

## System Management WG Meeting: 9/18/18

**Attendees:** Jim, Trevor, Akram (Dell), Ed (IoTech), Emad, Jay, Mike Millsap, Beau (Intel), Rodney (Beechwoods), Nick Smith (Thales), Drasko (Mainflux), Salim (VMWare), Vlado (TU Berlin). Attendees that may have joined after the start of the meeting may not have been captured and listed.

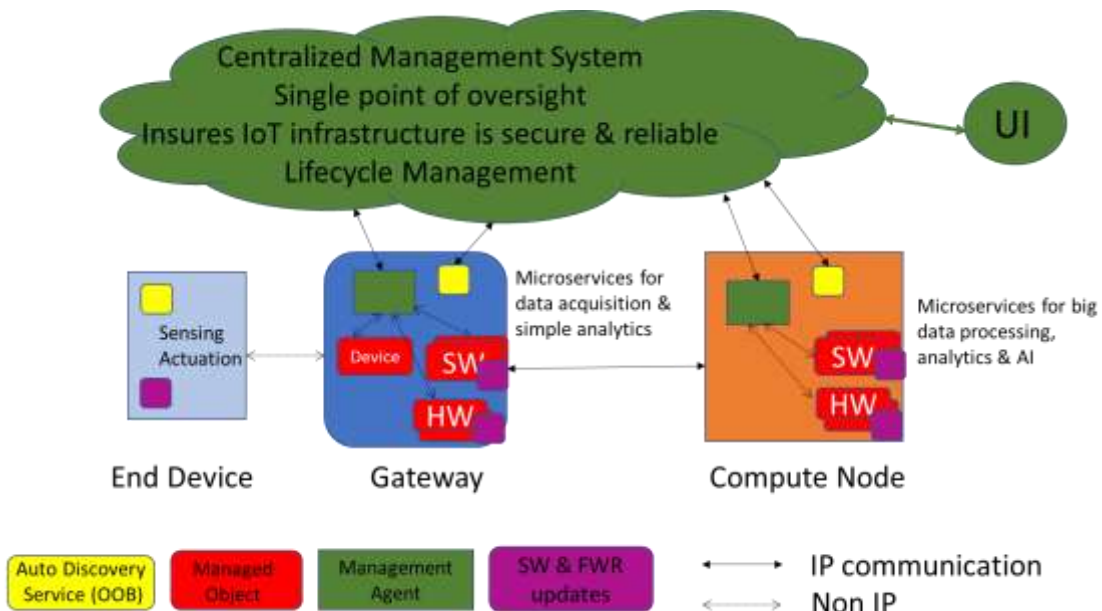
Discussion and action items as a result of meeting in **RED**

