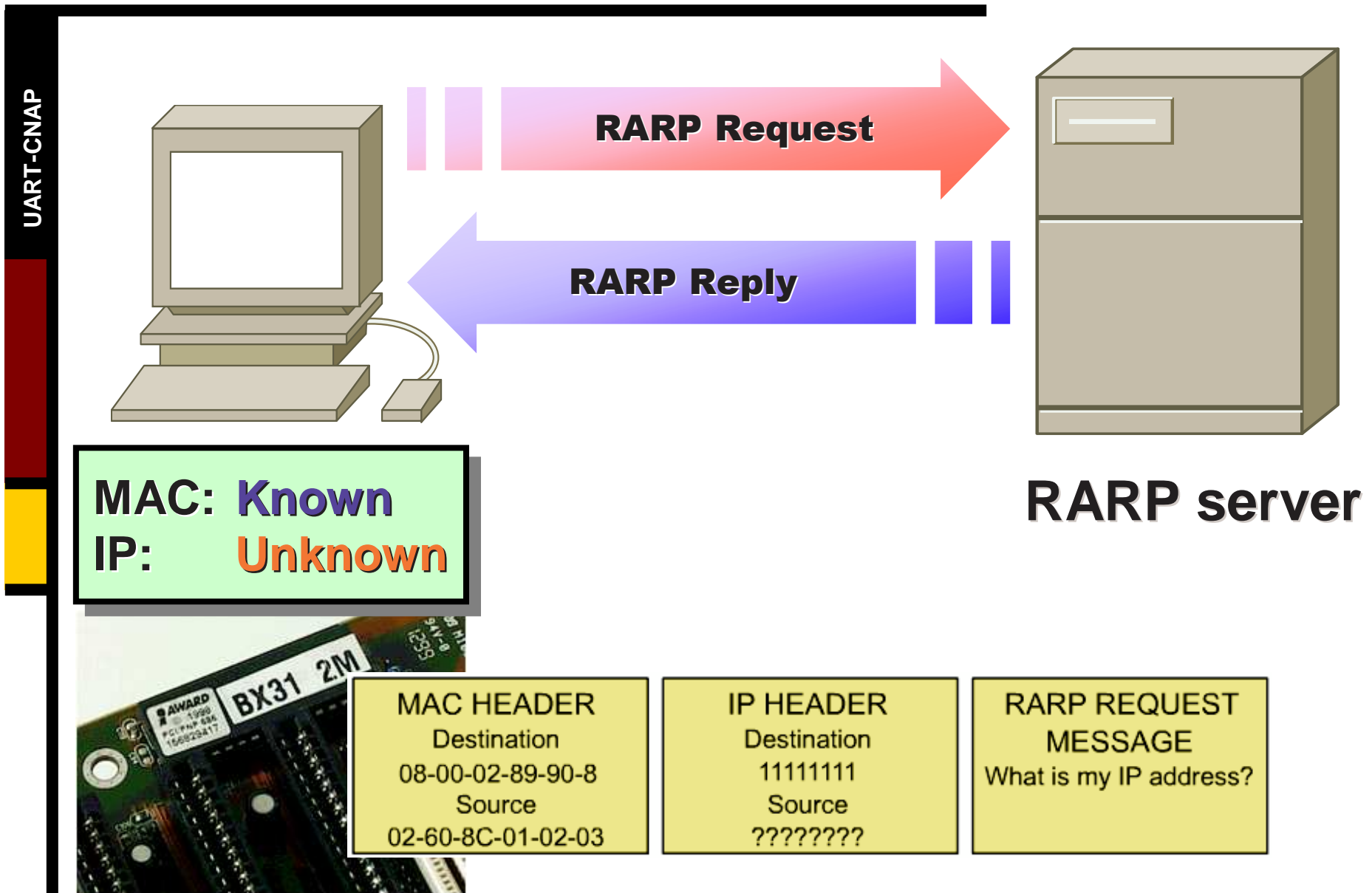# ▶Static addressing

- You must go to each individual device and configure it with an IP address.

