

Changes in Standardization Activities Brought About by COVID-19

It is generally felt that the COVID-19 pandemic has reaffirmed the importance of the communications network as an infrastructure. In the communications network, activities referred to as “standardization” [1] are essential for creating common protocols for transferring information between terminals of different manufacturing companies, between network devices, etc. DOCOMO Communications Laboratories Europe GmbH (DOCOMO Euro-Labs) is engaged in activities involving the standardization of 5G evolution and future 6G at various standardization-related organizations such as the 3rd Generation Partnership Project (3GPP), European Telecommunications Standards Institute (ETSI)*1, 5G Alliance for Connected Industries and Automation (5G-ACIA)*2, and One6G*3. Against this background, I would like to tell you about the effects that this pandemic is having on standardization activities using participation in the 3GPP Service and System Aspects 2 (SA2) meetings held six times a year as an example.

At a 3GPP meeting, proposals (contributions) must be submitted, discussions must be held during the course of the meeting, and a consensus must be reached. It is also important to obtain the approval of other participants and reach a compromise when opinions differ.

Before the pandemic outbreak, different regions around the world such as Europe, North America, and Asia would take turns in holding meetings where delegates from 3GPP member companies from around the world would come together. Such a meeting would last five days from Monday morning to Friday evening and discussions would be held on different topics in three parallel sessions usually running from 8:00 to 20:00 on any given day. For a delegate, the time before the meeting and along the way to the meeting venue would be set aside for preparing a description of one’s contribution and studying countermeasures to others’ contributions. Then, over the course of the meeting, coffee breaks, lunchtime, and dinnertime would be used to solve problems that had been discussed by exchanging opinions and negotiating with delegates of



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other companies and organizations, and it was common to review and revise the contributions until late at night for the next day. Furthermore, in parallel with these activities, a contribution might be studied together with a non-traveling member who can offer support from the office at home. It was not unusual to hold discussions with others or to revise contributions right up to the final day and final hour and then go straight to the airport.

After the pandemic outbreak, it was decided to replace face-to-face meetings with an “e-meeting” format in which discussions and debates would be held by e-mail over a period of 10 (or 5) business days.

Date	10		17		25	26	27	28
Day	Mon		Mon		Tue	Wed	Thu	Fri
Time (UTC)	23:59		00:00		16:00	16:00		17:00
	Contribution submission deadline		e-meeting begins		Revision deadline	Final comments deadline		e-meeting ends

Figure 1 Schedule example

Figure 1 shows an example of a schedule for such an e-meeting held over 12 days (10 business days).

After the start of the e-meeting and up to the revision deadline, each delegate will make comments on submitted contributions while contributors will respond to comments and update and resubmit their contributions. This will be followed by discussions on whether to approve or disapprove a contribution as needed up to the final comments deadline. In addition, non-business days such as weekends will be a time for each delegate to rest up without exchanging e-mails or updating contributions.

The following problems have arisen on changing the meeting format to an e-meeting.

- When holding traditional face-to-face meetings, time constraints limited the number of contributions that could be handled and the chairperson would request that submitted contributions be carefully screened and selected. In e-meetings, however, the number of contributions has increased by about 25% on average.
- In e-meetings, e-mails fly back and forth 24 hours a day with discussions held in parallel with the result that the number of e-mails over 5 business days during the meeting period has come to about 5,000, or about 10 times the usual number up to now. What used to take several minutes of conversation to settle during a coffee break or other break times in traditional face-to-face meetings is now done by e-mail, which requires time and makes it difficult to hold good discussions.
- Although e-meetings make it unnecessary to travel to a venue, the above problems have been accompanied by a need for human and temporal resources.

Despite these conditions, those individuals involved

in global standardization activities are working together on a daily basis with the aim of achieving an even better communications network of the future.

NTT DOCOMO has been compiling a variety of use cases and technical concepts expected of 5G evolution and 6G in a white paper since before the outbreak of the COVID-19 pandemic [2]. The changes in our view of society and the world brought about by this pandemic have the potential of redefining our social, industrial, and economic mechanisms and giving birth to new business opportunities and use cases [3]. As a member of NTT DOCOMO R&D, we would like to continue making contributions to standardization activities with the aim of achieving new and innovative business opportunities and use cases.

REFERENCES

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- [2] NTT DOCOMO: "White Paper: 5G Evolution and 6G." https://www.nttdocomo.co.jp/english/binary/pdf/corporate/technology/whitepaper_6g/DOCOMO_6G_White_PaperEN_v3.0.pdf
- [3] H. Morikawa: "How to Face Beyond 5G and 6G," The Journal of the Institute of Electronics, Information and Communication Engineers, Vol.104, No.5, pp.394–397, May 2021 (In Japanese).

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- *1 ETSI: The standardization organization concerned with telecommunications technology in Europe.
 - *2 5G-ACIA: A global alliance studying the application of 5G technology to industry-oriented use cases such as factory automation.
 - *3 One6G: An association formed on the basis of academic-industrial cooperation to promote the creation and development of 6G-related technology.