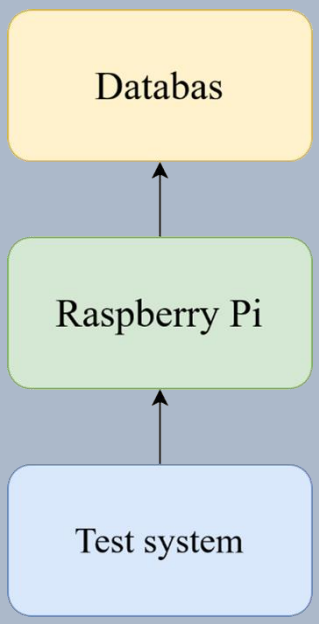
Introduction

This thesis is done in collaboration with BorgWarner's test and validation department in Landskrona. The thesis consists of expanding an already existing monitoring which is used to log the operational status of test equipment, in a database, to better be able to maximize the usage of said test equipment. The expansion consists of including temperature and climatic test systems made by Vötsch.



Method

A large part of the thesis consisted of reading the datasheet of the temperature and climatic test systems to examine the most practical output to extract the status data. Another large part was to understand the already existing monitoring system to be able to interface with it. The ethernet port was chosen as the most suitable output and a Raspberry Pi will be running a script to sends packets to the temperature and climatic test systems.

Implementation

The solution consists of a Raspberry Pi that is connected by an ethernet port to the local network and by another ethernet port to one or more temperature and climatic test systems. This way the Raspberry Pi acts as a gateway between the two networks.

The Raspberry Pi runs a Python scrip that connects to the local database and then continuously cycles through the temperature and climatic test systems to send TLS/IP packets that contain commands that return the operational status of each one of the temperature and climatic test systems. The status is compared to the last status and if they differ the new status gets logged in the database.

Result

The result of this thesis is a method that can log the status of any of Vötsch's temperature and climatic test systems. However more time is required to collect enough data to be able to make any descriptive claims about actions regarding the temperature and climatic test system's usage.

Discussion

There are some improvements that are to be made to the new monitoring system. The most pressing one being how the data is presented. As it stands only six graphs can be presented at one time and five of them are occupied by the other test systems. Automatic deployment is also to be added, this way it is easier to add more Raspberry Pies if more temperature and climatic test systems are to be monitored.