BGP4-OSPF Interaction

Editorial changes based on Proteon implementaion experience and specific suggestions from John Moy.

Overview of document

- Route Exchange
- BGP Identifier vs OSPF Router ID
- OSPF Tag Settings
- OSPF Forwarding Address vs BGP/IDRP NEXT_HOP attribute

Route Exchange

- Constraints
  - Examples:
    - Don't import internal routes from BGP/IDRP into OSPF.
    - Don't export routes with non-contiguous masks into BGP/IDRP.
  - Updated import into OSPF for 2 destinations differing only in prefix length: Now refers to [RFC1583].
- Configuration mechanisms
  - Examples:
    - import/export metrics
    - filter mechanisms

BGP/IDRP Identifier vs. OSPF Router ID

- Important hook to generate correct BGP/IDRP advertisements.

- This section was cleaned up by removing redundant explanations.

OSPF Tag Settings

- How to set OSPF tag when importing from various routing protocols into OSPF
- How to set ORIGIN and PATH attributes when exporting from OSPF into BGP/IDRP.
- Section with significant cleanup, including removing chunks of explanatory verbosities.
- Two quick index lookup tables at start, pointing to relevant sections.

Import/Export table in the tags section

Routing Domain Protocol	Usage	Import Settings Completeness	PathLength	TAG bit Settings	Reference Section
man. conf	(0)			0xxx	4.3
RIP	(1)	NO	00	1000	4.4.1
EGP		NO	01	1001	4.4.2
BGP/IDRP	(3)	NO	01	1001	4.4.2
RIP		YES	00	1100	4.4.4
RIP	(2)	YES	01	1101	4.4.5
BGP/IDRP	(3)	YES	01	1101	4.4.5
BGP/IDRP		YES	10	1110	4.4.6
reserved	(4)			1x11	4.5

PathLength $\Rightarrow$ Completeness $\downarrow$	00	01	10	11
NO	BITS 1000 <EGP> <localAS> section 4.4.1	BITS 1001 <EGP> <localAS, NextHopAS> section 4.4.2	BITS 1010 never export section 4.4.3	BITS 1011 reserved section 4.5
YES	BITS 1100 <IGP> <localAS> section 4.4.4	BITS 1101 <IGP> <localAS, NextHopAS> section 4.4.5	BITS 1110 out of band section 4.4.6	BITS 1011 reserved section 4.5

OSPF Forwarding Address vs BGP/IDRP NEXT_HOP

- How to set the 2 fields.
- No changes

Implementations

- Proteon
- Anyone else??