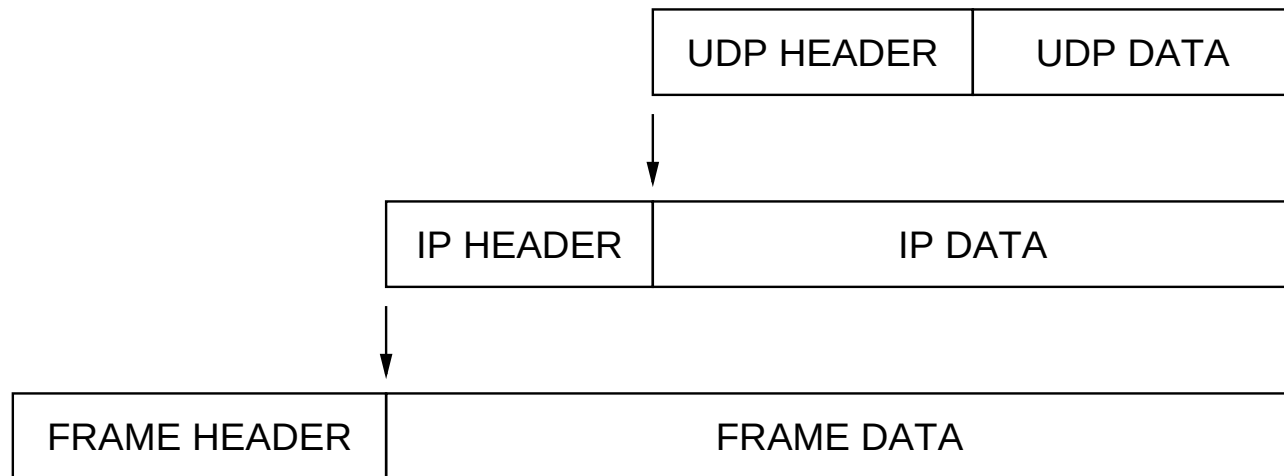


User Datagram Protocol (UDP)

- Provides application programs with ability to send and receive datagrams
- Provides for multiple, concurrent application programs on a single machine
- Includes (optional) checksum for data transferred
- Offers unreliable, connectionless transport

UDP Layering



User Datagram Protocol Details

- Defines format of messages application programs send
- Each message includes small integer protocol port numbers to distinguish among multiple application programs
- Messages are encapsulated in IP datagrams for delivery

Assigning Ports

- Ports identify applications
- “Small” port numbers reserved:

Decimal Keyword		Unix Keyword Description	
0	-	-	Reserved
7	ECHO	echo	Echo
9	DISCARD	discard	Discard
13	DAYTIME	daytime	Daytime
37	TIME	time	Time
42	NAMESERVER	name	Host Name Server
69	TFTP	tftp	Trivial File Transfer
111	SUNRPC	sunrpc	Sun Microsystems RPC

- “Large” port numbers allocated dynamically (>1024)

UDP Message Format

0	16	31
UDP SOURCE PORT	UDP DESTINATION PORT	
UDP MESSAGE LENGTH	UDP CHECKSUM	
DATA . . .		

Demultiplexing Based On Protocol Port Number

