

# Akraino & Alicon Partner Page

## Contact

Ike Alisson

Below attached you can find a list of some of the activities reflecting the Akraino and ALICON (Ike ALIsson CONsulting) partnering. Alicon's Partnering approach reflects ideas from the field of "Alliance Strategy", distinguishing the "Partner" role/responsibility and interaction from the "Vendor/Supplier" role /responsibility and interaction.

3GPP granted ALICON SWEDEN on April 24th, 2024 the right to use the New 6G logo for use on specifications for 6G ([https://lists.akraino.org/g/tsc/topic/3gpp\\_6g\\_technology\\_logo\\_ike/105733616](https://lists.akraino.org/g/tsc/topic/3gpp_6g_technology_logo_ike/105733616)).



The creation of this 6G Graphical Mark is the next step in 3GPP's preparations for the Next Generation of Mobile Systems. In December 2023, the Organizational Partners: ARIB (Japan), ATIS (North America), CCSA (China), ETSI (Europe), TSDSI (India), TTA (Korea) and TTC (Japan) announced their joint commitment to make 6G happen in 3GPP. Now there is a graphical badge that can accompany the 3GPP work on the topic. One of the 1st outings for the Logo is expected to be at the 8-10 May 2024 Working Group SA1 '3GPP Stage-1 Workshop on IMT2030 Use Cases', held in Rotterdam.

3GPP granted ALICON SWEDEN on November 10th, 2021 the right to use the



Approved 5G Advanced Logo

"5G Advanced" marker (logo) on ALICON SWEDEN 5G presentations and marketing material . The 3GPP decision to adopt the new marker (logo) for 5G was taken at the 3GPP Project Coordination Group (PCG#46-e Meeting) in April 2021. The "5G-Advanced" logo is envisioned to mark the 3GPP Reports and Specifications, from Release-18 & onward.

This is an evolvement to 3GPP granting ALICON SWEDEN on February 13th, 2017, the right to use



Approved 5G Logo

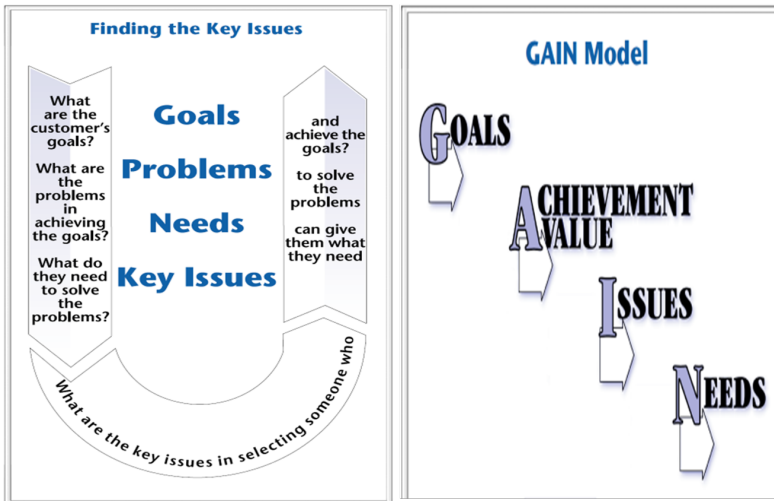
5G marker/logo (3GPP Rel. 15 and onward specifications) on presentations and marketing material about 5G.

**Below attached is a list of some of the Akraino & Alicon Partnering Activities**

## Akraino Forum for generating and evolving "innovative ideas"

Akraino Forum's purpose is to facilitate the on-going flow of Information to TSC and BPs' PTLs in terms of seminars, that take place each Tuesday at the Akraino TSC meetings. The presentations are conducted either by Akraino TSC member or a guest invited by Akraino TSC member.

The model behind that process aiming to facilitate outlining the Issues, that stands on the way and hinder to achieve the Goals is denoted as G. A. I. N. (what is **N**eeded to resolve the Issue(s) that hinders/stands on the way to **A**chieve the **G**oal(s)) (please see attached below Ref. Ericsson PtW).



