IPv6 Flow Label for Server Load Balancing

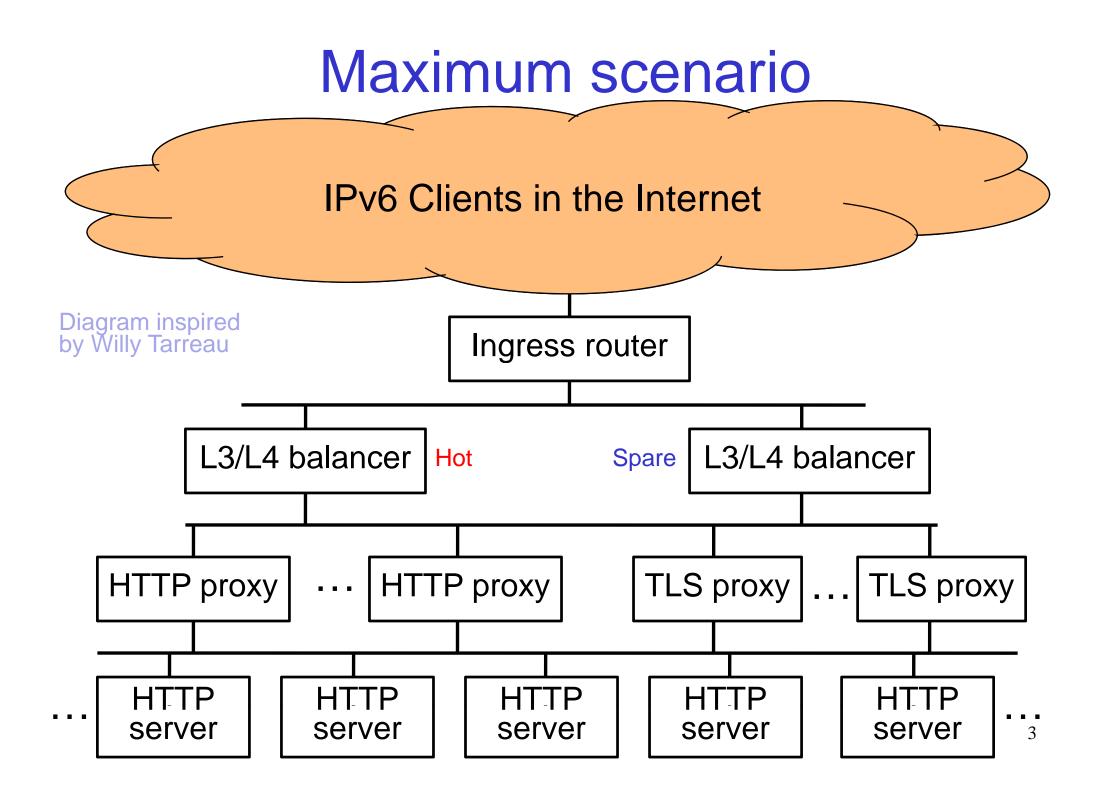
draft-carpenter-v6ops-label-balance-00

Brian Carpenter Sheng Jiang

November 2011

Methods of server load balancing

- DNS based flow label not relevant
- L3/L4 load balancers route sessions to individual servers, or to:
 - Layer 7 (HTTP) proxies in front of servers
 - TLS proxies in front of servers
 - All these are cognizant of transport sessions, so are candidates to examine the flow label



Why the flow label may be useful

- {source address, destination address, flow label}
 could stand in for
 {source address, destination address, protocol, source
 port, destination port}
 to identify a transport session.
- The flow label is immediately available regardless of extension headers – more efficient, especially for L3/L4 ASICs.
 - Also available for TLS and HTTP proxies, but they have to decode the TCP header anyway.

Who sets the label?

- According to RFC 6437, the flow label SHOULD be set to a suitable (uniformly distributed) value at or near the source.
- Until that becomes general practice, a site using it for server load balancing will need to set the label, as permitted by RFC 6437, in an ingress router.
 - Nett cost will not be greater since either the ingress router or the L3/L4 balancer will have to walk the extension header chain.

Questions?

Is this something the IETF should document?