DAPHNE Ethernet and OPC UA Status

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DAPHNE Electronics working group meeting

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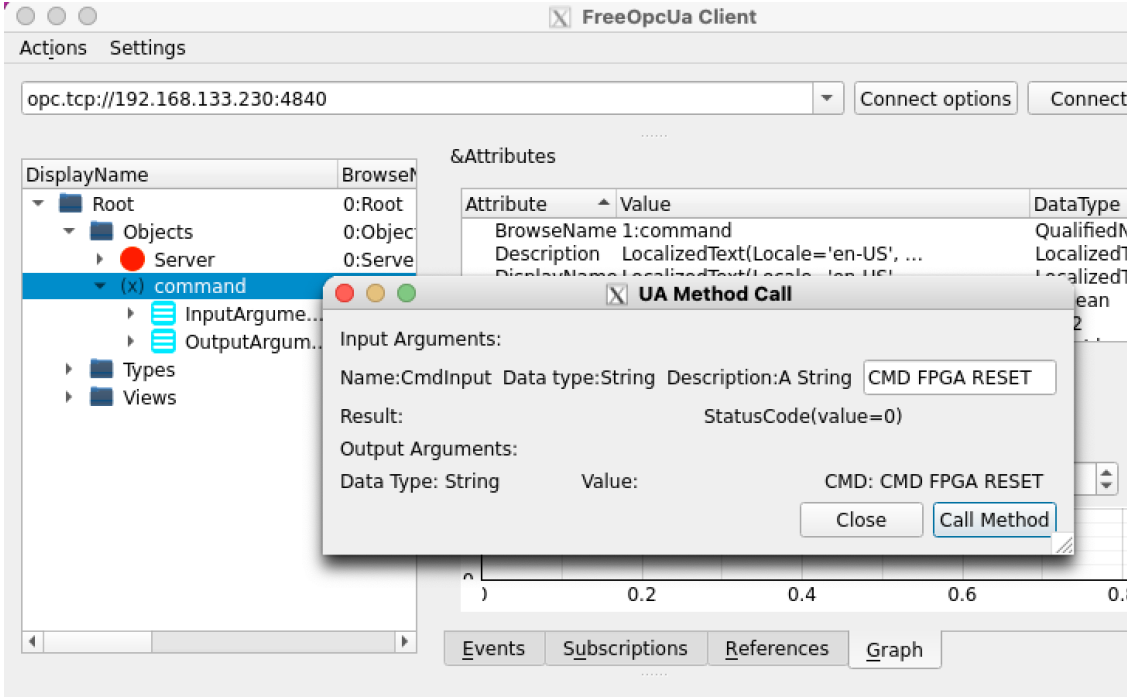
Current status

- No dropped pings over 12+ hours of testing
- The OPC UA server, running *Open62541* V1.3.2, implements a Method Node which accepts a command string and returns the result as a string.
- Everything is pushed to the git server and ready for testing by others.



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Current limitations

- **The MAC and IP address settings are currently hard-coded. Once I have options to set and read those, adding that functionality should not be difficult.**
  - The MAC needs to be non-volatile, but the IP address could either be static or from DHCP.
- **I haven't looked into connecting up the code send a bitstream.**
  - We should discuss the interface, this can be offline.
- **The server and the command processing function run in a single thread, so clients should try to limit concurrent connections.**
- **Some of the commands ("DAPHNE HELP" for example, maybe others) send their output directly to the serial port, and some seem to set delays. We should make sure neither of these are used for commands sent over OPC UA.**
- **The server operation is stable in my testing, but there is no "watchdog" to reset the system in case the server becomes unresponsive. This might be wanted for deployment.**
- **There is no mutex protection for the command processing function to prevent commands from being run on the same hardware using both ethernet and serial at the same time. That's unlikely, but it could really confuse things if it happened.**