The link to Akraino Forum for generating and evolving innovative ideas is: [Akraino Forum for generating and evolving "innovative ideas"](#)

The following presentation and input have been provided by Ike Alisson

## 1. Presentation on AI ML Opportunities in 2023 to Akraino TSC on Nov. 23, 2023.



## 2. Presentation on use of AI ML in 5G with specified AI ML Management Data Analytics, AI ML Model Transfer and AI ML Services KPIs on Nov. 4th, 2023



Ike A 5G Advanc...06 Oct 2023.pdf

### **3. Presentation on AI ML Mobile Device Requirement Specification on Nov. 20th, 2023**



Ike A AI Mobile ...A03 Nov 2023.pdf

### **4. Presentation on 5G Advanced Release specification on use of AI/ML in 5G with 5G Standard specified Management Data Analytics, Transfer of AI/ML Models Training, Knowledge Transfer, defined AI/ML Service KPIs.**



Ike A 5G Advanc...06 Oct 2023.pdf

Link to the presentation on LinkedIn: [https://www.linkedin.com/posts/ike-alisson-21173\\_5g-advanced-use-of-aiml-with-aiml-models-activity-7125775255331090432-nQvD?utm\\_source=share&utm\\_medium=member\\_desktop](https://www.linkedin.com/posts/ike-alisson-21173_5g-advanced-use-of-aiml-with-aiml-models-activity-7125775255331090432-nQvD?utm_source=share&utm_medium=member_desktop)

## **5. Presentation on Beyond 5G (B5G) and 6G Network Capabilities with the 5G Advanced Release**

The presentation focuses on elaboration of NGMN White Papers on Operators view on 6G and Cloud-native Manifesto related Network evolvments with the current 3GPP 5G Advanced Releases for new Services in B5G & 6G Programmable, Predictable, Deterministic Networks assuring Services with Performance and User Experience Guarantees.



Ike A 5G Advanc...06 Oct 2023.pdf

## **6. Presentation on 5G Personal IoT Networks (PINs) enhancements in 5G Network and Application Layers to Akraio TSC on July 20 & July 27, 2023**



IKAL 5G PINs Netw...23 LI revised.pdf

## **7. Presentation on Challenges in (selected) Cloud-native adoption in (distributed & disaggregated) MNOs (5G and B5G) Networks need for Synergy between Compute, Storage, Networking and Communications**



Ike A to LF Edge...022 Rev PA06.pdf

## 8. Presentation on "5G Advanced Capabilities presented on September 22nd to LF Edge Akraino Technical Summit, Fall 2022

The presentation aimed to share selected insights into 3GPP specifications for "5G Advanced" Release related to both, insights and pace of development related to "equivalent" NPNs/SNPNs (Private Networks) with support to non 3GPP Access and providing support for Localized Services, APIs evolution for realization of Service Enablement Framework Services, Analytics on System & Application level, Enhancements on System & Application level for developing Applications/Service on the Edge, exemplifying the alignment between 3GPP EDGEAPP & ETSI MEC Architectures as part of the GSMA proposed in June 2021 Solution for providing E2E Solution for Edge Applications & some insights on the O-RAN Alliance SMO related non RT-RIC related to rApps.

Link to the presentation: <https://www.slideshare.net/IkeAlisson/ike-al-pres-on-5g-and-5g-advanced-selected-capabilities-to-lf-edge-akraino-summit-fall-2022-rev-pa10-sept-22-2022pdf>



Ike AI Pres on 5...Sept 22 2022.pdf

## 9. Ike Alisson input to LFN (Linux Foundation Networking) 5G Super Blueprint Project (SBP) on selected 5G aspects (links below):

### 9.1 LFN 5G Super Blueprint Project (SBP) reflecting the comments/remarks made during the 5G and 5G Advanced selected Capabilities presentation on June 7th, 2022

Link to the input: <https://wiki.lfnetworking.org/pages/viewpage.action?pagelId=74645746&src=contextnavpagetreemode>

## 9.2 5G SBP 5G and 5G Advanced Capabilities

Link to the input: <https://wiki.lfnetworking.org/display/LN/5G+SBP+5G+and+5G+Advanced+Capabilities?src=contextnavpagetreemode>

## 9.3 5G SBP Cloud-native NFs (Network Functions) implementation in 5G

Link to the input: <https://wiki.lfnetworking.org/display/LN/5G+SBP+Cloud-native+NFs+%28Network+Functions%29+implementation+in+5G>

## 9.4 5G SBP Security in 5G Architecture

Link to the input: <https://wiki.lfnetworking.org/display/LN/5G+SBP+Security+in+5G+Architecture>

## 9.5 5G SBP Use Case - 5G Slicing

Link to the input: <https://wiki.lfnetworking.org/display/LN/5G+SBP+Use+Case+-+5G+Slicing>

## 9.6 5G SBP Use Cases related 5G Service Requirements

Link to the input: <https://wiki.lfnetworking.org/display/LN/5G+SBP+Use+Cases+related+5G+Service+Requirements>

