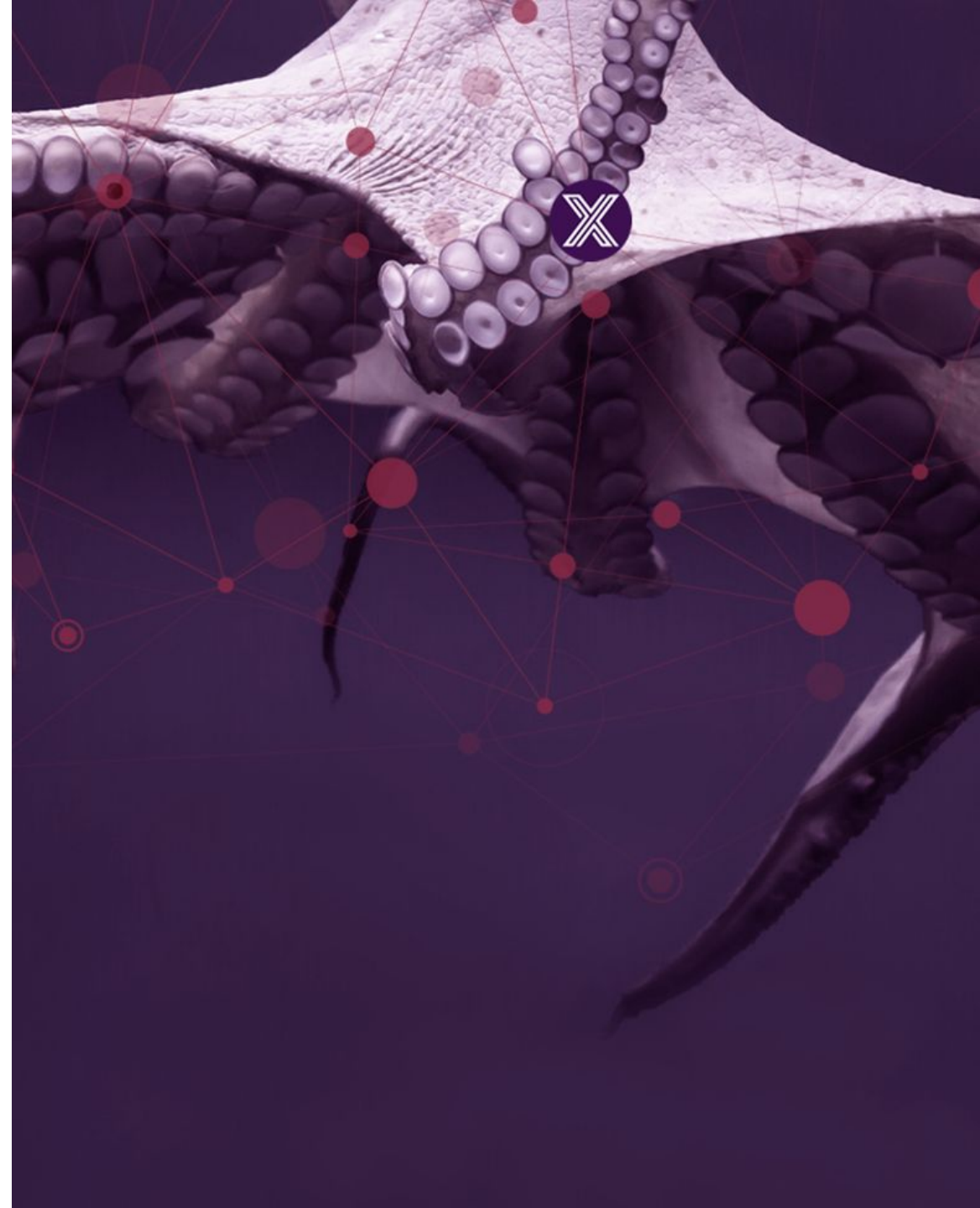


EDGE X FOUNDRY™

TSC Meeting

February 12, 2020



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.

