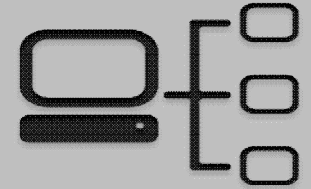# Class A Example #1

- **Details & Requirements**
  - Network Address: 15.0.0.0
  - Default Subnet Mask: 255.0.0.0
  - Requires 256 Subnets

- **How many host bit do we need to borrow?**
  - 8 host bit, 2^8 = 256 Subnets

- **How many addresses hosts per subnet?**
  - 16 host bits left, 2^{16} = 65,536 Addresses / Subnet
  - 2^{16} - 2= 65,534 Addresses / Subnet

- **New Subnet Mask?**
  - 11111111.**11111111**.00000000.00000000
  - 255.255.0.0 or /16

- **What are the valid subnets?**
  - Equation: 256 – Subnet Mask = 256 – 255 = **1**
  - 0 to 255 in 3rd Octet:

Subnet	#1	#2
Network Address	15.0.0.0	15.1.0.0
First Host IP	15.0.0.1	15.1.0.1
Last Host IP	15.0.255.254	15.1.255.254
Broadcast Address	15.0.255.255	15.1.255.255