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White Rabbit: status and plans of the technology and the community around it

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White Rabbit (WR) is an open-source (hardware, gateware, firmware and software) technology developed by a community of contributors including laboratories, universities, national metrology institutes and companies. After its standardisation as part of IEEE-1588 (PTP, Precision Time Protocol), it has seen significant uptake well beyond its initial scope of big scientific facilities. WR is now used in domains as diverse as particle accelerators, telescopes, financial institutions, national time dissemination and telecom.

After a short introduction to the technology and the WR community, we will describe the newly-created WR Collaboration, which aims at ensuring the sustainability of the project and providing good guaranteed support to users and developers of the fundamental building blocks of WR: the WR switch and the WR PTP core, as well as maintaining these two key open-source components in good health.

We will also describe the technological evolution of WR, including future plans, and fundamental performance limits arising from the use of Field-Programmable Gate Array (FPGA) technology for I/O and phase measurement.

We will conclude with a list of topics for further discussion, where potential collaboration with LLRF teams could result in making WR more useful in accelerators and beyond.

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