Meeting Logistics

Time: Wednesdays 8am PDT – 9am 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/join?j=983155298>

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



TSC – Members Present Today

<u>Company</u>	<u>Name</u>	<u>Email</u>
Intel	Brad Corrion	bradley.w.corrion@intel.com
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Dell	Michael Estrin	m.estrin@dell.com

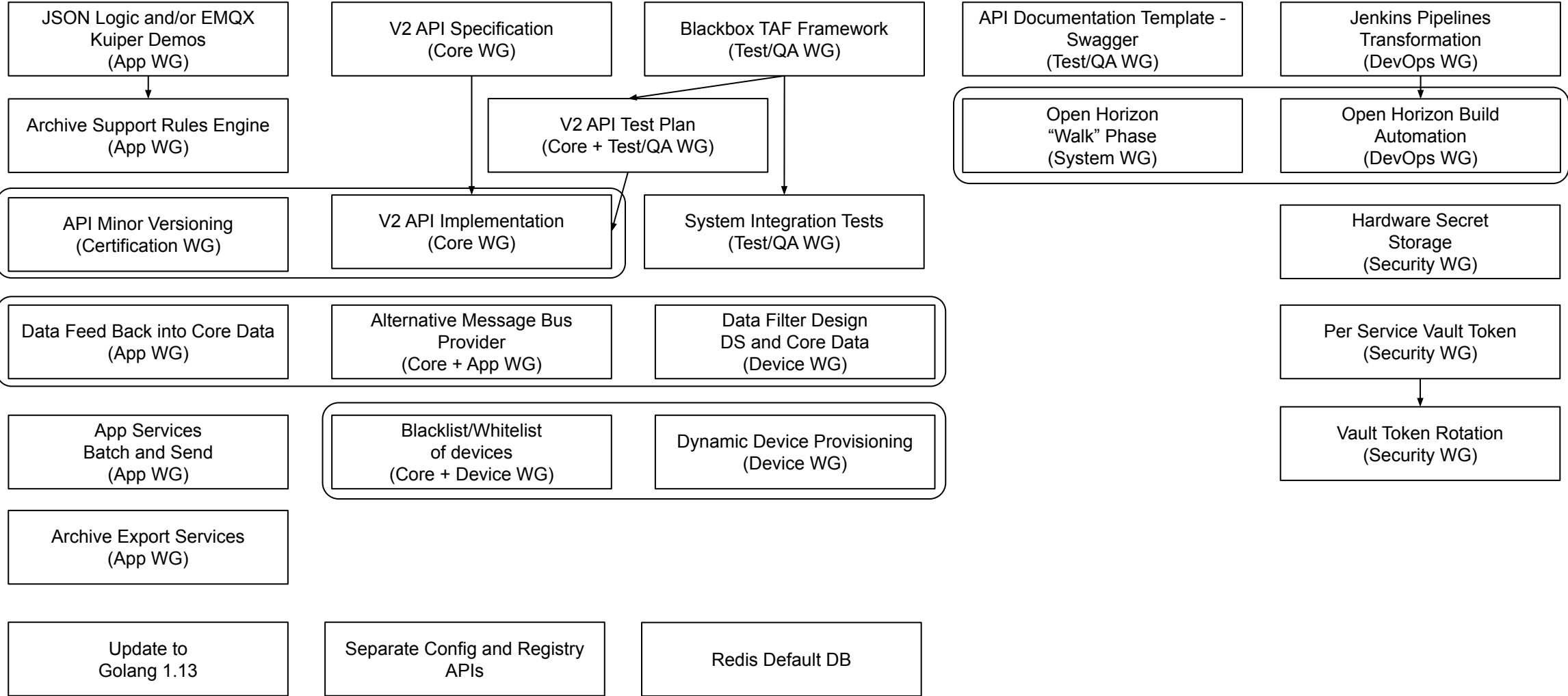
Current quorum = 7 members

Note: Quorum for TSC meetings requires at least fifty percent of all voting members of the TSC to be present. The TSC may continue to meet if quorum is not met, but will be prevented from making any decisions at the meeting. Except as provided in Section 7.c. and 8.a, decisions by vote at a meeting require a majority vote of those in attendance, provided quorum is met. Decisions made by electronic vote without a meeting require a majority vote of all voting members of the TSC.