- You should keep very meticulous records, because problems can occur on the network if you use duplicate IP addresses.
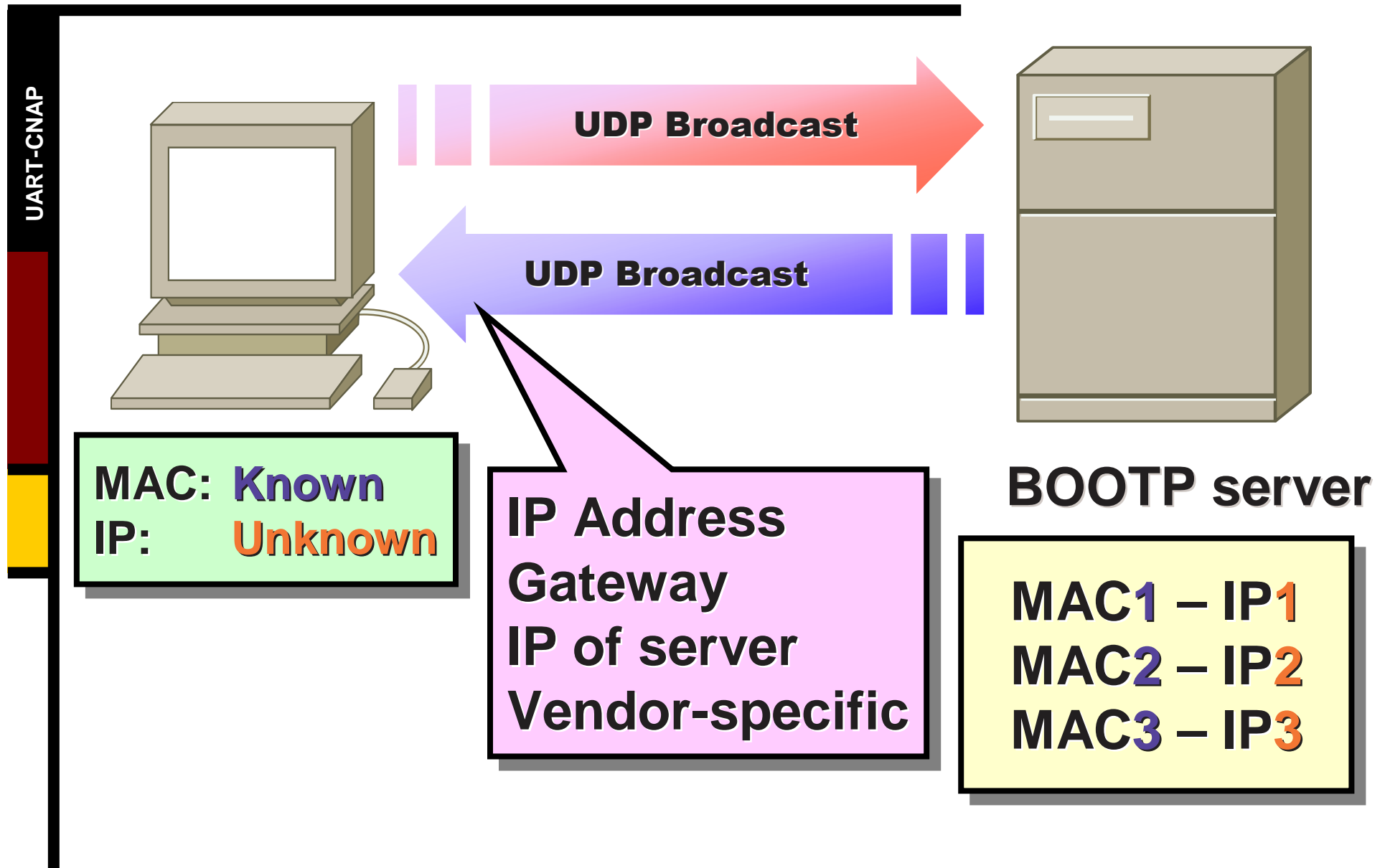
▶Dynamic addressing

- **There are a few different methods that you can use to assign IP addresses dynamically:**

    – **RARP:** **Reverse Address Resolution Protocol.**

    – **BOOTP:** **BOOTstrap Protocol.**

    – **DHCP:** **Dynamic Host Configuration Protocol.**

Dynamic addressing: RARP

RARP Request

RARP Reply

RARP server

MAC:	**Known**
IP:	**Unknown**

MAC HEADER
Destination
08-00-02-89-90-8
Source
02-60-8C-01-02-03

IP HEADER
Destination
11111111
Source
????????

RARP REQUEST
MESSAGE
What is my IP address?

Dynamic addressing: BOOTP

UART-CNAP

UDP Broadcast

UDP Broadcast

MAC: Known
IP: Unknown

IP Address
Gateway
IP of server
Vendor-specific

BOOTP server

MAC1 – IP1
MAC2 – IP2
MAC3 – IP3

Dynamic addressing: DHCP

UART-CNAP

DHCP Discover
UDP Broadcast

DHCP Offer
UDP Broadcast

DHCP Request

DHCP Ack

DHCP server

MAC: **Known**
IP: **Unknown**

IP Address
Gateway
IP of servers
And more …

IP1
IP2
IP3