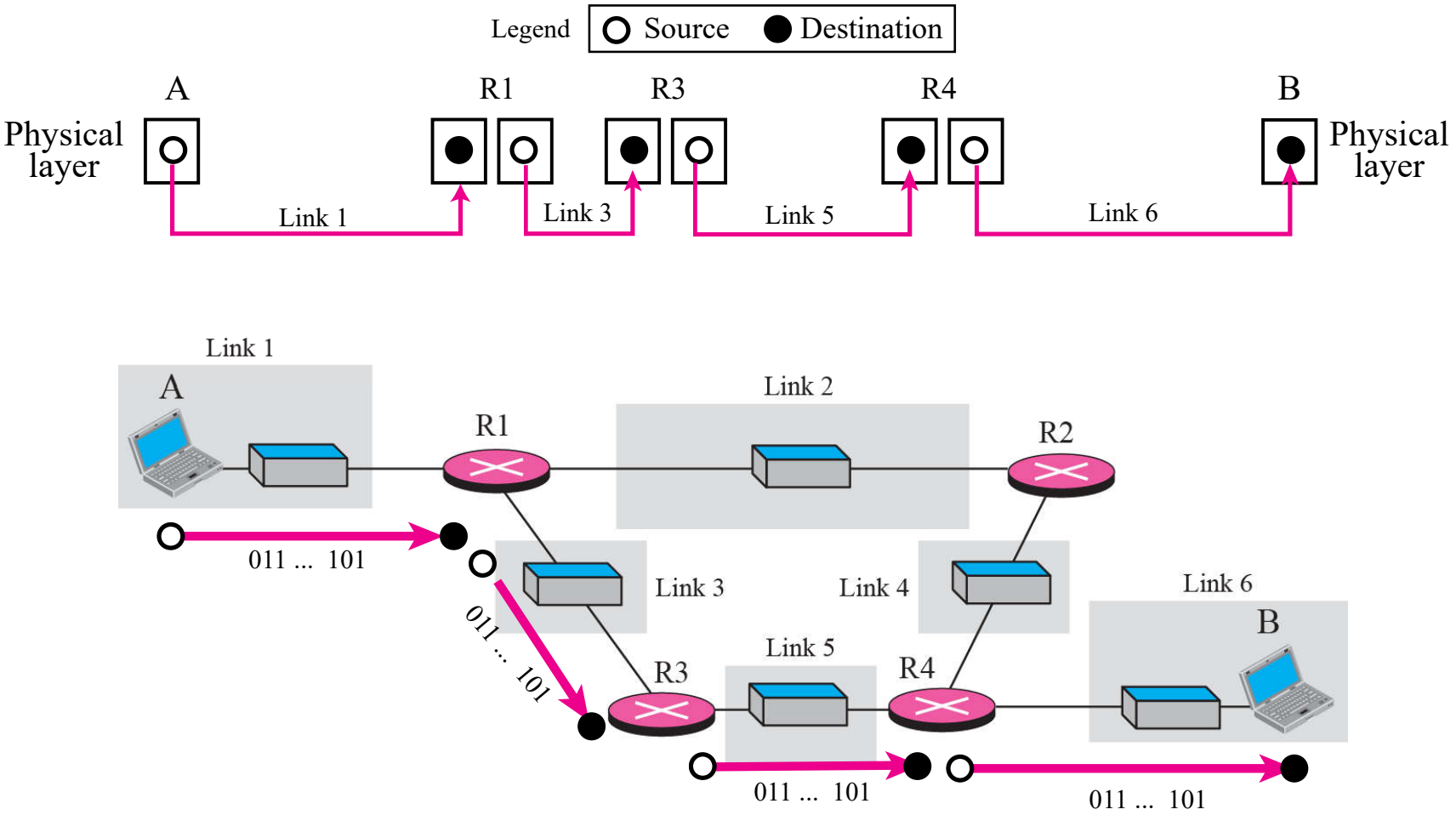


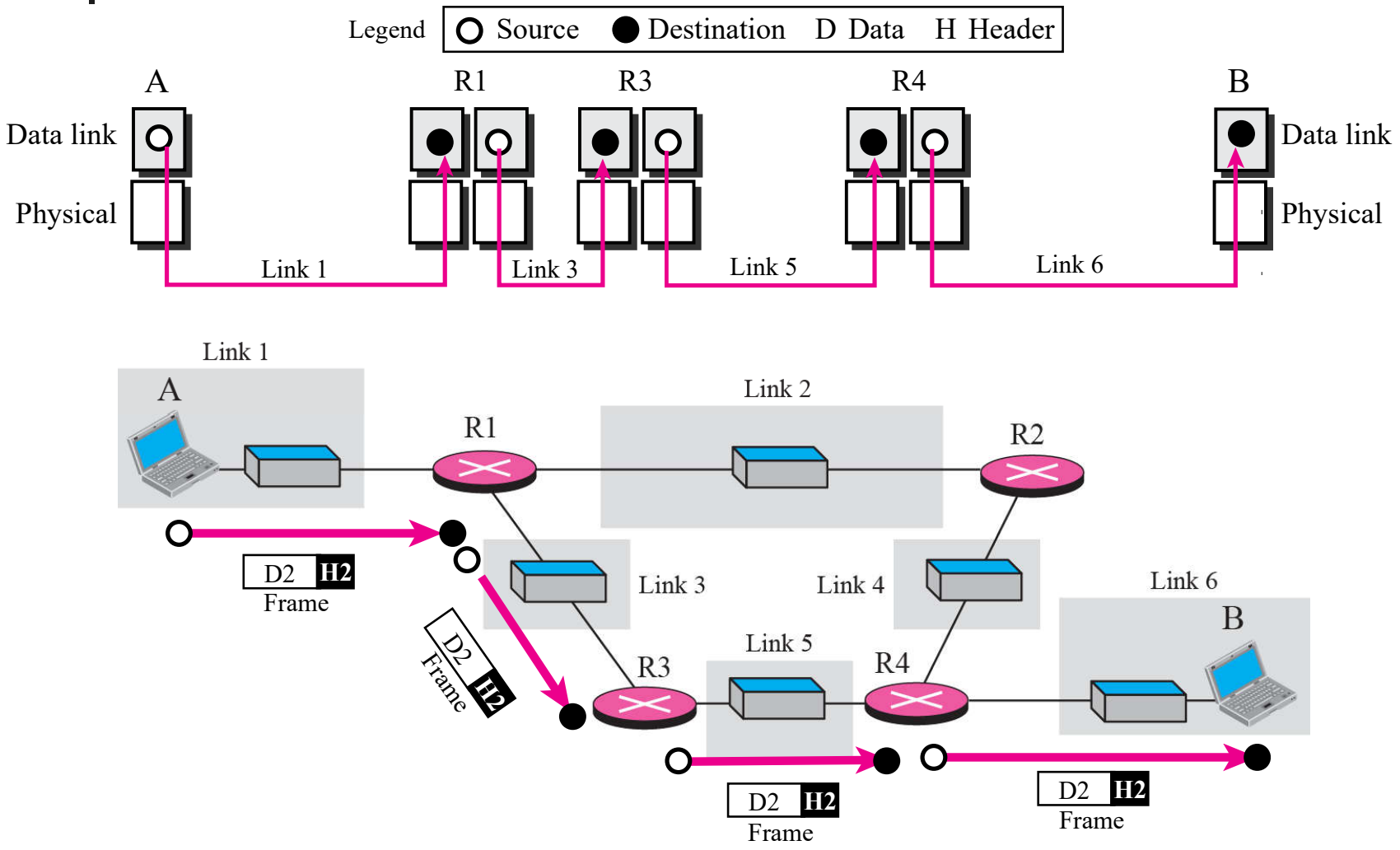
Figure 2.10 *Communication at the physical layer*



Note

The unit of communication at the physical layer is a bit.

