

AVS Intellectual Property Rights (IPR) Policy

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Abstract The AVS Workgroup has developed an IPR Policy to facilitate the adoption of standards in the marketplace. The policy is based on consideration of IPR issues in parallel with the technical work for drafting the standard. The paper describes the relationship between IPR and the standard, and how the goals for the standard must be complemented by goals for the IPR. The existing IPR policies of the ITU and ISO are outlined, and then the AVS IPR policy is described, organized by its three main components: commitment to license on declared basic terms, disclosure of intellectual property, and protection of IPR.

Keywords intellectual property, IPR, patents and standards, patent pool, patent licensing

1 Goals

The purpose of a standard is to create and sustain a new marketplace that is adopted quickly and grows rapidly. In support of these objectives, the primary goal of any standard is a functional one—interoperability. Completely independent manufacturers must be able to manufacture products or offer services based on the standard merely by following the specification of the standard, i.e., without needing to communicate with each other. In the case of audio/video coding standards, all coded bitstreams created by content providers and service providers must be decodable on all receivers or players. A secondary goal is a technical one—performance. In the case of audio/video coding standards, this goal is to provide the best decoded audio/video quality from the lowest bitrate coded bitstream. A third goal is low cost, which is a critical factor for standards concerning consumer products. A successful mass market means prices must be affordable. It also means profit margins will be very slim. Low cost implies low implementation complexity, and elements of the standard may be defined specifically to support this goal, even though functionally there may be multiple ways to achieve the same goal. Low cost also includes low cost for licensing any intellectual property (IP) necessary to implement the standard.

A new standard should attract new technology from organizations providing leading edge R&D in the field of application. Inevitably in today's business climate, much of this new technology will be patented and the standard will infringe those patents. In an ideal case, the new technology adopted into the standard will be original work, and the new technology will provide a significant contribution to the goals of the standard—high performance and low cost. In summary, the goals for patents associated with a standard therefore should be that they are necessarily infringed, they should be valid and they should be valuable. Furthermore, IP adopted into the standard should also be licensed at a cost that

balances the need to reward the developers of the IP and encourage them to contribute to the standard, with the need to ensure low prices in the marketplace to support early adoption and rapid growth. This is a comprehensive set of goals and the IPR Policy of the standard itself cannot address all of these issues. In particular, the determination of validity is the responsibility of the patent office and the determination of essentiality is a legal matter. But the IPR Policy can set an environment for the work of the technical experts who develop the standard, and facilitate the early provision of affordable licensing.

Naturally the goals of the IPR Policy for a standard are to support the objectives of the standard itself. The objective of quick adoption of the technology in the marketplace will be inhibited if there is concern about the availability and cost of licensing. Therefore the IPR Policy should facilitate the availability of licensing as soon as possible after the technical work of the standard is complete. The IPR Policy should have the goal of ensuring the licensing is comprehensive, and should facilitate identification of IPR related to the standard. As much as possible, the IPR Policy should seek commitments from IPR holders to license their patents for the standard on favorable terms. Also, the IPR Policy should encourage adoption of technology that has high value to the standard. Lastly the IPR Policy should provide protection of IPR. In summary, the IPR Policy goals are to provide:

- a commitment to license essential patents with declared basic licensing terms;
- disclosure of IP that may be related to the standard; and
- protection of intellectual property rights.

2 Essential Patents

The relationship between the standard and intellectual property rights is illustrated in Fig.1. The specification of the standard addresses the goal of inter-

operability by defining a set of “Normative Requirements”. A well-drafted standard includes the absolute minimum set of normative requirements to achieve the goal. Equipment or service implementing the standard must then be in “Conformance” with the normative requirements. If by so doing, the implementation “Infringes” certain patents, then those patents are “Essential”.

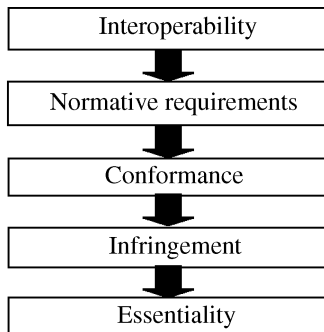


Fig.1

3 ITU and ISO IPR Policies

Both ITU (International Telecommunications Union) and ISO (International Standardization Organization) have had an IPR Policy for many years. Historically these policies have been very unassertive, and have consisted mainly of a requirement to commit to license any essential patents under “reasonable and non-discriminatory” (RAND) terms.

