Talk2M Traffic Measurement

Traffic is measured at several Talk2M's endpoints, this document clarifies why and what kind of traffic is measured when checking the Connection logs / reports.

1. Introduction

The Talk2M monthly Financial Statement and the Connection Log report often show what seems contradictory information regarding total volume of data transferred to/from eWONs. This can lead to confusion especially when HMS Industrial Networks bills more additional traffic than what the customer was expecting by reading the Connection Log. This document explains in detail the reasons why this may occur and why both reports are correct.

In short terms: HMS Industrial Networks bills the total amount of traffic that goes through eWON VPN tunnel.

However, the Connection Log shows the traffic on user side, which is often smaller because Talk2M compresses data received from the eWON before sending it to the user.

Detailed explanations here below.

2. Measures

Within the Talk2M cloud, the number of bytes flowing from customers to theirs machines are measured at different steps.

2.1. Invoiced traffic

First of all, as eWON provides a secure pipe to send/receive data from/to eWONs, the valuable bytes are those going in/out of the eWON's VPN tunnel. HMS Industrial Networks counts each of those bytes to charge them. Only this traffic is charged.

The type of this traffic is defined by the customer, it can be anything. The most common encounter protocols are:

- Web page: HTTP
- PLC Protocol: EthernetIP, modbusTCP, Profinet ...
- HMI remote: VNC/RDP
- Mail/sms relay: SMTP
- Data :DMBox, HTTP (M2U)
This is shown in the picture hereunder as “Device Traffic Metering”

2.2. Connection Traffic

Then, HMS Industrial Networks also offers several ways to reach devices located behind the eWONs, either via eCatcher or via M2Web for standard web pages or for VNC/RDP.

In order to show how traffic is shared between different users, HMS Industrial Networks also measures the amount of bytes used by each connection. This traffic is

- HTTPS for M2WEB (web pages and VNC/RDP)
- Any protocol for eCatcher.
This is shown as “Connection Traffic Metering”

2.3. Additional traffic

In addition to the “Connection traffic”, there are some other Talk2M features that require bytes exchanges with the eWONs. As those bytes are using the eWON's VPN tunnel, they are charged but not shown in connection report.

This includes those traffic:

- Mail/ SMS send using relay.talk2m.com
- HTTP requests done by the eWONs on m2u.talk2m.com (m2u2.talk2m.com, m2u3.....)
- Data sent by the eWONs to ewondata.talk2m.com
2.4. Protocol conversion

M2Web and M2U act as a proxy with protocol conversion.

Thanks to M2U, an eWON may send HTTP requests through its VPN tunnel to an HTTPS server located outside Talk2M environment. It means that M2U acts as a proxy and transforms the HTTP request into an HTTPS one (and the opposite is applied for the answer).

M2Web does the exact same thing. When a customer opens its Internet browser to browse the eWON’s webpages, the HTTPS web browser’s requests are translated into HTTP requests and sent to the eWON via its VPN Tunnel (and the other way around is applied for the answer).

In addition to web pages, M2Web is able to play the proxy and transforms VNC and RPD protocol into HTTPS.

Due to the “High Performance”\(^1\) WebServer used by M2Web/M2U, Talk2M is able to compress data if the browser supports it.

\(^1\) Compared to the eWON’s embedded webserver
Here are some measures of traffic and their ratios:

<table>
<thead>
<tr>
<th>Traffic in VPN tunnel</th>
<th>HTTPS (Gzip)</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP: 833 266 Bytes</td>
<td>188 529 Bytes</td>
<td>4.4</td>
</tr>
<tr>
<td>VNC: 219 217 118</td>
<td>48 073 768</td>
<td>4.5</td>
</tr>
</tbody>
</table>

3. Connection report

Each month, customers receive a report called ‘Connection log’. This report indicates connection traffic measured for eCatcher and M2Web connections but it also mentions the Device traffic. The traffic which is invoiced.

Both traffic cannot be added due to the protocol conversion performed on M2Web connection.

- Note -

The total device traffic shown in the report here above should not be displayed in this report.
Revision

Revision History

<table>
<thead>
<tr>
<th>Revision Level</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>28/02/2017</td>
<td>Document creation</td>
</tr>
</tbody>
</table>

Document build number: 19

Note concerning the warranty and the rights of ownership:

The information contained in this document is subject to modification without notice. Check https://ewon.biz/support for the latest documents releases.

The vendor and the authors of this manual are not liable for the errors it may contain, nor for their eventual consequences.

No liability or warranty, explicit or implicit, is made concerning the quality, the accuracy and the correctness of the information contained in this document. In no case can the manufacturer's responsibility be called for direct, indirect, accidental or other damage occurring from any defect of the product or mistakes coming from this document.

The product names are mentioned in this manual for information purposes only. The trade marks and the product names or marks contained in this document are the property of their respective owners.

This document contains materials protected by the International Copyright Laws. All reproduction rights are reserved. No part of this handbook can be reproduced, transmitted or copied in any way without written consent from the manufacturer and/or the authors of this handbook.

HMS Industrial Networks