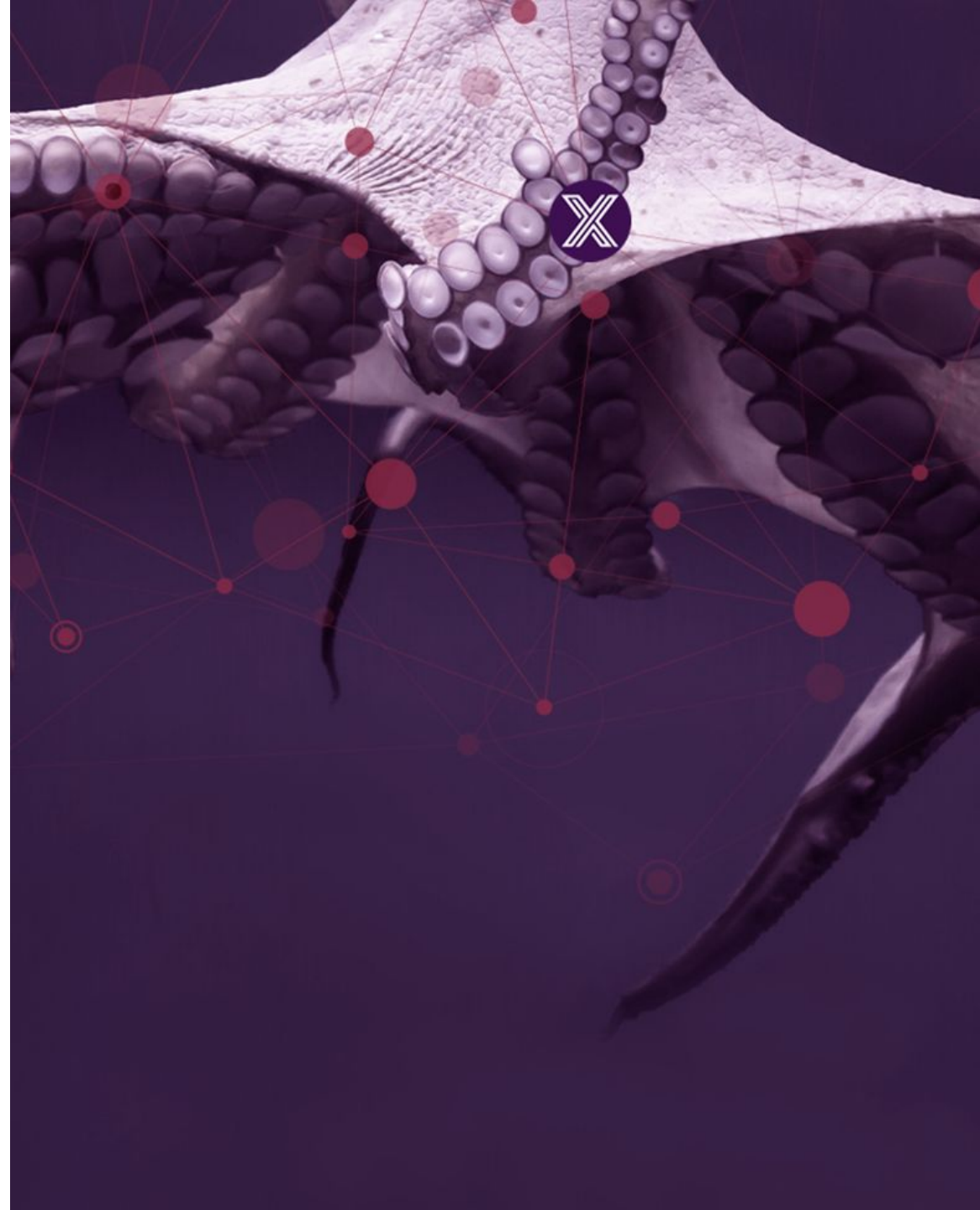


EDGE X FOUNDRY™

# TSC Meeting

November 15, 2017



# Meeting Logistics

Time: November 15, 2017 7am PST – 8am PST

Join from PC, Mac, Linux, iOS or Android: <https://zoom.us/j/983155298>

Or iPhone one-tap (US Toll): +14086380968,983155298# or +16465588656,983155298#

Or Telephone:

Dial: +1 408 638 0968 (US Toll) or +1 646 558 8656 (US Toll)

+1 855 880 1246 (US Toll Free)

+1 877 369 0926 (US Toll Free)

Meeting ID: 983 155 298

International numbers available: <https://zoom.us/zoomconference?m=mkFexUxEcqHlvXHw53PqScTDRvS48PiQ>

\*\* TSC calls are recorded and added to Wiki post-call

# LF Antitrust Policy Notice

EdgeX Foundry meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

Examples of types of actions that are prohibited at EdgeX Foundry meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Updegrove LLP, which provides legal counsel to the Linux Foundation.

