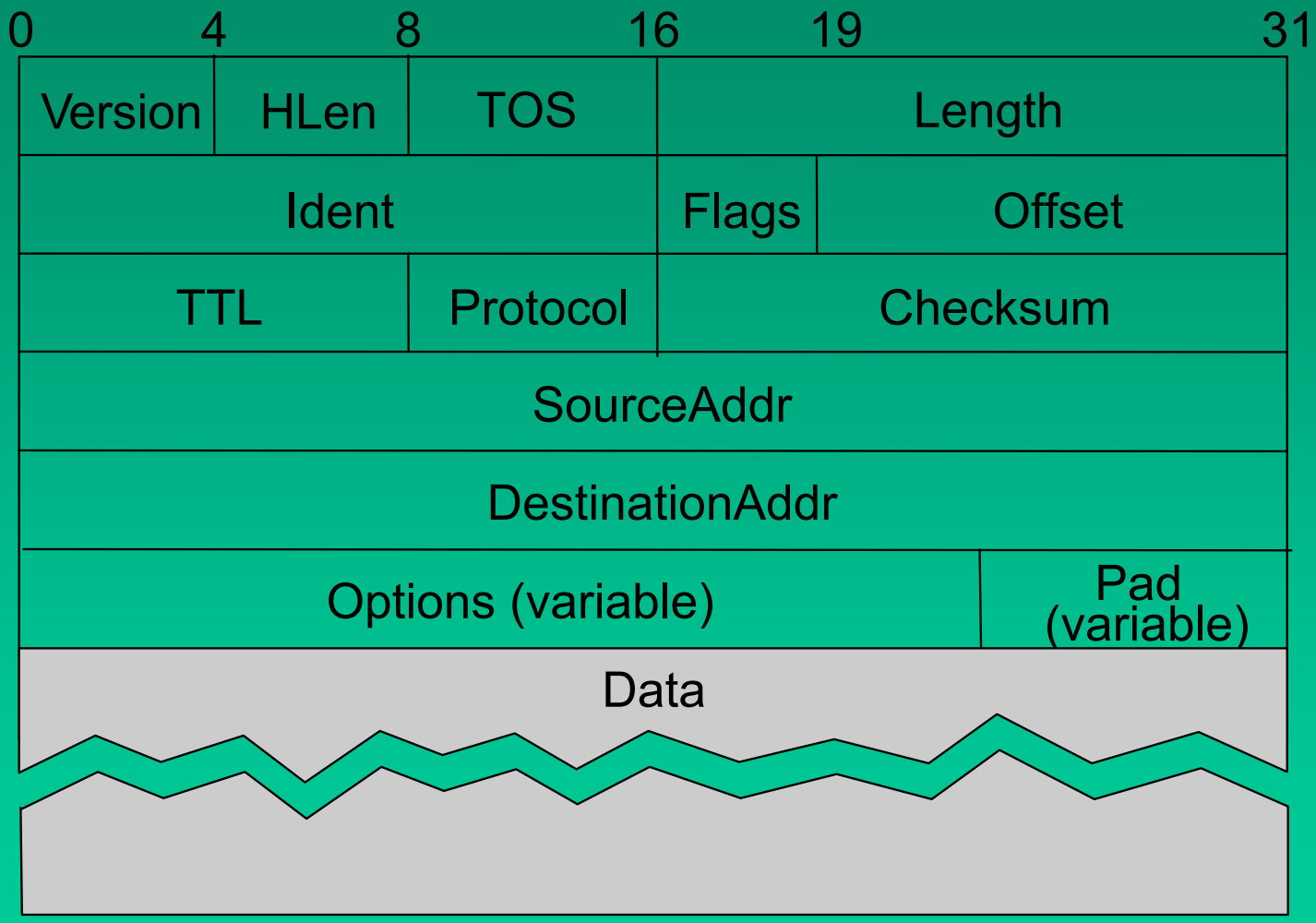
IP Packet

Yudhie Kurnia M.

