IF MIB

RFC 2863
DRAFT STANDARD

REPLACES IF GROUP OF MIB-II
  • RFC 1213
  • RFC1229 (EXTENSIONS TO THE IF GROUP)

DEFINES THE FOLLOWING MAIN TABLES:
  • ifStackTable
    • ifTable
    • ifXTable

SEE ALSO: INVERTED STACK TABLE
RFC 2864
DRAFT STANDARD
IF GROUP OF MIB-II

- PROVIDES DETAILED INFORMATION OF "GENERALIZED" INTERFACES
- CONTAINS POINTERS TO MEDIA SPECIFIC MIBS
- INTERFACES CAN BE PHYSICAL OR VIRTUAL
- DEFINES 1 COUNTER AND 1 TABLE

interface (2)

  ifNumber (1)  ifTable (2)
### ifTable OF MIB-II

<table>
<thead>
<tr>
<th>ifIndex</th>
<th>ifDescr</th>
<th>ifType</th>
<th>ifMtu</th>
<th>ifPhysAddress</th>
<th>ifAdminStatus</th>
<th>ifOperstatus</th>
<th>ifLastChange</th>
<th>ifInOctets</th>
<th>ifInUcastPkts</th>
<th>ifInNUcastPkts</th>
<th>ifInDiscards</th>
<th>ifInErrors</th>
<th>ifInUnknownProtos</th>
<th>ifOutOctets</th>
<th>ifOutUcastPkts</th>
<th>ifOutNUcastPkts</th>
<th>ifOutDiscards</th>
<th>ifOutErrors</th>
<th>ifOutQLen</th>
<th>ifSpecific</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
</tbody>
</table>
ifType and ifStatus

- ifType

EXAMPLES:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Undefined</td>
<td>16</td>
<td>LAPB</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Ethernet</td>
<td>20</td>
<td>ISDN Basic</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>IEEE 802.3</td>
<td>21</td>
<td>ISDN Primary</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>IEEE 802.4</td>
<td>23</td>
<td>PPP</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>IEEE 802.5</td>
<td>24</td>
<td>Loopback</td>
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</tr>
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<td>10</td>
<td>IEEE 802.6</td>
<td>28</td>
<td>SLIP</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>FDDI</td>
<td>32</td>
<td>Frame Relay</td>
<td></td>
</tr>
</tbody>
</table>

- ifAdminStatus / ifOperStatus

1 = up
2 = down
3 = testing
IF PACKET COUNT

- ifInUcastPkts + ifInNUcastPkts
- ifInDiscards
- ifInUnknownProtos
- ifInErrors

- ifOutUcastPkts + ifOutNUcastPkts
- ifOutErrors
- ifOutDiscards
PROBLEMS WITH ifTable OF MIB-II

LAYERED INTERFACES DIFFICULT TO DESCRIBE
  • WHAT SHOULD BE THE VALUE OF ifType?

NO DISTINCTION BETWEEN VIRTUAL & PHYSICAL INTERFACES

NO SUPPORT FOR DYNAMIC ADDITION/REMOVAL OF INTERFACES

COUNTERS ARE 32 BITS (SMIv1)
  • WRAP AROUND 10 MBIT ETHERNET: 57 MINUTES
  • WRAP AROUND 1 GBIT ETHERNET: LESS THAN 1 MINUTE!

GAUGES ARE 32 BITS
  • ifSpeed

INTERFACE TYPES "HARD CODED" IN STANDARD

NO DIFFERENCE BETWEEN MULTICAST & BROADCAST

TOO MANY TRAPS
INTERFACE STACKS

LAYERING OF INTERFACES NOW DEFINED BY ifStackTable

<table>
<thead>
<tr>
<th>IP</th>
<th>higher</th>
<th>lower</th>
<th>status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHERNET</td>
<td>0</td>
<td>1</td>
<td>active</td>
</tr>
<tr>
<td>PPP</td>
<td>1</td>
<td>0</td>
<td>active</td>
</tr>
<tr>
<td>HDLC</td>
<td>0</td>
<td>2</td>
<td>active</td>
</tr>
<tr>
<td>RS 232</td>
<td>2</td>
<td>3</td>
<td>active</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
<td>active</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
<td>active</td>
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</tbody>
</table>
CHANGES / ADDITIONS TO THE ifTable

NEW interfaceIndex TEXTUAL CONVENTION
• INTERFACE NUMBERING NEED NOT BE CONSECUTIVE

NEW IANAifType
• INTERFACE TYPES CAN BE DEFINED EXTERNALLY

HIGH CAPACITY COUNTERS

NEW ifHighSpeed OBJECT
• IN 1,000,000 BITS/S

SEVERAL OTHER NEW OBJECTS
• ifName
• ifAlias
• ifLinkUpDownTrapEnable
  • ifConnectorPresent
  • ifPromiscuousMode
• ifCounterDiscontinuityTime
ifXTable: HIGH CAPACITY COUNTERS

if{HC}InUcastPkts + ifInNUcastPkts + if{HC}InMulticastPkts + if{HC}InBroadcastPkts
          ifInDiscards
          ifInUnknownProtos
          ifInErrors

if{HC}InOctets

if{HC}OutUcastPkts + ifOutNUcastPkts + if{HC}OutMulticastPkts + if{HC}OutBroadcastPkts
          ifOutErrors
          ifOutDiscards

if{HC}OutOctets
OTHER ADDITIONS

RECEIVE ADDRESS TABLE

- DEFINES THE ADDRESSES FOR WHICH EACH INTERFACE WILL RECEIVE PACKETS / FRAMES

linkUp / linkDown NOTIFICATION TYPES

COMPLIANCE GROUPS

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