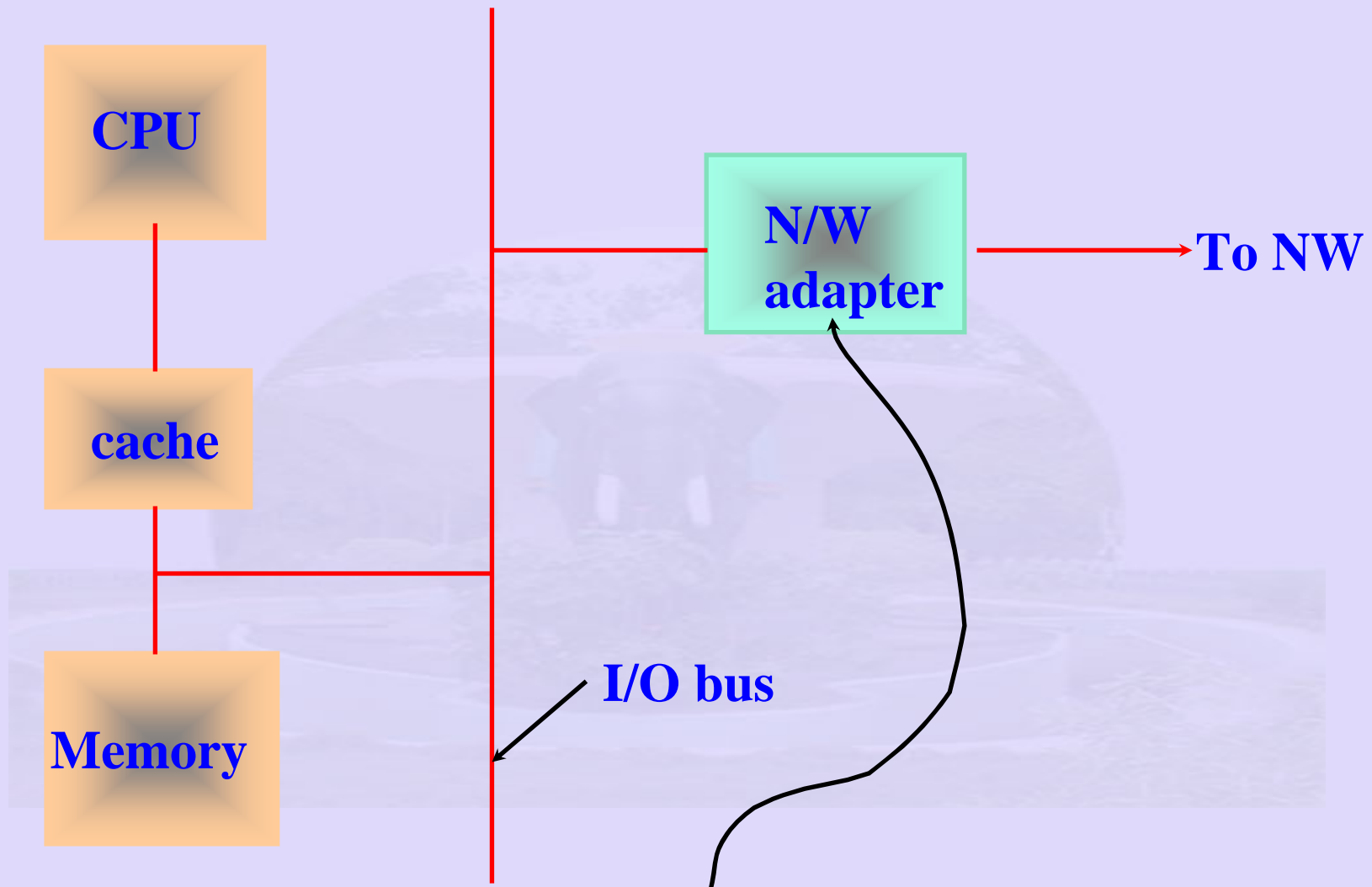


Hardware Building Blocks

- Nodes
 - Hosts for users
 - Switches
 - Forward messages across a LAN
 - Routers
 - Forward messages across the Internet
 - Switch and/or Router must for Communication
 - Special purpose hardware

