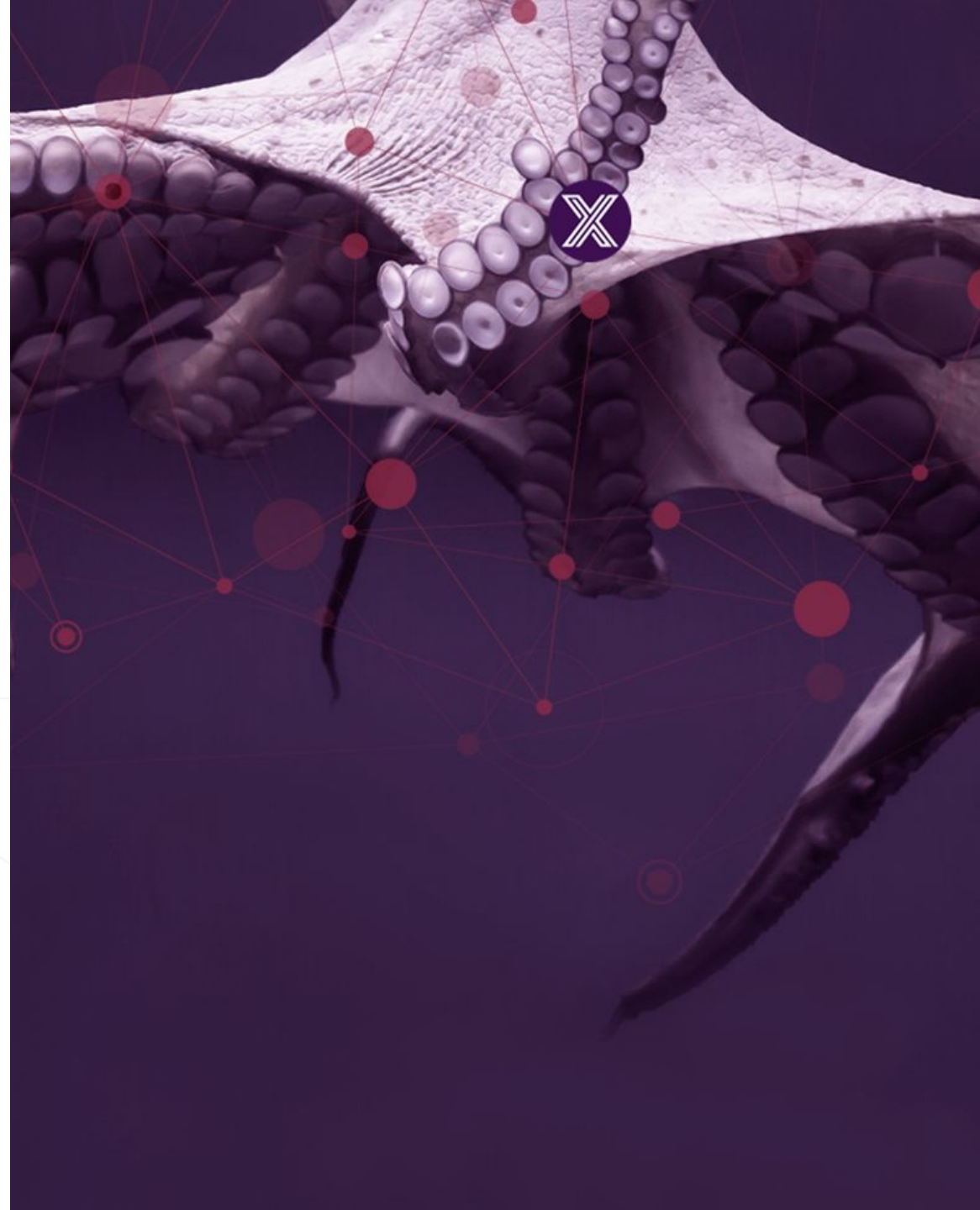


EDGE X FOUNDRY™

TSC Meeting

July 26, 2017

edgexfoundry.org |  @edgexfoundry



Meeting Logistics

Time: July 26, 2017 7am PDT – 8am PDT

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, and 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>
Canonical	Alex Newman	alex.newman@canonical.com
IOTech	Andy Foster	andy@iotechsys.com
Mainflux	Janko Isidorovic	janko@mainflux.com
Dell	Jason Shepherd	Jason.A.Shepherd@dell.com
Analog Devices	John Walsh	john-j.walsh@analog.com
IOTech	Keith Steele	keith@iotechsys.com
Analog Devices	Michael Murray	michael.murray@analog.com
VMware	Salim AbiEzzi	salim@vmware.com
Canonical	Tony Espy	espy@canonical.com