Packet Format



Packet Format

- Version—Versi IP yang digunakan (0100=4)
- IP Header Length (IHL)—Datagram header length dalam 32-bit words.
- Type-of-Service—Specifies how an upper-layer protocol would like a current datagram to be handled, and assigns datagrams various levels of importance.
- Total Length—Panjang paket dalam bytes, termasuk data dan header.
- Identification—Nilai integer ebagai identifikasi paket saat ini. Item ini berguna pada fragmentation jika paket terdiri atas potongan-potongan paket besar

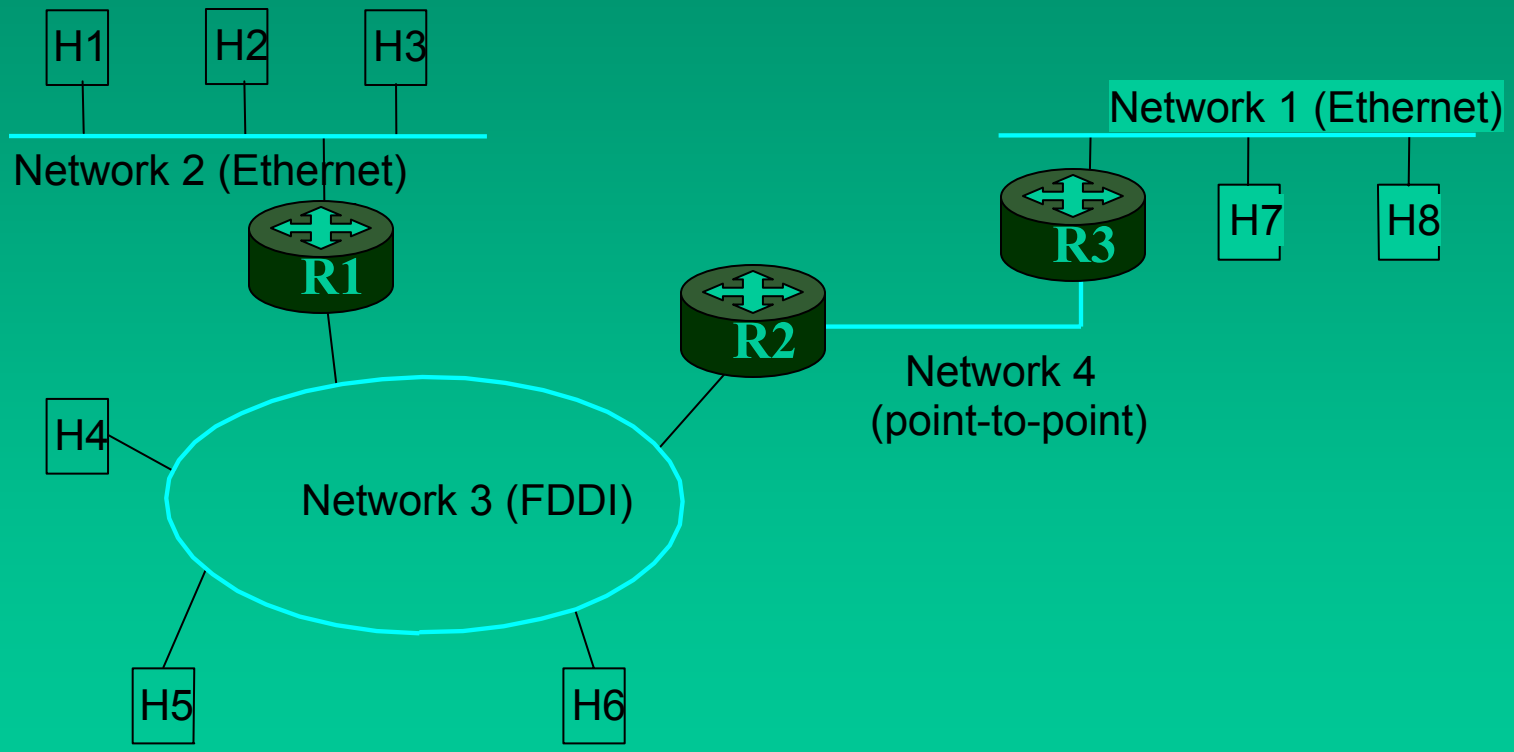
Packet Format

- Flags—Consists of a 3-bit field of which the two low-order (least-significant) bits control fragmentation.
  - The low-order bit specifies whether the packet can be fragmented.
  - The middle bit specifies whether the packet is the last fragment in a series of fragmented packets.
  - The third or high-order bit is not used.
- Fragment Offset—Indicates the position of the fragment's data relative to the beginning of the data in the original datagram, which allows the destination IP process to properly reconstruct the original datagram.