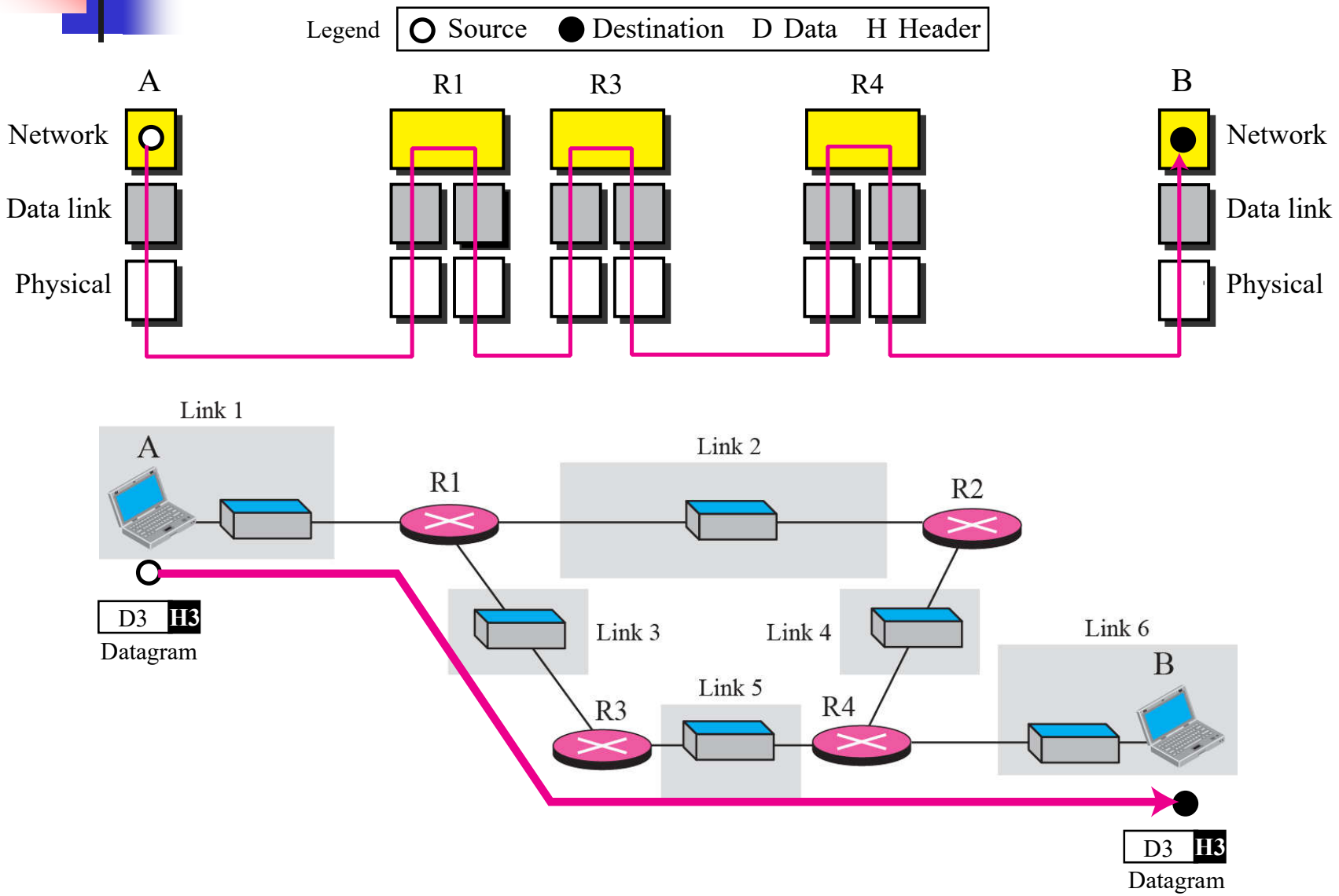
Figure 2.11 *Communication at the data link layer*



Note

The unit of communication at the data link layer is a frame.

