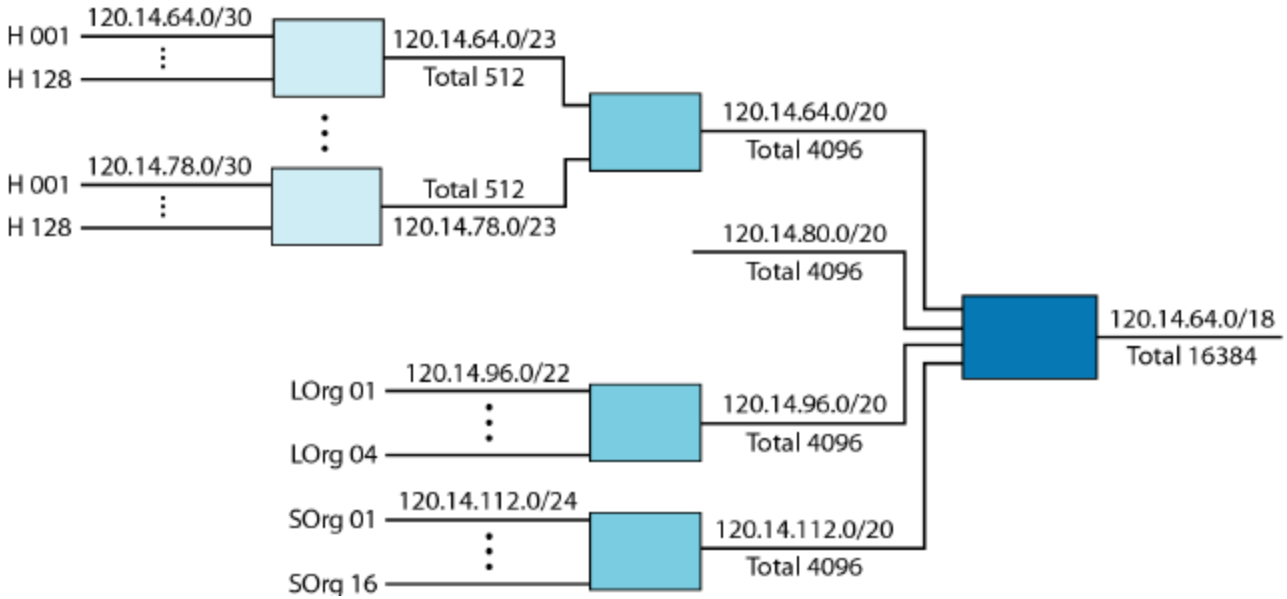
Hierarchical Routing – Example

- A regional ISP is granted 16,384 addresses starting from 120.14.64.0 and has decided to divide this block into four subblocks, each with 4096 addresses. Three of these subblocks are assigned to three local ISPs; the second subblock is reserved for future use. Note that the mask for each block is /20 because the original block with mask /18 is divided into ___ blocks



Hierarchical Routing – Example (Cont.)

- The first local ISP has divided its assigned subblock into 8 smaller blocks (that's the reason for mask /23) and assigned each to a small ISP. Each small ISP provides services to 128 households (H001-H0128), each using 4 addresses (that's why we have /30)
- The second local ISP has divided its block into 4 blocks and has assigned the addresses to four large organizations (LOrg01-LOrg04 each with mask /22)
- The third local ISP has divided its block into 16 blocks and assigned each block to a small organization (SOrg1-SOrg16). Each small organization has 256 addresses, and the mask is /24

- There is a sense of hierarchy in this configuration. All routers in the Internet send a packet with destination address 120.14.64.0 to 120.14.127.255 to the regional ISP