*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

- General TSC Updates
- EdgeX Barcelona MVP Kick Off Meeting 19th/20th July London - Feedback/Progress
- TSC Guidelines
- AOB
 - Project Resources
 - Marketing
 - Events
 - Reminders
 - Next Time



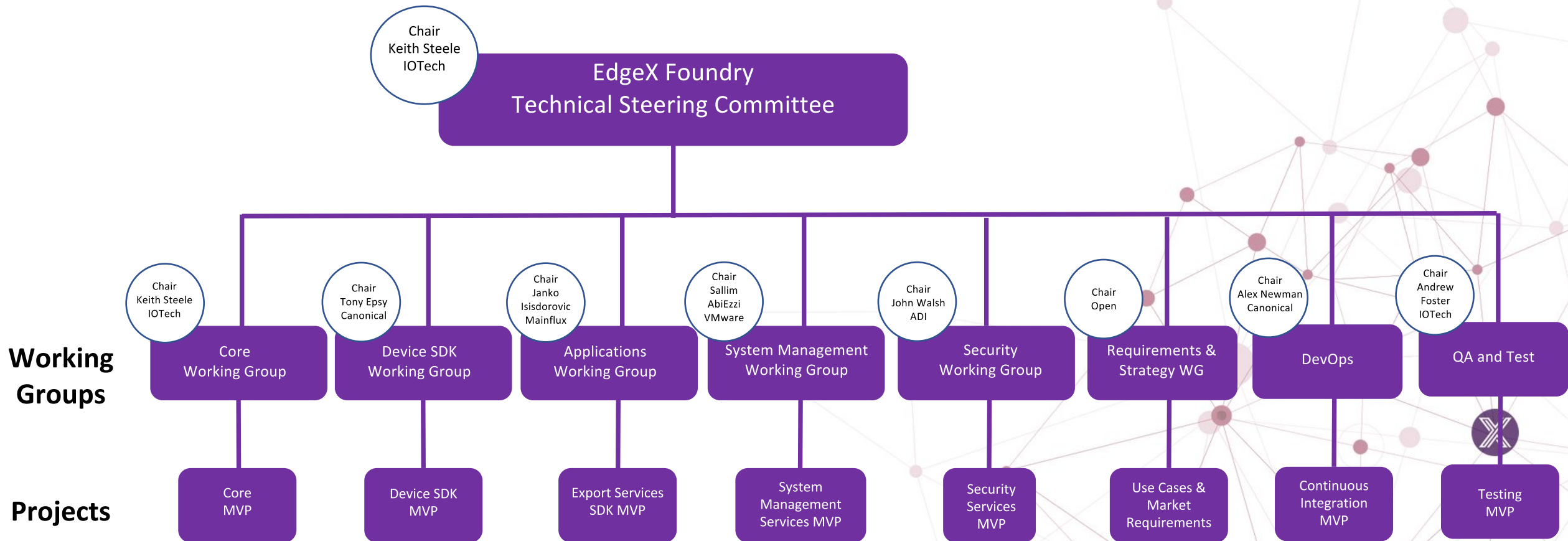
General TSC Updates

Keith Steele

TSC/WG Composition Updates from London

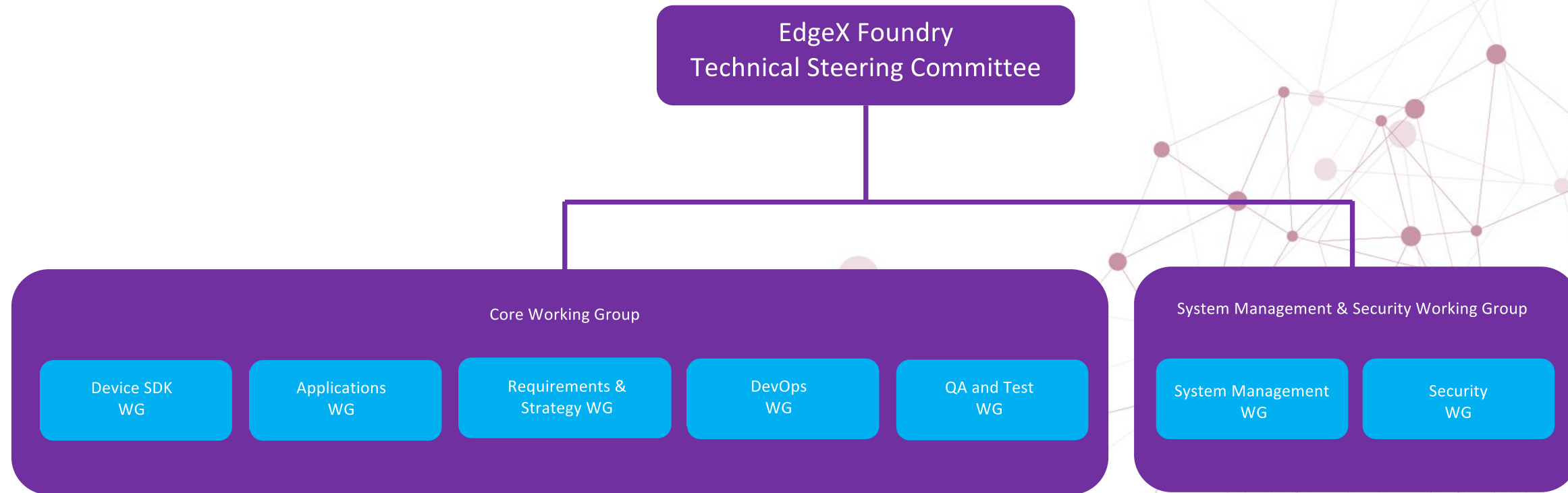
- Working Group Changes
 - Alex Newman (Canonical) moved from Systems Management WG Chair to DevOps WG Chair
 - Salim AbiEzzi (VMware) named Systems Management WG Chair
 - Andy Foster (IOTech) named QA/Test WG Chair

EdgeX Project Organization



TSC and WGs Meeting Structure June 2017

Combined Meetings during MVP 'Design Phase'



Meeting Groups

- Please register Interest for working groups where you'd like to participate: Mail lists @ <https://lists.edgexfoundry.org/mailman/listinfo>
- You will automatically receive notifications of all meetings and events



EdgeX Barcelona MVP Kick Off Meeting 19th/20th July London -Feedback/Progress

Keith Steele/Jim White

Barcelona MVP Agreement

- Unanimously agreed upon MVP by the technical committed
 - As of July 20, 2017 London meeting
- To be completed by Oct 1, 2017

General MVP

- Barcelona supported OS
 - Windows 10 (latest 2016 version – which is?)
 - Linux, Ubuntu 16.04 classic (but does not enforce secure boot)
 - EdgeX supports and welcomes other OS providers to test and validate EdgeX works on their OS
 - Example, Canonical plans to test/validate EdgeX on Ubuntu Core 16
- Barcelona supported hardware: Intel
 - EdgeX welcomes and will support 3rd party provided Arm support
