SEP LICENSING FOR THE INTERNET OF THINGS – CHALLENGES FOR PATENT OWNERS AND IMPLEMENTERS

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I. THE IoT WILL INCREASE THE DEMAND FOR AND IMPLEMENTATION OF STANDARDIZED TECHNOLOGY

While early forecasts of more than 27 billion devices in the Internet of Things ("IoT") by 2020 may have been exaggerated, there can be no doubt that the number of IoT devices implementing standardized technologies is growing rapidly and will continue to grow for the foreseeable future. Many "dumb" devices will become "smart" when they implement standardized technology to connect to the IoT, and many new devices that never existed before will be invented. Diverse markets – everything from drones to agriculture – will make up the IoT and the characteristics, requirements, and the standardized technologies integrated in these devices will diverge accordingly.

Wireless technology, and in particular cellular communication technology (LTE/5G), will be the most prominent standardized technology in many IoT devices. But there are many more standards which will be useful and required in IoT devices and systems as well. Some will also be related to communication (WiFi, NFC, BlueTooth, just to name a few), and others will be specific to the application areas in which the devices will be deployed (smart meters, traffic control, automotive, etc.).

Even though the wireless technology created in the cellular communication industry is a prominent enabler of the IoT, the licensing policies and strategies narrowly developed for SEP licensing in the smartphone and cellular communications industry will not work effectively for the IoT, which will be comprised of a diverse range of devices and standardized technologies that need to be licensed.

As one glaring example, technology owners who seek to license their essential patents to implementers of IoT devices will now have to deal with a much more complex landscape of potential licensees in many different industries, rather than a finite list of competitors in a single market. Many of these manufacturers and potential licensees: (1) will be small and medium-sized enterprises ("SMEs") without any licensing experience and perhaps no in-house legal expertise at all; (2) may not be aware of the need to take licenses to specific SEP portfolios; and (3) will have little or no detailed knowledge of the standardized technologies implemented in their products since they will integrate components implementing these standardized technologies from third party suppliers. Needless to say, many of these SMEs will not have the technical expertise required to evaluate the viability of a technology owner's license offer or the quality of value of the IP offered in the license.

As a second example, the IoT will also impact the SEP licensing environment due to the dramatic changes in the technology owner landscape. For many newer standards, the number of SEP owners will grow considerably, and the current trend is that more of these SEP owners intend to monetize their SEP portfolios. Implementers seeking to take necessary

SEP licenses for their IoT devices will face a herculean task – potentially dozens of bilateral licensing discussions – to secure these licenses in the absence of a joint licensing program. Moreover, the amount of effort to obtain these licenses is magnified by the global nature of technology ownership. More and more Asian companies hold considerable portfolios of standard-essential patents and it remains to be seen if and how these companies enter the SEP licensing market.

To summarize, policies for licensing SEPs for the IoT have to cope with a complex landscape of licensor and licensee participants with very different levels of expertise as well as with much more complex standardized technologies covered by a large number of SEP portfolios.

A. How to Increase Transparency of SEP Ownership?

All participants in the IoT must have a clear understanding of the technologies that are available for implementation in their products and how these technologies are covered by SEPs in order to create a smoothly functioning SEP licensing market. Moreover, there must be transparency regarding both how licenses can be requested and taken and which products may be licensed, and there needs to be clarity on the FRAND-compliant terms and conditions of those licenses.

Implementers of standardized technologies for IoT products need to understand which standardized technologies are available to them, how these technologies are covered by SEPs (FRAND-committed or otherwise), and the economic effects of implementing a chosen technology. This is particularly true in the situation where there are alternative, competing technologies among which the implementer has a choice.

Delivering this necessary information should be the task of companies developing standardized technologies, providers of intermediate components and products implementing the standard(s), and owners of standard essential patents, all of which are motivated to have their standardized technology implemented in as many products as possible. How the information should be collected and provided, is, however, very much dependent on the standard-defining organization ("SDO") responsible for standardizing a technology, and their IPR policies and declaration requirements. While for most standards it is entirely unclear which IPR might become or be essential, at least for standards developed under the umbrella of the European Telecommunications Standards Institute ("ETSI"), the universe of potentially essential IP is quite well known. Even with ETSI's extensive IPR disclosure database, however, it remains unclear which IP will be granted and considered essential to a standard once the standard is finalized by the SDO.

