EE/CprE/SE 492 WEEKLY REPORT

3/10/18 – 3/23/18

Implementing OpenPLC's into a Cyber Defense Competition
Group number: 16
Faculty Advisors: *Drs. Jacobson and Rursch*

Team Members/Role:
Matthew McGill — *Meeting Facilitator, Project Manager*
Brennen Ferguson — *Hardware Engineer*
Joseph Young — *Security Engineer*
Liam Briggs — *Hardware Engineer*
Joshua Przybyszewski — *Software Engineer*
Nicholas Springer — *Security Engineer*
Val Chapman — *Testing Engineer*

o **Weekly Summary**

This week we had our second PIRM Presentation so we worked on building a presentation of another technical challenge. We also continued the work from previous weeks in building out the application and determining how to hand off the project to White Team.

o **Past week accomplishments**

Matthew McGill: This week our team dived into further documentation, working on all of the documents associated with the White, Red, and Blue teams. I also continued work on the .NET application we are building to interface with Factory I/O.
Brennen Ferguson: Looked into writing some documentation.
Joseph Young: Researched potential methods for exploiting intentionally vulnerable systems in the VCenter environment. Look into vulnerabilities to add.
Liam Briggs: Tested Factory I/O on different systems to gage performance capabilities and suggestions.
Joshua Przybyszewski: Worked on .NET application in Windows machine, prepared for PIRM class, investigated diminishing the number of required cores for FactoryIO to run, went on spring break.
Nicholas Springer: Look at the current CDC to see how vulnerabilities are implemented.
Val Chapman: Started polishing the documentation and joined on development of the .NET application, studying up on Factory I/O SDK and reading up on repo code base.

o **Pending issues (if applicable)**

 Team: From the meeting this week we learned about the resources available for a CDC. Currently our implementation uses a large portion of the available resources to a CDC so we will be looking into reducing the number of cores we use if possible.

 Matthew McGill: No major issues. We are working through some code compilation errors, but it won't be long before we resolve these and can push forward in project development.

 Joseph Young: Lack of direction without input from the White Team. It would be useful to have a more targeted goal for the environment's vulnerabilities.

 Liam Briggs: Concrete hardware requirements for deployment of multiple instances of Factory I/O on one server cluster

 Nicholas Springer: Continue documenting any changes to vulnerabilities added to the servers. Experiment with core usage to see if we can use less resources.

o **Individual contributions**

Team Member	Contribution	Biweekly Hours	Total Hours
Matthew McGill	I continued development on the implementation of the Factory I/O SDK and looked into some system resource issues we are running into as a team.	8	94
Brennen Ferguson	Looked into writing some documentation.	8	92
Joseph Young	Continued security research and testing in the VCenter environment	8	86
Liam Briggs	Hardware limitation testing and Factory I/O production	6	84
Joshua Przybyszewski	Continued progress for the web application; investigate feasibility of client side work with limited resources; went on spring break	6	99
Nicholas Springer	Maintained and updated virtual machines and the teams credentials for testing	10	108

Val Chapman	Worked on documentation for the system to pass off to CDC. Started working with the .Net framework to add to front end app.	11	91

Plan for coming week

Put to use the documents and guidelines white team gave us, begin process of deploying project and tools used within for CDC use and confirm details of our mock CDC. Continue to polish 'final product' attributes such as organization and presentation (including final poster planning).