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UPGRADE OF WIRELESS SENSOR NETWORK TESTBED TO FACILITATE GLOSSY COMMUNICATION PROTOCOL

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Glossy communication protocol is a novel flooding structure designed by researchers at ETH Zurich and enables unprecedented reliability in wireless sensor networks. In order to combine Glossy and our existing WirelessHART communication protocol for greater network packet successful transmission rate, current hardware and software infrastructures have to be upgraded for greater accessibility and memory capacity. Here in the report we present the transition in both hardware: from Telosb/Tmote Sky motes to Firefly motes, and in software: from TinyOS to Contiki. The reasons and implementations of the transition are explained in detail, then test in Glossy are performed. Moreover, an experiment combining 6TiSCH-RPL and Glossy is conducted, whose success proves the feasibility of incorporating Glossy into the existing WirelessHART standard.