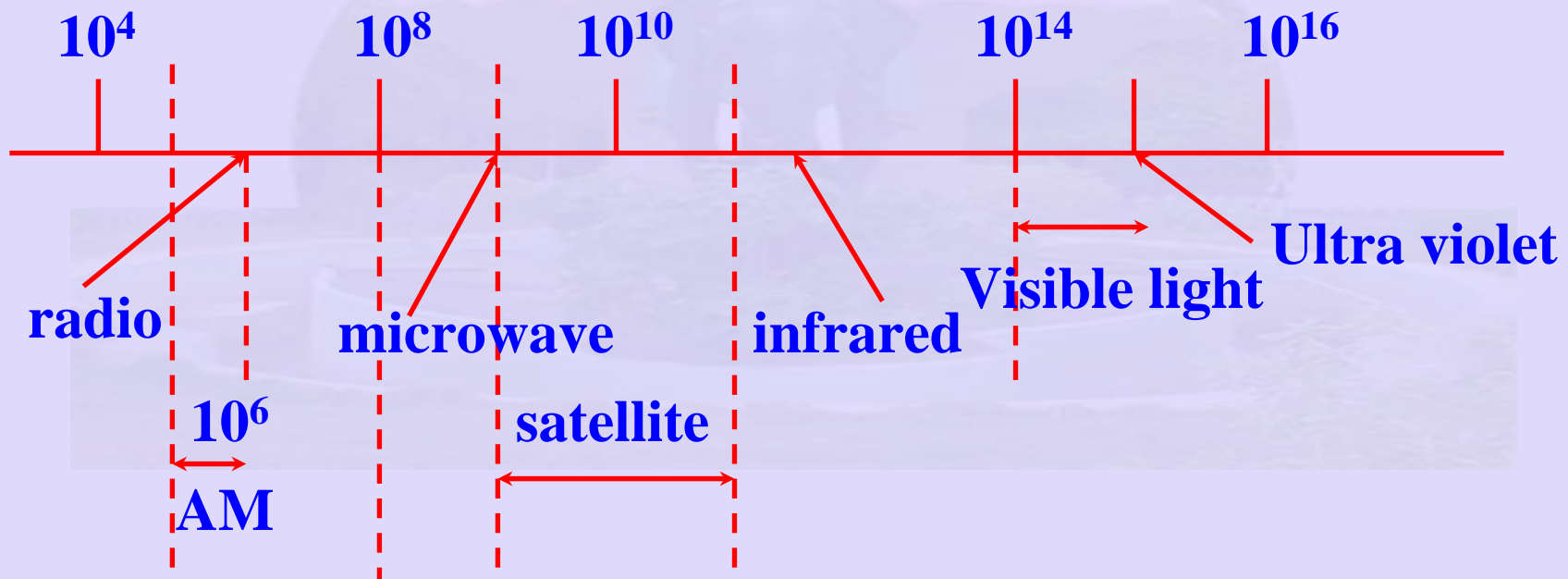
Hardware Building Blocks

- Links
 - TP/ Fibre/ Coaxial cable/ Wireless(radio, microwave, infrared)
 - physical medium – propagates signals
 - EM waves travelling at the speed of light in vacuum
 - speed varies with the medium

