2020 year

4. Release 4 Documentation Review Ike Alisson

Friday 11/20/2020 Pacific

1/ 7:00 am – 7:15 am The AI Edge: School/Education Video Security Monitoring, Hechun Zhang

2/ 7:15 am – 7:30 am

3/ 7:30 am- 7:45 am

4/ 7:45 am – 8:00 am

Meeting notes:

Prepared documentatio is very thorough with detailed information onArchitecture, APIs, Security, Testing (including) fall back.The Blueprint team, Hencun and Lya yu, were very well prepared.

During the review, there had been made minor remarks related to:

1. Use of outdated Akraino Logo in the documentation to be removed or updated with the latest one.
2. The Blueprint APIs are compliant with the OpenAPI Initiative Rel 3.0 and it was recommended to state it exlicitly in the documentation.
3. The presented UCs are commercial and it was recommended to explicitly state that in the Documentation.
4. The Blueprint Architecture follows the IEC standard specifications and it was recommended to provide reference to the respective IEC Specification.

The Blueprint AI Edge: School/Eductation Video Security Monitoring presented documentation fulfills the Akraino Documentation Sub-committee requirements. Therein, the Sub-committee recommends to the Akraino Process committee to accept the Blueprint submitted Documentation to the Akraino Sub-committee on Friday, November 20th, 2020.

12/04 schedule

Regular session:

1/ 7:00 am – 7:15 am PDT- The AI Edge: Federated ML application at edge zifan wu

2/7:15 am – 7:30 am - Radio Edge Cloud Documentation Paul Carver

3/ 7:30 am- 7:45 am- Predictive Maintenance (with a Thermal Imaging Camera, vibration sensors, etc.)

4/ 7:45 am – 8:00 am - Release 4 Documentation - Enterprise Applications on Lightweight 5G Telco Edge (EALTEdge)

Meeting Notes:

On Friday, 12/04, there had been a substantial failure in planing BPs review. There could be made review only of the BP on Lightweight 5G Telco Edge (EALTEdge). For ther other 3 (three) BPs, the following had been indicated briefly during the session:

1. To review the Radio Edge Cloud Documentation and get back to Paul Carver via mail as a result to Paul Carver's input that there had been not changes/updates.
2. To get back to AI Edge with information about the possibility to re-schedule preferably for Monday, Nov., 7th, and get back in written either today Friday or on the weekend.
3. To go through the documentaiton on Predictive Maintenance and get back to Vladimir Suvorov via mail.
4. The following remarks had been provided during the Documentation review of the BP on 5G Telco Edge (EALTEdge):

- to update the Akraino logo with the latest one without the term "Edge Stack" to avoid infringement rights violation

- to refer explicitly to the BPs through which 5G connectivity is provided and the BP Enterprise Application works as currently there is an indication on the respective BP Family. It is also recommended to provide a reference to an internal Road Map development when it is tentativel plannes (in the Road Map, e.g. Q2 2021 or Q3, 2021) to deliver the intergation so that recipeients know that there is a preliminary plan for the BPs connectivity to 5G as indicated in the BP and threin E2E functionality compliance.

- to verify with the Akraino API subcommittee about the BPs reference to ETSI MEC MEP internal references to be denoted/treated as APIs

- the above remark on the APIs and possible mismatch between "ETSI MEC MEP internal inerfaces (3 groups on defined as Mx (external), Mp (internal) and Mm (on Management) is related to explicit indication on any APIs that are used whether being compliant to Open API initiative 3.0 (on Open APIs.org).

Since the respective documentation review of 1 (one) BP took a whole hour and it was inidcated that previously, there had been provided time slots only for 2 BPs Documentaiton Review during a Documentation Sub.committee review, the previous procedure to ´have 2 (two) BPs documentation review per TSC session is reinforced.