## 10. Presentation on "5G and 5G Advanced" selected Capabilities to LFN 5G Super Blueprint Project on June 7th, 2022



Ike AI Pres on 5...une 7th 2022.pdf

## 11. Presentation on "5G Private Networks" (3GPP standard specified PNI-NPN/SNPN, Public Network Integrated - Non-Public Network/Stand-alone Non-Public Network) on March 9th, 2022 at LF Edge Akraio Technical Meeting, Spring 2022



lke AI 5G Privat...v PA9\_posted.pdf

**12. Presentation on February 22nd, 2022 to LF Edge Board about Akraino 2021 Annual Review**



Akraino OH Pres...eb 22, 2022.pdf

**13. Presentation on February 9th, 2022 to LF Edge TAC about Akraino 2021 Annual Review**

[Akraino OH Pres TAC Annual Review Rev A Feb 9th, 2022.pdf](#)

**14. Input on Akraino China co-operation with OpenGCC (Green Computing Consortium), EEC (Edge Computing Consortium) and SDNLab**



Akraino OH Pres...ec 2nd 2021.pdf

**15. Akraino presentation to KICS (Korean Institute of Communications and Information Sciences) about update on Open Source and Standard trends on 3GPP specifications for 5G, and IoT on November 24th, 2021.**

KICS is the largest ICT Institute in Korea with over 26,000 members, 50 members, 8 domestic and 5 overseas chapters, and 30 specialized Research Groups. As the growth engine and leader of ICT in Korea that has achieved the greatest accomplishments in the world, KICS provides open networks for Universities, Corporations, Government-affiliated Agencies and Research Institutes to engage in Academic activities, Technical Cooperation and Policy Reviews in the fields of ICT-based Communications, Broadcasting and ICT Convergence Industries.



LF Edge Akraino...v 24th 2021.pdf

**16. Presentation on October 4th, 2021 to Cloud Native Computing Foundation (CNCF) Telecom User Group (TUG) on 5G selected Architecture Themes on 5G New Service Capabilities**





CNCF TUG Ike Ali...Oct 4th 2021.pdf

**17. [Presentation as part of the Introduction co-speaker to the Akraino IoT Area Webinar / Regional Developer Meetup - Africa](#) on September 15th, 2021**



Ike Alisson Intro...15 2021 Rev A.pdf

Link to Akraino IoT Area Webinar video presentation:

**18. Presentation on July 27th, 2021 on Self-driving/Autonomous Cars to Akraino Automotive Area workshop as part of the Introduction to Open Discussion**



Ike AI Akraino A...PA10 akraino.pdf

**19. Presentation on June 29th, 2021 to Akraino TSC on " 6G selected Architecture Themes as Sensing Networks through 3GPP PlIoT (PINs), ETSI SAREF eHAWs, 3GPP Core RAN Synergy & CS (Cell Free) Solution**



Akraino Ike AI 6...Sol Rev PA10.pdf

**20. Presentation on March 23rd, 2021 to ETSI MEC ISG about LF Edge Akraino Project**



Akraino OH Pres... 2021 Rev A.pdf

21. Presentation on February 19th, 2021 to Akraino TSC API Sub-committee on the "5G System and Service Providers (SP) New Services: Data-centric Approach"



IKAL 5G PINs Network and Applic Layers Capabilities

22. Input on IoT legacy OPC UA IEC 62 541 standard specification and 5G Personal IoT Network(s) (PINs) and oneM2M IoT Service Layer (SL) Platform Global Standard as a sub-catalogue to Akraino IoT Family Integration Projects (Blueprints)

5G Personal IoT Network(s) (PINs) and oneM2M IoT Service Layer (SL) Platform

### 5G Application Capability for IoT Platforms

The Figure depicts the resulting deployment. Note that this deployment aligns with the distributed network exposure access model introduced by the solution in clause 5.2, while using the proposed IoT-PCS-specific instances of SEAL reference points.

The depicts a generic IoT Platform with IoT Platform Common Services (IoT-PCS) Servers enabling a Set of Applications deployed using corresponding servers (IoT-App), which may belong to different verticals.

On the Device side, corresponding IoT-PCS and IoT-App Clients enable the Client-side functionality.

For Inter-Service Communications, an IoT-App SEAL Server communicates with the IoT-PCS server over the SEAL-X3 Reference Point.

In this deployment, both SEAL Servers provide Network Exposure Access, resulting in a Distributed Network Exposure Access Deployment.

**Figure: 5G Functional Model for IoT-PCS (Distributed Network Exposure Access)**

## 5G SEAL Data Delivery (SEALDD) Enabler for Vertical Applications

Illustration of the Application Enabling Layer (AEL) Platform Architecture, Capabilities and Services to efficiently support

- Distribution,
- Storage and
- Delivery for the Application Content/Data for Vertical Applications.

