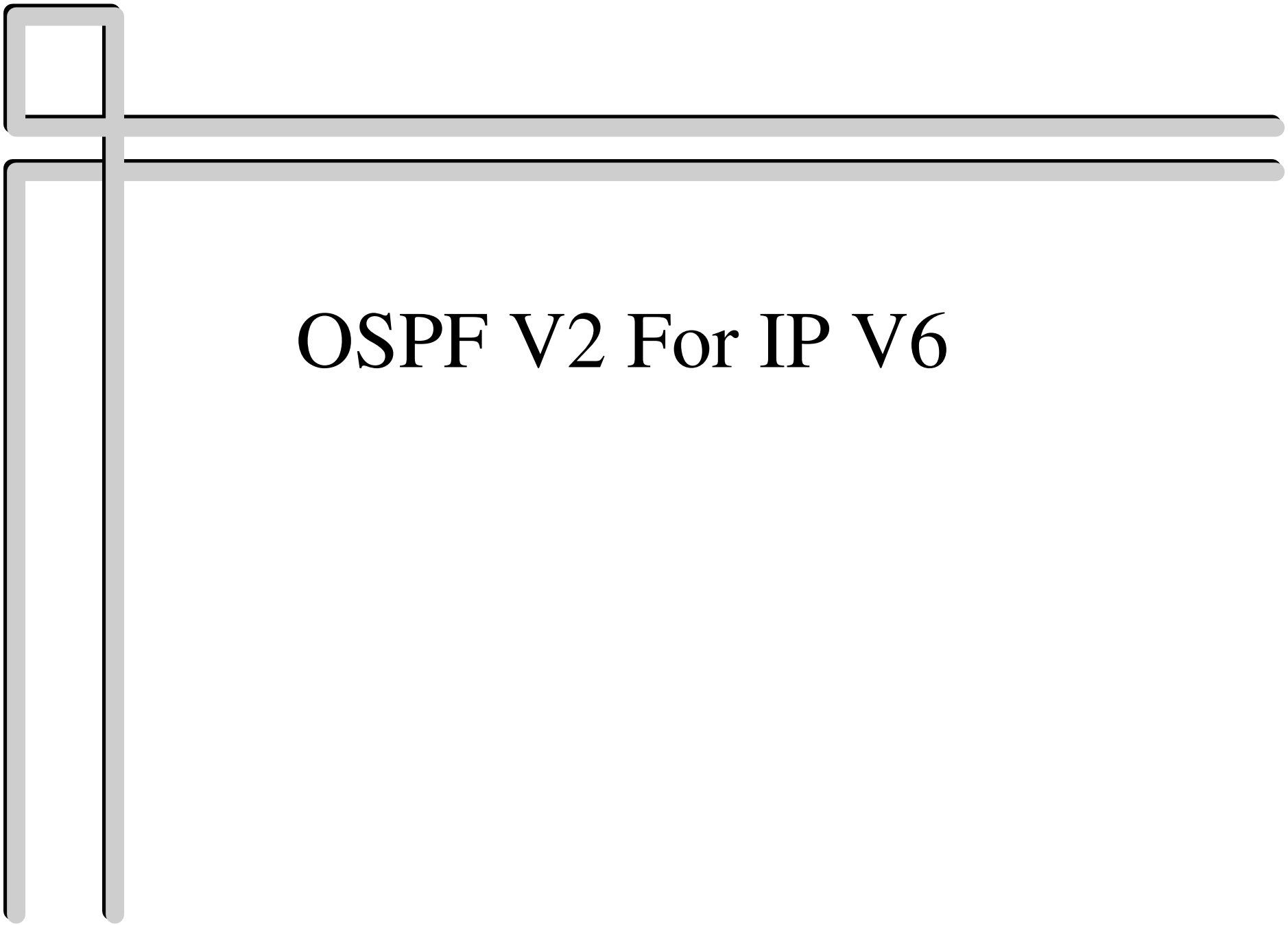

OSPF V2 For IP V6

V6 Diffs

- Same Protocol As OSPFv4 But Extended To Support Bigger Addresses
  - Subnetting Support
  - Representation Of Routers And Network
  - Area Support
  - Database Exchange/Flooding
  - Version 2

Deleted Features

- TOS-Based Routing
  - Semantics Of IPv4 ToS Not Carried Forward
  - IPv6 Has Priority And Flow ID
    - » Priority Used To Inform Packet How To Be Queued
    - » Flow ID Is Under Construction

Extensions

- All Network Addresses, Link-State ID, Router ID, Area ID Are Now 128 Bits
- Network Mask Is Now Length In Bits
  - Field Remains 32 Bits
  - Link-Data Of Router LSA Is 128 Bits So When Used As A Mask First 32 Bits Are Used
- Opaque LSA Now Required

External LSA

- Forwarding Address And Tag Replaced With Opaque Reference
  - Too Much Memory Overhead
    - » Mostly Same Forwarding Addr And Tag Used
  - External Reference Opaque LSA Contains Forwarding Address And Tag
    - » May Contain List Of As Paths
- Opaque LSA's Scope And Flooding Rules Same As For OSPFv4

Instance ID

- Included In OSPF Pkt Header
- Supports Multiple Instance Of OSPF On Same Wire
  - IP Providers On DMZ

Fragmentation Issues

- In IPv6 Fragmentation Is Done By Originator Of Pkt
- OSPFv6 Needs To Support PMTU Or Assume 576 Bytes For Virtual Links
- All Other Packets Are Sent Locally
- Rtr LSAs Exceed 1500 Bytes At 40 Links
- Network LSAs Exceed 1500 Bytes At 90 Nbrs
- Hello Pkts Exceed 1500 Bytes At 90 Nbrs