- Performance targets stand, but may not be achieved in this release
 - EdgeX to develop performance tests to show current performance metrics
 - No significant performance-specific work will be accomplished in this release (unless it is easy to achieve with no other impacts)
 - EdgeX will provide early Go performance numbers to show intended path to achieve performance targets
- EdgeX will use current scalability metrics on devices, collection, etc. as scale guidance
 - More formal scalability concerns to be addressed in future releases

Barcelona Service Hardening MVP (owner WG leads)

- Works properly for the intended use case
 - It may not be 100% complete implementations for all use cases or parts of a protocol for example, but it provides enough implementation to sustain the demo use cases for Barcelona and could support extension to the full needs or protocol in the future
- Handles errors and exceptions gracefully
- Contains proper unit and integration tests
- Follows good coding standards, and is well documented
 - Following some prescribed standard (like Oracle, Google or Twitter guides for Java)
- Performs within the target measures established for Barcelona
- Code base is not exploitable
- API set is solid – WG issue for now; may need to be cross WG issue

Application MVP – Owner Janko

- Harden as defined above
- Azure IoT Hub integration (improve/clean up)
- Provide routing to endpoints by device id
- Support MQTTS and HTTPS for endpoint distribution
- No additional formats/transformations/filters/etc.
- Provide guidance on number of simultaneous clients that can be supported
- Stretch: binary message format distribution (picking one to start)

