Wilab Network API & Bedrock GEN AI enabling the future of 4G & 5G Network Aware Apps for monetization, automation and monetization

"How can you help us monetize 5G?" This is the question Mobile Operators ask us the most. This signals a widespread challenge in the industry.

The primary hurdle in 5G monetization is how cumbersome it is to bring to market any new initiative. These often take 9-18 months to launch, which deters operators from experimenting with innovative ideas.

AWS and Wilab's Breakthrough presented at Re:Invent23

At Re:Invent23, Wilab and AWS presented a game-changing solution. We showcased how to use Bedrock (Gen AI) to create, deploy, and monetize applications that use 5G network data and capabilities (5G apps) rapidly – transforming months of work into days.

This applications can be internal AIOps and Automation initiatives or 3rd party services that can be monetized

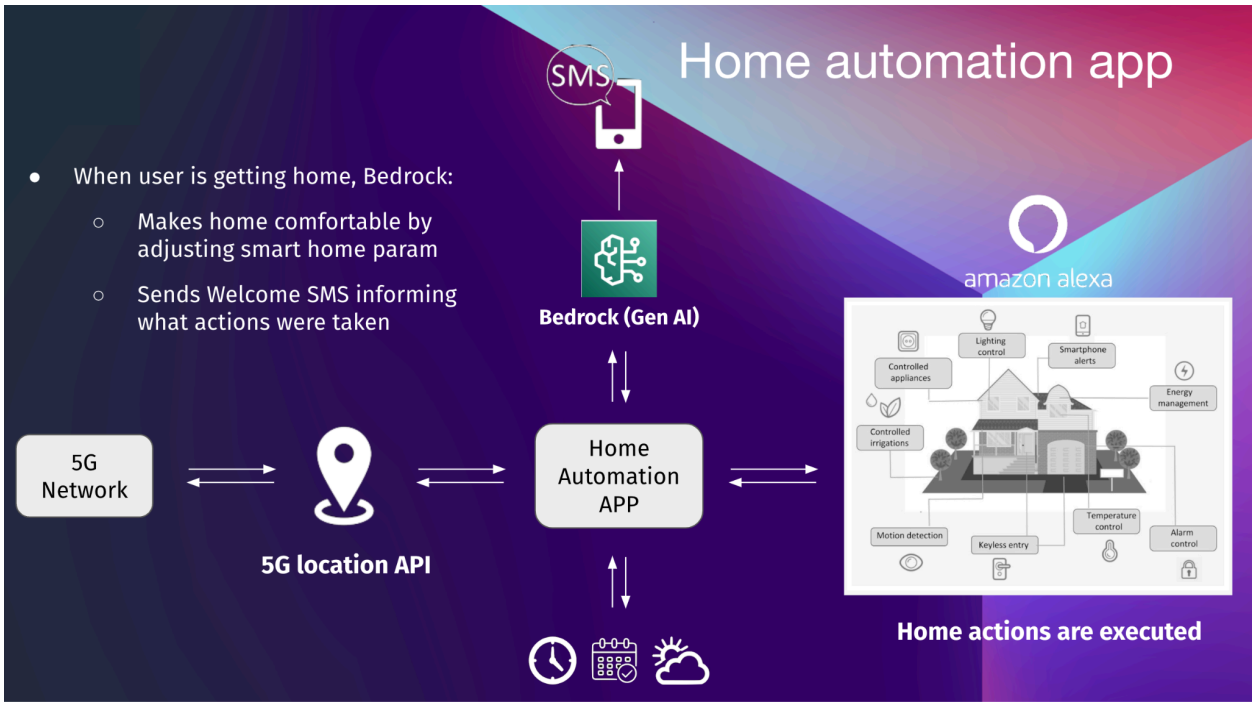
The session was so popular it had to be repeated four times, drawing in 150 professionals from diverse sectors, including telecommunications and enterprise like automotive, security and banks.

In less than 60 minutes, attendees replicated a 5G application demonstrating the platform's capabilities.

