CIDR Utility App

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CIDR **Utility App*** is an application that will be used by IT professionals and network engineers to find out the details of a given network/subnet. The app user will enter an IP address (IPv4) and pick a mask value (which is between 1 and 31) then the app will validate, calculate and display the number of subnets, number of valid IPs and the range of valid IPs. Also, it will provide the Network IP address and the Broadcast IP address for the given the subnet.

During my career, as an IT professional, I needed a quick way to figure out details about a subnet given its IP address in CIDR format. There are several apps in the App Store but they are either not *human* friendly, not precise or costs money. I needed something simple, neat, free and to the point. So, I've decided to implement it as my project. It will be interesting for me to automate the calculation, specially that it depends on the bitwise operations. I'll use the information and formulas available in this site: https://erikberg.com/notes/networks.html#less

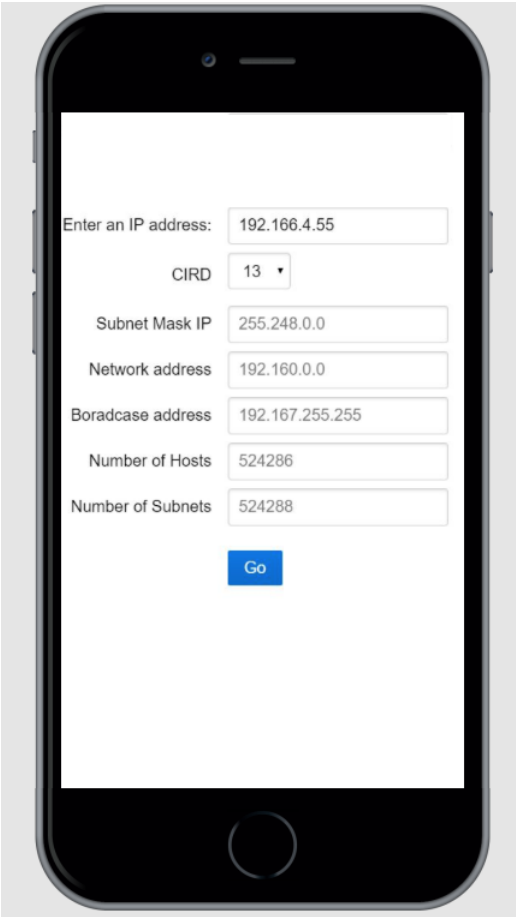

Figure 1: CIDR Prototype

*__Classless Inter-Domain Routing (CIDR)__ is a method for allocating IP addresses and IP routing. IP addresses are described as consisting of two groups of bits in the address: the most significant bits are the network prefix, which identifies a whole network or subnet, and the least significant set forms the host identifier, which specifies a particular interface of a host on that network. This division is used as the basis of traffic routing between IP networks and for address allocation policies. Classful network design for IPv4 sized the network prefix as one or more 8-bit groups, resulting in the blocks of Class A, B, or C addresses. Classless Inter-Domain Routing allocates address space to Internet service providers and end users on any address bit boundary, instead of on 8-bit segments (Wikipedia).