LF Home Edge

TSC Monthly Call

5-Nov-2019

THE **LINUX** FOUNDATION

LF EDGE

Meeting Details

Time: Nov 5, 2019 06:30 AM PDT/ 08:00 PM IST/ 11:30 PM KST

Join Zoom Meeting
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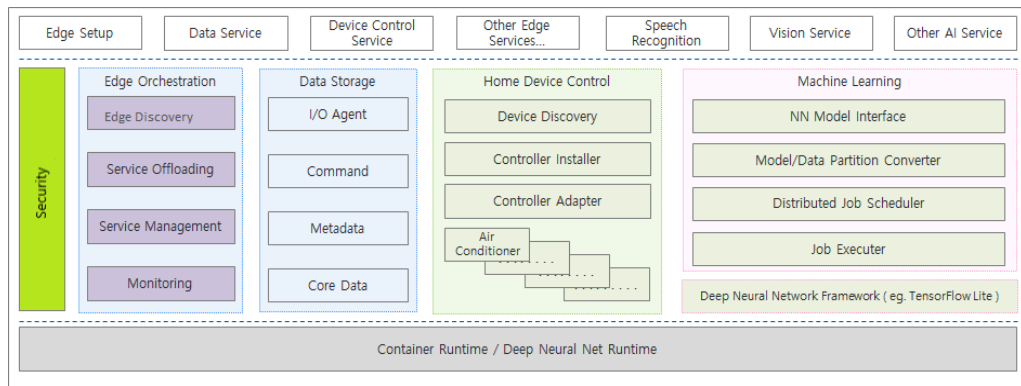
Attendees

Name	Company	05 Nov 2019				
Peter Moonki Hong	Samsung	Yes				
Karthikeyan Subramani	Samsung	Yes				
Chitti Nimmagadda	Ericsson	Yes				
Michael Hall	LF Edge	Yes				
Tiejun Chen	VM Ware	Yes				
David Martin	me.com	Yes				
Suresh	Samsung	Yes				
Nitu	Samsung	Yes				

Topics

1. Baobab Release Update
2. IOT SWC Update (Oct 29-30, Barcelona, Spain)
3. Action Items
4. AoB
5. Adjourn

Baobab Release Update

- › Edge Device/App Discovery
- › Device Resource Monitoring
- › Edge App Remote Execution
- › Support Android (*.apk)
- › **Secure Messaging TLS**
- › Sample Service (Distributed Web Engine)

| Edge Setup | Data Service | Device Control Service | Other Edge Services... | Speech Recognition | Vision Service | Other AI Service |

| Security | Edge Orchestration | | Data Storage | | Home Device Control | | Machine Learning | |

Edge Orchestration:
- Edge Discovery
- Service Offloading
- Service Management
- Monitoring

Data Storage:
- I/O Agent
- Command
- Metadata
- Core Data

Home Device Control:
- Device Discovery
- Controller Installer
- Controller Adapter
- Air Conditioner . . .

Machine Learning:
- NN Model Interface
- Model/Data Partition Converter
- Distributed Job Scheduler
- Job Executer
- Deep Neural Network Framework (eg. TensorFlow Lite)

Container Runtime / Deep Neural Net Runtime

Alpha '19.06 : Edge Orchestration

Baobab '19.10: Secure Messaging TLS

Coconut '20.04: Edge Discovery Under NAT Traversal   TOBE

https://github.com/lf-edge/edge-home-orchestration-go/tree/Baobab

ANOMALY DETECTION
Tampering surveillance camera

CCTV Camera
Low End Computing device

Home Environment surveillance camera with low computing power just records and sends the camera feed.

CCTV (Camera Tampering/Malfunction)
Anomaly detected

When there is camera Tampering / Malfunction happens, it requests high computing devices in Home Environment to do detailed analysis of the video.

Home Environment
Edge Computing device

Service offloading to a high capable device(Laptop, Mobile, TV) based on the scoring method to perform the video analysis(Local Execution).

Identifies the clause to notify user

CCTV Camera Tampering
Alert user with tampering video clip

Identify the type of tampering by sending a short clip of proof to the user for taking further actions.

Device Faulty
Raise service ticket

Identifies and colloates the malfunction report as a service ticker by notifying to the user to take further actions.

IOT SWC Update (Oct 29-30, Barcelona, Spain)

Action Items

S.No	Prospective Areas for Collaboration	Stake Holders	Status
1	Share open-horizon details https://github.com/open-horizon/	Joe Pearson joe.pearson@us.ibm.com	Open
2	Share Balena details (Host OS Tailored for containers)	David Martin dcmartin@me.com	Open
3	Share OCI spec docker run time details	David Martin dcmartin@me.com	Open
4	High Level Code Go Framework	Karthikeyan Subramani karthi.s@samsung.com	Open
5	Colloboration with EdgeX data storage	Jim white	Open
6	Colloboration with EVE containeriazation	Aaron Williams	Open
7	NNAS(Inference Engine)	Karthikeyan Subramani	Open

Participants:

IBM, Ericsson, VMWare, LF (LF Edge Tech.Ev.gegelist-M. Hall), SRI-B, SR OSG

Below are the following points that are noted for the MOM of Open Source

1. Baobab Release Update discussed with the participants. Explained about the new features released in Baobab.

2. IoT Barceolna world congress Experience shared with the participants. Feedback and VOC of the people visiting the booth was also discussed.

3. LF Edge YouTube Channel Promotion by putting the videos of the IOT SWC. Sharing of the Information about Baobab release and IOT SWC images to Micheal

4. Chitti Nimmagadda : Inquires regarding if the orchestration can be moved to nearest edge servers. Agreed to discuss on the same in next meeting

5. Introduction to the "NNAS". Details would be shared at the next meeting.

6. Secuirty, Inference Engine and Container Deployment to be the main areas of focus for Home Edge was informed.

7. Containerized OS collaboration with Project Eve. Will Check the feasibility of Project EVE with Home Edge and share the progress in the next meeting.

8. Tiejun Chen: suggested inference engine proposal on device ML. Will be discussed with conference call.

Next Meeting

› Tuesday, Dec 3 06:30 AM PDT/ 08:00 PM IST/ 11:30 PM KST

Thank You

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