

- Default Routing -

Default Routing

Normally, if a specific route to a particular network does not exist, a router will drop all traffic destined to that network. A **default route**, or **gateway of last resort**, allows traffic to be forwarded, even without a specific route to a particular network.

The default route is identified by all zeros in both the network and subnet mask (*0.0.0.0 0.0.0.0*). It is the *least* specific route possible, and thus will *only* be used if a more specific route does not exist (hence “gateway of last resort”).

To configure a default route:

```
Router(config)# ip route 0.0.0.0 0.0.0.0 172.17.1.2
```

It is possible to specify an entire **default network** on a Cisco device:

```
Router(config)# ip default-network 172.20.0.0
```

The *172.20.0.0* network must already exist in the routing table (either statically or dynamically), and will be marked as the gateway of last resort.

If IP routing is *disabled* on a Cisco IOS device, the following command will configure a **default-gateway**:

```
Router(config)# no ip routing
Router(config)# ip default-gateway 192.168.1.1
```

Essentially, the Cisco router will act as a *host* device, and will perform no routing functions on behalf of other hosts. The router will simply forward its *own* locally-originated traffic to the default-gateway, assuming that traffic is destined for a remote network.

It is possible to generate a default route in most routing protocols (RIP, OSPF, IS-IS, & BGP) using the *default-information originate* command:

```
Router(config)# router rip
Router(config-router)# default-information originate
```

(Reference: <http://www.cisco.com/warp/public/105/default.html>)

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