# TSC – Members Present Today

<u>Company</u>	<u>Name</u>	<u>Email</u>
IOTech	Andy Foster	<a href="mailto:andy@iotechsys.com">andy@iotechsys.com</a>
Analog Devices	Doug Gardner	<a href="mailto:doug.gardner@analog.com">doug.gardner@analog.com</a>
Mainflux	Janko Isidorovic	<a href="mailto:janko@mainflux.com">janko@mainflux.com</a>
Dell	Jason Shepherd	<a href="mailto:Jason.A.Shepherd@dell.com">Jason.A.Shepherd@dell.com</a>
The Linux Foundation	Jeremy Phelps	<a href="mailto:jphelps@linuxfoundation.org">jphelps@linuxfoundation.org</a>
Dell	Jim White	<a href="mailto:james.white2@dell.com">james.white2@dell.com</a>
IOTech	Keith Steele	<a href="mailto:keith@iotechsys.com">keith@iotechsys.com</a>
Samsung	MJ Jeong	<a href="mailto:myeong.jeong@samsung.com">myeong.jeong@samsung.com</a>
VMware	Salim AbiEzzi	<a href="mailto:salim@vmware.com">salim@vmware.com</a>
Canonical	Tony Espy	<a href="mailto:espy@canonical.com">espy@canonical.com</a>
Samsung	Uze Choi	<a href="mailto:uzchoi@samsung.com">uzchoi@samsung.com</a>

Current quorum = 8 members

*Note: TSC meetings shall require a **quorum of two-thirds of the TSC total members to take a vote or make a decision.** If a TSC meeting fails to meet the quorum requirement, discussions may proceed, however there shall be no voting or decisions.*

# Today's Agenda

- CIP Presentation
- TSC F2F Meeting (January) Logistics
- New Project Proposal: Oil & Gas
- Project Operation
- Core WG Update
- Systems Management Update
- Security Working Group Update
- AOB



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CIP

Urs Gleim / Nori Fukuyasu



# CIP

- Urs Gleim, CIP Governing Board Chair, Siemens
- Nori Fukuyasu, VP Japan Operations, The Linux Foundation (LF CIP lead)
- Proposal was raised from the members of CIP to collaborate with EdgeX in terms of the long term stable Industry IoT (IIoT) software platform

## GENERAL INTRO ABOUT CIP

CIP launched last year to build and collectively maintain a base software platform (we called it "Base Layer") for IIoT devices and controllers in the systems like power plants, transportation system, factory automation etc.

<https://www.cip-project.org/>

What CIP is aiming to do is 2 things:

- a) Maintain CIP Base Layer (Linux Kernel + Core Packages) for many year (AT LEAST 10 years)
- b) Make the Base Layer "Industrial Grade" (such as RT capability, functional safety, etc)

# CIP

## **PROPOSAL TO EDGEX FOUNDRY**

CIP recently launched a new sub project under CIP called "CIP CORE".

<https://wiki.linuxfoundation.org/civilinfrastructureplatform/cip-core>

CIP CORE is CIP's reference file system composed by CIP Kernel (4.4 kernel) + Debian package. CIP members thought that this CIP CORE can be a good reference base software stack to run EdgeX Platform.

This should fit really well if EdgeX members will have a products/services that will require a long term stable product life.

## **NEXT STEPS**

If there is interest from EdgeX, nominate a CIP liaison to lead collaboration discussions from the EdgeX project, and if necessary, establish a CIP liaison mail list





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TSC F2F Meeting

Brett Preston / Keith Steele

# January 16-18, 2018 - Orlando, FL

- Wiki page:  
<https://wiki.edgexfoundry.org/display/FA/16-18+January+2018%3A+Orlando+Technical+Meeting>
- Venue secured:
  - [HYATT REGENCY ORLANDO INTERNATIONAL AIRPORT](#)
- RSVP by emailing [info@edgexfoundry.org](mailto:info@edgexfoundry.org)
  - Note if you plan to attend in-person or by dial-in
  - Current RSVP Counts: 4 in-person / 0 dial-in



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# Oil & Gas Project Proposal

Alberto Dellabianca

# New Project Proposal: Oil & Gas Project

- Wiki page:  
<https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=7602309>
- Project Information:  
<https://wiki.edgexfoundry.org/download/attachments/7602309/EdgeX-Foundry-Oil%26Gas-v2.pdf?version=1&modificationDate=1508685451000&api=v2>
- Discussion

The background features a detailed illustration of a snake's head and neck, rendered in a light, almost translucent style. Overlaid on this is a network of red dots connected by thin lines, suggesting a digital or data network. A prominent logo, a stylized 'X' inside a dark circle, is positioned on the snake's neck. The overall color palette is dark purple and blue.