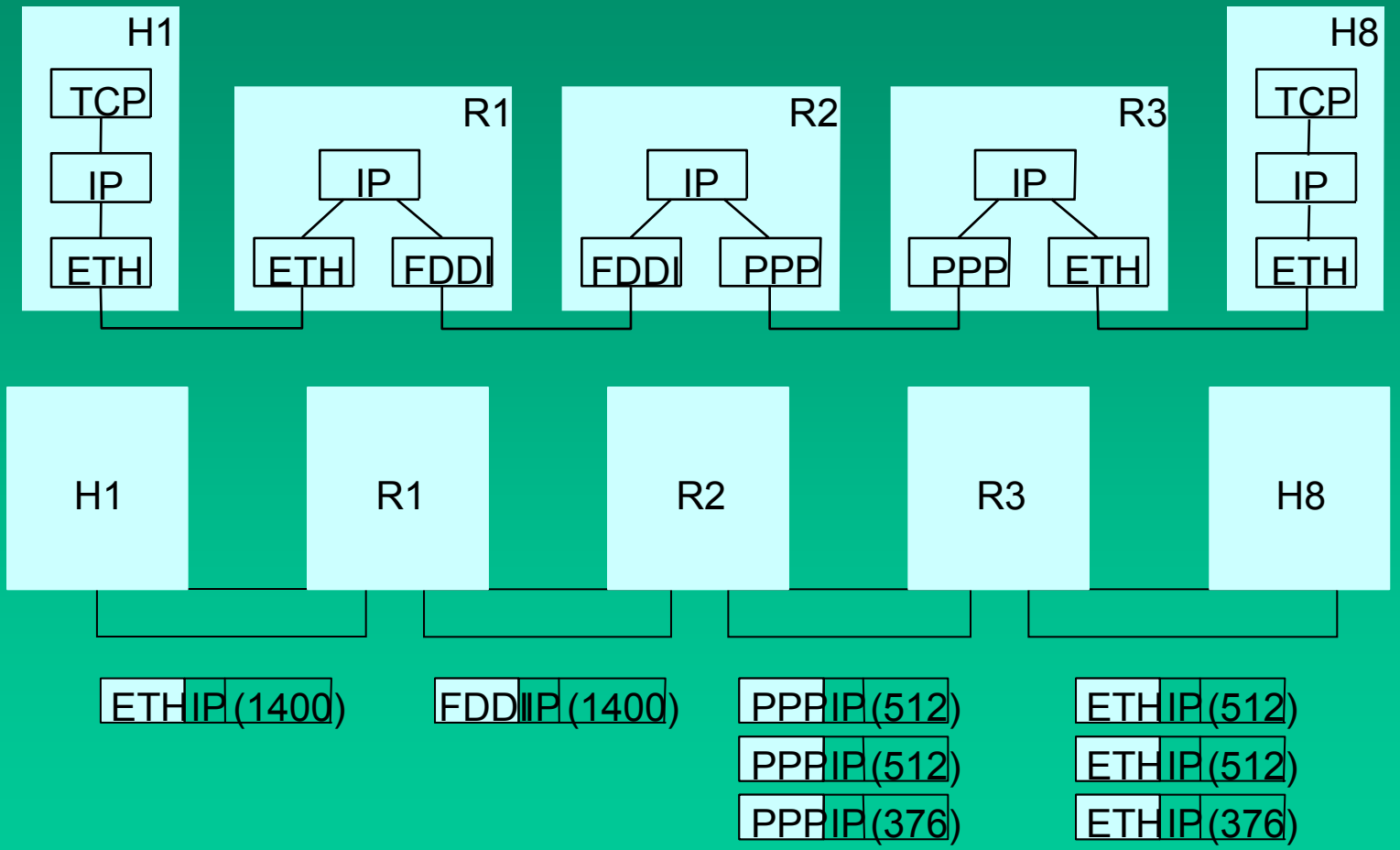
Packet Format

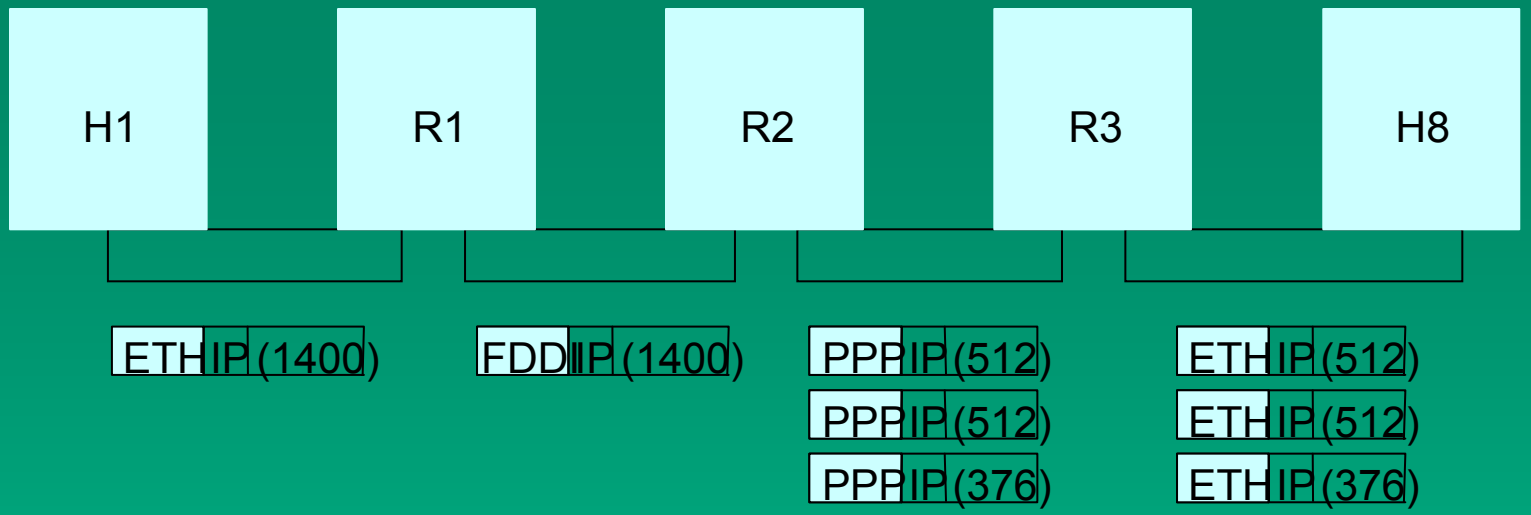
- Time-to-Live—Maintains a counter that gradually decrements down to zero, at which point the datagram is discarded. This keeps packets from looping endlessly.
- Protocol—Indicates which upper-layer protocol receives incoming packets after IP processing is complete.
- Header Checksum—Helps ensure IP header integrity.
- Source Address—Specifies the sending node.
