Interactive comment on "Development of a New Centralized Data Acquisition System for Seismic Exploration" by Feng Guo et al.

Anonymous Referee #2

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The developed system has already been quite extensively presented in the following paper: Q. S. Zhang, M. Deng, J. Guo, W. B. Luo, Q. Wang and Y. Q. Feng: "Development of a new seismic-data acquisition station based on system-on-a-programmable-chip technology", J. Ann. Geop., vol. 56, pp. 184-190, 2013.

Considering that the paper under review does not significantly expand the information already available on Zhang et al's 2013 paper, I recommend that the paper under review is rejected. Significant new documented development would be required since the original paper to consider the paper under review for publishing. There seems to have been some testing related to electrical prospecting in 2014 and "recently" to Internet-of-Things connectivity of the instrument. However, these matters are very briefly discussed and do not provide enough novelty for the paper.

I have attached below some comments arising from the paper, which might be of use to the author for future paper's.

General comments More extensive analysis of the sensor systems performance, ease of use, modifiability, price and comparison to other similar systems and/or state of the art systems should be performed. Advantages and disadvantages compared to previous and modern systems should be identified and explained.

Use of clear figures, tables and lists is encouraged.

The language and expressions should use clear structures and always convey information. Emphasis should be given in general description and novel developments. Dwelling into technical implementation details should be avoided, if there is no novel development related to the specific technical details. All statements should be backed up by facts and numbers. It is not enough to say that something is "better" or "accurate". One needs to specify "how much better compared to what" or "how accurate in numbers".

Use of obscure or vague terminology is discouraged, e.g.: -"Function extensions", could be replaced e.g. with "applications" or "use cases"

Specific comments A photograph/rendering of the realized instrument should be included.

Section 3 "Core Technology for Acquisition System" intro text is very hard to follow. There is e.g. one sentence that stretches over 4 lines. Please revise and clarify.

Figure 3 and the related subsection 3.1 needs clarification. -It is unclear whether the modules on the figure are purely software modules or are some of them interfacing e.g. on the user display or the seismometer sensors. -Figure 3 introduces the "Web Server". However, there is no mention of a web server in the paper. -There are two message stacks, how do these differ?

Results (figures, performance parameters erc.) obtained using "Distributed Seismic

Exploration Instrument" and "Electrical Prospecting" should be explained in subsections 4.2 and 4.3.

Explain the benefits of using the IoT technology in subsection 4.4, by e.g. using an example of how a distributed sensor network could be used for science or engineering uses.

Technical corrections p. 3, line 30, fix grammar, e.g. "The acquisition control module implements the logic control of the acquisition unit array and transmission of acquired data."

The following text structure is used often in the text: "...mainly comprises..." This grammar structure is quite rare, and it is suggested that the author considers replacing part of these structures with e.g. "...consists of..." or other suitable expressions.

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