Today's Agenda

- Lisa's Release Czar Readout
- WG Updates
- Fuji Performance #s
- Upcoming Events

EdgeX Geneva Release Overview





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Work Group Updates

Chairs

Working Group Chair Updates

- Around the horn
 - Core/Supporting - Trevor Conn
 - Applications - Mike Johanson
 - Device Services - Iain Anderson
 - Test/QA - Robin Chatterjee
 - DevOps - James Gregg
 - Security - Malini Bhandaru and Tingyu Zeng
 - System Management - Michael Estrin
 - Open Horizon - Joe Pearson
 - Certification - Rodney Hess
 - Vertical Solutions - Camilo Dennis and Henry Lau
 - Updates from Release Czar - Lisa
 - Updates from Dev Advocate - Aaron

Core Working Group (12-Feb-20)

- V2 API Scaffolding Work
 - Draft PR below, actively under review
 - <https://github.com/edgexfoundry/edgex-go/pull/2285>
- Moving to Go 1.13 → Underway
- Redis as default DB for unsecured EdgeX → Underway
- MQTT Message Bus now supported
 - <https://github.com/edgexfoundry/edgex-go/pull/2342>
- Core WG tomorrow @ 10AM Central/US
 - Agenda includes discussion on edgex-go issues 2272, 2335
 - Follow up from TSC Architect's call 11-Feb
 - Emphasis on whether common implementation across all platform components is required.

Applications WG Update (12 Feb 2020)

- Ability to handle insecure secrets when vault is not used
 - App Functions SDK moved to Go 1.13
 - App Service Configurable moved to Go 1.13
 - go-mod-bootstrap modified to support App Functions SDK
-
- App Working Group Meeting held on Fridays @ 9AM PST
 - Next meeting Friday, Feb 7th

Application Services

Functions (built into SDK)

Current/Complete:

Fuji

- AES Encryption
- GZIP Compression
- ZLIB Compression
- MarkAsPushed
- PushToCore

EXPERIMENTAL

Edinburgh

- Device Name Filter
- Value Descriptor Filter
- XML Conversion
- JSON Conversion
- MQTT(S) Export
- HTTP(S) POST Export

Features

- Store and Forward
- Web Server
- Configurable AppService

Reference/Example App Services (Fuji)

(built on top of SDK)

- Azure IoT Hub
- Amazon IoT Core

AVAILABLE

WIP

Device Services WG Update (12-February-20)

- Point releases for SDKs
- Repository for Visual Inference service
- Initial discussion on Metrics

Device Services - current/coming

Open Source connectors (Current):

- Modbus (TCP/RTU)
- Virtual Device
- Grove C - ARM only
- SNMP
- MQTT
- BACnet (IP & MSTP)
- ONVIF Cameras

Open Source connectors (Future):

- OPC-UA (Geneva?)
- GPS
- Bluetooth (Feb 2020)
- REST (Feb 2020)
- BLE in Go for Thingy 52 (Ian Johnson)

Commercial connectors (Current):

- GPS
- MEMS
- Zigbee
- Bluetooth
- EtherCat
- PROFINET

Commercial connectors (Future):

- CAN SocketCAN, CANopen
- EtherNet/IP
- Siemens s5/s7

Test/QA WG Update (12-02-2020)

- Blackbox Test
 - Issue opened for failed testcases
 - Issue [#384](#) on blackbox-testing for SMA operation “restart” failed on Arm
 - Issue [#386](#) on blackbox-testing for failed tests of valuedescriptor
 - Issue [#2237](#) on edgex-go will fix core-command test failure
 - Fixed issue
 - Issue [#343](#), Modify API path to go through Kong when security is enabled
 - Reviewing PR
 - Draft PR [#385](#), update database to use redis by default
 - Draft PR [#374](#), run blackbox test on both database, mongo and redis
- New Blackbox Test
 - Merged PR [#14](#) on edgex-taf for how to run edgex-taf document
 - Merged PR [#28](#) on edgex-taf for changing file structure
- Swagger
 - Opened PR [#2329](#), for adding v1 API files to edgex-go repository under review
 - Draft PR [#2305](#) on edgex-go, will integrate the step of posting API files to SwaggerHub automatically