- Destination Address—Specifies the receiving node.
- Options—Allows IP to support various options, such as security.
- Data—Contains upper-layer information.

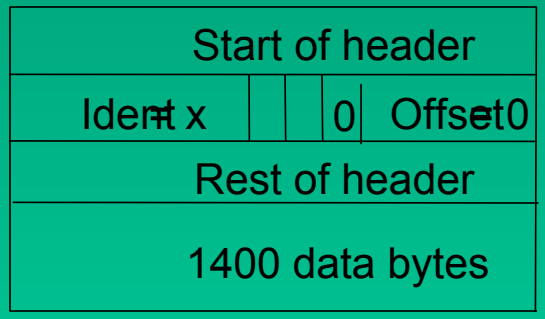
Fragmentation and Reassembly

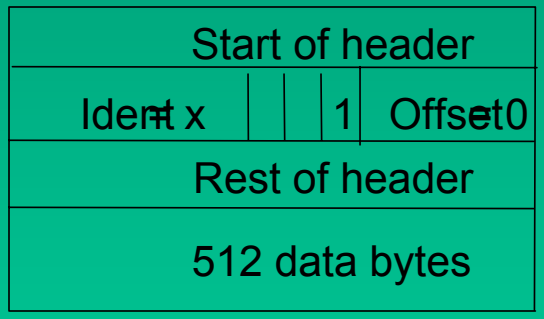


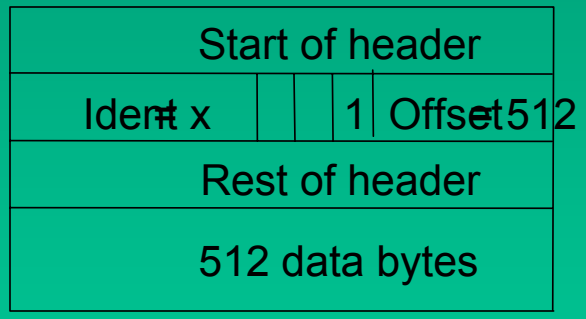
Fragmentation and Reassembly

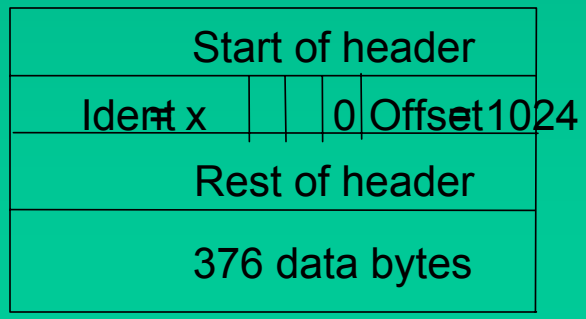












IP Header = 4x5 = 20 bytes