The ISO policy^[1] requires the commitment in writing from contributors to grant a worldwide license on RAND terms for any essential patents, and a file is maintained of such statements. More recently ISO has requested contributors to disclose any known patent or application. Such disclosure is voluntary. No protection for IPR is offered.

The ITU policy^[2] similarly requires a commitment to license on RAND terms. However, the specific IPR Policy of the subcommittee developing the H.264 standard asked contributors whether they would license their IPR on royalty-free (RF) terms for the baseline profile. The ITU Policy requests disclosure of patent and patent application numbers, and provides a standard form for that purpose. Such disclosure is voluntary. No protection for IPR is offered.

The problem with RAND licensing is while “non-discriminatory” is quite well defined, “reasonable” is not so defined. Licensors and licensees may have very different views of what is “reasonable”. A license that is reasonable in a developed economy may not be reasonable in a developing economy and may be unreasonable in an undeveloped economy. A license that is reasonable for early adopters in an emerging market may subsequently not be reasonable in a mature mass market. The IPR Policy cannot solve this problem, but it can set an environment that ameliorates the problem.

4 AVS IPR Policy

4.1 Overview

Traditionally, standards are developed by performing the technical work, and then the task of developing licensing begins. This has two results. First, the licensing is significantly delayed, and manufacturers may be reluctant to commit to products while the license availability and cost is uncertain. Second, during the technical work, numerous decisions are made about whether to adopt a contribution of technology into the standard, or choices are made between multiple competing contributed technologies without any knowledge of the IPR implications of the decisions. Obviously the first result goes against the goal of enabling fast adoption in the market. The second result can be evaluated by categorizing the technical contributions to standards in the context of IPR. The desirable category is contributions that are unique and clearly improve the performance of the standard or lower the implementation complexity. A second category includes contributions that may be unique, but provide a very marginal improvement in performing or lower complexity. A third category includes multiple contributions that provide the same improvement using different technical approaches. A fourth category includes contributions that provide no improvement, but which are related to the format of the standard. In the case of audio/video coding, this concerns the syntax of the coded bitstream. If the standards committee is aware of IPR in contributions, when there is only marginal improvement of performing a decision whether to adopt a particular contribution can be based on whether there are IPR associated with it. When there are multiple competing contributions with equal performance, the one with the most favorable licensing terms can be selected. And when there is only a matter of formatting, there will almost certainly be many ways to solve the problem, and one can be selected that has no licensing obligations.

Another problem with IPR in the development of a standard is the contribution of one organization’s IPR by another organization. It can happen that in a course of making its own contribution, an organization includes technology that inadvertently infringes patents owned by another company. Unfortunately it also sometimes happens that an organization deliberately contributes the technology of another company in the hope that this will force that technology to be licensed on very favorable terms. If the IPR Policy contains obligations of commitment to license, it must also offer protection for an IPR holder against the contribution of their technology by third parties, for whatever reason. The IPR Policy must also protect the holder’s defensive rights, and ensure that an obligation to license is reciprocated.

The AVS IPR Policy is designed to consider the licensing in parallel with the technical work. This should minimize the delay between completing the technical

work and the license becoming available. The technical work is followed by the official process of approving the standard by the authorities, so in practice the licensing should be available soon after the standard is officially approved. Intellectual property rights associated with AVS standards are acceptable in principal. There is a preference for such IPR to be licensed on the most favorable terms. The parallel development also allows the standards committee to consider the IPR implications when deciding which contributions to adopt into the standard. This allows intelligent decisions to be made that assist the committee in approaching the goals.

The AVS IPR Policy has three main components. First, there is a commitment to license that is required from all AVS Members. This commitment includes a declaration of the basic license terms the IPR holder is willing to offer. Second, there is a disclosure requirement for patents, published patent applications and in certain cases, unpublished applications. Third, there is protection for IPR holders against contribution of their IPR by third parties and preservation of their defensive patent rights.

The AVS Workgroup has facilitated the IPR Policy by organizing the development of standards within dedicated subgroups. AVS Members, i.e., organizations such as companies and universities are required to participate in at least one subgroup. Certain obligations of the IPR Policy are triggered by participation in subgroups. Therefore participation is registered for this purpose.

