Project Proposal

Edwin R Suarez
Akshay Bagai

Title: Driving productivity and efficiency at manufacturing shop floor with GE Predix

Problem statement: In most manufacturing sites, machines tools that have some level of automation capabilities, such as Computer Number Control or CNC for short, are operated at an individual level without the ability to optimize their performance in real-time through feedback loops or by looking at the overall production line.

Proposed solution: Connect CNC machines to the GE's Internet of Things platform called Predix to leverage data visualization and analytics to optimize machine operation.

High-level architectural components:

- CNC machine: simulated data through Raspberry Pi
- Network infrastructure: simulated through data connection to single device (Raspberry Pi)
- Predix:
    - Data generation: Predix Machine installed on Raspberry Pi
    - Data ingestion: Predix Time Series
    - Data visualization: Predix Cards
    - Data analysis: Predix Analytics