Softwire Mesh MIB
draft-cui-softwire-mesh-mib-02

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2011.7
IETF 81, Quebec city

Background

- The WG completes RFC4925/ RFC5565 for softwire mesh
- Supported by vendors
- China's Next Generation Internets: 4over6 mesh deployment in CERNET2
  - A large number of PEs/client networks
  - Management requirements

Management requirement

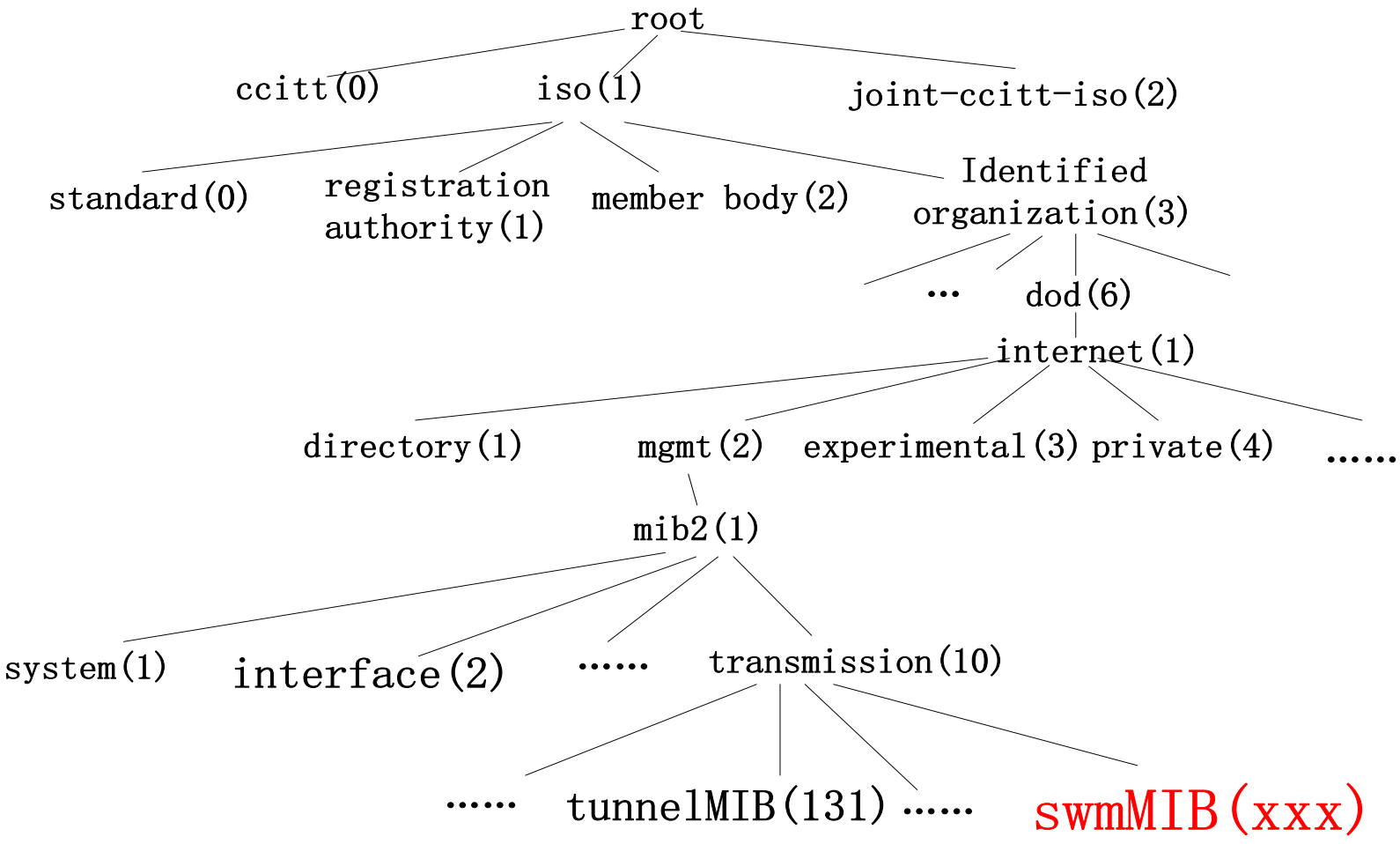
- Technical requirements
  - Monitor the status of PEs' mesh functions
  - When broken, analyze information like BGP connectivity, NLRI-NH to find what & where is the problem
  - Collect each PE's traffic information, find the bottleneck, etc.
- Manage a large number of PEs
  - Produced by different vendors
  - Managed by different campus networks
  - Unified management is indeed necessary

