**ICMP (Internet Control Message Protocol – Giao thức tin nhắn điều khiển internet)**

**1. Internet Control Message Protocol (ICMP) provides feedback**

- ICMPv4 is for IPv4

- ICMPv6 is for IPv6 and includes additional functionality.

**2. ICMP messages common to ICMPv4 and ICMPv6**

- Host reachability.

- Destination or Service Unreachable

- Time exceeded

**3. ICMPv4 messages are nor required**: Often not allowed within a network for security.

**4. Destination or Service Unreachable:**

- Some of the Destination Unreachable codes for **ICMPv4** are as follows:

* 0 - Net unreachable
* 1 - Host unreachable
* 2 - Protocol unreachable
* 3 - Port unreachable

- Some of the Destination Unreachable codes for **ICMPv6** are as follows:

* 0 - No route to destination
* 1 - Communication with the destination is administratively prohibited (e.g., firewall)
* 2 - Beyond scope of the source address
* 3 - Address unreachable
* 4 - Port unreachable

**5. ICMPv6 Messages**

- ICMPv6 has new features and improved functionality not found in ICMPv4 – Neighor Discovery Protocol (ND or NDP)

- Messaging between an IPv6 router and an IPv6 device:

+ Router Solicitation (RS) message

+ Router Advertisement (RA) message.

- Messaging betweeen IPv6 devices:

+ Neighbor Solicitation (NS) message

+ Neighbor Advertisement (NA) message