Hierarchical IS-IS

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More areas… more levels

- If a router becomes an area full of little routers, then what happens to the network architecture?
  - Data center/POP becomes a bunch of L1 areas.
  - The data center itself becomes an L2 area.
  - Now we need Level 3 for the WAN.

Levels 3 thru 8

- IS-IS encoding already reserves bits for more levels
- Circuit type (ISO 10589, section 9.5):
  - 1 - Level 1
  - 2 - Level 2
  - 3 - Level 1 & 2
  - 6 reserved bits

New bits

- Bit values:
  - 4 - Level 3
  - 8 - Level 4
  - 16 - Level 5
  - 32 - Level 6
  - 64 - Level 7
  - 128 - Level 8
- Set bits MUST be contiguous

New Hello PDU

- Existing:
  - LAN L1 IIH PDU
  - LAN L2 IIH PDU
- Add:
  - LAN HELLO PDU (same format, just separate for backward compatibility)
  - Covers L3 - L8
  - If only some levels are supported, this acts as only on the common levels.

New LSPs

- Existing:
  - L1 LSP
  - L2 LSP
- Add
  - L3 LSP, L4 LSP, …, L8 LSP
  - Inherits everything from L2, translated to the target level

New CSNP, PSNP

- Existing: L1 CSNP, L2 CSNP, L1 PSNP, L2 PSNP
- Add:
  - L3 CSNP, L4 CSNP, …, L8 CSNP
  - L3 PSNP, L4 PSNP, …, L8 PSNP


LOONEY TUNES
"That's all Folks!"