

Class A N.H.H.H /8

Class B N.N.H.H /16

Class C N.N.N.H /24

7 departments 7 LANs ~300 host/Dep.

148.37.0.0 /16 --> 1 Network $2^{16-2} = 65534$

10010100.00100101.00000000.00000000 148.37.0.0

10010100.00100101.00010000.00000000 148.37.16.0

10010100.00100101.00100000.00000000 148.37.32.0

10010100.00100101.00110000.00000000 148.37.48.0

10010100.00100101.01000000.00000000 148.37.64.0

10010100.00100101.01010000.00000000 148.37.80.0

10010100.00100101.01100000.00000000 148.37.96.0

10010100.00100101.01110000.00000000 148.37.112.0

10010100.00100101.10000000.00000000 148.37.128.0

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10010100.00100101.11110000.00000000 148.37.224.0

LAN-1

10010100.00100101.00010000.00000000 148.37.16.0 reserved

10010100.00100101.00010000.00000001 148.37.16.1

10010100.00100101.00010000.00000010 148.37.16.2

10010100.00100101.00010000.00000011 148.37.16.3

10010100.00100101.00010000.00000100 148.37.16.4

10010100.00100101.00010000.00000101 148.37.16.5

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10010100.00100101.00010000.11111111 148.37.16.255

10010100.00100101.00010001.00000000 148.37.17.0

10010100.00100101.00010001.00000001 148.37.17.1

10010100.00100101.00010001.00000010 148.37.17.2

10010100.00100101.00010001.00000011 148.37.17.3

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10010100.00100101.00010001.00110010 148.37.17.50

10010100.00100101.00011111.11111111 148.37.31.255 b/c

LAN-2

10010100.00100101.00100000.00000000 148.37.32.0

10010100.00100101.00100000.00000001 148.37.32.1

10010100.00100101.00100000.00000010 148.37.32.2

10010100.00100101.00100000.00000011 148.37.32.3

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10010100.00100101.00100000.11111111 148.37.32.255

10010100.00100101.00100001.00000000 148.37.33.0

10010100.00100101.00100001.00000001 148.37.33.1

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10010100.00100101.00100001.00110010 148.37.33.50

10010100.00100101.00011111.11111111 148.37.47.255 b/c

148.37.56.43 255.255.240.0 subnet mask

10010100.00100101.00000000.00000000

11111111.11111111.11110000.00000000 --> 255.255.240.0

148.37.56.43 255.255.240.0

10010100.00100101.00111000.00101011 Logical AND

11111111.11111111.11110000.00000000

10010100.00100101.00110000.00000000 148.37.48.0

CIDR - Classless InterDomain Routing

148.37.56.43 /20

T T : T

F T : F

T F : F

F F : F

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0      0      0      0      0      0      0      0
128    64    32    16     8     4     2     1
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1      0      0      1      1      0      1      1 ~ 155
128+  0+    0+   16+  8+   0+   2+   1 = 155

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198 ~ 1      1      0      0      0      1      1      0

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198-128=70-64=6-4=2-2=0

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11111111 255

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