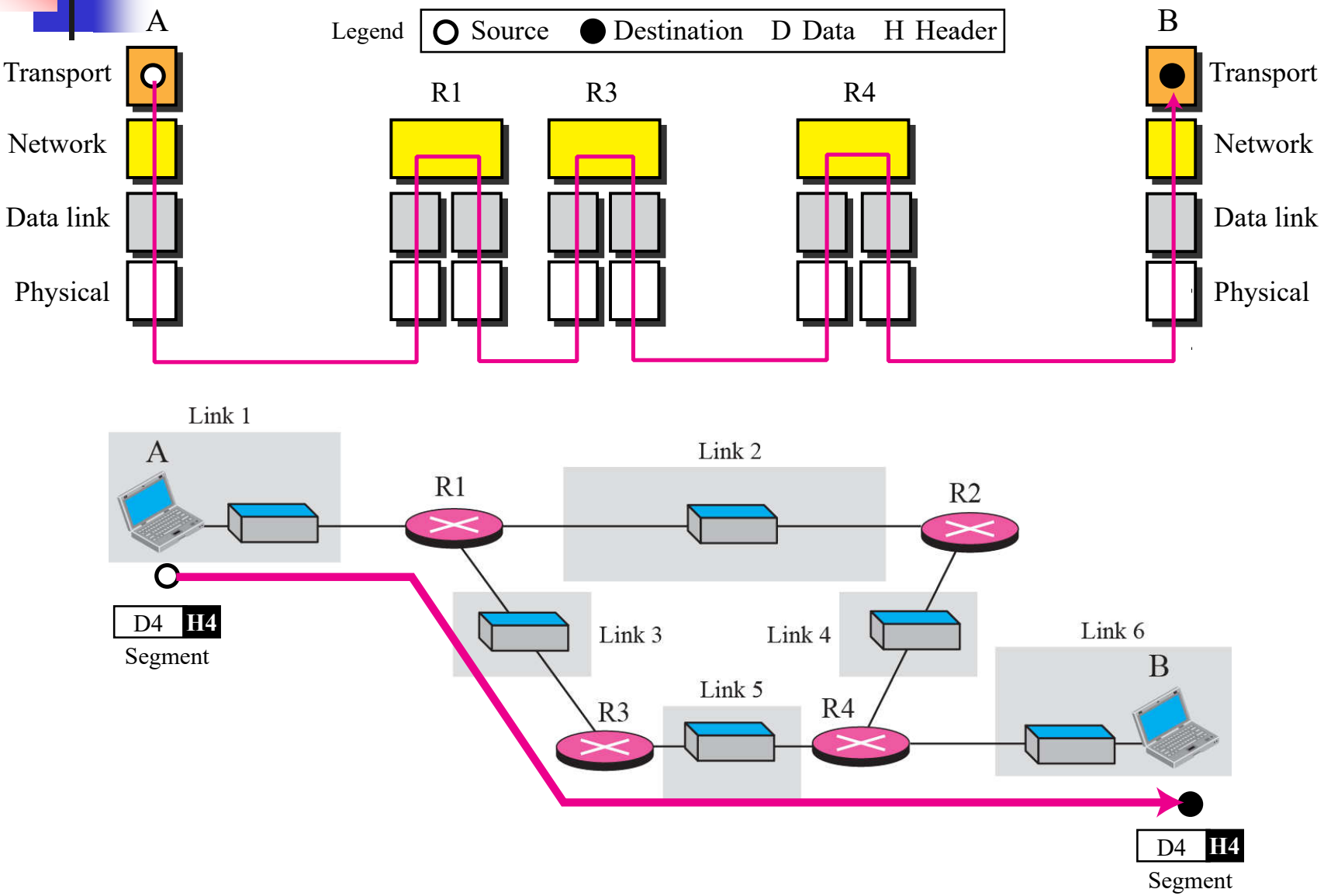
Figure 2.12 *Communication at the network layer*



Note

The unit of communication at the network layer is a datagram.

