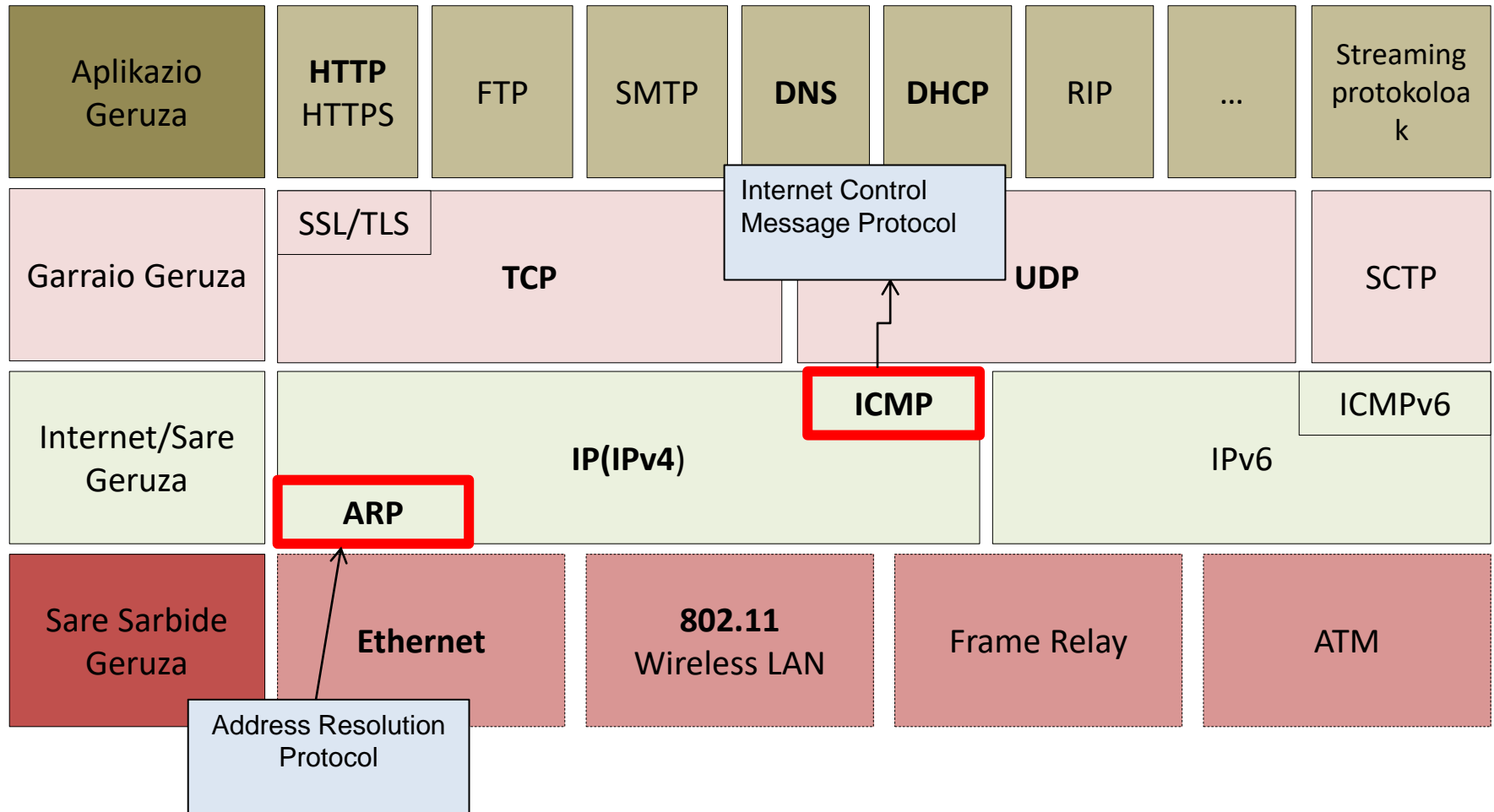


# **CAPA DE RED**

## **OTROS PROTOCOL**

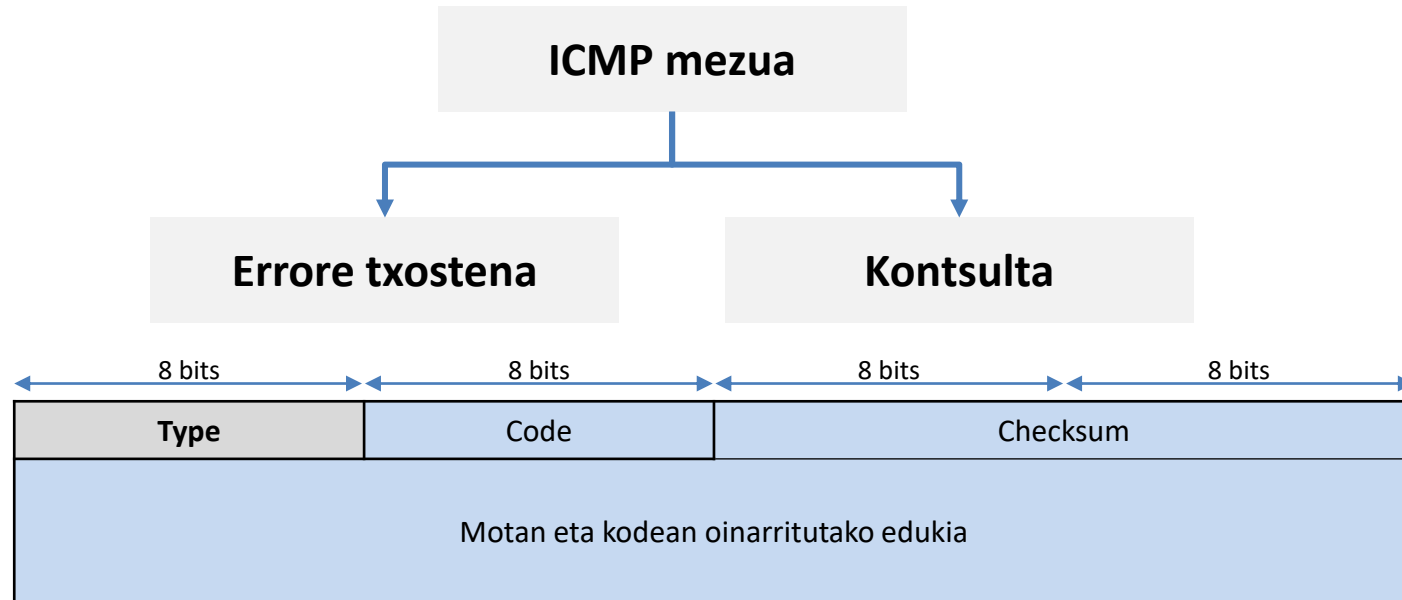
### 5. GAIA

# BESTE PROTOKOLO



# BESTE PROTOKOLO

## ICMP (INTERNET CONTROL MESSAGE PROTOCOL)



8,0: Echo request or reply  
 3 : Destination Unreachable  
 4 : Source Quench  
 5 : Redirect  
 11 : Time Exceeded  
 12 : Parameter Problem  
 13,14: Timestamp request and reply  