Relationship with Other MIBs

- BGP MIB(RFC4273)
  - Softwire mesh BGP peers need to negotiate tunnel type
    - Need softwire mesh BGP neighbor table
- IP Tunnel MIB(RFC4087)
  - The IP Tunnel MIB includes softwire mesh tunnel
  - Need a new tunnelIfEncapsMethod “softwireMesh”
  - tunnelIfRemoteInetAddress must be set to 0.0.0.0 or ::
  - tunnelIfAddressType shows address type of I-IP
  - Softwire mesh tunnel is a point to multi-point tunnel
    - Need softwire mesh encapsulation table

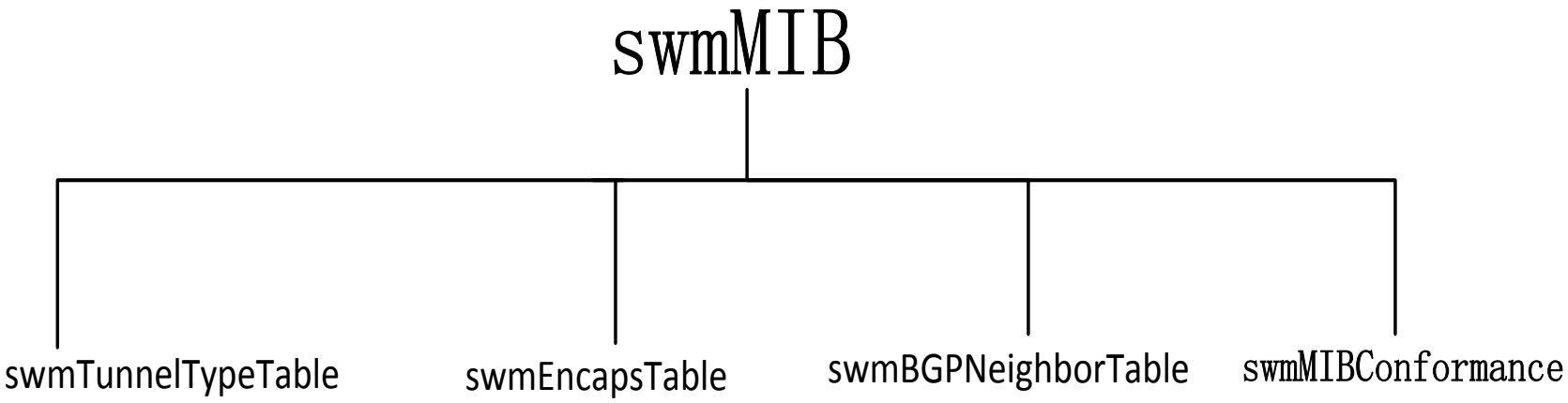
Position softwire mesh MIB

- swmMIB ::= {transmission xxx}



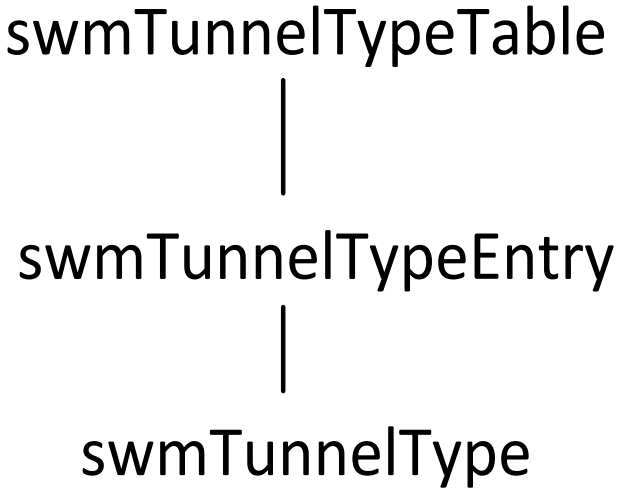
Subtree of swmMIB

- swmTunnelTypeTable： Supported tunnel Type
- swmEncapsTable： Information about encapsulation
- swmBGPNeighborTable： Information about mesh neighbors
- swmMIBConformance