12/11 schedule

1/ 7:00 am – 7:15 am PDT- Intergrated Cloud Native Kuralamudhan Ramakrishnan

2/7:15 am – 7:30 am - Network Cloud with Tungsten Fabric Sukhdev Kapur

3/ 7:30 am- 7:45 am- IEC Type 4 AR/VR Bart Dong

4/ 7:45 am – 8:00 am - Connected Vehicle Blueprint(Aka CVB) Tao Wang

Meeting Notes:

There were conducted 2 reviews, namely BP IEC Type 4 AR/VR and BP Connected Vehicles (Aka CVB). Both BPs are in co-operation. CVB PTL, Tao Wang elaborated on the issue/status with the BPs APIs and that it had already been reviewed/discussed with the Akraino TSC API Sub-committee and agreed on it. No major issues in the documentation. There had been conveyed a remark on elaborating the status with the UC(s) so that the reader is aware where the BPs are used.

It is recommended to the Akraino Process committee and Akraino TSC to further proceed with the respective two (2) BPs submitted documentation for Akraino Rel. 4.

12/18 schedule

1/ 7:00 am – 7:30 am PDT

2/7:30 am – 8:00 am -

1/8/2021 schedule

1/ 7:00 am – 7:30 am PDT Public Cloud Edge Interface (PCEI) Blueprint Family Oleg Berzin

2/7:30am – 8:00 am -

Meeting notes:

The following remarks shall be treated as "recommendations" pursuing enhancements/improvements and in no way treated as "mandatory" to follow and /or implement.

As the Zoom session could not be started on time and it took about 20 min to re-schedule the Zoom meeting, it was decided per mail to convey the remarks of Documentation review per mail. The following is recommended:

1. On the Architecture document:

- Related to UPF shunting at the MNO (CSPs) to check the already implemented in 3GPP System Architecture related Local Traffic Routing and Service Steering the functionalities related to multiple N6 UDP sessions and selection and re-selection of UPFs by the AF.
- If possible, to elaborate why it is selected to refer to UPF deployed in the DC and not the other 3 alternative UPF deployments
- With regard to MNO/CSP's Network (5G NSA/LTE and/or 5G SBA Network Architecture Configuration) selected functions invoked in the MEC host through partial and/or full intergration of MNO/CSPs Network CCF with ETSI MEC Host Service Registry
- On the management part, to elaborate on the MEC Host support for Virtualized Infrastructure (and defined on MEC Host support for 3rd Party to provide its own Application and enable its Mangement from its own Management environment without and integration with the MEC Orchestrator.
- If the aim/purpose of PCEI is to provide an "Enabler Layer" to briefly elaborate on the MNOs provided Capabilities through SEES/FMSS (in SCEF /NEF) to 3rd party ICPs/ISPs.
- In order to provide a better understanding to the reader on the maturity/evolvement level of the PCEI Solution, to elaborate whether PCEI current Availability Configuration and or the Rel 4 proposed implementation is a "Demo", "Concept", "Commercial" deployment version and/or there is/are references.
- The above remarks are also made with regard to the Test Document part related to APIs (test) indicated as "work in progress".
- Related to Latency in the defined 3GPP UCs (as eMBB, URLLC, mIoT, V2X as with inidcated standard values for Slicing) is defined and published. It might be useful to add it to provide credibility that PCEI is aware of the required Latency requirements and therein able to contribute to be achieved. The IIoT (industry 4.0) within URLLC (for MCC/MCS - Mission Critical Communication/Mission Critical Services) in terms of Motion Control Discrete Automtion (for Robotics and Packaging) as well as Process Automation - Motion Control (for fluids, Gases, Electricity) is also defined/specified (even the manufacturing areas that shall be covered in terms of 30mx30mx10m and 100mx100mx30m. There is also support for 3GPP and non 3GPP access (3IWG and N3IWG) with ATSSS in order to comply with the QoS requirements for Service "Availability" and Service "Reliability" in MNOs Network.

2. On the attached Data sheet, to check on page 2, whether it should be "PCEI in Akraino Rel 4" (as the indicated term is probably a typing mistake, if not to elaborate what the indicated term means)?

3. In the Test Document, there is very limited information about performed tests (except for the Bluval) and even in the part on the tests related to APIs there is not provided any information except the inidication that this is a work in progress. It is recommended to provide a reference to either a Time Plan and/or Road Map indicating when the Testing is scheduled for (e.g. Q1 or Q2, 2021).