It takes into consideration the Existing Stage 1 and Stage 2 work within 3GPP related to Data Delivery and 3GPP System User Plane aspects specified in 5G Service Requirements & Architectural enhancements for 5G Multicast-Broadcast Services

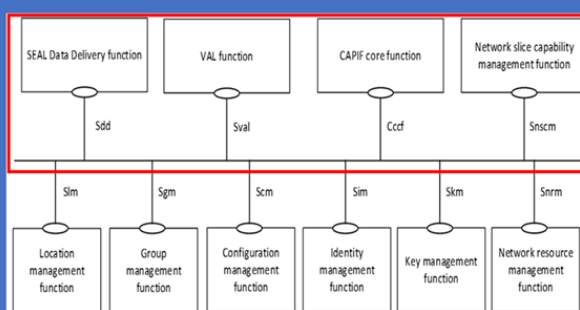


Figure: 5G SEALDD Representation in SEAL Generic Functional Model Representation using Service-based Interfaces

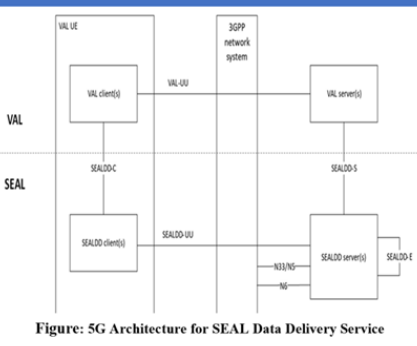


Figure: 5G Architecture for SEAL Data Delivery Service

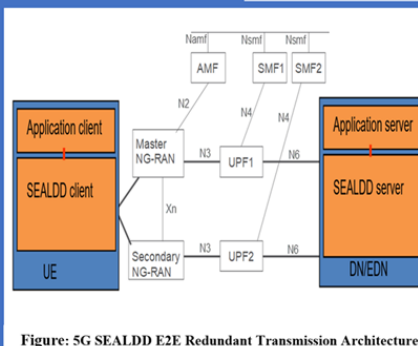


Figure: 5G SEALDD E2E Redundant Transmission Architecture

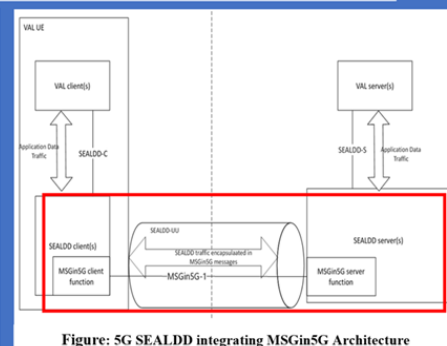


Figure: 5G SEALDD integrating MSGin5G Architecture

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## 5G MSGin5G Service overview

The MSGin5G Service is designed and optimized for massive IoT Device Communication including Thing-to-Thing (T2T) Communication and Person-to-Thing (P2T) communication.

The MSGin5G Service is a Message Enabler for applications.

An Application Client in a UE utilizes MSGin5G Service to send a message to another UE, to multiple UEs or to the Application Server, or the Application Server utilizes the MSGin5G Service to send a message to a UE or to multiple UEs. All messages will be routed via the MSGin5G Server in the 5G system. The MSGin5G Service flow is shown in figure 7.1-1.

If the UE supports a legacy 3GPP message service (e.g. SMS, NIDD, or CB) and does not support the MSGin5G Service (i.e. UE has no MSGin5G Client), the message will be translated to the appropriate message delivery mechanism by the Legacy 3GPP Message Gateway. A UE that does not support any 3GPP message service can connect to the MSGin5G Service via Non-3GPP Message Gateway that facilitates the translation between the MSGin5G Service and non-3GPP message delivery mechanism. The connection between such UE and the gateway can be via 3GPP access or non 3GPP access (e.g. WLAN) and is out of scope of the present specification.

An Application Server resides outside the 3GPP domain and connects to the MSGin5G Server via a CAPIF-aware reference point.

The message communication models include:

- Point-to-Point messaging: message that is originated at a UE (UE A) and terminated at another UE (UE B, a Legacy 3GPP UE or a Non-3GPP UE).
- Application-to-Point Messaging: message that is originated at an Application Server and terminated at a UE.
- Point-to-Application messaging: message that is originated at a UE and terminated at an Application Server
- Group Messaging: message that is originated at a UE or an Application Server and is terminated at a group of UEs (a group member can be of type UE A, Legacy 3GPP UE or Non-3GPP UE).