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# Project Operation

Uze Choi



# Project (Vertical Solution)

- Definition
  - A group developing use cases, code and so on in specific vertical domain
- Stage
  - Incubation Project
    - Forming for formal project operation
      - : Recruit members, Who is responsible for each task, Planning review by TSC

Project	Project Lead	Member Company	Deliver Specific Market Requirements to Other WGs	Reference Architecture for Specified Vertical / Use Case	Align with Other VSWG Projects on Common Themes	Develop and Deploy Test Beds	Develop Unique Source Code Outside of Core WGs (w/ dedicated maintainer)	Liaison with Appropriate SDOs and Consortia (e.g. IIC)
Smart Factory	...	...	Y	Y	Y	Y	As Applicable	As Applicable

- Handled in Vertical Solution WG
- Formal Project
  - Requires TSC Approval
- Closed Project



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## Core WG Update

Jim White



# Core WG Updates

- Dot release (0.2.1) of Barcelona branch being created to deal with Consul config issue
  - California Preview Release will be 0.5.0
- GitHub Projects back up and running
  - Project Tasks now inserted as “issues” to provide visibility
  - Have a roadmap item, feature need, task you’d like to add? See <https://wiki.edgexfoundry.org/pages/viewpage.action?pageId=7602421>
- Architectural discussions
  - See <https://wiki.edgexfoundry.org/display/FA/Architecture+Issues+and+Decisions>

