

Minutes of “Meeting of the Open RAN Promotion Subcommittee (Activity Report Presentation)”

1. Date and time  
Friday, March 17, 2023, 19:00-20:10
2. Location  
Web Conference (Cisco Webex)
3. Attendees (honorific titles omitted, in random order)
  - Chairpeople: Akihiro Nakao [The University of Tokyo]  
Hiroyuki Morikawa [The University of Tokyo]
  - Vice NTT DOCOMO, Inc. (hereinafter referred to as “DOCOMO”)
  - Chairpeople: KDDI CORPORATION (hereinafter referred to as “KDDI”)  
SoftBank Corp. (hereinafter referred to as “SoftBank”)  
Rakuten Mobile, Inc. (hereinafter referred to as “Rakuten Mobile”)
  - Presenters: NEC Corporation (hereinafter referred to as “NEC”)  
Fujitsu Limited (hereinafter referred to as “Fujitsu”)  
Kyocera Corporation (hereinafter referred to as “Kyocera”)  
YRP R&D Promotion Committee (hereinafter referred to as “YRP”)  
Ericsson Japan (hereinafter referred to as “Ericsson”)  
Dell Technologies Japan Inc. (hereinafter referred to as “Dell”)  
Nokia Solutions and Networks Japan G.K. (hereinafter referred to as “Nokia”)  
Hewlett-Packard Japan, G.K. (hereinafter referred to as “HPE”)  
VIAVI Solutions. (hereinafter referred to as “VIAVI”)
  - Secretariat: Ministry of Internal Affairs and Communications (hereinafter referred to as “MIC”)  
Mitsubishi Research Institute (hereinafter referred to as Secretariat (MRI))
4. Handouts and Projected Materials
  - 1-0: 【For Projection】Activity Report Presentation\_Subcommittee Secretariat’s Projected Materials.pptx
  - 1-1: 【Activity Report Presentation】Open RAN Promotion Subcommittee Activity Report\_v1.00.pdf
5. Meeting Minutes Summary
  - We proceeded with agenda items as follows:
  - 1 Opening Remarks
    - 【Chairperson Nakao, The University of Tokyo】  
Today, we are presenting a report prepared by the secretariat based on information shared at

the meeting of this subcommittee.

I have recently been on a business trip to the United States with MIC. The US government announced that they will invest \$1.5 billion in Open RAN, which was exciting news in the country. Also, European carriers released a statement on Open RAN, saying that they would be willing to work on it, although they previously gave us the impression that European industry might not be positive on promoting Open RAN. It is significantly meaningful to be able to publish a report on Open RAN, which Japan is also focusing on, as there are active moves globally.

2 Presentation on Brief Summary of “Activity Report”

The Secretariat (MRI) gave a presentation on the summary of the report by using the “【For Projection】 Activity Report Presentation\_Subcommittee Secretariat’s Projected Materials.pptx” (Projected Material 1-0).

3 Comments from members of the Open RAN Promotion Subcommittee

[Abeta, DOCOMO]

The key to spreading Open RAN is how easily Open RAN products can be introduced. To achieve that, we want to share our company’s experience with vendors outside Japan. It is also important to build the ecosystem. Recognizing the need to freely connect with multiple vendors, we would like to continue contributing to the development of the Open RAN ecosystem while leveraging OREX that facilitates Open RAN launched by our company.

[Watanabe, KDDI]

Our company announced in a press release that we have commercially deployed Open 5G virtualized base stations in January. In March, we announced that we broadcast the Tokyo Marathon live in 5G SA. The latter is a verification in which RIC is used in commercial networks and SLA-guaranteed network slicing technology is used for creating terrestrial broadcast programs.

We believe that the extent to which Open RAN can spread, can deliver superior results, and can make it valuable is work in progress. Activities and collaborations from a global perspective are essential for the future, and our company will continue to cooperate. Since domestic communities, such as the Open RAN Promotion Subcommittee, are valuable, we would like to expand the activities of this subcommittee in a way that will benefit Japan in the coming fiscal year.

[Abe, SoftBank]

The subcommittee, in which we participated, was meaningful. Through each company’s promotional activities that are shared in the subcommittee, we were able to see the sophistication, cost effectiveness, and virtualization benefits of Open RAN. On the other hand, problems that need to be solved became clear. I think we are aligned on each company’s expectations and their recognition of problems. From the next fiscal year, our company will actively work on testing O-RAN and vRAN to solve the Open RAN problems. Then, we would like to achieve the deployment of Open RAN “Quickly, inexpensively and efficiently.”