To find the response to the question of which IPR is essential to a licensed standard remains one of the most challenging and time-consuming tasks in preparation for and during licensing negotiations. And due to the complexity and specialization of many standardized technologies, the exact make-up of a patent owner's SEP portfolio very often remains disputed throughout negotiations and may eventually have to be decided through legal proceedings.

One way to dramatically increase efficiency in the SEP licensing economy would be to create an agency that can deliver independent and impartial evaluations of patents and identify those patents for which the patent owner can show evidence of their standard essentiality. The results delivered by such an agency would streamline the lengthy technical negotiation processes since essentiality can be assessed once for many negotiations, rather than repeatedly in sequential negotiations. As an additional step, publication of the results would permit licensees to understand the SEP landscape before negotiations even begin. Moreover, an independent and impartial essentiality assessment would allow SMEs without any expertise to nevertheless achieve a fair understanding of the strength of a licensor's portfolio offered for license. If the vast majority of SEPs became the subject of independent essentiality assessments, then the entire industry could get an impartial view on the overall size of the SEP stack covering a specific standardized technology and any individual patent owners' share. This information might later be useful for getting an estimate or range for the overall royalty value for the entire SEP stack and fair licensing terms for an individual patent owner.

It is fair to ask SEP owners to provide clear and reliable information about the quality of the IP offered for license. If well organized, the cost for essentiality assessments will not be prohibitively high and probably negligible in comparison to the prosecution cost of the IPR. And this cost can easily be recovered by reduced transaction costs in negotiations.

Going beyond SEP ownership, clear and transparent information is also needed on (i) the products for which licenses are available; and (ii) the relevant terms and conditions under which these licenses may be obtained. To avoid lengthy disputes during licensing negotiations or in court, great care should be taken to ensure that the license offers are compliant with the FRAND obligations to which the IPR owners have previously committed. If this level of transparency is achieved, not just for a single standardized technology but across all competing standardized technologies, companies building the IoT can make educated decisions on the best and most cost-effective technology for their device.

B. Who may Obtain a License?

One of the disputed issues in current SEP licensing negotiations relates to the question of at which level in complex value chains will licenses be made available. Many SEP owners favor licensing the end-product manufacturer (OEM-level licensing), while most end-product manufacturers prefer that their supplier takes a license instead. While the issue is still disputed in various courts and legislations, we can see some agreement developing that owners of SEPs can no longer unilaterally decide whom to offer SEP licenses to, but are rather obliged to offer SEP licenses to all third parties/implementers requesting a license offer.

For the development of an efficient licensing structure, the parties in licensing negotiations should take a number of criteria into account when identifying the most appropriate licensee in the value chain of IoT industries. For example, OEM-level licensing might not be the best solution for SEP licensing in the IoT. If the number of different industries and manufacturers in these industries exceeds the number of component manufacturers providing (identical) components implementing the licensed standard(s) to these industry participants, licensing on the level of these component manufacturers will be much more efficient and allows patent owners to reach many more licensees with a more limited number of licensing negotiations. As another example, the product manufactured and marketed by the licensee should make use of the licensor's essential patent portfolio, and the licensor should have an in-depth knowledge about both technology aspects of the standard and the SEP landscape related to its products. Other aspects that should be considered are questions related to accountability, ease of reporting and administration of license agreements.

Regardless of which level is determined to be best suited for licensing in the IoT, it is imperative that a single licensee in the value chain should take over the task of securing the needed SEP licenses, rather than separate individual licenses for each participant in an industry value chain. Thankfully, it seems that all in the industry agree on this approach to avoid a thicket of duplicative licensing agreements.

The parties' ability to identify the most appropriate member in a complex industry value chain will be extremely important for the efficiency of the SEP licensing environment for the IoT.

C. Will Patent Pools help Streamline the SEP Licensing Process?

Patent pools can play a major role in the development of an efficient SEP licensing environment. They offer a single contact for implementers seeking a license and usually offer identical license terms and contracts to all licensees of their portfolios. At least on the offer side, the complex licensing landscape becomes simplified, and for implementers willing to take licenses the negotiation process may become much easier.

To avoid possible antitrust issues, patent pools have to ensure that the patents which they offer in a joint license are truly essential to the relevant standard. A patent owner will only be allowed to contribute its patents to the portfolio of a patent pool if the essentiality of its patents is first validated by an external agency or law firm.