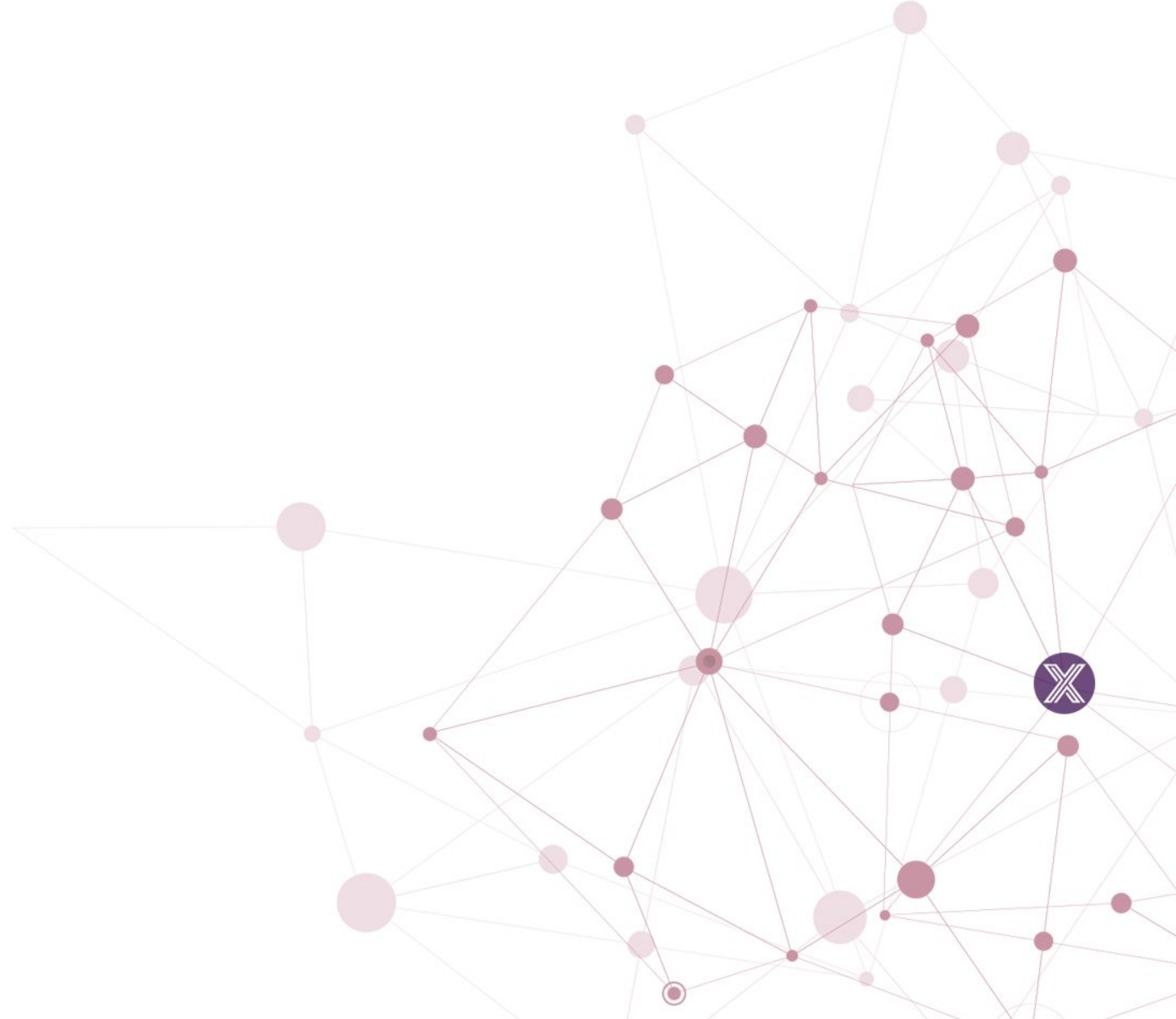


# Systems Management Update

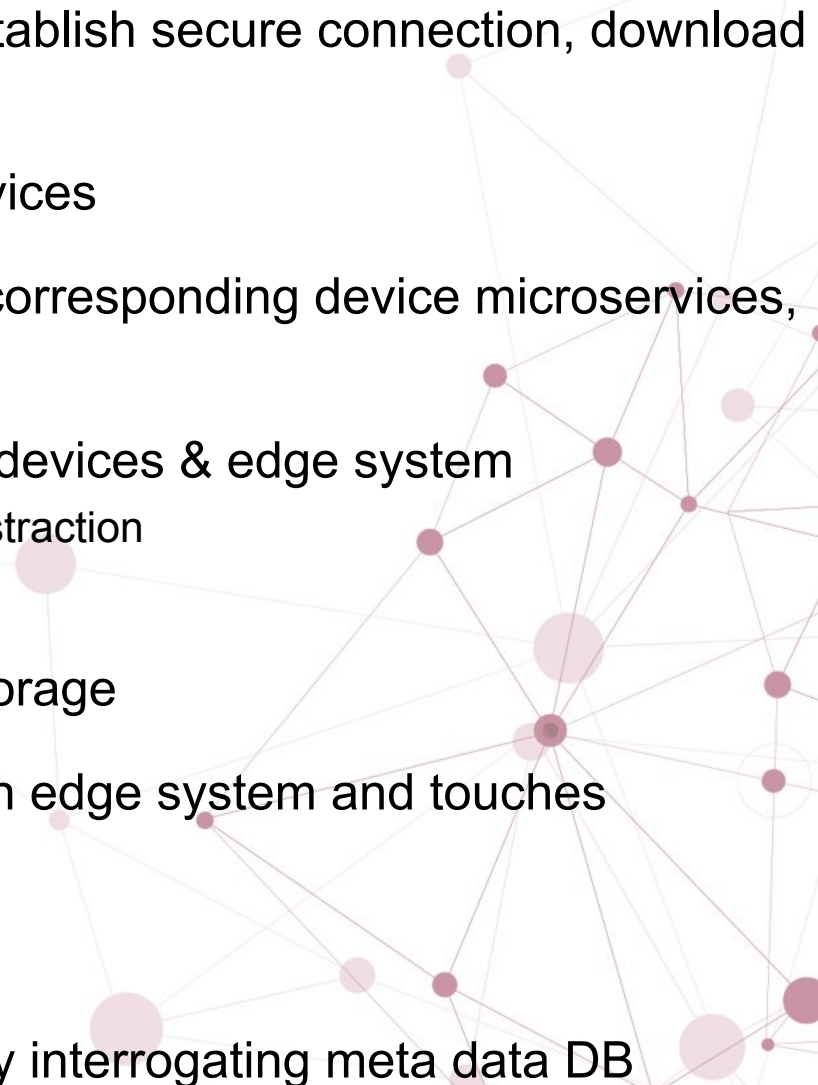
Salim AbiEzzi

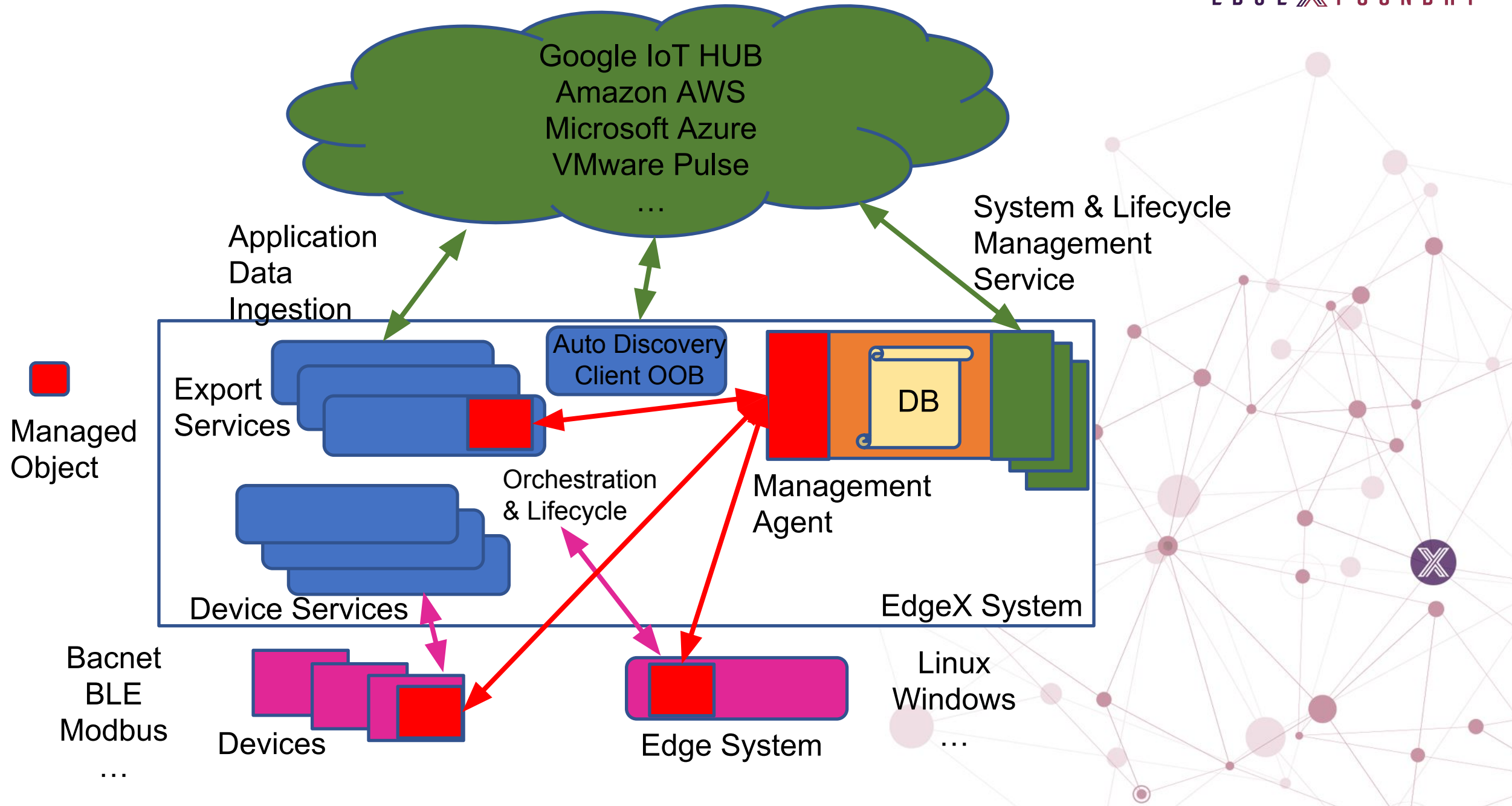
# Agenda

- System & lifecycle management
- Jim's proposal for microservices MO API



# Lifecycle of an EdgeX System

1. Edge system OOB **auto-discovers config server**, establish secure connection, download EdgeX bootstrap package
  2. **Install, bring-up & orchestration** of EdgeX microservices
  3. **On-board devices**, connection to edge system, load corresponding device microservices, populate meta data DB
  4. **Monitor & manage system** thru management agent, devices & edge system
    - Metrics, actions and alerts based on Managed Objects abstraction
    - System components shown on management UI
  5. **Application metrics** transfer for data analytics and storage
  6. **Software updates & security patching**, done through edge system and touches microservices, devices & the edge system itself
  7. **Connect & disconnect devices**, alert services
  8. **New application**, needs to discover state of system by interrogating meta data DB
- 





# EdgeX as Collection of Bridges

- Bridging to devices
  - From different device standards to a common REST API through EX device services
- Bridging to data ingestion services
  - Metrics/time series to data processing (analytics) and storage services through EX export services
- Bridging to system management services
  - Infrastructure metrics, actions and alerting through MO APIs
- Bridging to lifecycle management services
  - Orchestration of EX microservices (Docker compose, Kubernetes, etc.)
  - Software updates and security patches through the edge system





# Security Work Group Update

Doug Gardner



# Security Working Group Priorities

- Priority #1 - Inbound Connection Manager Firewall (Active Ongoing)
- Priority #2 - Key Management (Active Ongoing)
- Priority #3 - Internal Micro service Security Protocol (Waiting) - targeting completion by Jan face-to-face meeting.
  
