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"
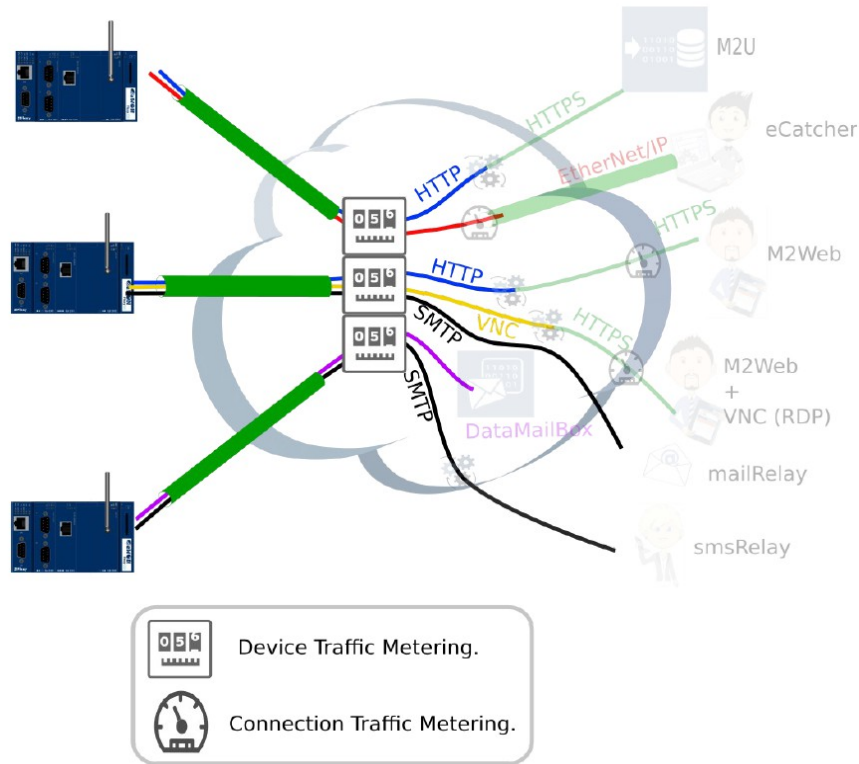
2.2. Connection Traffic

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"
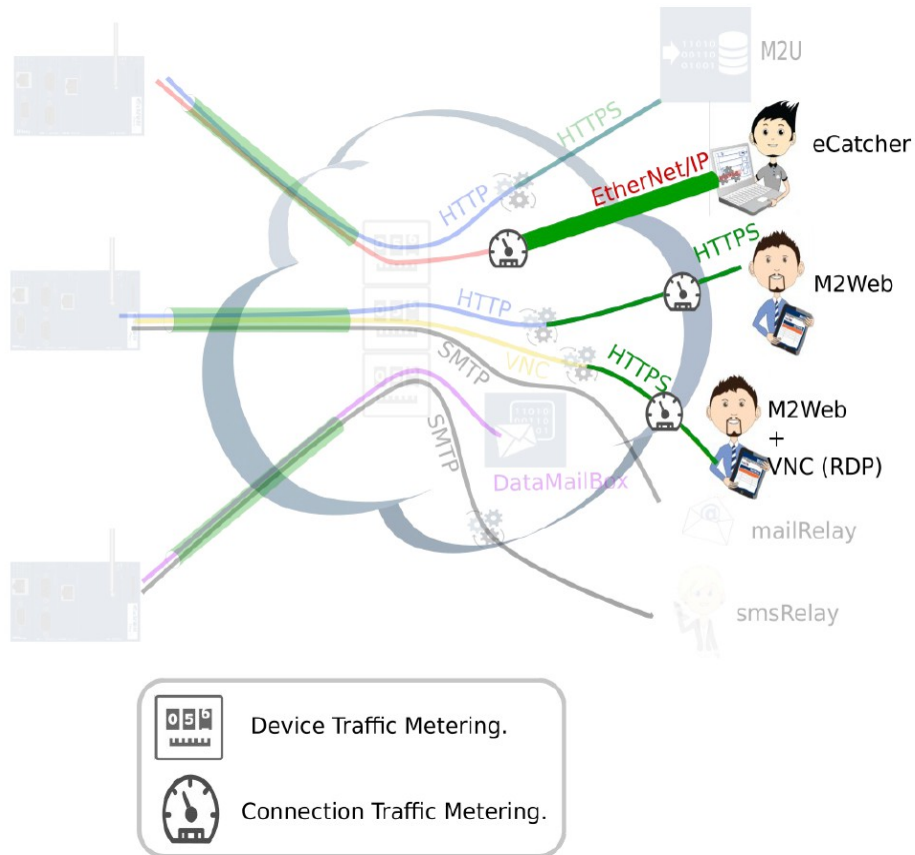
2.3. Additional traffic

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
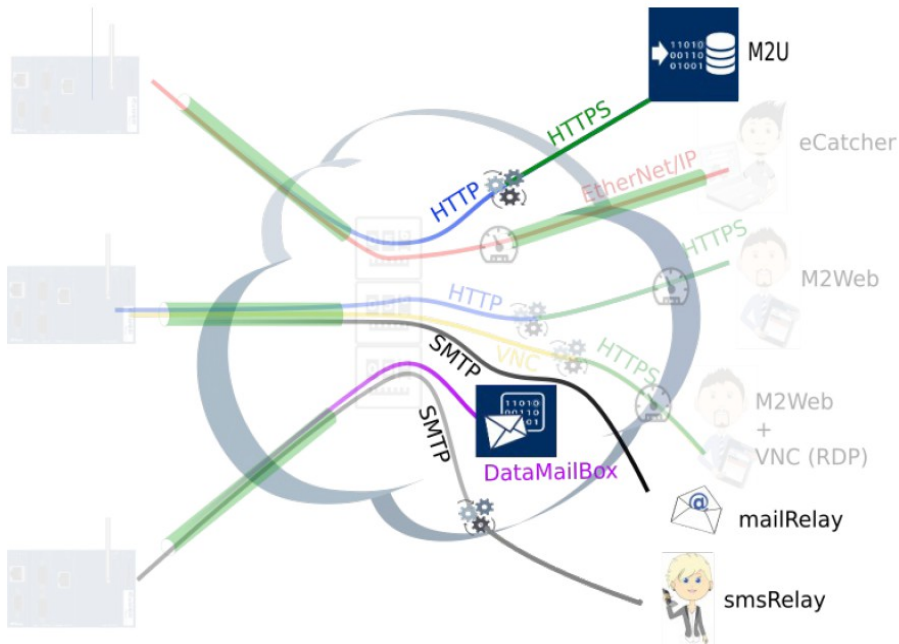
2.4. Protocol conversion

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 in to 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 in to 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:

Traffic in VPN tunnel	HTTPS (Gzip)	Ratio
HTTP: 833 266 Bytes	188 529 Bytes	4.4
VNC: 219 217 118	48 073 768	4.5

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

Revision Level	Date	Description
1.0	28/02/2017	Document creation

Document build number: 19

Note concerning the warranty and the rights of ownership:

HMS Industrial Networks

support.ewon.biz