This paper provides only a summary of the most important provisions of the AVS IPR Policy. For a complete description of all provisions, the policy should be studied^[3].

4.2 Commitment to License

When an organization becomes an AVS Member, a commitment must be made to license any essential patents and default licensing options must be selected. AVS Members can choose whether or not to participate in the development of specific AVS standards, such as audio, video, systems and DRM, and correspondingly can declare different licensing commitments. To facilitate this choice, AVS defines a standard to be the product of an AVS Subgroup, so the obligation to declare default licensing corresponds to membership in each subgroup. For participants in a subgroup, the default licensing options are:

- RAND-RF (reasonable and non-discriminatory with royalty-free license),
- AVS Patent Pool,
- RAND.

For non-participant in a subgroup the default licensing options are:

- RAND-RF,
- AVS Patent Pool,
- RAND,

- No license.

AVS Members must participate in at least one subgroup. AVS Members may choose not to participate in a subgroup if they do not want to commit to license their patents for that specific standard. The default licensing obligation has significance when an organization's IP is contributed to the standard by a third party. This will be discussed in the subsection on protection.

4.3 Disclosure Obligations

For every contribution (proposal) to AVS, the contributor must commit to license any IP related to that contribution. The contributor must disclose such IP to the extent of the contributor's actual knowledge but a detailed search is not required. AVS has created a standard form for such a declaration, and the form must be attached to each contribution. In summary, the form provides the following information:

- the identity of the patent or published patent application holder;
- the number of any patent or published patent application;
- the licensing commitment for that patent or application; and
- contributors with RAND default commitment must also disclose the existence of unpublished patent applications.

Contributors are also invited to provide optional additional information that can facilitate the subgroup's work, such as identifying sections of the draft standard to which the IPR might relate.

There is also an ongoing obligation for all subgroup participants to disclose any related patents or published patent applications. The disclosure is based on actual, reasonable knowledge, again without any requirement for a detailed search. If a participant's default license commitment is RAND, they should also disclose the existence of unpublished patent applications.

These disclosure obligations enable the subgroup members to consider the impact of IPR when making decisions about adoption of contributions into the draft standard. To assist these decisions, AVS has defined an order of favorability for the license terms:

1. RAND-RF or AVS Patent Pool (equally favorable),
2. RAND,
3. No-License.

4.4 Protection

As discussed above, the obligations to disclose IPR and commit to license it depend on subgroup participation. A 90-day review period after the draft standard is completed provides protection against IP being contributed by a third party. All organizations, whether or not they are participants in the subgroup producing the draft standard should review the draft to check whether

it contains technology that it did not contribute, but could infringe its IPR. If this is the case, the owner of IP contributed by another organization can select any licensing option for that IP including No License. After the review period, the default option applies.

The commitment to license is contingent on reciprocity. If a potential licensee has essential IP that it refuses to license, there is no obligation to license to that organization. If the AVS workgroup is faced with a situation in which a commitment to essential IP has not been given, it must attempt to get such a commitment or revise the standard to exclude the corresponding technology.

5 AVS Patent Pool

The AVS Patent Pool is independent from the AVS Workgroup. Nevertheless, the workgroup is empowered to work to create the patent pool and to provide advisory guidelines. These include principals of maximum inclusion of essential patents, good faith, voluntary participation, non-exclusiveness, and non discriminatory administration. The license should comply with the principles of reasonable and non-discriminatory terms, a simple and practicable licensing structure, and a competitive license fee.

Consistent with worldwide practice, licensors in the patent pool are also free to license their patents independently.

6 Summary

The commitment to license ensures that all AVS Members are aware of their obligations. The default licensing obligation establishes up front a commitment

from the Member to minimum license terms that accomplishes two things. First, it is visible to all members, and can be used to make decisions concerning adoption of contributions from the member. Second, it provides a commitment to license for all of the members' essential IPs, whether contributed or not.

The obligation to disclose IPR with every contribution, together with a commitment to licensing terms for that specific contribution greatly assists the committee in making decisions whether to adopt the contribution.

The protection from third-party contribution of IPR provides both security to the IPR holder, and a mechanism for the work of the standards committee to move forward on a defined timetable.

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