- Team will select priorities 4, 5 and 6 in today's meeting

# Security WG

## API Manager - Next Steps

- Evaluate available options
  - Tinyproxy
  - lighttpd
  - Apache - mod proxy
  - nginx
- Resolve Requirements/Licensing/etc
- Timeline
  - Proposal to WG by Nov 30th
  - Review completed by Dec 31st
  - Proposal to TSC (@f2f)

# Security WG

## Key Management - Next Steps

- Evaluate available options
  - Hashicorp Vault
  - KeyWhiz
  - Confidant
  - Kubernetes
- Resolve Requirements/Licensing/etc
- Timeline
  - Proposal to WG by Nov 30th
  - Review completed by Dec 31st
  - Proposal to TSC (@f2f)

# Security Work Group Meeting Today post this call

11:00 am EST

## Meeting Time

- Security Working Group meetings are open to the public, and are held weekly.
- Security Working Group meetings are held on Wednesday's at 8am PST (find your local time [here](#))
- To be added directly to the meeting invitation, please email [info@edgexfoundry.org](mailto:info@edgexfoundry.org)
- 
- -----
- 
- Dial-In Info:
- Join from PC, Mac, Linux, iOS or Android: <https://zoom.us/j/576218946>
- Or iPhone one-tap (US Toll): +14086380968,,576218946# or +16465588656,,576218946#
- Or Telephone:
- Dial: +1 408 638 0968 (US Toll) or +1 646 558 8656 (US Toll)
- +1 855 880 1246 (US Toll Free)
- +1 877 369 0926 (US Toll Free)
- Meeting ID: 576 218 946
- International numbers available: <https://zoom.us/join?j=576218946>



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## AOB / Reminders

Brett Preston

# Project Resources

Quick links to most commonly used Community Resources

- Code: <https://github.com/edgexfoundry>
- Documentation: <https://wiki.edgexfoundry.org/>
- Discussion: <https://chat.edgexfoundry.org/>
- Mail Lists: <https://lists.edgexfoundry.org/mailman/listinfo>
- Twitter: <https://twitter.com/EdgeXFoundry>
- LinkedIn: <https://www.linkedin.com/company/22298339/>
- YouTube: <https://www.youtube.com/c/EdgeXFoundry>

# Project Contributions Welcome!

- Our objective is to make EdgeX use & deployment pervasive!
- EdgeX success is 100% dependent on the vibrancy of a proactive community
- Getting Involved
  - Project membership growing - want to join contact Philip DesAutels at LF ([pdesautels@linuxfoundation.org](mailto:pdesautels@linuxfoundation.org))
  - First Priority is the MVP - potential contributors please contact [keith@iotechsys.com](mailto:keith@iotechsys.com) (people, equipment, technology)
  - If interested in adding new projects please contact the relevant working group chair



# EdgeX - Where to learn more

- EdgeX Foundry Wiki

<https://wiki.edgexfoundry.org/display/FA/EdgeX+Foundry+Project+Wiki>

- EdgeX Foundry Rocket Chat

<https://chat.edgexfoundry.org/home>

- [Weekly EXF Technical Spin up calls](#) by Jim White, Dell ([james\\_white2@dell.com](mailto:james_white2@dell.com))

30 minute deep-dive topics followed by 30 minute open Q&A

Thursdays @ alternating times (6pm & 9am EST)

Calls resuming post-Barcelona release

Email [info@edgexfoundry.org](mailto:info@edgexfoundry.org) to request to be added directly to meeting invite

Previous call recordings are available on the [Wiki](#)