Core & Supporting MVP - owner Jim

- Harden as defined above
- Fix known bugs (logging OOM, ...)
- Remove/clean up unfinished features (Device Manager)
- Stretch
 - Core services in Go (at least enough to provide performance plan/story)

DS/DS SDK MVP – owner Tony

- Harden as defined above
- Provide Dell 7 DS as MVP (Jim owner to get DS in open source ASAP)
- Clean up SDK (and DSs)
 - Improve documentation
 - Be more developer friendly (see improve tooling - stretch)
 - Merge device-sdk into SDK tools
 - Cleanup scheduler
 - Apply cleanup back to DS (with exception of BACnet and BLE)
- Stretch
 - Improve tooling (Eclipse Plugin)
 - Real stretch - Remove redundant code from Device Services/SDK to shared libraries
 - Investigate Go base device service

Security MVP – owner John

- No implementation as MVP
- Build longer term roadmap – the EdgeX security story
 - Agreement on what security features are going to be in EdgeX and what's going to be provided by the platform that EdgeX runs on (example: the underlying platform must have a keystore)
 - Agreement on security requirements
- Define what EdgeX security service(s) need to be eventually implemented
- Define what security hooks need to be added to the existing micro services
- Define what standards, protocols, etc. are going to be adhered to and followed by EdgeX (ex: IIC specs, OAuth tokens, etc.)
- Provide guidance on how security features can/should be tested

Test/QA MVP – owner Andy

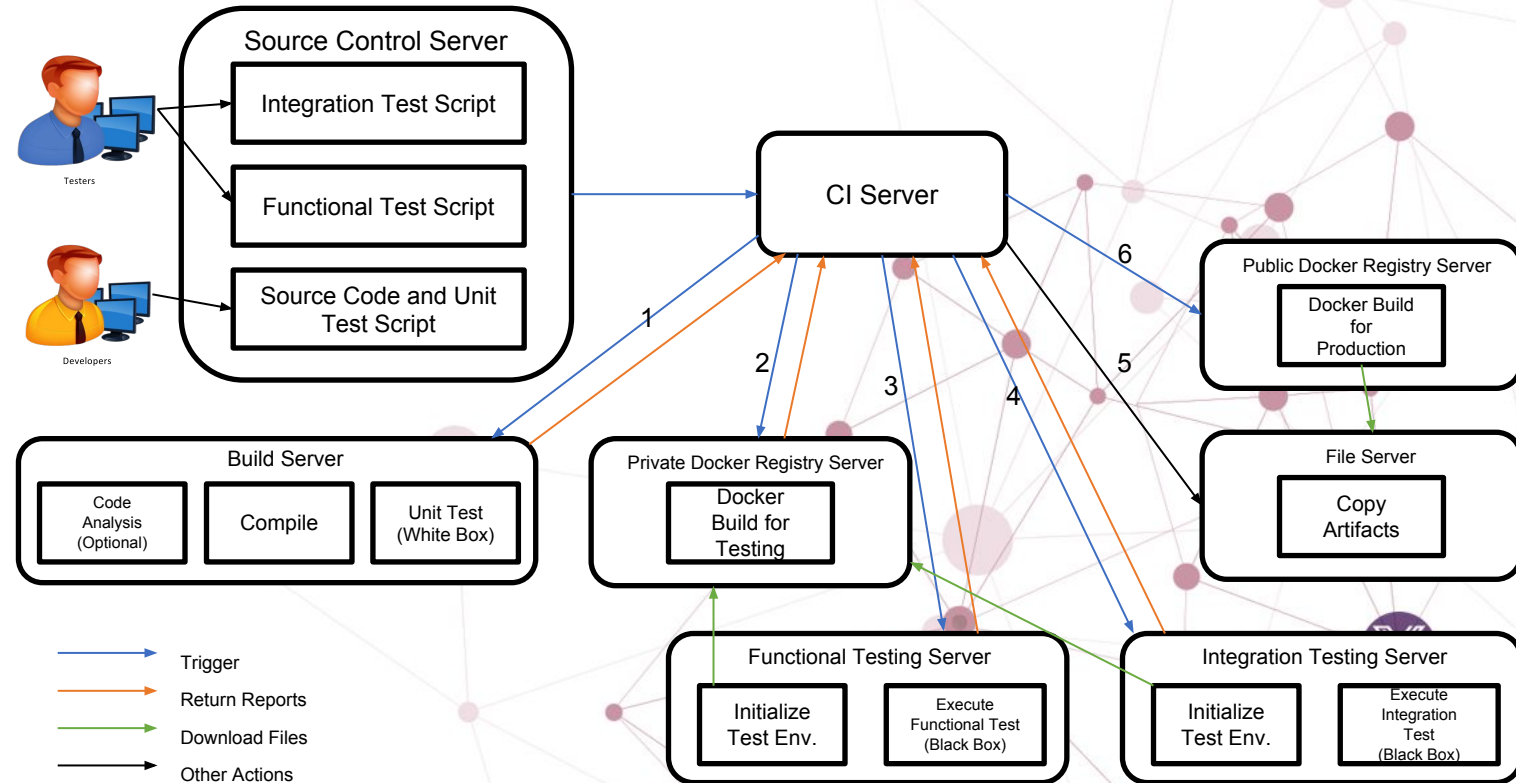
- **Unit and integration tests for all micro services (all public methods)**
 - Unit and Integration tests to be provided by developers for all micro services
- **Implement Blackbox testing**
 - IoTech working to select and implement black box test framework
 - Will also allow performance tests to be run so that metrics on performance can be measured
 - Testing must occur on all supported MVP platforms
- **Have check styles in build process**
 - IoTech to work with LF to build check styles into build process
 - Based on call with LF, already there but need to be turned on
- **Setup Bug tracking system**
 - IoTech will take role of Bug Czar (at least until end of year)
 - Work with LF to implement bug tracker (GitHub Issues in place)
 - Dell will continue to take role of answering Rocket Chat and email list questions until the end of year. Will funnel real bugs that come in to Bug Czar