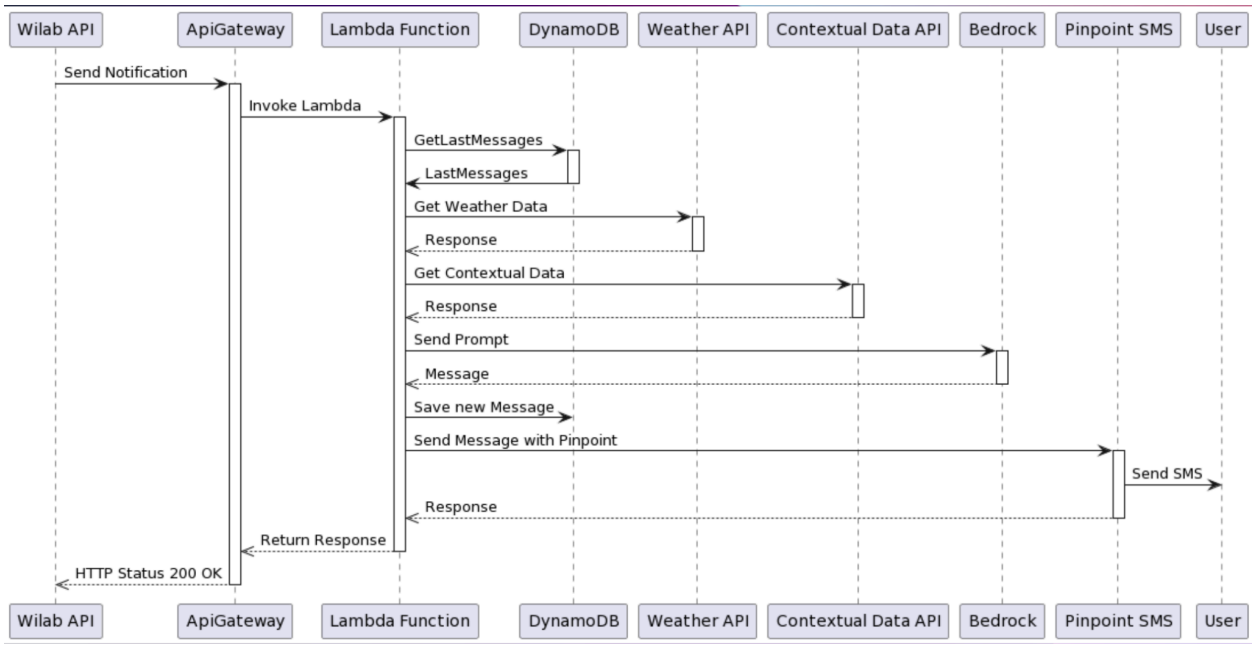
In this blog we will explain how the solution works, its building blocks and 5G apps that are being tested in production 5G networks to monetize.

Hands-On Experience and its Impact:

In less than 60 minutes, attendees replicated a 5G application demonstrating the platform's capabilities. This app enabled users to set home preferences, which were activated by Alexa upon their return. The user also received a personalized SMS greeting written by Bedrock Gen AI.



Here is the sequence diagram of the app



If you want to replicate it yourself, you can go to wilab.io to access the 5G dev portal and follow the instructions in this [github]

5G APPs operators can monetize today

After participants finished replicating the example 5G app, they were particularly interested in 5G apps that they could monetize now. The ones that have already been tested are the ones shown below, but the most important thing is the endless possibility to create new apps.

1) **Revenue assurance based on geofencing of FWA CPE**
    - Identifies clients is outside location requested for their FWA CPE

2) **Fraud prevention with location + Sim swap alert for Banks**
    - $140M were stolen in 2023 in NA using Sim Swap fraud
    - Banks want to pay telcos to be able to query Sim Swap to prevent fraud

3) **Multivendor 4G & 5G observability, Analytics & Automation**
    - Reduces outage detection time from a worst case scenario of 15 min to 2min

The break through:

The real breakthrough lies in how AWS together with its partner Wilab simplify the complexities of 5G networks, offering seamless API integrations for effortless application development. Our developer portal, complete with a sandbox environment and direct connection to Bedrock and all other AWS services, further streamlines development of 5G APPS

