System Management Working Group – March 13, 2020

Attendees

Michael Estrin (Me)

EC Eric Cotter

JW Jim White

IA Ike Alisson

AA Akram Ahmad (Dell)

AC Alexandre Courouble

AB Anthony Bonafide

DB David Booz

JB Jason Bonafide

JP Joe Pearson

LG Lenny Goodell (Intel)

M Mike

Tingyu zeng

Old Business

1. System Management Service
   a. Kanban Review (https://github.com/orgs/edgexfoundry/projects/29)

Items to Follow Up

1. CLI Review Follow Up (Alex, VMware / Mike, Intel)
   a. *Alex is leaving VMware in two weeks. Malini and Diana will pick up the CLI work.*
   b. *Changes in flight per Mike's review; Alex hopes to land these changes before he leaves VMware.*
   c. *Michael to reach out to Diana/Malini to define a path forward.*
2. EdgeX-specific system-wide metrics follow-up (Jim White, IOTech)
   a. https://github.com/edgexfoundry/edgex-docs/pull/104

New Business

1. Dell *Metrics and Monitoring for EdgeX using Prometheus and Grafana* Presentation (Eric Cotter)
   a. *Demonstration shows a way to gather metrics that does not flow through the System Management Agent.*
   b. *Demonstration modified mux.Router in Fuji release to capture incoming requests and generate events at an endpoint polled by Prometheus and visualized by Grafana.*
   c. *Prometheus push gateway provides an alternative way for EdgeX services to push metrics instead.*
   d. *Questions –*
      i. *Alerting (Akram)? Prometheus supports notifications.*
      ii. *Code instrumentation (Lenny)? Intel previously used go-metrics, Telegraph, and an Influx database. Eric did a code walkthrough.*
      iii. *How would we leverage this across non-core services (Jim)? Could generalize into a metrics golang module.*
      iv. *How would we capture non-generic metrics (Jim)? Would need to build this into golang module; relatively easy to do – new data points would be new Prometheus buckets/variables; possible to measure time for data to transit across multiple services.*
      v. *What is data granularity (Ike)? Data is time-based events; Graphana leverages pliable Prometheus queries to gather/visualize data.*
      vi. *Pull vs. push (Jim)? Demonstration uses pull. Push is more desirable. Changes to code to support push would remove endpoint for polling, add push of metrics events to Prometheus.*
      vii. *EdgeX implement Prometheus directly or via abstraction (Jim)? Abstraction would be preferred to provide extensibility (similar to go-mod-messaging).*
   e. *Next Steps*
      i. *Land existing ADR*
      ii. *Create abstraction*
      iii. *Get community buy in*
      iv. *Create referential implementation of abstraction as golang module*
2. Other new business?