On your comment and inquiry on my remark about "Maturity of the Solution", I am sorry if I had been ambigous and/or misleading with my remark.

I meant about the status of Deployment Availability in terms of
1. "Concept" or
2. "Demo" or
3. "Commercial Deployment".

I suggest that with regard to the variety of preferences in terms of having a "Concept" that can be further built-upon (please read "Customized") or a "Demo", that provides a working SW/Functionality (that is "stable") or a Commercial Deployment that can be taken as it is (with integration to BSS /peripheral internal Platforms) to be deployed fast in order to be shown as a reference on the Market.

Such denomination (anyone of the listed 3 above) on the status of the "Solution Deployment Availability", depending on the party the Solution is discussed with, can provide opportunities.

Again, I would like to convey from my side that it is a remark-suggestion, rather than a requrement.

On the "Demo" elaboration, I suggest to people to elaborate about it in the "Architecture" documents as it is read by the Technical people, that provide recommendations to the Commercial people.

On the UPF deployment, please note that UPF might be deployed at the DC, Aggregation Point, BTS and/or 5G CN (Core Network) site.

There are certain conditions for that.

In your PCEI case, you chose DC. If you get some questions on that from people who are aware and work with that (that aso know the conditions, differences, requirements), depending on your answer, recipients of your answer, may measure your insights into various aspects that this issue concerns /relates to.

Just FYI.

The digram below may provide you with an insight about the use of the terms CSPs and Telco (difference) with regard to the presented by 3GPP High-level model of roles.

The below chart assigns a particular meaning in the Case of (5G NSA/SBA) Slicing (SST/SSI) deployment (NSaaS).

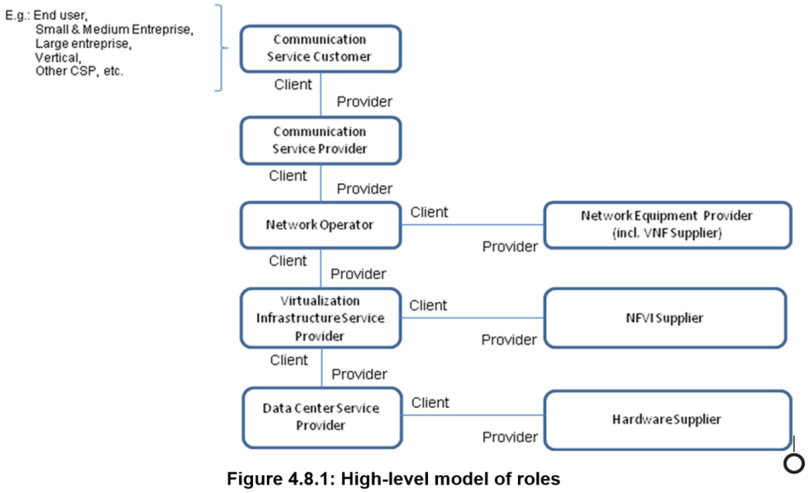

Figure 4.8.1: High-level model of roles

P.S. According to GSA, there are till now about 330 Applications to deploy 5G Private Network (and the allocated frequency is still witihn the Band 42). D.S.

3. Rel 3 Final Documentation and Milestone Review

19 May 2020 **Documentation Report:** All the BPs besides the ones listed below are good to go:

ACRN: is listed in Release 3 planning but no activity or response

The AI Edge: School/Education Video Security Monitoring: yet to present the Documents

Public Cloud Edge Interface (PCEI) Blueprint Family: yet to present the Documents

Connected Vehicle Blueprint: Not a first release and Bluval integration is missing

IEC Type 4: AR/VR oriented Edge Stack for Integrated Edge Cloud (IEC) Blueprint Family: Not a first release and Bluval integration is missing

All PTLs please update Release 3 Planning table based on your schedule. We would like to have all PTLs make a 15 mins presentation starting 03 Apr 2020 Based on our meeting today, the schedule for the next meeting is below:

04/03 schedule

1/ 7:00 am – 7:15 am PDT-

2/7:15 am – 7:30 am PDT -

3/ 7:30 am- 7:45 am-

4/ 7:45 am – 8:00 am -

04/9 schedule

Agenda:

