



Update of ForCES LFB Library Draft

<draft-ietf-forces-lfb-lib-06 >

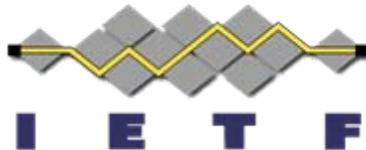
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Summary

- Draft Status
- Updates since Version 05
- Next works



Draft Status

- Current Version 06, October 25, 2011
- Major updates since Version 05
 - Modified and reorganized the LFB description texts for readability
 - Modified some LFB definitions, including BasicMetadataDispatch, GenericScheduler etc.
 - Updates XML definitions accordingly
 - Modified some text description in XML files.
- updates are mostly triggered by Jamal's reviews and comments. Authors would like to give special thanks to Jamal!



Updates since Version 05 (1)

- Modified and reorganized the LFB description texts for readability
- Added definitions of the following terminology in section 2.
 - FE Model
 - Data Path
 - LFB Port
 - Physical Port
 - Logical Port
 - LFB Class Library



Updates since Version 05 (2)

- Added the definition of “downstream LFB” and “upstream LFB” at the beginning of section 5.
 - Accordingly, in some LFB descriptions:
 - neighboring LFB -> upstream LFB/ downstream LFB.
- EtherMACIn and EtherMACOut LFBs:
 - EtherMACIn input port name: "EtherMACIn" -> "EtherPktsIn"
 - EtherMACOut output port name: "EtherMACOut" -> "EtherPktsOut"
- EtherClassifier LFB:
 - Added an output port: “ExceptionOut” for the exception case:
 - There is no matching when classifying the packet.



Updates since Version 05 (3)

- EtherEncap LFB:
 - Deleted the exception case:
 - MediaEncapInfoIndex value is not allocated in the EncapTable.
 - Added the exception cases:
 - The MediaEncapInfoIndex value of the packet is invalid and can not be allocated in the EncapTable.
 - The packet failed lookup of the EncapTable table even though the MediaEncapInfoIndex is valid.



Updates since Version 05 (4)

- IPv4Validator LFB:
 - Deleted the exception case:
 - Packet with destination address equal to 255.255.255.255
 - Added the exception cases:
 - Packet with exceptional source address
 - Packet with exceptional destination address
 - Deleted the failure reasons:
 - Packet with source address equal to 255.255.255.255
 - Packet with source address 0
 - Packet with source address of form {127, <any>}
 - Packet with source address in Class E domain
 - Added the failure reasons:
 - Packet with invalid source address
 - Packet with invalid destination address



Updates since Version 05 (5)

- IPv6Validator LFB:
 - Deleted the exception cases:
 - Packet with a link-local destination address
 - Packet with a link-local source address
 - Packet with destination all-routers
 - Packet with destination all-nodes
 - Added the exception cases:
 - Packet with exceptional source address
 - Packet with exceptional destination address
 - Deleted the failure reasons:
 - Packet with multicast source
 - Packet with destination address set to 0 or ::1
 - Packet with source address set to loopback (::1).
 - Added the failure reasons:
 - Packet with invalid source address
 - Packet with invalid destination address



Updates since Version 05 (6)

- IPv4NextHop/IPv6NextHop LFB:
 - Deleted the exception case:
 - ICMP packet needs to be generated
 - Added the exception case:
 - The packet failed lookup of the NextHop table even though the HopSelector is valid.



Updates since Version 05 (7)

- **Modified BasicMetadataDispatch LFB**
 - Added an output port: “ExceptionOut”
 - Added the exception case:
 - There is no matching when looking up the metadata dispatch table.
 - Added a new component: MetadataID
 - Redefined the contents of metadataDispatchTable component:
 - Previous definition: {MetadataID, MetadataValue, OutputIndex}
 - Current definition: {MetadataValue, OutputIndex}
- **Modified GenericScheduler LFB**
 - Removed the capabilities:
 - QueueScheduledLimit
 - DisciplinesSupported
 - Modified the component name:
 - “CurrentQueueDepth” -> “QueueStats”



Updates since Version 05 (8)

- Modified special values of ValidateErrorIDs in XML file for various LFBs:
 - Deleted:
 - InvalidIPv4SrcAddrCase1, InvalidIPv4SrcAddrCase2, InvalidIPv4SrcAddrCase3, InvalidIPv4SrcAddrCase4
 - InvalidIPv6SrcAddrCase1, InvalidIPv6SrcAddrCase2, InvalidIPv6DstAddrCase1
 - Added:
 - InvalidIPv4SrcAddr, InvalidIPv4DstAddr
 - InvalidIPv6SrcAddr, InvalidIPv6DstAddr
 - Accordingly modified IANA section



Updates since Version 05 (9)

- Modified special values of ExceptionIDs in XML file for various LFBs :
 - Deleted:
 - GenerateICMP, LocalDelivery, BroadCastPacket, RouteInTableNotFound , NextHopInvalid
 - Added:
 - SrcAddressExecption, DstAddressExecption, ClassifyNoMatching, MediaEncapInfoIndexInvalid, EncapTableLookupFailed, LPMLookupFailed, HopSelectorInvalid, NextHopLookupFailed, MetadataNoMatching
 - Accordingly modified IANA section



Updates since Version 05 (10)

- Added two new type definitions in XML file:
 - VlanIDType
 - baseType: uint16, allowedRange min="0" max="4095"
 - VlanPriorityType
 - baseType: uchar, allowedRange min="0" max="7"
- Clarified the term: content key
 - “content key” is the 'key' or 'lookup key' that is used by CE to look up tables in FE. The term has been defined specifically by RFC5810.
 - In this library document, we sometimes mentioned a “search key” or an “index”, which refers to some search key only used by FE (rather than CE) to look up some tables inside FE itself when the FE processes data packets.



Next works

- Ask more reviews and collect comments
- Update another version soon
- Ask for LC then



Thanks!