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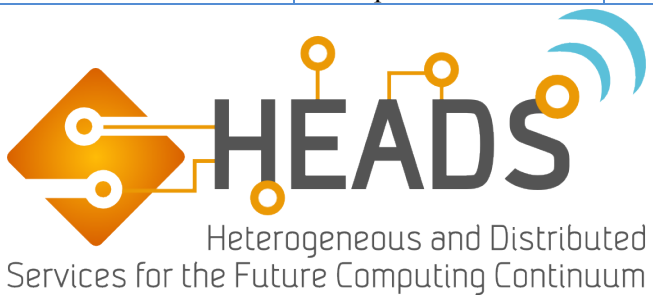

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Title:

D3.1: Initial framework for resource-constrained devices and networks

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PP

Abstract / Executive summary:

The first section of the document examines some of the common protocols (Serial Rs232/485, Z-Wave & Zigbee) and provides current industry standard and implementation of the protocols from a monitoring and control perspective. The document aims to provide an overview of current implementation framework for dealing with device in a multiprotocol environment. The resulting aims, which will be expanded on in year 2 of the HEADS project will be to provide specific code generators that will streamline the application of monitoring by utilizing where possible a comment framework to allow platform developers to easily integrate with all type of protocol based devices and systems. It is important to remember that the principles discussed for the specific protocols covered in this document can be easily extended to include more protocols in the future.

The second section of this document is related to a framework for resource constrained devices and looks at the HEADS resource constrained devices platform, which is based on an existing platform of battery powered, wireless physiological sensor devices. The devices have limited processing and storage resources; hence specific requirements are put on the HEADS framework for deployment on these devices. Within this section the architecture and challenges of the current device platform are discussed, and ways of resolving issues. Based on a top down and bottom up analysis of the architecture, functionality and requirements a new process and communication channel architecture is proposed.

The third section of this document presents initial technical work for integrating resource constrained devices within the personal security use-case provided by Tellu.

Note: Because of a lack of time, only the second and third sections of this deliverable have been internally reviewed according to the HEADS project quality plan.

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