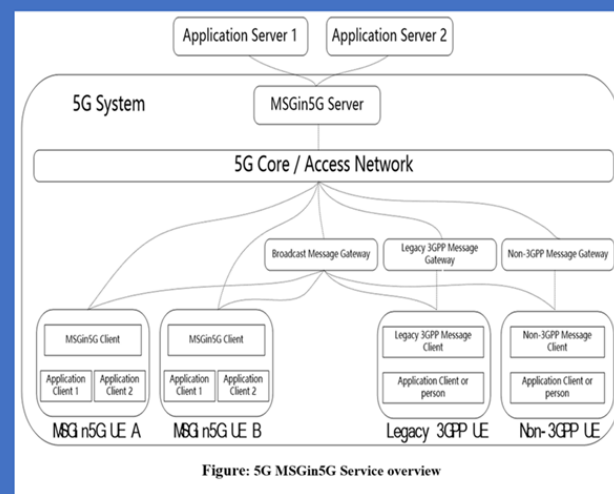


Figure: 5G MSGin5G Service overview

## 1. 5G MSGin5G SBI Service based Interface representation for MSGin5G Service



The MSGin5G, as shown in the figure, is the Service based Architecture for MSGin5G Service.

The M5C Function is the MSGin5G Client.

The AC is the Application Client.

The L3G Function is a Service based function exhibited by Legacy 3GPP Message Gateway.

The N3G function is a Service based Function exhibited by Non-3GPP Message Gateway.

The M5S manages the Distribution of the Messages it has received from MSGin5G UE, from Application Server, or from N3G (on behalf of Non-3GPP UE) or from L3G (on behalf of Legacy 3GPP UE).

The M5S invokes Services provided by L3G/N3G to send MSGin5G Messages towards Legacy 3GPP UE or Non-3GPP UE.

The AS/L3G/N3G invokes Services provided by M5S to send MSGin5G Messages to M5S on behalf of Legacy 3GPP UE or Non-3GPP UE.

The M5S invokes Services provided by SEAL Group Management Function to do MSGin5G Group Management.

The M5S/L3G/N3G invokes Services provided by SEAL Configuration Management Function to do Service Configuration (including UE Service ID Provisioning).

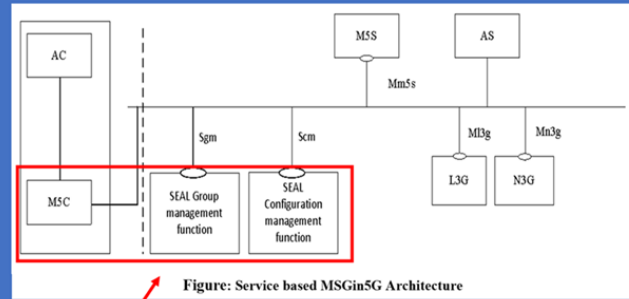


Figure: Service based MSGin5G Architecture

Table: Service based Interfaces supported by MSGin5G Service

Service based interface	Application function entity	Mapping server entity	APIs offered
Mm5s	MSGin5G Server function	MSGin5G Server	Specified in 9.1
M3g	Legacy 3GPP Message Gateway function	Legacy 3GPP Message Gateway	Specified in 9.2.1
Mn3g	Non-3GPP Message Gateway function	Non-3GPP Message Gateway	Specified in 9.2.2



**23. Presentation to LF Edge TAC on Akraino Annual Review for 2020 from January 13th, 2021**



Akraino OH Pres... 2021 Rev A.pdf

**24. Presentation to Akraino TSC API Sub-committee on the "Edge evolvement" in 5G Network Mobility and 5G ETSI MEC synergy from November 6th, 2020**



Akraino API TSC ... 11 06 Rev A.pdf

**25. Akraino liaison to LF Edge SOTE and input about Akraino Project to LF Edge SOTE Annual report from October 2020**



Akraino SOTE lke...A 2020 10 29.pdf

**26. Input presentation to Akraino TSC on Akraino Goals for 2020 from November 4th, 2019:**



Akraino\_2020\_G...19\_Rev\_PA3.pdf

**27. Contributions to Akraino API Sub-committee with Technical Reports and Specifications (TRs/GRs & TSs) on APIs evolution from various SDOs such as 3GPP, ETSI MEC, TM Forum.**

The link to Akraino API Sub-committee Docs Archive is: [Akrano API Sub-committee Docs File Archive](#)



## 28. Defining the procedure on How to request Documentation Review" at the Akraino



### Documentation Sub-committee

For further information and insight on the procedure definition, you may look at the Akraino Documentation Sub-committee link: [Documentation Sub-committee](#)