Structured Troubleshooting

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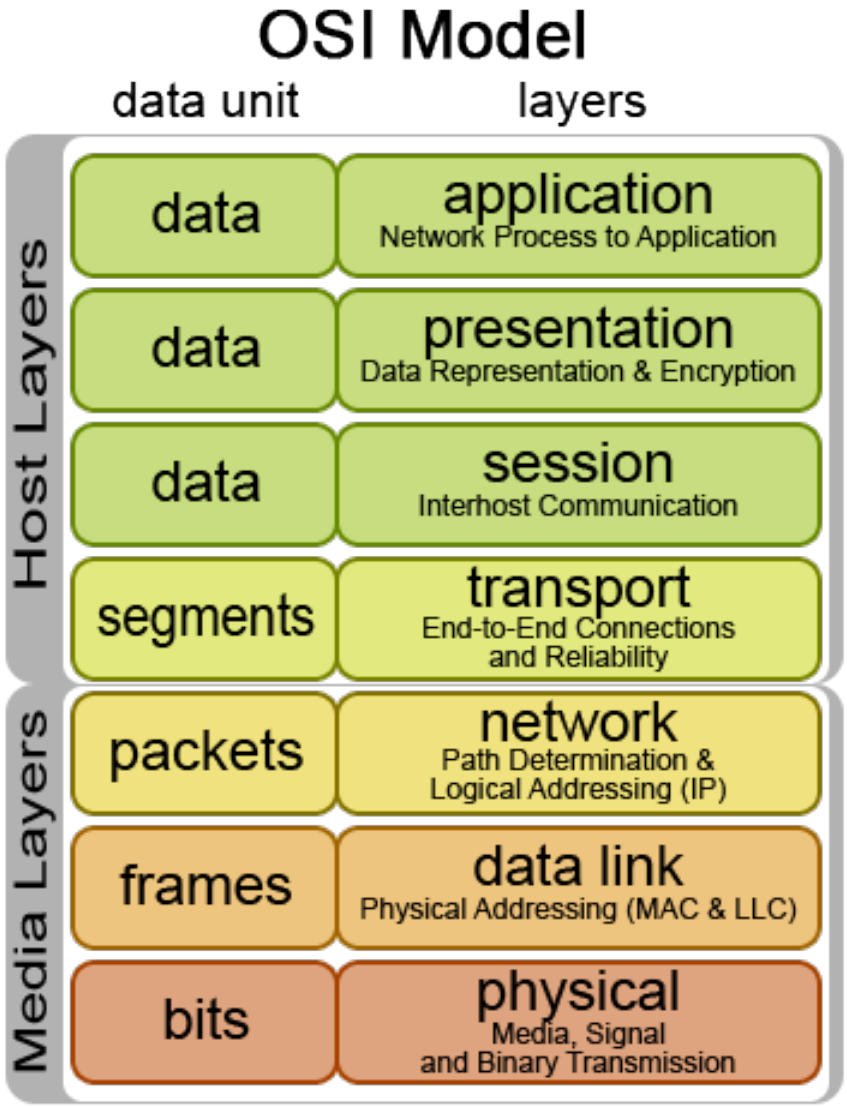
Remember

- Layer model of networking
- YES/NO questions to find problem
- Be sure about Interfaces
- Write down what you find!
- Pen and paper!

Layer Model of Networking

- **Physical Layer**
  Wireless, Ethernet cable, etc
- **Link Layer**
  Wireless Modes, SSID, Channels
- **Network Layer**
  IP settings
- **Transport Layer**
  TCP
- **Higher Layers, e.g. Applications**
  ftp, email, browser



Ask YES/NO questions and draw conclusion

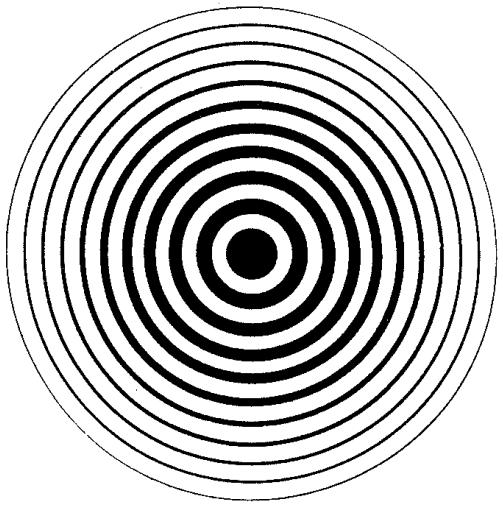
- **Start for example on IP layer - with ping**
- **For example: Can I ping all local network?**
  If YES: then all cables and wireless links on local network are ok – you dont need to check them further!
  If NO: go down in layers and check physical connections, links, associations
- **For example:**
  Can I ping 74.125.77.104? YES
  Can I ping google.com.np? NO
  if I can ping 74.125.77.104, but not google.com.np ==> DNS problem

Ask YES/NO questions and draw conclusion

- **Conclusions let you exclude problem areas:**

  for example, if everything is fine on local network, but not internet – then your local cable or antenna is NOT the problem

- **That way, make circle around problem smaller and smaller**



Interfaces

- **Remember that all devices have interfaces, and often more than one**
- **IP addresses belong to interface, not machine**
- **Example: Wireless router Linksys WRT54 has WAN/Internet interface + Local Network (LAN) interface**
- **Example: if all is fine on LAN, but WAN can not connect: continue with checking only WAN side**

Write down what you find

- **Always write down all settings, configurations!**
- **Write down all YES/NO questions and the answers.**
- **Write down all the conclusions.**

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Sources: this presentation from http://wirelessu.org