DHCPv6 Router and Host Distinction

This application uses information from DHCPv6 requests to determine if the requestor is a router or a host.

When a DHCPv6 server receives a DHCP request with both an IA_NA and IA_PD request, it will assume that the requestor is acting as a router and provide IA_NA response (IPv6 address) from a router range of addresses. When a DHCPv6 server receives a DHCP request which contains only an IA_NA option, it will assume that the requesting device is a host and provide an IA_NA response (IPv6 address) from a host range of addresses.

This application was developed while we were developing the "Overlay" home network when we needed to find a way to distinguish between routers and hosts at the DHCP server level in order to provide different types of devices addresses from different ranges or types.

There are several immediate use cases:
1) An MSO who wants to hand IPv6 out only to individual hosts but not to routers.
2) An MSO who wants to hand out CGN addresses only to hosts but not to routers.
3) An in-home overlay network that builds a ULA network between routers and then must hand GUA to hosts.