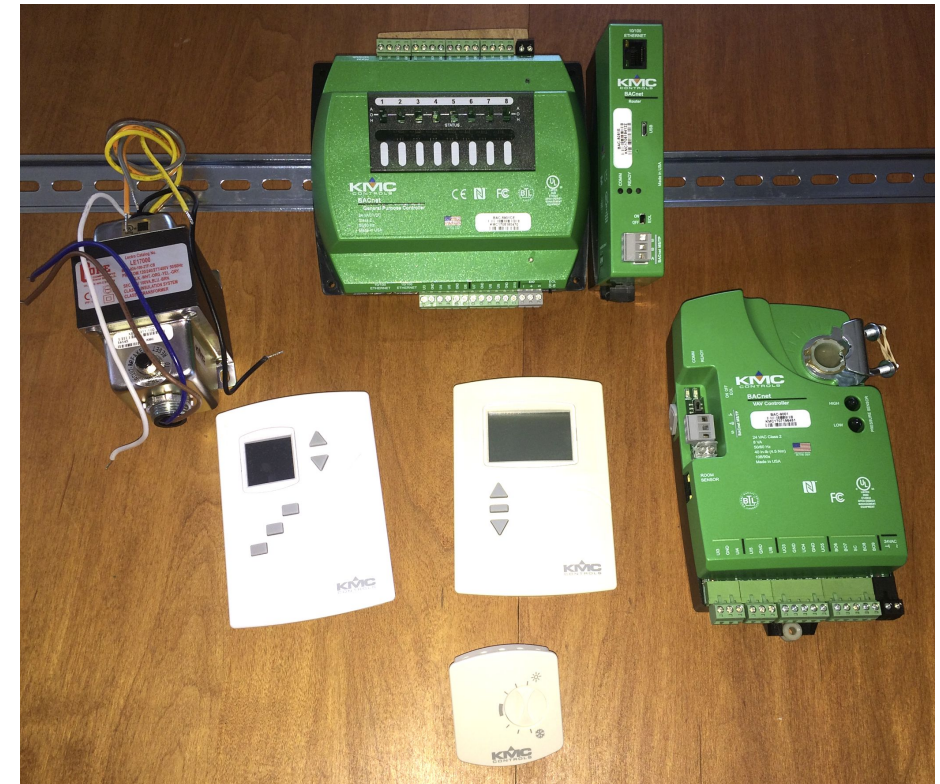
# What is the Device Exchange?

- A great way to put your products in the hands of other members so they can help build a better EdgeX!

•<https://wiki.edgexfoundry.org/display/FA/Device+Exchange>



Special thanks to [Dave Bohlman](#) and [KMC Controls](#) for making this awesome kit and how-to guide available to members!!



# Hackathon Events

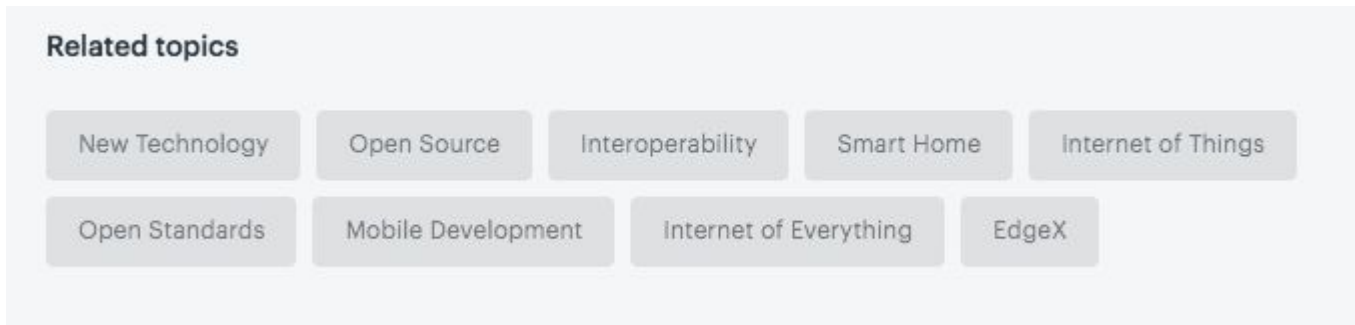
- Nov 17th, University of Helsinki, called Edge Hackathon (<http://ceacs.eu/Hackathon.html>). 60+ people
- Dec 1st, regional Startups and Entrepreneurs summit in Cairo.
- Jim White and Tyler Cox putting together hackathon starter kit.
- More coming

# Hackathons: How can you help?

- <https://wiki.edgexfoundry.org/display/FA/Hackathons>
- Provide any local volunteers onsite to help with technical work, potentially help judge, etc. (see list below of known hackathons coming up and locations)
- Sponsor breakfast/lunch/dinner for the participants (usually things like donuts/coffee, pizza lunch or cater sandwiches)
- Sponsor \$ rewards (incentives) for teams that successfully implement projects (these could even be projects that particular sponsors want to see accomplished - we just need them scoped appropriately so as to be something that can be accomplished in a 2 day period)
- Help provide or resource hackathon winner prizes
- Sponsor or provide any swag (t-shirts, mugs, etc.)
- Provide marketing assistance

