REMOTE MONITORING

MANAGER

RMON

WAN

ETHERNET

RMON1 (RFC 1757 - DRAFT)
TOKEN RING EXTENSIONS TO RMON (RFC 1513 - PROPOSED)
RMON2 (RFC 2021 - PROPOSED)
SMON (RFC 2613 - PROPOSED)
RMON1 GROUPS

NINE GROUPS:

• STATISTICS
• HISTORY
• HOST
• HOST TOP N
• TRAFFIC MATRIX
• ALARMS
• FILTERS
• PACKET CAPTURE
• EVENTS
KEEPS STATISTICS PER ETHERNET SEGMENT

SHOWS:
- PACKETS
- OCTETS
- BROADCASTS
- MULTICASTS
- COLLISIONS
- ERRORS

KEEPS TRACK OF PACKET SIZE DISTRIBUTION:
- 65 - 127 OCTETS
- 128 - 255 OCTETS
- 256 - 511 OCTETS
- 512 - 1023 OCTETS
- 1024 - 1518 OCTETS
<table>
<thead>
<tr>
<th>WELL-FORMED PACKETS</th>
<th>&lt; 64 Bytes</th>
<th>64 to 1518</th>
<th>&gt;1518 bytes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>undersize</td>
<td>GOOD!</td>
<td>oversize</td>
</tr>
<tr>
<td>BAD FCS ERRORS</td>
<td>fragments</td>
<td>CRC or</td>
<td>jabber</td>
</tr>
<tr>
<td></td>
<td></td>
<td>alignment errors</td>
<td></td>
</tr>
</tbody>
</table>
HISTORY GROUP

STORES INFORMATION OF STATISTICS GROUP EXCEPT PACKET SIZE DISTRIBUTION

USES A CIRCULAR BUFFER

• BUCKETS
• SIZE MAY BE SET BY MANAGER

MANAGER MAY SET:

• THE ETHERNET SEGMENTS (INTERFACES)
  • SAMPLING INTERVAL
HOST INFORMATION

• HOST
• HOST TOP N

IN / OUT:
PACKETS / OCTETS

OUT:
BROADCASTS
MULTICASTS
ERRORS

INFORMATION Indexed BY:
• INTERFACE AND MAC ADDRESS (hostTable)
• CREATION TIME (hostTimetable)
• SORTED ON SOME VARIABLE VALUE (hostTopN)
TRAFFIC MATRIX

FOR EACH SOURCE & DESTINATION

• PACKETS
• OCTETS
• ERRORS

USEFUL:
• TO PROVIDE "WHAT IF" ANALYSIS
• TO DETECT INTRUDERS
ALARM GROUP

ABSOLUTE OR DELTA VALUES

TRIGGERS ON:
- RISING ALARM
- FALLING ALARM
- RISING OR FALLING ALARM
OTHER GROUPS

FILTER GROUP
- TO COUNT PACKETS THAT CARRY A SPECIFIC BIT-PATTERN

PACKET CAPTURE GROUP
- TO STORE SPECIFIC PACKETS

EVENT GROUP
- TO DEFINE THE VARIOUS EVENTS
- TO DETERMINE ON LOGGING AND / OR TRANSMISSION OF TRAPS
TO MONITOR ALL HIGHER LAYER PROTOCOLS

EXTENDS RMON1 WITH FOLLOWING GROUPS:

- PROTOCOL DIRECTORY GROUP
- PROTOCOL DISTRIBUTION GROUP
  - ADDRESS MAPPING GROUP
- NETWORK LAYER HOST GROUP
- NETWORK LAYER MATRIX GROUP
- APPLICATION LAYER HOST GROUP
- APPLICATION LAYER MATRIX GROUP
  - USER HISTORY GROUP
  - PROBE CONFIGURATION GROUP