 15,16: Information Request and Reply  
 17,18: Address mask request and reply  
 10,9 : Route solicitation and advertisement

(Type: eremu honen balioak gainerako goiburuaren formatua eta kodearen eremuaren esanahia zehazten ditu)

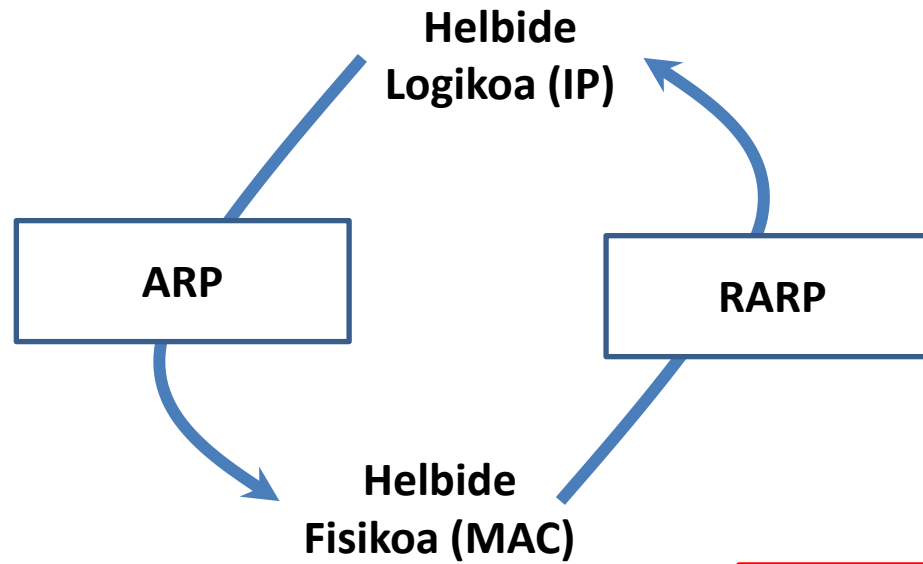
Type 5 → Code 0 = Redirect datagrams for the Network  
 Type 11 → Code 0 = time to live exceeded in transit;

