Henry Ford College
Technology Investment Fund
Progress Summary

NAME OF PROJECT DIRECTOR	DEPARTMENT/DIVISION
Sandro Silvestri	ITS

CURRENT DATE	SEMESTER GRANT AWARDED	PROGRESS REPORT STATUS
October 9, 2017	Winter 2016 & Fall 2016	[ ] Interim [X] Final

PROJECT DESCRIPTION: *A brief summary of the project.*

This project effectively replaced the core of HFC's network. The college's main switch, a Cisco 6509E, was replaced with two Cisco 4500X series switches. The 4500 Series processes data faster, has faster interfaces for server and network connections, and provides redundancy and fault tolerance. A failure of the old 6509E would have meant a total network outage; with the two 4500X series switches, a failure of either device would still allow our network to be available. Together with the 2960 series switches, our main network room is provided with the server connectivity we need and gives HFC additional fault tolerance.

The 4331 series routers allow internet traffic at gigabit speeds. Our old switches could not process more than 200 megabits (mbps) per second. We currently have 300 mbps from one provider and 400 mbps from another and can utilize the whole amount.

The Palo Alto PA5050 devices are next-generation firewalls. They have been awarded Best in Class for the fifth year in a row. These firewalls are capable of detecting threats; and remarkably, if a new attack is seen anywhere in the world on a Palo Alto device, these firewalls will be updated within five minutes with software to protect against the new threat. While no firewalls can guarantee safety, the Palo Altos take HFC to a whole new level of cyber protection. Again, the two firewalls were purchased for fault tolerance. A failure of any type by the main firewall will cause the second firewall to become active, providing continuous security and no loss of service. Our previous firewalls were over five years old and were on the verge of becoming incapable of handling our network traffic. The new firewalls are powerful enough to handle HFC's traffic and security needs for years to come.

ITEMS PURCHASED: *Please indicate how you spent the funds allocated to you. Where are items purchased currently being used? (Attach separate sheet if necessary.)*

Routers: Cisco ISR 4431 (2)
Switches: Cisco 4500 Core Switch (2)
                Cisco 2960 Server Switch (3)
Firewalls: Palo Alto Firewall (2) with threat prevention, URL filtering, and Wild Fire subscriptions
Location: College data center

OUTCOMES EXPECTED: *What were the outcomes/goals expected from the project as listed in your original proposal?*

The new equipment will improve network performance and provide for an added level of network security.

PROJECT EVALUATION: *Please summarize how the project was evaluated and the result of that evaluation. What evidence do you have that the outcomes/goals were or were not met? Please include data collected--questionnaire results, etc. Were there any benefits you may not have expected? Any liabilities? Please share any strength and weakness of the proposed project--your honesty will be of help to others.*

The firewalls were installed during the Thanksgiving holiday at the end of 2016. They have performed as promised. Our core network is more stable because of the upgrades to the routers and switches in our network, and we are not susceptible to a single device failure bringing down our network as we were just a year ago. The strengths of the project are listed above in the Project Description. We can process more traffic faster and safer than ever before with more reliability, and we have gotten stronger in every area.