Driving and virtualizing control systems: the Open Source approach used in WhiteRabbit

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This talk will describe the collaboration between CERN and Igalia around the White Rabbit project, the value of the Open Source approach and how it crystallizes in upstream contributions (software and hardware).

Along this talk we will describe in detail how White Rabbit and Open Source projects are able to raise the quality of the software used, accelerating innovation and gaining additional contributors.

In the technical arena, we will describe the development of Linux drivers and virtual hardware (QEMU/KVM) for the FMC/TDC board designed in CERN. This approach was showcased in LinuxCon 2012, one of the most relevant conferences in the industry. We will comment about the importance of promoting this kind of technology in industry events.

The talk will finish with a live demo showing how virtual hardware (hardware mimicking real hardware designed by CERN for WhiteRabbit) is used to develop, test and debug control drivers using a generic software stack.