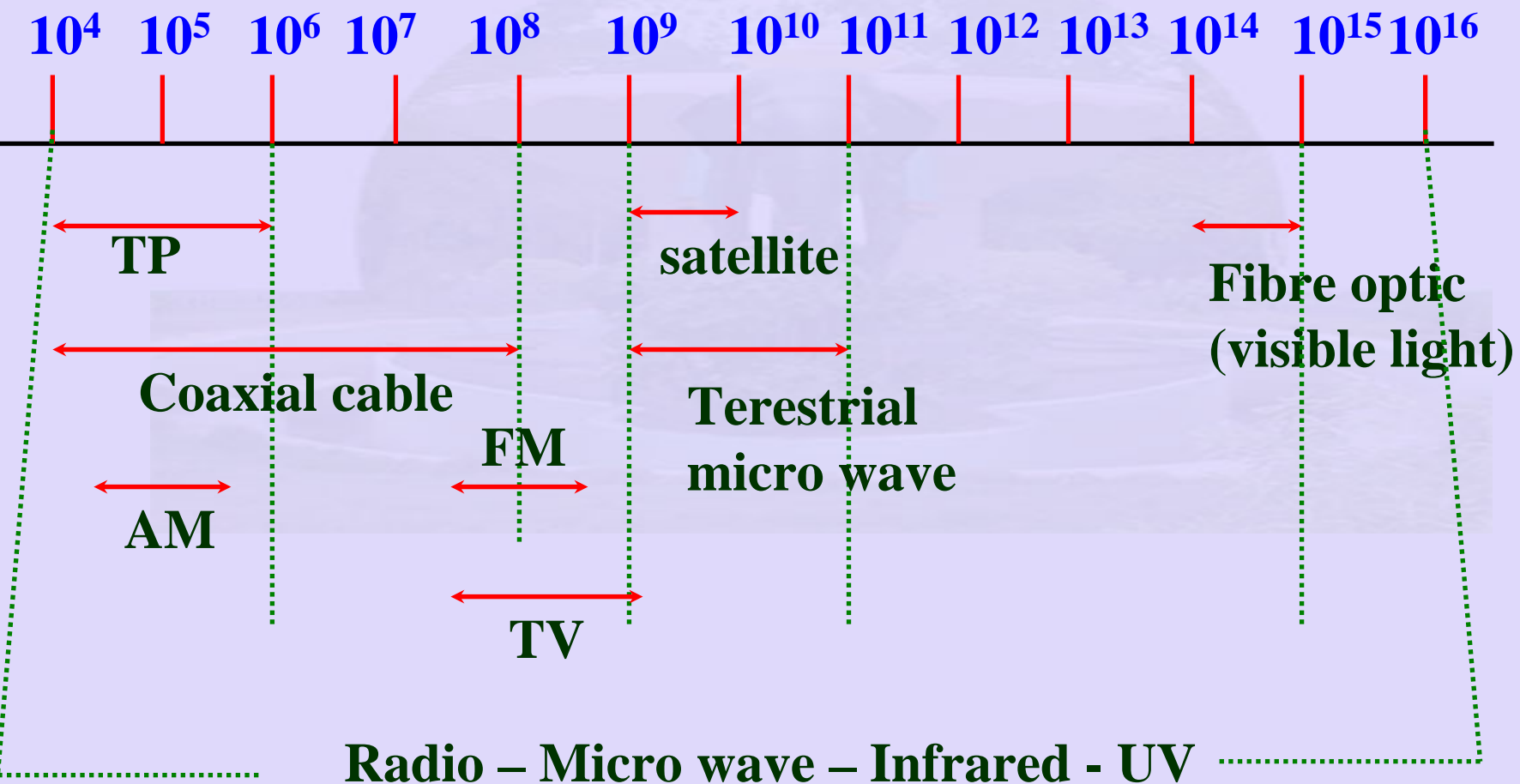


A device that transfer data between workstation memory and NW link

EM Range (Hz)

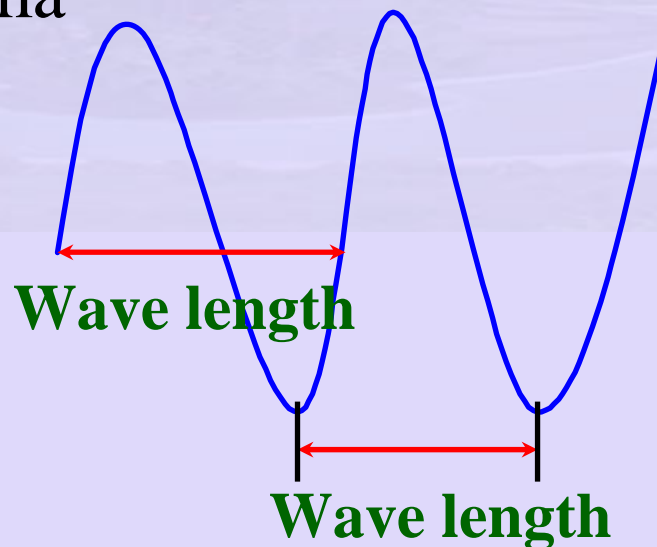


EM Range and Media



Transmission of EM waves

- EM waves
 - Frequency (Hz)
 - Wavelength – distance between maxima/minima



Transmission of data

- Wave Must encode binary data



Implies this must encode binary data.