Potential licensees of patent pools can therefore be confident that the patents offered for license are actually essential to the relevant standard. Patent pools do not typically check validity beyond the initial examination provided by the national patent office, so an issue remains regarding the potential invalidity of the pool patents, but if a patent pool can show a large number of implementers have decided to take a license this may be used as an indication that there probably is value in the license offer of the pool and that the terms and conditions of the offered license are indeed fair and reasonable.

Patent pools can only be successful if the pool administrator can develop a licensing model that is attractive for both patent owners and potential licensees. Also, it is important that pools must be set up in a way that their offer is compliant with the FRAND commitments undertaken by its licensors.

While patent pools can simplify the complex licensor landscape and make access to SEP licenses easier for implementers, the challenge remains for licensors to address a huge number of potential licensees in the IoT. That complexity may be reduced somewhat by carefully selecting the optimal licensee in industry supply chains, but there remains a huge task for licensors to offer licenses to all potential licensees under FRAND conditions. As a novel solution, one possibility to further reduce the number of negotiations needed would be to explore the option of having industry associations negotiate SEP licenses for their members, e.g. a reverse patent pool comprised of licensees. While any such proposal needs to be carefully scrutinized to avoid any conflict with competition law regulation, if an arrangement can be found that is compliant with antitrust regulations and streamlines licensing for both licensors and implementor industry members, the results could be impressive.

D. How to Reduce Litigation and Prevent the IoT from becoming the Next Wave of Patent Wars?

Given the complexity of SEP licensing for the IoT, will there be a rise in patent litigation? The answer to that question depends very much on the solutions that the key stakeholders in the SEP licensing field find to the issues described above. While there has been a recent rise in SEP litigation in the automotive industry (that currently manufactures the most advanced IoT products), the claims raised in litigation between SEP owners and implementor participants of automotive industry value chains frequently relate to antitrust related matters and the question of access to SEP licenses in complex industry settings matters, rather than infringement or invalidity allegations or FRAND royalty rate settings. That is in contrast with the long-running smartphone patent litigation cases, which tend to focus on the latter.

It remains to be seen if the players in the SEP licensing market for the IoT will find solutions to their disputed issues without litigation or if there will be a large increase in SEP license-related litigation. With the advent of many small and medium-sized players in this market litigation may prove too costly and economically unjustified in many cases. Small implementers may not have the economic resources for lengthy legal proceedings while SEP owners may not initiate litigation against unwilling licensees due to the small size of companies' affected businesses and the possible value of license agreements. On the other hand, not approaching these SME implementers implies losing possible licensing income and may subject rights holders to claims that their SEP licensing behavior leads to market distortion in the target markets.

II. CONCLUDING REMARKS

Developing and creating an efficient SEP licensing economy for the IoT will generate considerable benefits both for developers and implementers of standardized technology. Innovators will be able to receive their fair return on the R&D investment necessary to develop IoT standards, and implementers will be able to invent, develop, and market their IoT products safe from future threats related to the assertion of standard essential patents. Moreover, all participants would benefit from business conditions that are predictable, fair, and non-discriminating. The cost burden related to the development of standardized technology can be shared among all users of such a technology resulting in lower licensing costs for those products that are put on the market with the required SEP licenses.

If such an efficient SEP licensing market can be developed depends in part on the participants ability to find compromise positions on the issues and open questions described above. Without an agreement that is acceptable to most participants on who should be the participants in the SEP licensing business, what constitutes FRAND-compliant negotiation behavior by both licensors and licensees (e.g. what are the requirements for FRAND-compliant license contract terms and how to set a FRAND compliant value for SEP licenses), such an SEP licensing economy will not develop. Rather, issues for which no compromise position or solution can be found will have to be decided by courts. The delays resulting from these court proceedings will have negative consequences on the patent owners' ability to recover their technology development investments and will leave implementers and manufacturers under legal uncertainty, which in turn will have negative effects on their ability to bring innovative IoT products on the market.

With the advent of the first 5G-enabled IoT products (outside the smartphone and communication business) still a few years away, there is a time window in which both technology developers and implementers should try to find these compromise positions unburdened by unlicensed use of SEPs in past products. If they fail to find these compromise positions and defer the definition of FRAND compliance until after products are introduced into the market, there is a risk that final court decisions deciding on disputed topics will only be available at a time when these new standardized technologies will already have been replaced with successor technology and become obsolete.

But, if in the meantime the key players in the SEP licensing market take on the challenge of setting an accepted licensing framework for standard essential patents in the IoT product markets, the potential benefit for all participants will be significant.

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