DevOps/Build MVP – owner Andy

- Automate build of code and docker microservices (LF DevOps indicated should be done by end of July)
- Implement standards on code commenting, branching, versions, ...
 - Andy and IoTech researching existing LF work and options on code comment styles/ check in / branching/ versioning processes.
 - Providing recommendations for adoption to tech committee by July 31st
 - Keith/Brett/Jim will email tech committee to review and comment first week in August
 - Adoption shortly thereafter – along with meeting to provide education
- EdgeX hereby adopts the Google code standards (aka Style Guides) for all code.
 - <https://google.github.io/styleguide>
- Stretch
 - Automate build of API documentation (Javadoc, raml-doc ?) IoTech and others researching
 - WG allowed to setup their processes (Agile, Scrum, etc.) as they see fit (no community wide process for now)

Continuous Integration (CI)

- IoTech to fill out some details and provide want/need list for DevOps/LF within the next couple of weeks



System Management MVP – owner Salim

- Agree on requirements
- Agree on what features are going to be in EdgeX and what is reserved for OS, 3rd party systems, other open source systems, etc.
- Define what system management services need to be implemented as part of EdgeX (if any)
- Define what system management hooks need to be implemented
- Define any system management standards that will be followed/used in system management implementations (ex: LWM2M)
- Stretch goal
 - Add some simple system manage hooks/capability into BaseService of EdgeX micro services – based on Dell Fuse work (for service start, stop ...)

Additional Action Items

- Tony, Janko, Andy, Jim and any other working group leads to identify resource issues by July 31st
 - Otherwise assumed that they have or can find resources to complete the MVP assigned to their WG
- Jim to provide Kura/EdgeX feature comparison
 - Metric comparison not part of this study
 - Let Go services address EdgeX performance concerns and planning
- Jim, Andy, Janko and others to stay in touch with marketing and event planning working groups
 - Provide cautionary guidance about demo needs that exceed tech community ability to deliver
 - Report to working groups on demo plans and technical needs

Action Items II

- Jim to find out from Jason about Test Bed commitments
 - Why orgs chosen and what commitments have been made?
- Keith to work with TSC board to develop marketing and messaging around EdgeX event demos
 - July deadline for guidance
- Keith to work with TSC board to determine time/place for next tech meeting
 - Concerns about coinciding with IoT Solutions World Congress in Barcelona
 - Too many people will have competing work with demos/booth staffing/etc.
 - Extending the trip at either end could be expensive/problematic

