# **Cidr**

CIDR, which stands for Classless Inter-Domain Routing, is a method for allocating IP addresses and IP routing. Introduced to replace the old system based on classes (Class A, B, C, etc.), CIDR allows for more efficient use of IP address space and improved routing.

Key features of CIDR include:

1. **IP Address Allocation**: CIDR allows for variable-length subnet masking, which means IP addresses can be allocated more flexibly compared to the rigid class-based system. This helps in reducing the wastage of IP addresses.
2. **Notation**: CIDR notation represents an IP address and its associated network mask. It is written as a.b.c.d/n, where a.b.c.d is the IP address, and n is the number of significant bits in the subnet mask. For example, 192.168.1.0/24 means the first 24 bits are the network part of the address, and the remaining bits are for host addresses.
3. **Routing**: CIDR helps in the creation of hierarchical and efficient routing tables, reducing the number of entries in the routing table by aggregating routes (route aggregation). This is often referred to as "supernetting".
4. **Scalability**: By allowing more flexible IP address allocation, CIDR helps in the scalability of the Internet by conserving IP addresses and managing the routing information more efficiently.

In summary, CIDR is a significant advancement in IP address allocation and routing, providing more flexibility and efficiency than the older class-based system.