[Kuchitsu, Rakuten Mobile]

The subcommittee was meaningful because we were able to have a discussion by sharing how each company was doing and various problems.

Our company has already commercialized Open RAN and has been providing the support program by sharing our expertise, such as difficulties we have faced, with each company. We would like to further facilitate it based on the opinions of each company in this subcommittee. We believe that the ultimate form of integration is automation. Therefore, the key is how much it can be automated. Ultimately, we want to be able to give back to Japan OTIC and aim to make it accessible for all vendors.

We also want to strengthen RIC and security for the future. We want to take advantage of what Open RAN can do, such as safe and smooth integration, by utilizing RIC, which could not be achieved with conventional RAN, and deploy it both inside and outside Japan.

[Tanoue, NEC]

RAN, which was announced at the recent Mobile World Congress (MWC), is starting to change. While previous MWC often featured presentations about single-vendor vertically-integrated RAN, MWC this time highlighted the importance of a multi-vendor RAN ecosystem.

Open RAN has problems as well. European carrier's document released in February also highlighted TCO and security problems in Open RAN. As a vendor, our company would also like to discuss how to overcome such challenges.

As for the Open RAN market, implementation is behind the initial schedule. However, European carriers have announced that they will fully deploy Open RAN in 2025. Therefore, we consider that our efforts this year, including the demonstration of our company's achievements, will be important.

Geopolitically, there are a limited number of vendors that can provide RAN. Therefore, we want Japan to show that the country is advanced and has a proven track record in Open RAN, and our company also wants to enter the global market of Open RAN.

[Sato, Fujitsu]

Open RAN has an axis of open and virtualized interfaces, or separation of hardware and software.

The open interface is definitely starting with specific business meetings in the market as a move to multi-vendor RUs. Our company has been seizing this trend and turning it into specific business opportunities.

In terms of virtualization, we also want to aim for a world where the entire industry can flexibly enjoy the value of separating software and hardware, i.e., the advancement of IT software technology and the advancement of hardware/devices. We also believe that virtualization will be the desired technology going forward, so as to avoid risk to the supply chain.

Our company announced at MWC that we are working on realizing a platform to create a digital twin world. We hope to continuously contribute to achieving a sustainable society.

[Ohashi, Kyocera]

In the Extra High Frequency base station verification test with SoftBank, we built a verification test environment by using Open RAN technology. Thanks to the significant contributions of carriers and leading vendors, a variety of O-RAN ALLIANCE-compliant environments are now in place, allowing companies to see their strengths even when not providing comprehensive coverage to 5G base stations. Our company plans to develop Extra High Frequency antenna technology, which is our strength, and base stations and wireless infrastructure equipment by using metamaterials, etc.

[Torigoe, YRP]

Since our subcommittee and four telecommunications carriers jointly established Japan OTIC in December last year, five companies and MIC have been closely working on related preparations. From April this year, the five companies will share the testing and common office work in accordance with the Japan OTIC rules and business plans. Specifically, we will promote the use of OTIC by conducting O-RAN authentication and badging, holding PlugFest, as well as lectures and public relations. In addition, we will contribute to smooth RAN equipment authentication by participating in O-RAN TIFG and promoting cooperation with the O-RAN Alliance and each OTIC.

Furthermore, based on the YRP Vision, vendors inside and outside Japan will meet together for testing at Japan OTIC to verify interconnectability/interoperability. Equipment will be

provided at reasonable prices to carriers, and it will become a base for telecommunication facility development, promote global expansion, stimulate economic activity in Japan as well as YRP, and contribute to the development of information and telecommunications ahead of 5G/Beyond 5G.

[Honda, Ericsson]

During this fiscal year's subcommittee, our company announced cloudification, virtualization, going intelligent, automation, and Open RAN interface. Our company is also actively participating in the work to develop the specifications of O-RAN ALLIANCE, contributing to the formation of an ecosystem and ensuring performance and security on interfaces.

In the next fiscal year, I would like to take the opportunity to make presentations similar to the last year's meeting and contribute to the activities of this subcommittee.

[Sumiya, Dell]

Our company has our own lab, called the 5G Open Telecom Ecosystem. Our company's lab is conducting tests to solve problems in complexity and automation. In addition to ensuring systemic openness, our company is working to solve problems by sharing the expertise that has accumulated in the lab with customers and partners. Not only testing 5G problems in the lab, we also want to verify the effectiveness of new applications and contribute to the discussion of business opportunities made possible because of 5G.

