Management Information Base for Load Balancer

draft-li-opsawg-loadbalance-mib-03

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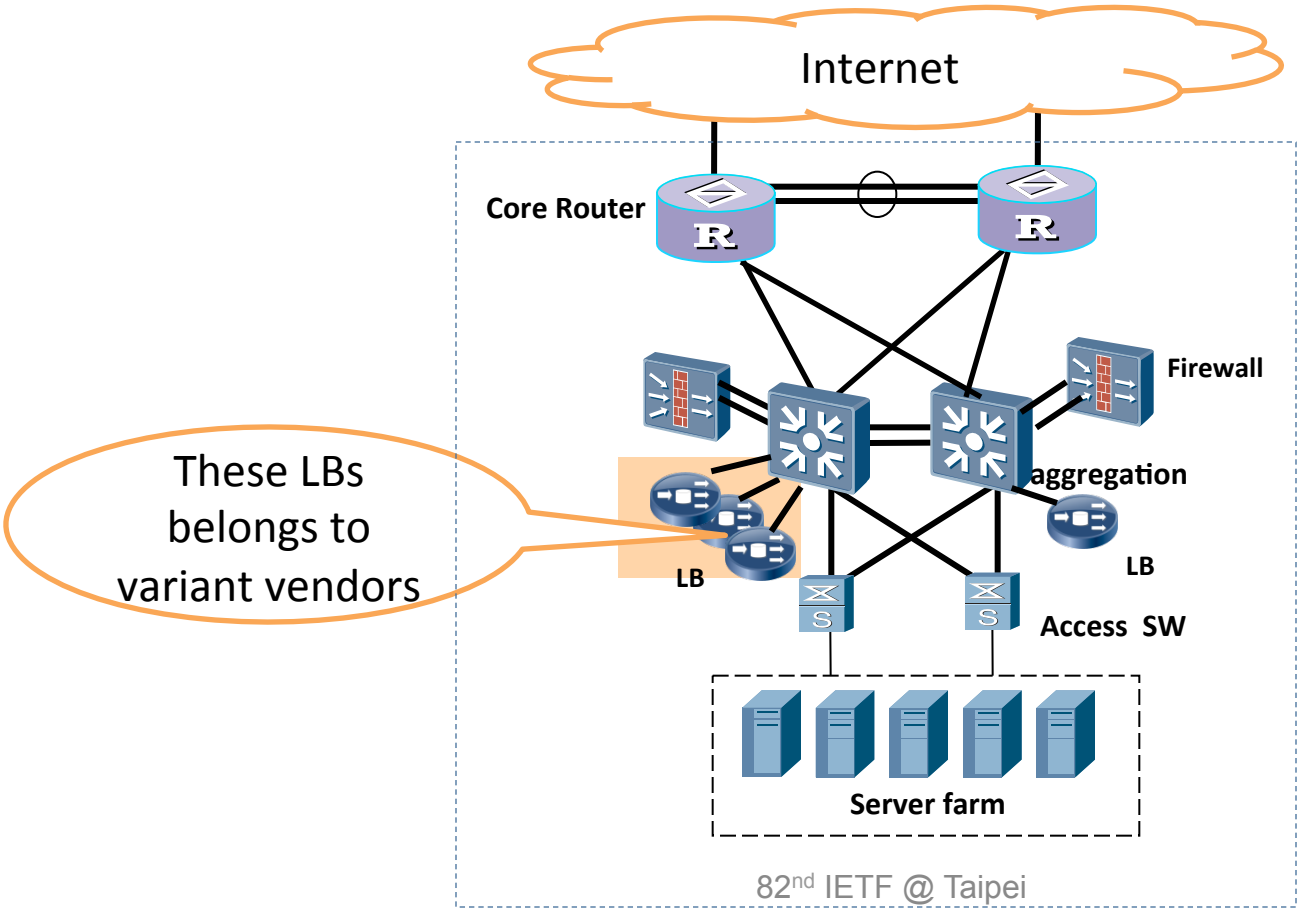
Why we do this?

- There is a requirement to build a unique Load Balancer network management system where two or more vendors' LB devices are used. We propose the standard MIBs for unique NMS.
- There is not a standard for LB mib till now. It's difficult to develop a unique NMS.



The basic LB MIB nodes

- The LB MIB may have Notifications, Objects, Conformance or some other attributes. However in my draft, we only concern on the common features for LB, just include:
  - Virtual Service
  - Real Service
  - Real Service Group
  - Health Monitoring
  - Statistic

Detailed Description-- Virtual Service

- The function of Virtual Service is that LB config the interface to WAN.
- The Virtual Service table is shown as below :
  - lbVSEntry ::= SEQUENCE {
    - lbVSId Unsigned32, /*LB virtual service identifier*/
    - lbVSAddr IpAddress, /*virtual service IP address of cluster/LB, used for users to request services*/
    - lbVSPort INTEGER, /*The LB distributes the requests with the same source IP address and source port to a specific server*/
    - lbVSmode INTEGER, into Network Address Translation (NAT)-mode server load balancing and Direct routing (DR)-mode server load balancing*/
    - lbVSproto INTEGER} /*LB can support protocol for user*/

Detailed Description-- Real Service

- Services provided by real servers are real Service.
- A real service can be a traditional FTP or HTTP service, and can also be a forwarding service in a generic sense.
- The Real Service table is shown as below :
  - lbRSEntry ::= SEQUENCE {
    - lbRSId Unsigned32, /*LB real service identifier*/
    - lbRSGId Unsigned32} /*a real service group is a logical concept. Servers can be classified into different groups according to the common attributes of these servers*/
    -
    - lbRSAddr IpAddress, /* IP address of a server, used by the LB device to distribute requests */
    - lbRSPort INTEGER,} /*The LB uses the port for communication with server*/

Detailed Description-- Real Service Group

- The Real Service table is shown as below :
  - lbRSGEntry ::= SEQUENCE {

lbRSGId	Unsigned32,	/*LB real service group identifier*/
• lbRSID	Unsigned32,	/*LB real service identifier*/
• lbRSGschdalgorithm	INTEGER,	to different real services according to a load balancing scheduling algorithm*/
• lbRSGhealth	INTEGER}	allows an LB device to detect whether real servers can provide services. The common method includes DNS\ICMP\HTTP, etc.*/

Detailed Description-- Health Monitoring

- mark whether servers or links can work normally
- collect statistics of the response time of the servers or links

for selecting servers or links

- The Health Monitoring table is shown as below :

lbHealthchkEntry	::= SEQUENCE{	
lbHealthchkId	Unsigned32,	/*LB health check identifier*/
lbHealthchkAddr	IpAddress,	/*The remote IP address of server*/
	,	/*The remote port of server supporting service*/
lbHealthchktype	INTEGER,	/*The set of health check method that include ICM /*The set of health check method that include ICM
lbHealthchkintvl	INTEGER,	/*The definite length of between two packets*/
lbHealthchkretrytimes	Integer32}	server doesn't reply health check packet in time */

Detailed Description-- Statistic

transmission rate.

- The Statistic table contains the following items :
  - lbStaEntry ::= SEQUENCE {
    - lbStaId Unsigned32, /*LB statistic table identifier*/
    - lbStasession INTEGER, /*the max or min session number of a RS or RSG*/
    - lbStarate INTEGER} /*the max or min flow rate of a RS or RSG*/

Questions & Comments?

Updates in the draft

- Thanks for the comments from Juergen schoenwaelder and Jean-Philippe Dionne

Thanks!