1. Scope of work of the Document review: API, Architecture, Installation, Release, and Test
2. Plan the review activity
3. Open Discussion
4. Project presentation: As of now we have REC

1/ 8:00 am – 8:15 am PDT-

2/8:15 am – 8:30 am PDT -

3/ 8:30 am- 8:45 am-

4/ 8:45 am – 9:00 am - Radio Edge Cloud (REC), Paul Carver

Meeting Notes:

REC Review: Paul made his presentation. There are no major changes to the BP, so he does not expect much change in any of the documents besides the Release notes and Test Document because of the mandatory Bluval validation that this BP has to meet. Release notes they would update towards the end of May when the BPs are due. 19 May 2020 Done

- [x] Paul Carver would discuss with Tapio and Deepak regarding the Bluval testing and get back with what and how they will update in the Test Document. The Bluval tests have been run. The security tests produce a large number of results that need to be individually evaluated one by one. On cursory examination, many of them are not relevant.

04/17 schedule

1/ 7:00 am – 7:15 am PDT- 5G MEC/Slice System to Support Cloud Gaming, HD Video and Live Broadcasting Blueprint, Feng Yang

2/7:15 am – 7:30 am PDT -

3/ 7:30 am- 7:45 am -

4/ 7:45 am – 8:00 am -

Meeting Notes:

5G MEC Review: Feng presented the document he had from his private space. It is not in the Documentation Template. He is going to rework his document and present it again on May 8th. In the meantime, we agreed that he will put up the draft version so that we can take a look at the material.

MEP Review: Was not present, need rescheduling.

04/24 schedule

1/ 7:00 am – 7:15 am PDT - SDN Enabled Broadband Access (SEBA) for Telco Appliance Blueprint Family Trevor Tao Cristina Pauna Song Zhu

2/7:15 am – 7:30 am PDT -

3/ 7:30 am- 7:45 am- Provider Access Edge (PAE) Blueprint Yolanda Robla Mota

4/ 7:45 am – 8:00 am -

Meeting Notes:

SEBA for Telco Appliance: The PTL changed, hence no one was present, need rescheduling.

KNI PAE: The R3 release components need to be incorporated in the architecture doc. If they have active users, they need to add end-user story under TSC>Application User Story page. They are using Openshift hence their Bluval tests are failing. Will provide the alternate validation framework that they using in the Test Document

05/01 schedule

1/ 7:00 am – 7:15 am PDT-

2/7:15 am – 7:30 am -

3/ 7:30 am- 7:45 am-

4/ 7:45 am – 8:00 am -

05/08 schedule

Adhoc session:

1/6:00 am - 6:15 am PDT - µMEC, Tapio Tallgren Ferenc Székely

1/6:15 am - 6:30 am PDT -

1/6:30 am - 6:45 am PDT - ELIOT IoT Gateway Blueprint khemendra kumar Abhijit Dasgupta

1/6:45 am - 7:00 am PDT -ELIOT SD-WAN/WAN Edge/uCPE Blueprint khemendra kumar Abhijit Dasgupta

Meeting Notes:

uMEC: Presentation was made and the following items need to be incorporated in the document:

1. Architecture Doc: Integration of the uMEC platform with 3GPP architecture to highlight the user plane mapping is missing. This would help people understand how this interoperates with the Operators network. A Use Case description of this platform is also missing
2. Installation Doc: Build mechanism needs to be elaborated. The bootup method needs to be elaborated highlighting the value for the method used for embedded devices
3. API Doc: Enhancing the support of Sensors using OpenAPI needs to be elaborated. Incorporate the example use case for generating Client and Server code.
4. Test Doc: Identity the layers of testing to be executed by Bluval

Eliot IoT Gateway: Accepted no comments

Eliot SD-WAN/WAN Edge: Accepted no comments

Regular session:

1/ 7:00 am – 7:15 am PDT- The AI Edge: School/Education Video Security Monitoring, Hechun Zhang

2/7:15 am – 7:30 am -

3/ 7:30 am- 7:45 am- AI/ML and AR/VR applications at Edge Vikram Siwach

4/ 7:45 am – 8:00 am- Enterprise Applications on Lightweight 5G Telco Edge, khemendra kumar Abhijit Dasgupta

Meeting Notes:

AI Edge: Requested to reschedule. Will try to do an adhoc session, no more slots available

AI/ML and AR/VR: Dropped out of R3

5G Telco Edge: Architecture Doc: Integration with the Telco network for and how to manage from an Orchestrator of an Operator should be added. User plane integration point needs to be identified.

