Notes Regarding Iraqli’s presentation:

1. Regarding the requirements for radiation doses there seems to be both a good understanding of how radiation hard the lpGPT components (including here the required additional components for power and fiber encoding) AND also a good understand of the radiation in the detector from the simulations of Elke’s group. There is not currently a good translation/comparison between the two however. This needs some attention.
2. The discussion centered on the last stage of the FEE which translates the detector specific electronics to the fiber. Athena needs to initiate a discussion centered on this area of the electronics to setup what parts of this design can be common among different detectors. That is the extent to which boards will be different but the electronics design should have commonality in components, capabilities, and design.
3. Separate to #2 there also needs to be some athena level discussion of potential common aggregation boards lying between the FEE and the Felix and the protocols they need to support.
4. We need to clarify the frontend organization in terms of whether the slow controls, clock, configuration and data transfers are encoded in the same links or different links. An advantage of lpGPT is that it supports this full set of capabilities in a single scheme.
5. Irakli gave some specific advantages of lpGPT. (capable of operating in 3T magnet, radiation hardness, power consumption ~1/3 of fpga solutions, VTRX+ (fiber encoding) about 1/5 the power consumption of SFP+.
6. Need to define and standardize on power distribution and cooling schemes (eg. will power be parallel or serial, what are the cooling requirements)
7. There were questions regarding the compatibility of lpGPT with all of the asics
8. Compatibility of lpGPT with the specific frequencies (and frequency ranges) of EIC
9. Need to discuss the configuration / slow control scheme. Make it robust against failures, Make failures visible to system, real time restarts of parts of the system etc…