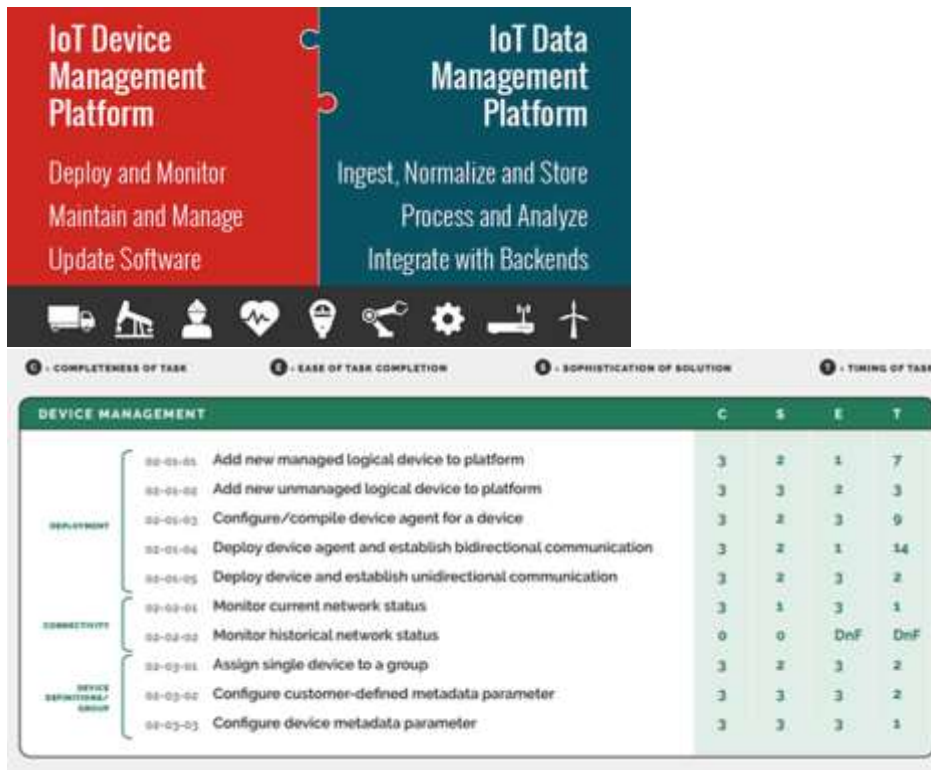
### Old Business

- Joint Security/System management presentation on secure device provisioning.
  - Jay Chetty from Intel presented on Intel's device provisioning proof-of-concept.
- Progress report from Akram Ahmed on the Delhi system management implementation (SMA and MSM API)
  - Quick demo of the state of the work
  - Discussion around start/stop/restart operations – options we are considering and get reaction/opinion. **Discussion on this pushed to next meeting.**
- **Other items in the agenda were not covered this week due to lack of time. Will be pushed to next meeting.**
- Jim still has the action item to start to look at types and number of metrics we want to cover post Delhi (Edinburgh)
- Jim has action item to scope out options that should be explored for translation layers in Edinburgh and beyond. Document on some options to be uploaded.
  - Protocols
    - DMTF's Redfish is a standard API designed to deliver simple and secure management for converged, hybrid IT and the Software Defined Data Center
    - OMA Lightweight M2M is a protocol from the Open Mobile Alliance for M2M or IoT device management. The OMA Lightweight M2M enabler includes device management and service enablement for LWM2M Devices. The target LWM2M Devices for this enabler are mainly resource constrained devices.
    - OMA Device Management is a device management protocol specified by the Open Mobile Alliance (OMA) Device Management (DM) Working Group and the Data Synchronization (DS) Working Group. OMA DM specification is designed for management of mobile devices such as mobile phones, PDAs, and tablet computers.
  - Cloud APIs
    - Azure IoT Hub: Azure IoT Hub natively supports communication over the MQTT, AMQP, and HTTPS protocols. In some cases, devices or field gateways might not be able to use one of these standard protocols and require protocol adaptation. In such cases, you can use a custom gateway. A custom gateway enables protocol adaptation for IoT Hub endpoints by bridging the traffic to and from IoT Hub.
    - AWS IoT Device Management makes it easy to securely onboard, organize, monitor, and remotely manage IoT devices at scale.
    - In order for a device to connect, it must first be registered in the Google IoT device manager. The device manager lets you create and configure device

registries and the devices within them. The device manager can be used through the Cloud Platform Console, gcloud commands, or the REST-style API.

- The IBM Watson™ IoT Platform recognizes devices and gateways as the two classes of device. The device class is identified by using the "classId" field. Devices in the device class can be managed devices or unmanaged devices. Managed devices are defined as devices that contain a device management agent. A device management agent is a set of logic that allows the device to interact with the Watson IoT Platform Device Management service by using the Device Management Protocol. The Device Management Protocol is built on top of the MQTT messaging protocol.
  - Other
    - AllJoyn defines some services for onboarding devices and control/manage a device remotely via virtual control panel.
    - CPE WAN Management Protocol or TR-069 (Technical Report 069) is a technical specification of the Broadband Forum that defines an application layer protocol for remote management of customer-premises equipment (CPE) connected to an Internet Protocol (IP) network.
    - Hypercat (PAS 212) defines automatic resource discovery for the Internet of Things. The specification, which will make it much easier to discover Internet of Things data, has been developed in conjunction with the Hypercat Alliance
- Edinburgh Architect's day (Tuesday Oct 23<sup>rd</sup>) will include discussion on scope of EdgeX system management going forward. What parts are EdgeX, what is handled by other system and gap identification for a broader community?





<https://www.i-scoop.eu/internet-of-things-guide/iot-device-management/>

New Business

- Any??