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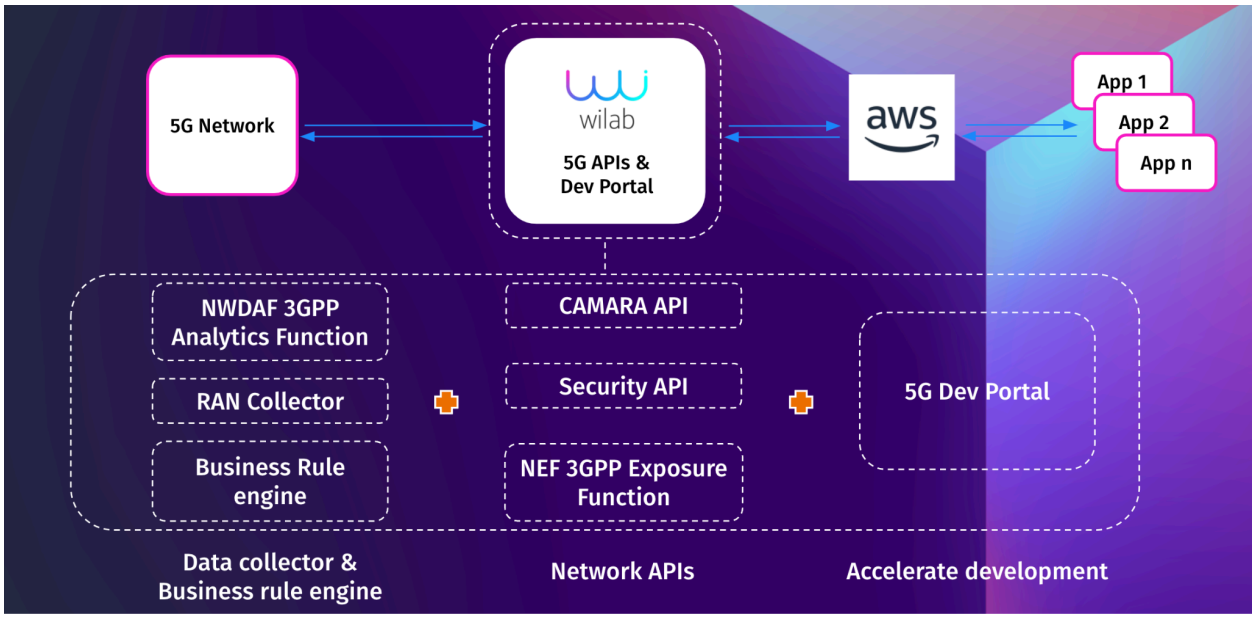
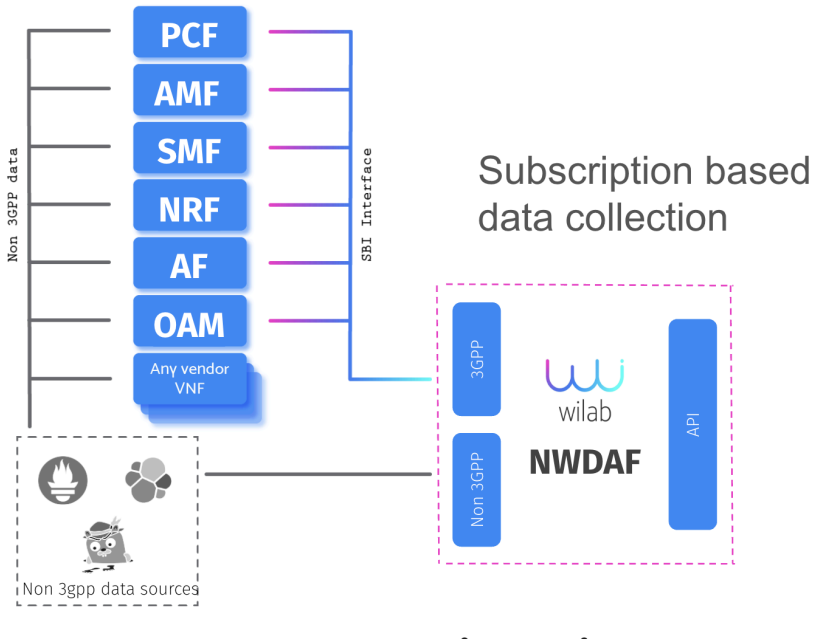


This is an end to end solution for Networks of any vendor that leverages standard Network Functions and APPIs to collect data, provisions business rules, exposes data and there is even a 5G developer portal to simplify the building of apps

NWDAF & NEF subscription based data collection are key to open new possibilities
One of the building blocks of the Wilab solution is an NWDAF. This is a 3GPP standard Network Function that collects core Network Data, uses AI to correlate this data and exposes information to operators for observability, other Network functions & MANO for automation and 3rd parties to develop 5G APPS that can be monetized.



Why NWDAF and not any data collector?

One of the key features of NWDAF is that it collects and exposes data in a subscription based manner. This enables it to have the same analytics as in 4G and also to build use cases that would have been very challenging to build before. Also to monetize Network Aware apps that were not possible before.

For example geofencing a UE, a feature that is needed for many monetizable use cases, is an incredibly challenging operation to achieve without NWDAF. This would imply:

- Tracking the user using CDR (not real time) or mobility data of all the users in the network
- Creating a logic that notifies the consumer via webhook when the user enters to a specific location
- Scaling this to million of users

With Wilab you can get a notification when a UE gets inside a geofence with just a subscription to the Developer Facing location API. Then this automatically creates a location of interest by subscribing to the NWDAF that subsequently subscribes to this events from the AMF.

Camara and other industry standard APIs
Another building block are the different API standards enabled. One example is Camara. This is an initiative by 34 telco groups and the linux foundation that gives developers 5G network data from multiple operators so their apps work on any network.

With the solution presented at Re:Invent, we are addressing the challenges of implementing everything needed to have these work.

Broadening Horizons:

Our goal with this builder session was to inspire these professionals to explore the vast potential unlocked by easy access to 5G data and capabilities that Wilab can give to Telcos. This initiative parallels Apple's opening of the iPhone SDK, which catalyzed a wave of innovation. Similarly, AWS and it’s partner Wilab offer a solution for telcos to have a white-labeled portal, granting vendors and developers access to a new universe of data and possibilities.

Conclusion:

How can 5G be monetized? Our answer is: Operators can emulate Apple's strategy. Open up 5G network data and capabilities to spur innovation. Telcos can now empower their engineers and vendors to develop new 5G applications in weeks, not months, and provide accessible platforms for devs that are not familiar with 5G technology. This strategy promises significant revenue generation and heralds an era of innovation in 5G technology.