

Policy Routing and Other Advance Routing Issues

Internetworking - Module 15

Routing packets differently, depending not only on the destination addresses but also on other packet fields such as source address, IP protocol, transport protocol ports, or even packet payload is called Policy Routing.

Advance Routing Concepts

- Route Redistribution
- Route Filtering
- Policy Routing

Route Redistribution

- Routes learnt from one routing protocol are propagated into another routing protocol e.g. RIP to OSPF, static to OSPF

Route Filtering

- Some times routing information may need to be suppressed in order for some thing to work correctly

Policy Routing

- Routing packets differently, depending not only on the destination addresses but also on other packet fields such as source address, IP protocol, transport protocol ports, or even packet payload is called Policy Routing.
- Traditional IPv4 routing is summarized as "All routing is a destination-driven process." When a router looks at an IPv4 packet it cares only about the destination address in the header of the packet. It uses this destination address to make a decision on where to forward the packet. This scenario works fine for simple networks where all of the machines in the network only need to get out to some place.

Defining "Policy" in Policy Routing

- The standard dictionary definition of policy is
 1. A definite course of action adopted for sake of facilitation
 2. A course of action pursued by a government or organization
- Both of these definitions imply that a policy is a describing or proscribing set of rules and actions that encompass an ideal goal.
- And that implication fits in well with the scope of policy routing.

Policy Routing is More Powerful

- The policy in Policy Routing is to provide routing capability based on any or all facets of a packet.
- This includes not only the header information, but also the data contained within the packet itself.

Why Have Policy Routing?

- Some Routing Protocols such as RIP designed to find optimal paths based on simple cost/metrics
- Routing protocols such as OSPF unable to express sophisticated policies

Factors Influencing Policy Routing

- Source-Based Transit Provider Selection
- Quality of Service (QOS)
- Cost Savings
- Load Sharing