DevOps WG Update (02-05-2020)

Geneva

- Jenkins Transformation to Pipelines
 - Work continues on the transformation to Jenkins Pipelines
 - Lisa is starting the explore work to look into full automation of the release
 - Automation for the GitHub Issue labels - WIP
 - EdgeX-Go will be the next Pipeline converted in the next sprint.
 - Sandbox testing of new edgex-go pipeline has been WIP for a few weeks
 - git-semver unit testing - WIP

CommunityBridge - Advanced Snyk Reporting

- EdgeX Foundry added to the CommunityBridge Vulnerability Reporting
 - Ticket still open with Heather Willson & David Deal / CommunityBridge team
 - EdgeX Project should have access to the advanced reporting “in a couple of days”

Next Meeting 02/13/2020 @9:00 PST

System Management WG Update (02-12-2020)

- System Management
 - Work continues on OpenAPI document for APIv2
- CLI Review (Thank you Mike J.)
 - Requested improvements; use of go-mod-core-contracts
 - Expect a re-review update at next meeting
- EdgeX-specific system-wide metrics follow up
 - Jim White has started ADR; 1-2 weeks out
- Next meeting: February 14th @ 10AM CST

Open Horizon Update

- This week leads will attend WGs
- Old business:
 - Evaluate leadership plan - ID'd team, will transition to the beginnings of a TSC when we become an LF Edge project
 - Begin work breakdown - work begun, existing POC being revised/simplified
- New:
 - LF Edge project proposal draft in progress, aiming for EOW completion
 - Planning underway for booth demo at ONES NA.

Security WG Update (02-11-2020)

- Ongoing work for Geneva release (105 items done, 10 items in progress, 8 items backlog)
- Security discussion related to API V2 proposal in progress
- Next security WG meeting focusing on proposal of security enhancement in API V2

Certification WG Update (2-10-20)

- Discussed goals/objectives of v2 API effort
- Next meeting Monday, February 24th, 9 a.m. PST

Vertical Solutions WG Update (2/12/2020)

- Next call: Feb 18, 2020, 10:00am PST
- Tentative agenda:
 - Vertical Solutions working group organization
 - Ideas for future hackathons in virtual/remote format
 - Real time sensor fusion for loss detection at checkout reference solution

Release Czar

Dev Advocate

(see next slide taken from the TAC meeting- from Brett P.)

Upcoming External Events

- › [Open Networking & Edge Summit North America](#): 20-21 April, 2020 - Los Angeles, CA
 - › CFP Notifications will be sent Tuesday, March 4
 - › **New:** [ONES Unconference Track](#)
 - › Originally coordinated by LFN; Expanding to include LF Edge (assuming LFE interest)
 - › Most topics will be scheduled on a **first-come, first-serve basis** (so [Submit Today](#))
 - › Will publish initial schedule on March 24
 - › **New:** Call for LF Edge Booth Demos
 - › Demo ideas submissions **due February 26**
 - › See [Call for Demos email](#) for full information
 - › Submission form:
<https://docs.google.com/forms/d/e/1FAIpQLSfwjEfCcWUKMfiK404Uu51ZI70-8lqcRFCKKQ5vW3eeLOGAfw/viewform>
- › [IoT Build](#): May 12-13, 2020 - Santa Clara
 - › LF Edge will host an edge track with several speaking sessions on May 12 in the afternoon
 - › If you're interested in speaking or moderating the track, please email Maemalynn@linuxfoundation.org



Miscellaneous (Jim)

- Monthly Architect's Meeting next Monday (17th)
 - Topics on tap
 - Revisiting holding and when work needs to enter holding (and what it takes to get out)
 - Acceptance of DS and testing needs - how to bring a new device service from holding to the EdgeX repos (presented by DS WG – Iain, Tony)
 - Bound checking issue (presented by Tony)
 - Apache 2 licensing requirements (per Tony E message and Brett P (LF) and Ducan (IOTech) responses. Whether it was necessary and wise to move code from EdgeX org to holding only to go back to EdgeX org again (vs just make a new repo directly in EdgeX) - initially covered in Jan 15, 2020 TSC
- Face-to-Face meeting in Ireland
 - Architect's planning and prewire meeting: March 31 in Raleigh
 - WG chairs and TSC members - all invited; let me know who else should be invited
 - Registration now up. Please register early so that we can get an early indication of #'s
 - <http://www.cvent.com/d/nhqhc8/4W>
- API V2 - PR 2285



