Preliminary Title

Preliminary Description

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1 Introduction

There are many paradigms of commercial sensor management and monitoring. Organizations can use anything from PLC (programmable Logic Controllers) to IoT devices to manage and monitor their sensors. For commercial use some of these alternatives are more popular than others. There are also a large amount of different higher level protocols like MQTT, HTTP and SNMP that can be used to manage and monitor sensors. We propose using the NETCONF protocol with YANG sensor models for management. This work will be done in collaboration with Lightside Instruments AS.

This document will cover the following three topics:

- **Work methodology:** An indept analysis of the knowledge base around work methods like Scrum, Kanban, and Waterfall. With a focus on how our work methodology differs from these.
- **NETCONF and YANG sensor management**: A qualitative analysis of the NETCONF and YANG protocols and how they can be used to manage sensors.
- **NETCONF Security**: A qualitative analysis of the security aspects of the NETCONF protocol.

2 Lightside Instruments AS

Lightside Instruments is a company specializing in developing instruments with model based network management for use in networking, network interconnect testing and telemetry. They design their instruments with YANG (RFC7950) models and NETCONF (RFC6241) protocol. The instruments are based on IETF standards and drafts, and are implemented with software tools available in Debian, programmable logic and open hardware. [**lsi**]

3 Technical background