**Low Voltage Power Supply Controller Implemented using DIM**

The low voltage controller is to be controlled over Ethernet using the tcp/ip protocol. This is supported by the TTi PL 155-P models. To interface the instrument with the DCS, which is developed using PVSS, the DIM system will be used. This allows a DIM client developed in PVSS to communicate with a DIM server which can communicate with the PSU.

**Requirements**

The user needs to be able to do the following:

1. Set the output voltage
2. Set the current limit
3. Turn the output on and off
4. Read back the output voltage
5. Read back the output current

**Program Structure**

There are three classes. One class sets up the DIM server creating both the accepted commands and the delivered services. The second class is the low voltage communication class that sets up the connection from the DIM server to the PSU. The final class is a DIM server error handler. The structure is straight forward in that there are only one association, which is between the LowVoltageCommand class and the LowVoltageCommunication class.

**Program Behaviour**

Sequence diagram…

**Development and Deployment**

Developed using 32 bit XP (win32) visual studio c++ 2010 and will be deployed on a Windows 2007 server 64 bit machine.

Network…

**Code Storage**

The code is stored on GitHub under the project name LowVoltagePSUController. There are two branches currently one is the master branch which is essentially a working copy of the code and a dev branch.

**User Guide**

Firstly need to install dim this program was built against dim version 20 revision 7. Then start the dns server for extra info start in debug mode. Then start the LowVoltagePSU server giving the server a name and the ip address of the PSU. This can be found using the discovery tool supplied by TTi. The test client can then be used to check that the server is running correctly. The LowVoltageTestClient takes as argument the name of the server that is running. See the code for more comments on how it works.