**Sare Geruzako protokoloa**

# BESTE PROTOKOLO

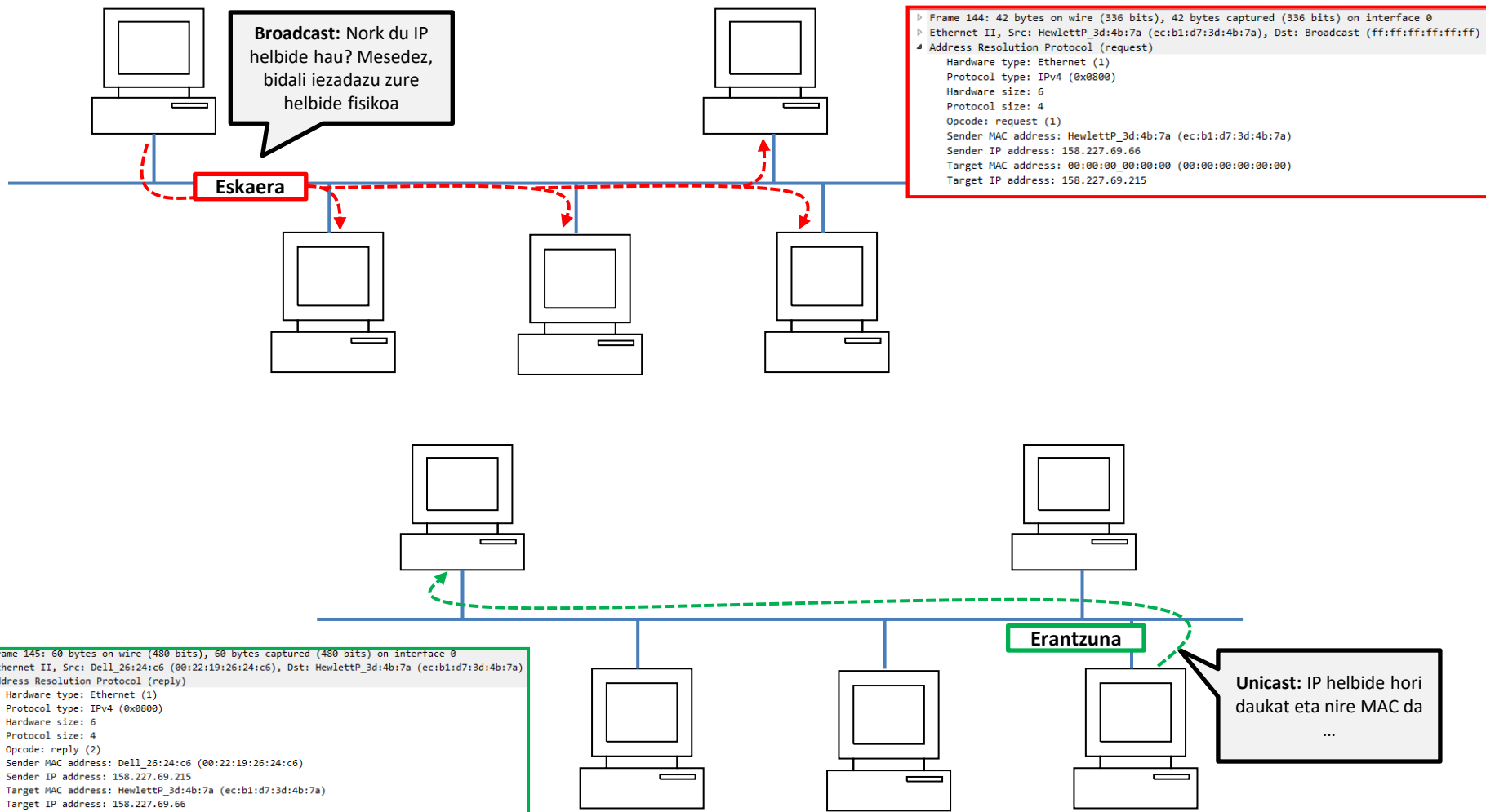
## ARP

- IP helbide baten MAC helbideak.
  - ARP (**A**ddress **R**esolution **P**rotocol) MAC helbidea lortu IP helbidetik
  - RARP (**R**everse **A**ddress **R**esolution **P**rotocol)

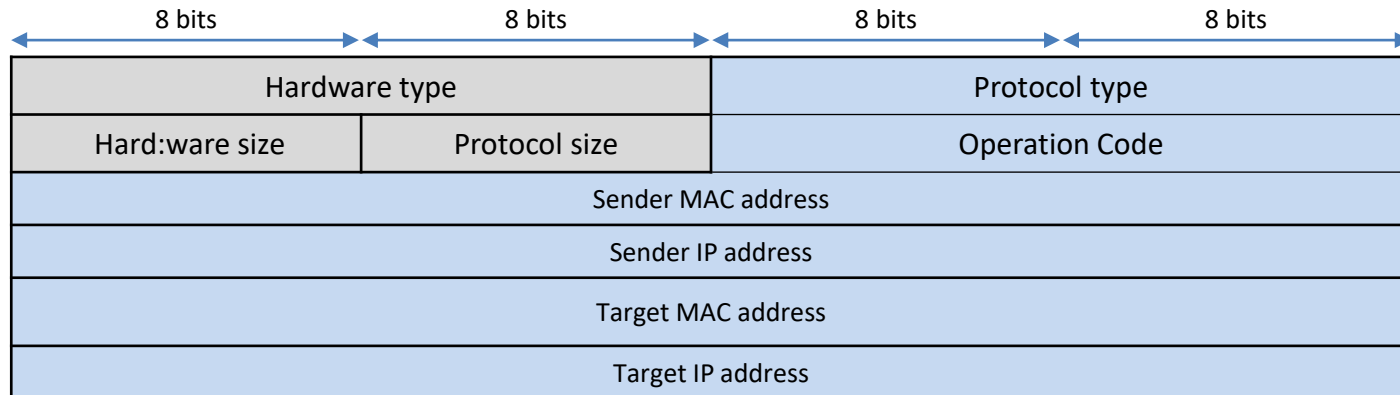


**Lotura Geruzako protokoloa**

# BESTE PROTOKOLO ARP



# BESTE PROTOKOLO ARP



```

> Frame 144: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface 0
> Ethernet II, Src: HewlettP_3d:4b:7a (ec:b1:d7:3d:4b:7a), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
  Address Resolution Protocol (request)
    Hardware type: Ethernet (1)
    Protocol type: IPv4 (0x0800)
    Hardware size: 6
    Protocol size: 4
    Opcode: request (1)
    Sender MAC address: HewlettP_3d:4b:7a (ec:b1:d7:3d:4b:7a)
    Sender IP address: 158.227.69.66
    Target MAC address: 00:00:00_00:00:00 (00:00:00:00:00:00)
    Target IP address: 158.227.69.215
  
```

**Eskaera**

```

> Frame 145: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface 0
> Ethernet II, Src: Dell_26:24:c6 (00:22:19:26:24:c6), Dst: HewlettP_3d:4b:7a (ec:b1:d7:3d:4b:7a)
  Address Resolution Protocol (reply)
    Hardware type: Ethernet (1)
    Protocol type: IPv4 (0x0800)
    Hardware size: 6
    Protocol size: 4
    Opcode: reply (2)
    Sender MAC address: Dell_26:24:c6 (00:22:19:26:24:c6)
    Sender IP address: 158.227.69.215
    Target MAC address: HewlettP_3d:4b:7a (ec:b1:d7:3d:4b:7a)
    Target IP address: 158.227.69.66
  
```

**Erantzuna**