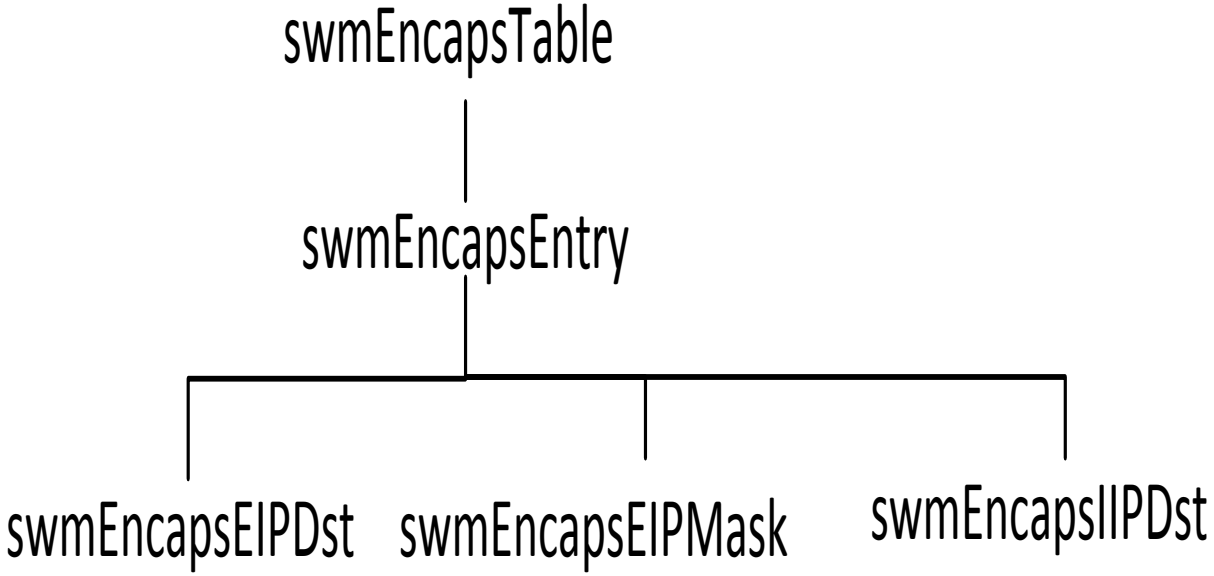
swmTunnelTypeTable ::= {swmMIB 1}

- Shows what kind of tunnel type the softwire mesh tunnel supported
  - Indexed by ifIndex & swmTunnelType
  - Current softwire mesh tunnel supports IP-IP, GRE, L2TPv3 (section 4 of RFC5512)



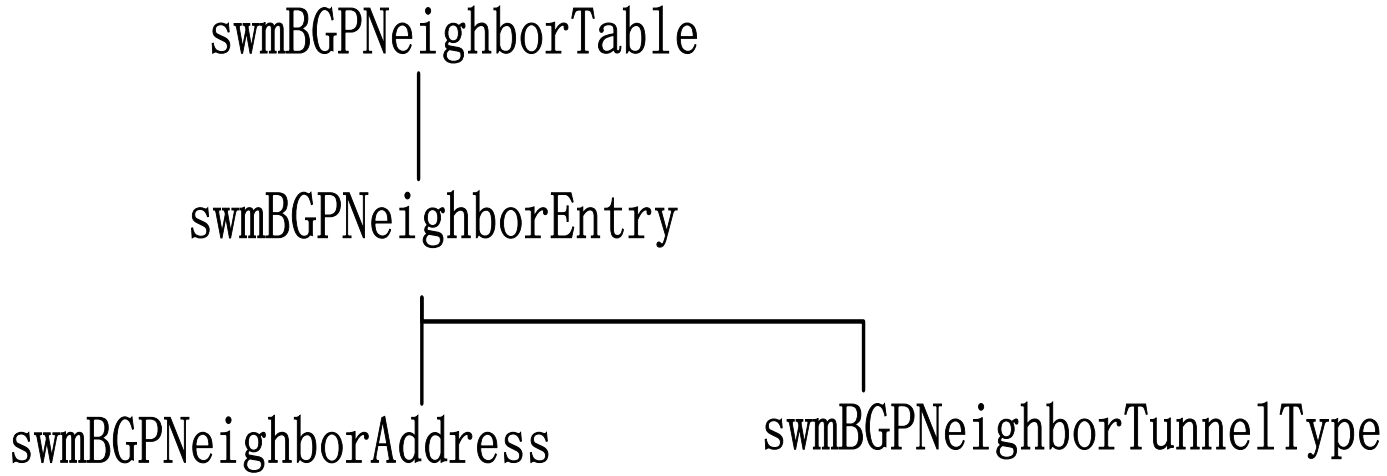
swmEncapsTable ::= {swmMIB 2}

- A encapsulation table of the softwire mesh tunnel, including IPv4-over-IPv6 and IPv6-over-IPv4
  - Indexed by ifIndex & swmEncapsEIPDst & swmEncapsEIPMask
  - Address type is decided by tunnelIfAddressType in tunnelIfTable
- Objects
  - Destination (E-IP destination address + mask)
  - Encapsulation header (I-IP destination address)



swmBGPNeighborInfo ::= {swmMIB 3}

- BGP neighbor information of the softwire mesh tunnel
  - Indexed by ifIndex & swmBGPNeighborAddress
- Objects
  - BGP neighbor address
  - negotiated tunnel type with each neighbor



Discussion

- Collaboration welcomed. Please jump in if you're interested.

- Suggestions? Anything we miss?