Action Items III

- Keith to check on getting someone to sign up for Arm work
- Keith/Jim work with Jason to get vendors to load/provide device hardware to blackbox testers (IoTech) and potentially test labs
- Andy and Jim will work to set up maintainers and committers (by work group) within the next few weeks



EDGE X FOUNDRY™

Next Meetings

Keith Steele

Next Meetings

- Propose leveraging TSC call next Wednesday to focus on Security + System Management
 - **Update:** Leveraging TSC call, but meeting moved to Thursday (same time)
- Next EdgeX Technical Meeting proposed to coincide with IOT World Solutions congress in Barcelona
 - Choices: Monday 2nd October or Thursday 5th PM/Friday 6th October AM
 - **AI:** TSC members complete Doodle poll indicating availability
 - Do any members have offices in Barcelona that can host 15-25 people? (email info@edgexfoundry.org)
- Next Core Working Group Meeting proposed 10th August 2017
 - To include first DevOps & QA Working Group Meetings to coincide with
 - **AI:** Brett to help schedule - DONE
- EdgeX Security Work Group proposed face to face Meeting in the US in August (John Walsh to organise) > include System Management at mtg



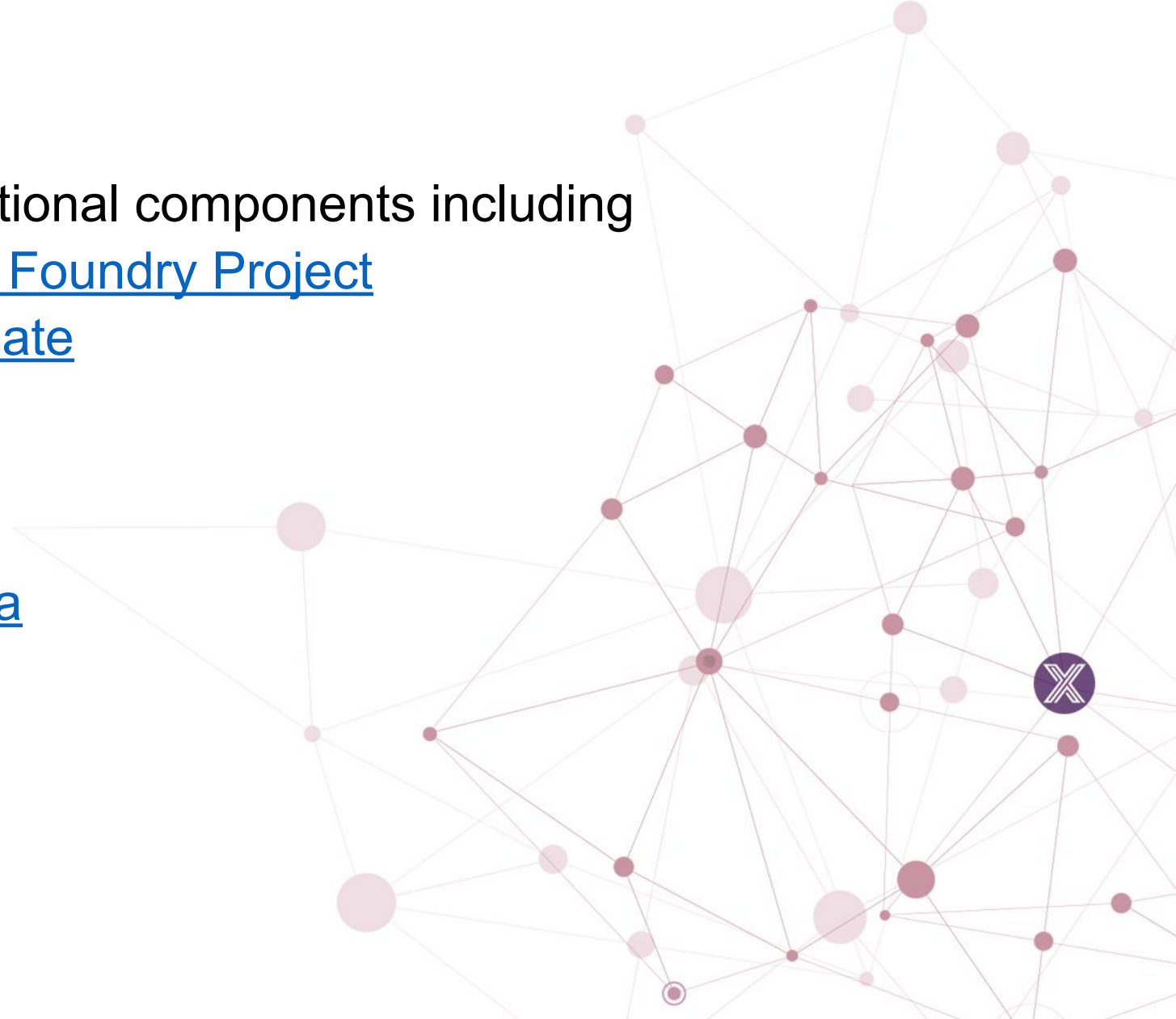
EDGE X FOUNDRY™

TSC Guidelines

Keith Steele

TSC Guidelines

- TSC continuing review of foundational components including
 - [Technical Work in the EdgeX Foundry Project](#)
 - [Working Group Charter template](#)
 - [Project Principles](#)
 - [Project Proposal Template](#)
 - [Project Lifecycle](#)
 - [Project Incubation Exit Criteria](#)
 - [Release Taxonomy](#)





EDGE X FOUNDRY™

AOB / Reminders

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)

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

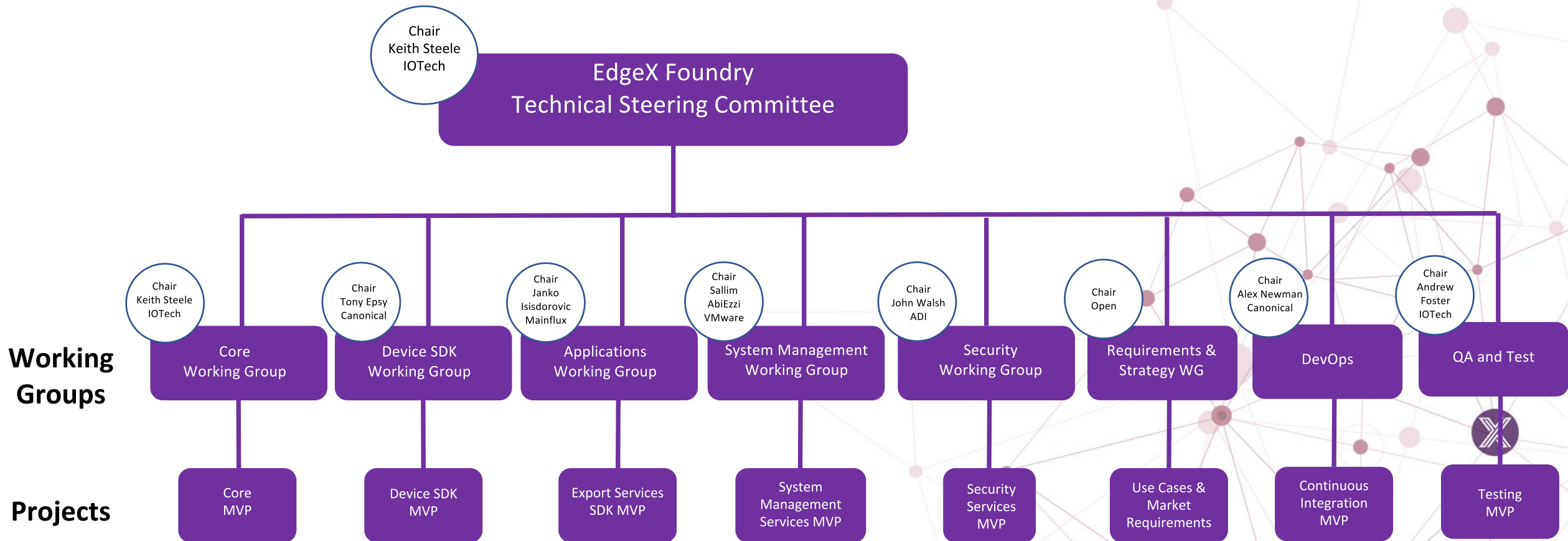
Thursdays @ alternating times (6pm & 9am EDT)

Next call Thursday, July 27 @ 6pm EDT: “Metadata microservice: Part 1 of 2”