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Performance Stats

Fuji Performance #'s

Feb 2020

J White

IOTech Report

Thanks to Cloud Tsai, Cherry Wang and team

Fuji Performance - General

	Image Footprint	Executable	Memory	CPU Usage
Dell Gateway 3000	336MB	182MB	60MB	26%
Rasp Pi 3B (ARM 64 bit)	334MB	176MB	75MB	59%

	Startup time	Startup time + container	Startup time + container but w/o container creation
Dell Gateway 3000	3.8s	59s	52s
Rasp Pi 3B (ARM 64 bit)	13.7s	100s	77s

- A full IOTech whitepaper forthcoming
- Memory and CPU measured on startup
- These tests used Redis as the database (NOT MongoDB)
- Miscellaneous Observations
 - Consul high CPU usage (?? Why ??)
 - Redis < 10% of MongoDB size, memory. CPU about 15% of Mongo's use

Fuji-Edinburgh Comparison

<i>On Dell Gateway 3000</i>	Image Footprint	Executable	Memory	CPU Usage
Fuji	336MB	182MB	60MB	26%
Edinburgh	697MB	161MB	111MB	20%
Fuji – DB (Redis)	306MB	182MB	58MB	26%
Edinburgh – DB (Mongo)	285MB	161MB	61MB	17%

<i>On Dell Gateway 3000</i>	startup	Startup + container	Startup + container w/o container creation
Fuji	3.8s	59s	52s
Edinburgh	10.2s		



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Upcoming Events

Hanoi TSC

Arrangements for the spring TSC meetings has been finalized

- **WG Chair/Architects Pre-Wire meeting will be March 31st (Tue)**
 - Dell EMC office , Research Triangle Park, 62 T.W Alexander Dr., Durham, NC 27709, Room: Aspen Cedar, first floor, Capacity: 50
- **Hanoi TSC F2F will be April 27-30**
 - Dell IOT Lab, Limerick Ireland
 - April 27 - Architect's day (invite only)
 - April 28-29 - General planning sessions with business topics to lead off
 - April 30 - Training day (additional hackathon or other planning meetings as necessary)

Upcoming External Events

- › [Embedded World](#): 25-27 February - Nuremberg, Germany
 - › Jim White: **Extending EdgeX Foundry– How to Build an IoT Solution from an open source, platform independent framework**
- › [Industry of Things World](#): Mar 12-13 - San Diego CA
- › [IoT Tech](#): Mar 17-18 - London, UK
- › [KubeCon EU 2020](#): 31 March - 2 April, 2020 - Amsterdam
 - › CFP closed 22 November
- › [IoT World](#): Apr 6-9 - San Jose, CA
- › [Hannover Messe](#): April 20-24 - Hannover GE
- › Open Networking & Edge Summit North America: 20-21 April, 2020 - Los Angeles, CA
 - › CFP Status: open til Feb 3
- › Open Source Summit North America: 22-24 June, 2020 - Austin, TX
 - › CFP Status: open til Feb 16



Upcoming External Events

- › [IIOT World Day](#): Jun 30-Jul 1
 - › Call for papers until March
- › Open Source Summit Japan: 15-16 September, 2020 - Tokyo, Japan
 - › CFP Status: Details Available Late 2019
- › Open Networking & Edge Summit Europe: 30 September - 1 October, 2020 - Antwerp, Belgium
 - › CFP Status: Open til Jun 7, 2020
- › Open Source Summit Europe: 26-28 October, 2020 - Dublin, Ireland
 - › CFP Status: Details Available Late 2019
- › [IOT SWC](#): 27-29 Oct, 2020 - Barcelona, Spain
- › Discussions around upcoming events occur in the LF Edge Outreach Committee
- › Members may subscribe at: <https://lists.lfedge.org/g/outreach-committee>





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Thank You