

EE/CprE/SE 492 WEEKLY REPORT

2/24/18 – 3/09/18

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*

○ Weekly Summary

This week we emailed our professor and discussed the hardware problems that we were facing. After our meeting we were told that to not worry about the hardware constraints, so we started to continue on our development and reduce efforts into reducing requirements.

○ Past week accomplishments

Matthew McGill: This week our team dived into documentation, and I personally continued work on the .NET application we are building to interface with Factory I/O. I also looked into system resource issues we are running into, and communicated with our team faculty members to address these issues.

Brennen Ferguson: Debugged the Palletizer scenario in Factory I/O. 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: White team documentation organization and more focus on the actual deployable images of our servers.

Joshua Przybyszewski: Worked on .NET application in Windows machine, investigated diminishing the number of required cores for FactoryIO to run.

Nicholas Springer: Continued adding vulnerabilities to systems.

Val Chapman: Started working on developing green team documentation. Focused on working with Factory I/O and the basics needed to understand Factory I/O, OpenPLC, and our project.

○ 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: Total documentation and deployability of servers and creating a large interconnected factory scenario

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.	14	86
Brennen Ferguson	Debugged the Palletizer scenario in Factory I/O. Looked into writing some documentation.	12	86
Joseph Young	Continued security research and testing in the VCenter environment	8	70
Liam Briggs	Continued work on white team documentation and deployment images	8	78
Joshua Przybyszewski	Continued progress for the web application; investigate feasibility of client side work with limited resources	12	93
Nicholas Springer	Maintained and updated virtual machines and the teams	8	98

	credentials for testing		
Val Chapman	Started working on documentation so that we can hand this project off to another team or users and they will understand the wrsystems.	9	80

Plan for coming week

Enjoy our last SPRING BREAK!!!

And 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.