EdgeX-Open Horizons Project Meeting: 6/3/19

Attendees: Joe Pearson, Ryan (IBM), Jim, Akram, Jeremy, Trevor (Dell), Beau (Intel), Ike. Attendees that may have joined after the start of the meeting may not have been captured and listed.

Discussion and action items as a result of meeting in RED

Old Business

None. See https://wiki.edgexfoundry.org/display/FA/Open+Horizons+-+EdgeX+Project+Group for project presentation.

New Business

- Establish regular meeting time cadence
    - Every other week, Mondays 1pm EDT, but with flexibility to change going forward
- Define project objectives
    - Make recommendation to EdgeX (and Open Horizon) on where Open Horizon project should live – with rationale from perspectives of both EdgeX and Open Horizon projects
        - Merge in EdgeX
        - Establish another LF Edge project
        - Leave Open Horizon as independent open source project
    - Make recommendation about how these products overlap & could integrate
    - Implementation plan if integration seems warranted
    - Nothing in Open Horizon names that require legally retention of marks
- Discuss example use case to explore EdgeX/OpenHorizon's integration
1. Surveillance making inferences from data from camera
    a. Use cases under visual intelligence in Open Horizons
        i. Motion Detection
        ii. Counting people in frame
        iii. Identifying whether people are wearing safety gear
        iv. Geo fencing for people access
        v. Other safety violations (flames, smoking, etc.)
2. Deployment/orchestration of EdgeX services to its host(s) with its policy driven approach
    a. Project Eve – covers deployment of servers
    b. Horizons – guaranteeing distribution of work and assets; make sure items are signed and untampered (like Docker image is stamped and running correctly); delivering a machine learning model to make model arrives
        i. Delivery of work = guarantee outside of orchestration where/how to deliver
            1. It can run Kubernetes or docker command
            2. Has to communicate with Kubernetes (or orchestration tool)
                a. Not a orchestration tool; Kubernetes (for example) does that
                b. Surfaces information to Kubernetes so that it can do its work
        ii. Kubernetes -> Horizons (Server) -> platform (not cluster of identical resources – it would be something like gateway, devices, etc.)

Platform has to have the Horizons Agent to do this (the agent would have to be introduced & registered with Horizon Server by Eve or other tool to establish comms)

    iv. And assets -> data of various forms (like ML models, visual inference model, configuration for the services is another example)

3. Use Case – API with Horizon Server (REST server – Exchange) with CLI (UI not fully baked) to deliver EdgeX micro services (aka Open Horizon pattern) via "policy"
   - Policy = system policy, business policy, node policy, etc.
     - Node policy -> ex: we support these types of architectures, with min 1GB RAM, 8GM storage
     - Business policy -> ex: it has to be located in this country
     - System policy - > network topology
   - Exchange servers -> can dynamically query for edge nodes that are registered and "disposition"
   - Query nodes asynchronously (ex: because it is behind a switch board)
   - What happens with information that suggests problem?
   - Look at auto updates add on to this use case.

What's our competition: functionality overlaps with orchestration tools (like querying); dealing with much larger scale (thousands/millions vs tens/hundreds of hosts)

Side car tasks

- We need to get Horizon Exchange setup for EdgeX team.

- Additional topics (long term)
  - Define Gap Analysis
  - Define work in EdgeX to make this happen
  - Define work in Open Horizon to make this happen
  - Make recommendation to EdgeX (and Open Horizon) on where Open Horizon project should live
  - Phase II – roadmap future for integration effort and any impact on either project