Email info@edgexfoundry.org to request to be added directly to meeting invite

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

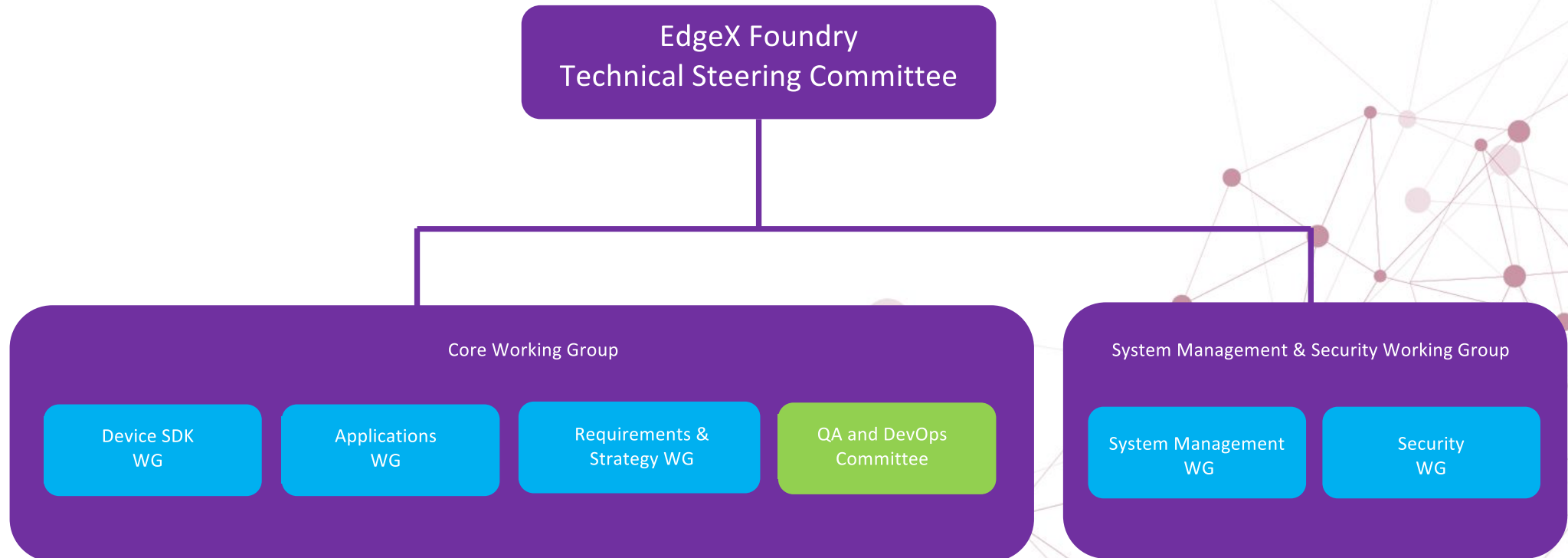
EdgeX Project Organization



TSC and WGs Meeting Structure June 2017

Combined Meetings during MVP 'Design Phase'

Meeting Groups



- Please register Interest for working groups where you'd like to participate: Mail lists @ <https://lists.edgexfoundry.org/mailman/listinfo>
- You will automatically receive notifications of all meetings and events

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)
 - First Priority is the MVP - potential contributors please contact keith@iotechsys.com (people, equipment, technology)
 - If interested in adding new projects please contact the relevant working group chair

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-beta/22298339/>

Upcoming Events

- **[IOT Solutions World Congress Barcelona](#)**
 - **3-5 October 2017**
 - **EdgeX Foundry Booth featuring Members + Demos**
 - [CloudPlugs](#)
 - [Dell / RSA](#)
 - [IOTech](#)
 - [Linaro](#)
 - [NetFoundry](#)
 - [Neustar](#)
 - [RFMicron](#)
 - [Vantiq](#)
 - [VMware](#)
 - EdgeX Members receive discounted [Registration](#)
 - Email info@edgexfoundry.org for discount code

Marketing

- **CTA:** If your company will be demoing technologies that utilize the EdgeX framework, please email 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 so that we can help promote

AOB/Cadence

- Meeting Cadence Reminder
 - Currently held weekly at 7am PDT on Wednesday's
 - Calls without TSC quorum will still be used to review issues
- **Next Meeting: 8/3/2017 (Thursday)**



EDGE X FOUNDRY™

Thank You