Hello Everyone,

I’d like to revive this conversation to share some details of the current status of the document and code. I have done a little work on this over the past few days, and I think it is starting to look complete and somewhat self-consistent.

Attached is the latest revision of the standard document. I have spent a bit of time working on it to bring it into line with the current version of the code, and to adapt the code to support all of the features which are detailed in the document. Thanks to the PoliTO-ISMB team for the valuable feedback on this. It was a great help, as I had missed a lot of details. In this version I have removed some of the details that we had agreed were not to be included in the initial release, and have added the bare-minimum to provide a working version of the decoder. As usual, I have uploaded all of the documents and code to the repository:

<https://github.com/JamesTCurran/GNSS-Metadata-Standard.git>

Below are some remaining open issues, and thoughts/comments.

1. I have updated/replaced the enumeration for the sample encoding, as it didn’t appear to cover all of the formats that we have in our set of example datasets. This includes the addition of Table 8, and the appendix. So far, this works well with the four example datasets that we have.
2. Figure 9 may still have some problems. I don’t think you can have 9 words of 16 bits containing ten lumps without having some padding (at least 4 bits). It is only a small detail, but might be confusing.
3. I have added Position/Orientation to both the Source and Cluster objects, and made some adaptations to the code. For the moment, I have changed the orientation to accept Euler angles, rather than a cosine-rotation matrix, and have accepted alpha, beta, and gamma in degrees. What do people think of this, is there a more generally accepted standard (radians?). Again, as of right not, this feature is unused, but was described in the document, and so I have coded it up.
4. Figure 1. There seems to be an assumption that different streams will be derived from different antennas. This may not be the case (actually, I think it will be less often the case). Generally we will draw multiple streams from the same antenna, via different down-converters/digitizers, to capture different bands. Sometimes we might draw different streams from different antennas.

I think that the figure aims to denote the “Source”, and “Stream” correspondence. But this might be confusing to those who see multiple antennas. They may be led to assume that a only one stream can be drawn from any given source (antenna).

Specifically, Figure 1 (c) might have all streams connected to the same antenna. Is this a different case, or is it the same case? Either way, it may seem that Figure 1 (c) and Figure 1 (f) are somehow different methods of antenna-array data collection, when in fact Figure 1 (c) may just represent and L1/L2/L5 setup. So can we do a little more to explicitly explain the stream and source correspondence?

Any suggestions or thoughts are more than welcome.

Regards,

James