# Meetups

- Help us grow awareness!
- Present, and Tag, EdgeX in your local IoT Meetups
- <https://www.meetup.com/topics/edgex/>
- Email [info@edgexfoundry.org](mailto:info@edgexfoundry.org) for assistance



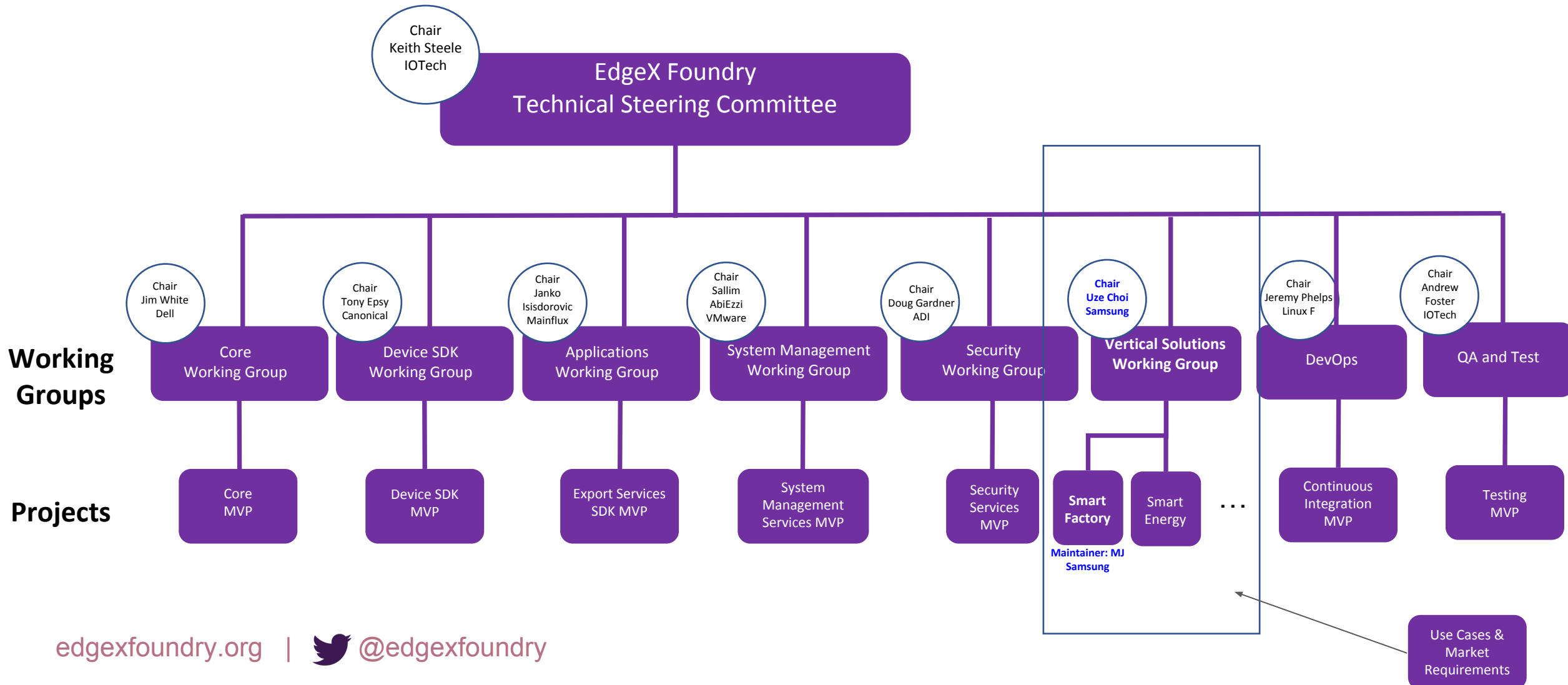
## EdgeX ▾

Find out what's happening in EdgeX Meetup groups around the world and start meeting up with the ones near you.

Related topics:



# TSC Organization



# Marketing

- **CTA:** If your company will be demoing technologies that utilize the EdgeX framework, please email [events@edgexfoundry.org](mailto:events@edgexfoundry.org) so that we can add to <https://www.edgexfoundry.org/events/>
- **CTA:** If your company will be presenting EdgeX at an upcoming event/webinar/other, please email [pr@edgexfoundry.org](mailto:pr@edgexfoundry.org) so that we can help promote



# AOB/Cadence

- Meeting Cadence Reminder
  - Currently held weekly at 7am PST on Wednesday's
  - Calls without TSC quorum will still be used to review issues
  
- **Next Meeting: November 22, 2017**



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Thank You