05/15 schedule

Adhoc session:

1/6:00 am - 6:15 am PDT - IEC Type 5: SmartNIC for Integrated Edge Cloud (IEC) Blueprint Family, Xuan Jia Tiejun Chen

1/6:15 am - 6:30 am PDT - Public Cloud Edge Interface (PCEI) Blueprint, Jian Li

1/6:30 am - 6:45 am PDT - Network Cloud and TF Integration Project, Sukhdev Kapur

1/6:45 am - 7:00 am PDT - 5G MEC/Slice System to Support Cloud Gaming, HD Video and Live Broadcasting Blueprint Feng Yang

Meeting Notes:

SmartNIC: Accepted no Comments

PCEI: Requested for rescheduling

Network Cloud: Accepted no Comments

5G MEC Gaming: Accepted. Will check if API Doc is valid for this BP

Regular session:

1/ 7:00 am – 7:15 am PDT- IEC Type 4: AR/VR oriented Edge Stack for Integrated Edge Cloud (IEC) Blueprint Family Thor Chin Mark Shan

2/7:15 am – 7:30 am - Intergrated Cloud Native Kuralamudhan Ramakrishnan

3/ 7:30 am- 7:45 am- Connected Vehicle Blueprint(Aka CVB) Thor Chin Jim Xu Mark Shan

4/ 7:45 am – 8:00 am - IEC Type 3: Android cloud native applications on Arm servers in edge for Integrated Edge Cloud (IEC) Blueprint Family hanyu ding wales wang

Meeting Notes:

IECC Type4 AR/VR: BluVal validation is missing. Need to execute the relevant layer validation and include in the Test Document.

ICN: No Comments

Connected Vehicle: BluVal validation is missing. Need to execute the relevant layer validation and include in the Test Document

IEC Type 3: No Comments

05/27 Meeting notes

PCEI: Oleg made a presentation of his first release. It was all in order and we have no comments from the Doc team

06/01 Meeting Notes:

AI Edge Video Security Monitoring: Presented by the team, the following are the comments

1. Table of Content is missing from some of the documents. This needs to be added
2. Architecture Document:
    a. Component Description does not include a description of all the components.
    b. There is no description of the Application that would have to be deployed on top of the OTE. There need to be some details on the application used to validate the functions of the OTE; along with criteria of other possible applications that can be used
3. Installation Docuement:
    a. There is a DB that is used to configure OTE. The DB Schema Script to configure OTE is provided, but there needs to be some description of what is being configured and the different tables referred to in the Schema. Without it, users outside the BP team will not be able to use it.
    b. The OTE Web portal is a critical piece of the BP. It is used to bring up the framework, configure things, deploy an application and monitor whether the BP is working. However, this portal is in Chinese. Hence, someone who does not understand Chinese will not be able to use this BP

Release 2 Final Documentation and Milestone Review

11/01 -

1/ 7:00 am – 7:15 am PDT- Micro-MEC, Tapio Tallgren, (absent, rescheduled to 11/22)

2/7:15 am – 7:30 am PDT - Connected Vehicle Blueprint, xin qiu (not complete, rescheduled to 11/08)

3/ 7:30 am- 7:45 am- Radio Edge Cloud (REC), Paul Carver (absent, rescheduled to 11/22)

4/ 7:45 am – 8:00 am - Network Cloud and TF Integration Project, @Sukhdev Kapur (great start, some requirements are not met, follow up on 11/08)

New Final Review Schedule as on 11/01
11/08- IEC Type 1 - Trevor Tao Cristina Pauna, Type 2-Cristina Pauna, xinhuili, IEC Type 4, Wen-Ping Ying Wenhui Zhang Tina Tsou, ELIOT AIOT, jereliu@tencent.com, Network Cloud and TF Integration Project, Connected Vehicle Blueprint, xin qiu,

