

PS93 Digital Communication 2004

a) flat - no structure on address, can only compare

hierarchical - structure which allows components to be addressed separately.

b) postal - hierarchical, eg can route to country without ~~knowing~~ understanding internal structure
telephone - (mainly) hierarchical with country code, area code etc

Ethernet address - flat (from routing point of view) or only full use complete equivalence

Internet - hierarchical but structure not held in address alone.

~~p5g~~ p5g3 cont'd

- c) Different classes (indicated by leading bits of address) have different boundary between 'host' and 'network' field. Routing is done on 'network' field. Eg there are relatively few class A networks each of which is very large, and lots of class C networks all of which are tiny (256 hosts)
- d) Classless addresses aren't structured intrinsically, but allow routers to define structure through routing tables which ~~map~~ match prefixes in order to route packets. This leaves the boundary between host and network flexible
- e) They were introduced because class based routing increasingly wasteful
- f) Prefixes and next hop for each mapped prefix. (Match longest prefix when overlapping)