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**Interactive
comment**

Interactive comment on "Automated observatory in Antarctica: real-time data transfer on constrained networks in practice" *by* Stephan Bracke et al.

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Why does Belgium require real-time data ?

Belgium is not directly in need of real-time data although there are some domains where we see possible usages : The real time monitoring of the ionosphere done by our ionospheric section, the demand to test real-time solutions for intermagnet and the guidance of directional drilling done on oil plants. The installation of a magnetic observatory on a remote location was for me the ideal occasion to do some tests in this direction. I can add this to the paper.

I will add the note you mentioned on "Traditional ways of data transfer"

Where did I install the MQTT broker? On level on choosing the place of the MQTT broker it basically falls down in three possibilities: On the remote location, on the data centre site or by bridging two brokers (on both sites brokers where we bridge topics) My choice to put it on the data centre site is basically because I had no control on firewall settings on the remote location and this gave me the possibility to configure everything correctly before arriving on site.(I can add this to the paper) Your remark on IP addresses and change of IP address was not valid for my setup because it is not on the ip addresses of big data servers. The mqtt broker (in my case) is very lightweight and has its own public reserved ip address, so it is very easy to recreate once the server is not operational.

Question on buffering on sender itself? It is always valid of having a minimal buffer on sender site. This makes it completely independent of the broker. If you upgrade broker, reboot server where broker is installed on, etc. the connection will be lost and if sender buffering is implemented the impact will be minimal. The server indeed buffers messages but this is only valid for guaranty of delivery to the receiver that doesn't need to be online all the time.

Evaluation of ActiveMQ ? The mentioning and evaluation of different brokers is out of scope for this paper. There are many out there and each with their strength and weaknesses; the advantage of MQTT is that you're not bound to one broker and can choose in function of your knowledge and needs. If you mention ActiveMQ, it can be appropriate to look at Apollo (https://activemq.apache.org/apollo/) which is the next generation of ActiveMQ and tends to scale better in terms of mqtt .

Remarks on protocols used in seismology:

I will delete my second argument as I state that it is not straight forward to install and basically restate that code samples and ways of usages are difficult to find, compared to the IoT solutions. I have to mention that I had two months to select, implement and test a solution, beside that I needed lots of different client implementations: C++, java,

python, nodejs (javascript) and C#, I needed well documented solutions with a large community and that is where open source IoT solutions excel