Chapter V

Selected Intellectual Property Issues in Standardization

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INTRODUCTION

This chapter explores several issues related to intellectual property in the standardization process. Different intellectual property issues dominate in the three major phases in the life cycle of a standard. In development, where the content of the standard is created, there are issues related to the intellectual property codified in the standard. During distribution, where documentation on the standard is shared with the vendor and user community, there are issues related to the copyright of the document. In implementation, where products and processes based on the standard are brought to market, there are again issues pertaining to the intellectual property in the standard. Many of these issues have implications for policymakers and stakeholders. The implications are considered and the options available to policymakers and stakeholders are enumerated.

BACKGROUND

Much of the research in standards and the standards setting process has focused either on the technical issues surrounding particular standards or on the economic issues of the standards development process. In this chapter, we consider the intellectual property issues of standards and the standards setting process at all points in the life cycle of a standard. Our discussion may be naive from a legal perspective because we are not lawyers practicing in this area. Nonetheless, we believe that some significant unresolved issues exist at the intersection of intellectual property and the standardization process.

One may view standardization as a process involving three distinct phases1. Standardization includes:

1. the development of the standard (i.e., the specification, in an unambiguous and public form, of that aspect of the process or product that is to be the same for all implementations),
2. the distribution of the standard to the vendor and user community, and
3. the implementation of the standard (i.e., the development of products that
conform to the standard).

In each phase, distinct intellectual property issues exist. The changing nature
of the information technology standardization process introduces some further
intellectual property issues that must be considered2.

Traditionally, in the standards specification phase, standards formalized and
made public an existing dominant industry practice or technology. The ownership
of protected intellectual property related to the standard was clear, most often in
terms of a patent. When a standard is to be a US national standard, in accord with
the Procedures for the Development and Coordination of American National
Standards, the owners of any intellectual property rights agree to license the
product at a fair price and in a nondiscriminatory way (ANSI, 1987, p. 28). In
contrast to this historical tradition of standards sanctioning an existing well-defined
product, standards today may precede products (Cargill 1989, Weiss 1991a, Bonino
and Spring 1991)3. Technologies can be developed in committee during the
development of the standard, leaving the disposition of intellectual property rights
uncertain.

In the development of a standard, significant issues revolve around the
ownership of intellectual property. The relevant intellectual properties are often
covered by patents and copyrights on the contributions of the committee. While the
software patent tradition is still evolving, patents can apply to software algorithms.
For hardware-based contributions, the patent protection is much more clearly
applicable. Similarly, copyright law can also apply if the contributed software has
been protected by its owners. This protection would only apply to the actual code,
not the underlying algorithm, in accordance with traditional interpretations of the
law (OTA92b). Recent changes in the policy of the Patent and Trademark Office
allow patents to be issued on some types of algorithms (Samuelson 1992, Chisum
and Jacobs 1992). Modifications to contributed software could also be protected, as
they would be considered derivative works. Trade secret law does not apply
because when a technology is brought into the committee, it is no longer a secret,
but rather a matter of public record. Since some intellectual properties are devel-
oped in the public, voluntary committees, questions are raised about who owns the
ideas.

In the dissemination phase of standardization, the issues pertain to the
copyright of standards documents. Today, copyright is almost always owned by
the standards development organization (SDO) sanctioning the activity. For a
number of SDOs, revenues from the sale of standards have become significant. As
technologies converge, diverse SDOs must harmonize their standards with other
SDOs. In many cases virtually the same intellectual property (i.e., standard) is sold
under multiple different names. This competition, and the resulting revenue
implications, has caused some contention to arise between SDOs (OTA 1992a).

Finally, there are intellectual property issues in the implementation phase of
standards as vendors build products that are based upon the standard. With the
emergence of anticipatory standards and complex highly interdependent stan-
dards, the development of tests to ensure product compliance becomes more