What Is Routing?
Routing is the act of moving information through a computer network. On the Internet, information is split into “packets,” each individually labeled with its ultimate destination, an IP address.

Specialized devices called routers pass packets from the source computer to its destination by analyzing a routing table to determine the best path. Each packet can take a different path, with all packets reassembling upon arrival at their destination.

What Is a Routing Table?
A routing table is a list of networks stored in a router’s memory. The router receives a packet and examines it, then usually forwards the packet toward its destination based on information derived from the routing table.

Because routers have a finite amount of memory and processing power, the size of the routing table must be kept at a manageable size to maintain service quality. The increasing number of computers, mobile handhelds, servers, routers, and other Internet-enabled devices has lead to a continually increasing routing table size, creating an ongoing challenge for router manufacturers and network administrators. When a routing table grows to an unmanageable size, packets are lost and do not reach their intended destinations.

What Role Does ARIN Play in Routing on the Internet?
ARIN only has an indirect role in routing. Individual network operators set their own rules for routing with no control or oversight from ARIN or any other organization. However, ARIN’s Internet number resource distribution policies may impact the global routing table, affecting all Internet users.

ARIN helps keep the global routing table at a manageable size by allocating large blocks of IP addresses that create a single entry in the table. Organizations manage their large blocks, further allocating smaller blocks from inside their networks. This allows many entities to use a single large block, rather than each network having its own allocation, and therefore reduces routing table growth.

If ARIN policy allowed for distribution of smaller blocks to more entities, network operators would have to carry more entries in their routing tables. This could exceed the capacity of their routers and lead to a failure of routing on the Internet.

To minimize routing table growth, the ARIN community considers each proposed policy’s impact on the global routing tables.

For more information, visit us at www.arin.net or email us at info@arin.net.