[Takahashi, Nokia]

Our company has been a part of O-RAN ALLIANCE since its inception and has been especially contributing to front-haul, security, automation management and acceleration. We have been leading discussions over there so that O-RAN ALLIANCE is regarded as a world-class standardization body to deliver high-quality specs. In particular, our company is co-chair of WG3, 4 and 10, and a rapporteur of key specs and work items, making top-level contributions. This contribution policy will remain unchanged going forward. We hope to continuously contribute to the development of O-RAN ALLIANCE standard specifications in the next fiscal year.

[Yamamoto, HPE]

At the 3rd meeting of this subcommittee, we introduced an approach to create templates of setup procedures for each multi-vendor combination as a mechanism to streamline and automate the rollout of RAN in multi-vendors. Now we are expanding each company's types of RAN supported by templates. In order to accommodate the scenario of delivering new hybrids of O-RAN and legacy RAN, we are working on expanding the function to manage both in common through SMO. Our company will continuously work on contributing to the acceleration of O-RAN facilitation.

[Chiba, VIAVI]

Open RAN is a hot topic at MWC, and a must-have technology for 5G and 6G. In particular, software and virtualized and cloud components through open interfaces and intelligent RAN by using AI and ML are essential for the future of 6G. However, even if technologies and use cases precede, major deployment can be difficult unless the ecosystem is established globally.

As a global test vendor, our company co-chairs the O-RAN ALLIANCE TIFG and WG9, and Japan leads the world in Open RAN technology. I believe that Japan can gain a significant advantage by promoting it in cooperation with other countries while maintaining its lead. Going forward, we will discuss with you and provide solutions in a timely manner to the problems of integration testing, end-to-end testing, security testing, RIC, xApp, rApp testing, and field testing, including optical and wireless.

I would like to participate in this subcommittee again next fiscal year and contribute to

activities that will enable Japan to lead from a global perspective.

[Noda, NVIDIA (presentation through pre-recorded video)]

Our company has GPU that supports computer graphics, AI, digital twins, and autonomous driving. We are working with our partners to achieve an Open RAN solution to help accelerate the physical layer in 5G. In 2023, we expect to see full-fledged commercial deployment of Open RAN among carriers. Starting from this year, we will not only develop 5G L1 but also AI-driven optimization technology through full-stack acceleration. And we will focus on integrating Open RAN with cloud.

#### 4 Q & A

Due to time constraints, there was an announcement for participants to send any questions to the secretariat. Chairperson Morikawa and MIC provided remarks.

#### 5 Closing

[Chairperson Morikawa, The University of Tokyo]

Open RAN has both potential and problems and much work to do, but now I will talk about four points. The first point is that we must solve the problems first. Problems, such as system integration, performance in vRAN and wireless processing, security, and IPR must be solved. The second point is that the benefits of Open RAN are ambiguous and must be explored continuously. I consider that high affinity between Open RAN and network sharing is also a benefit, but we have to keep thinking about what the benefit is. The third point is about the ecosystem. “Open” means that there are opportunities for people other than those who are strong, but there were also many failure cases in “open”. Ecosystem and camaraderie must be taken into account. It is not that simple to think that we will succeed just because we implement Open RAN. We have to keep thinking. The fourth point is that we must work on activities to expand Open RAN. The best part of O-RAN is that it offers opportunities for small and medium-sized companies, not just those in the 1 trillion yen class. Therefore, it is necessary to build an environment in which many companies can participate.

Today is not the end of the activities of this subcommittee, but the starting point, so we would like to ask for your continued cooperation.

[Yoshizumi, MIC]

From this fiscal year, the subcommittee started fully fledged, and we were able to publish the report after receiving information from all of you. I appreciate it. MIC will continuously work hard to support all of you for further prevalence of Open RAN going forward. We look forward to your continued cooperation into the next fiscal year.

[Secretariat (MRI)]

Check out the report, which has been uploaded to the website of the Beyond 5G Promotion Consortium. If you have comments, please provide feedback through the secretariat. The activities of the Open RAN Promotion Subcommittee will continue into the next fiscal year. We would like to ask for your ongoing cooperation.

[Chairperson Nakao, The University of Tokyo]

We hope to continue the activities of this subcommittee into the next fiscal year. I think Japan is putting a lot of effort into facilitating Open RAN. The report is excellent, so I invite you to take a look.

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