11/15- SEBA Aaron Byrd, ICN, Kuralamudhan Ramakrishnan,

11/20- Radio Edge Cloud (REC), Paul Carver

11/22- Network Cloud Rover - David Plunkett , Network Cloud Unicycle with SR-IOV- David Plunkett, Network Cloud Unicycle with OVS-DPDK, ELIOT IOT & SDWAN, khemendra kumar,

11/29- KNI provider Access Edge, Yolanda Robla Mota, , AI ML, AR/VR application at the edge, Vikram Siwach, Radio Edge Cloud (REC), Paul Carver, IEC Type 4, Wen-Ping Ying Wenhui Zhang Tina Tsou, ELIOT AIOT, jereliu@tencent.com,

10/04 - Radio Edge Cloud (REC), Paul Carver, ICN, Kuralamudhan Ramakrishnan, Network Cloud Unicycle with SR-IOVDavid Plunkett

Network Cloud and TF Integration Project, Sukhdev Kapur

10/11- Micro-MEC, Tapio Tallgren, SEBA Julie Lorentzen

10/18- IEC Type 1, Type 1, & Type 1 - Trevor Tao Cristina Pauna, xinhuili, Wen-Ping Ying Wenhui Zhang Tina Tsou,

SEBA Julie Lorentzen , ICN, Kuralamudhan Ramakrishnan,

10/25-AI/ML, AR/VR application at the edge, Vikram Siwach, ELIOT AIOT, IOT, SDWAN, Guoxu (Jeremy) Liu, khemendra kumar, Network Cloud and TF Integration Project, Sukhdev Kapur, KNI provider Access Edge, Yolanda Robla Mota, Connected Vehicle Blueprint, xin qiu , Network Cloud Rover, David Plunkett Starling X Bill Zvonar, IEC Type 2 Pauna, xinhuili,

07/18 7:00 am PDT Rel 2 Milestones and Planning

Documentation Readiness Discussion for Rel 1

04/26 7:00 am PDT – Unicycle for NEC & Rover Blueprint Proposal for Addition to Network Cloud Blueprint Family -david.plunkett@att.com

05/03 7:00 am PDT- OVS-DPDK Unicycle Dell Blueprint Proposal- Rakesh Bohra <rakesh.bohra@ericsson.com>,

StarlingX Far Edge Distributed Cloud - Bill Zvonar,

Eliot- Abhijit

05/10 7:00 am PDT – Kubernetes-Native Infrastructure for Edge (KNI-Edge) Family, Frank Zdarsky, Eliot- Abhijit

05/17 7:00 am PDT – Edge Video Processing- adnan.saleem@radisys.com, IEC Type 1 for Integrated Edge Cloud (IEC) Blueprint Family- trevor.tao@arm.com

05/24 6:00 am PDT –

IEC Type 2 for Integrated Edge Cloud (IEC) Blueprint Family- lxinhui@vmware.com,

Edge Video Processing- adnan.saleem@radisys.com,

IEC Type 1 for Integrated Edge Cloud (IEC) Blueprint Family- trevor.tao@arm.com

Eliot IoT Gateway- khemendra.kumar@huawei.com

Radio Access Cloud pcarver@att.com

19 Apr 2019 7:00 am PDT

1. Review Architecture Document, Test Document, Release Notes, Installation Guide which are sub-linked to this page.
2. Review Akraino Project Reporting

Meeting Content (minutes / recording / slides / other):

- May 10th, 2019, Recording
- May 3rd, 2019, Recording, Minutes
- April 25, 2019, Recording
- April 19, 2019, Recording
- April 12, 2019, Recording
- March 29, 2019, Minutes/ Recording
- March 22, 2019, Minutes/ Recording/Chat
- March 15, 2019, Minutes/Recording
- March 08, 2019, Minutes
- March 01, 2019, Minutes
- Feb 22nd 2019, Minutes
- Jan 24th, 2019, Minutes / Recording
- Jan 17th, 2019 Minutes / Recording
- Jan 11th, 2019, Minutes
- November 12, 2018 minutes / recording / slides