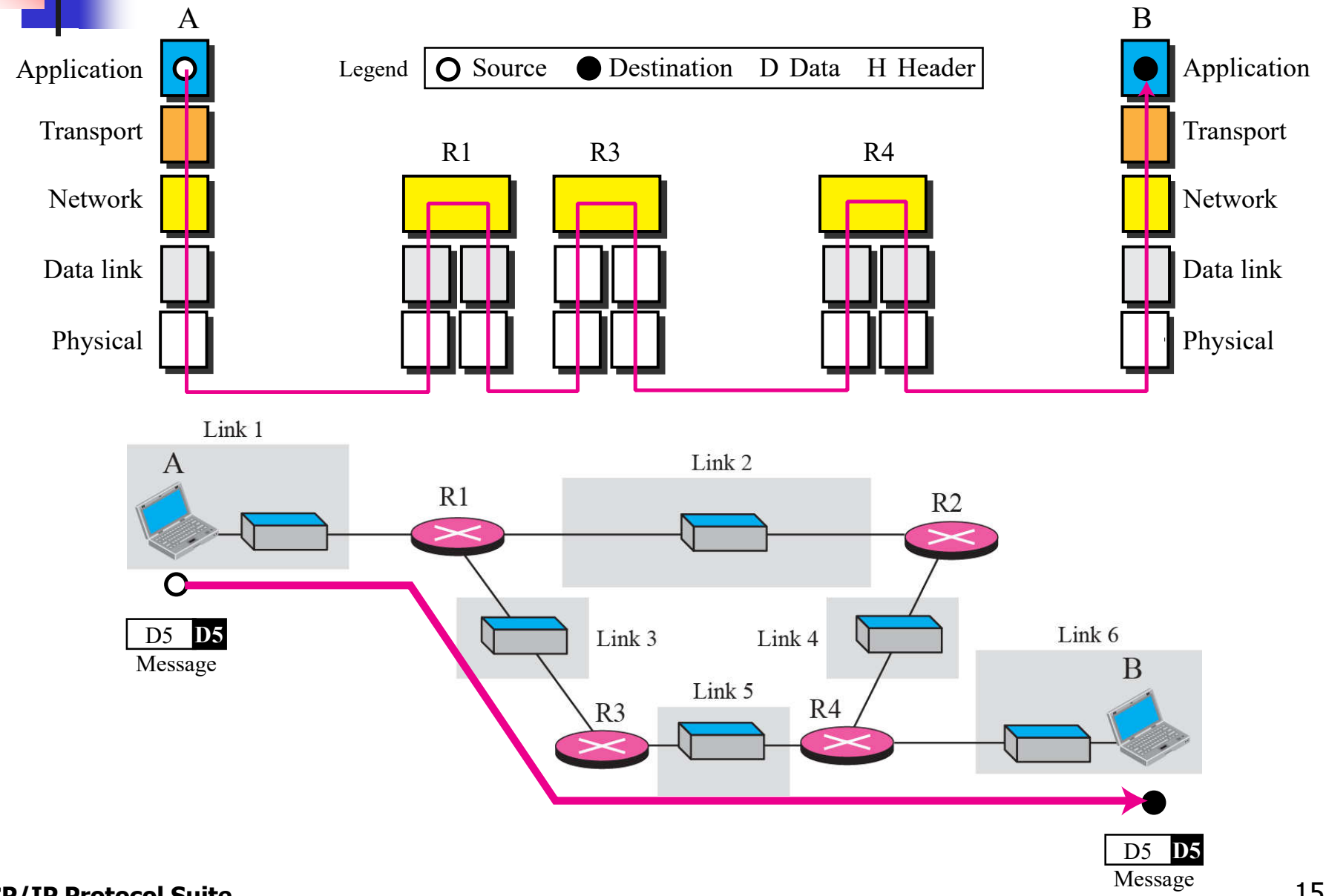
Figure 2.13 *Communication at transport layer*



Note

The unit of communication at the transport layer is a segment, user datagram, or a packet, depending on the specific protocol used in this layer.

Figure 2.14 *Communication at application layer*



Note

The unit of communication at the application layer is a message.